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Abstracts

Abstracts are listed by presentation type:
first posters, then symposia followed by paper presentations. Citation posters are presented first and represent the highest rated posters.

1

Abstract: 1404

PREOPERATIVE MILD COGNITIVE IMPAIRMENT AND RISK OF DELIRIUM AFTER CORONARY ARTERY BYPASS GRAFT SURGERY: FINDINGS FROM THE NOAHS STUDY

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Background: Preoperative cognitive impairment, especially dementia, is a well-established risk factor for postoperative delirium, particularly among patients undergoing coronary artery bypass graft (CABG) surgery. Whether preoperative mild cognitive impairment (MCI) similarly increases the risk of delirium remain uncertain. **Methods:** The Neuropsychiatric Outcomes after Heart Surgery (NOAHS) study is a prospective observational cohort study (PI: Hochang Lee; R01MH085740) conducted at a tertiary-care academic hospital. Participants were adults aged ≥40 years without dementia who underwent coronary artery bypass graft (CABG) surgery. Preoperative assessments included the Clinical Dementia Rating (CDR) scale and a comprehensive neuropsychological battery. Depressive symptoms were evaluated using the Depression Interview and Structured Hamilton. Postoperative delirium was assessed by study psychiatrists on postoperative days 2–5 using the Confusion Assessment Method (CAM). We investigated whether preoperative MCI, defined by CDR = 0.5, predicted postoperative delirium after CABG surgery, adjusting for baseline characteristics (e.g. age, gender and medical comorbidities). **Results:** In our cohort (n = 130; mean age = 65.8 ± 9.2 years; 27.5% female), 31 participants (23.8%) had MCI prior to CABG surgery, and 21 (16.2%) developed post-CABG delirium. Subjects with MCI developed delirium at a significantly higher rate than those without MCI (40.9% vs. 12.1%; $\chi^2(1, N = 130) = 4.99$, $p = 0.026$). However, after adjusting for age (OR = 1.07, 95% CI: 1.01–1.13), gender (OR = 0.23, 95% CI: 0.08–0.68), and Charlson Comorbidity Index (OR = 1.36, 95% CI: 1.09–1.70), preoperative MCI was no longer a significant predictor of post-CABG delirium (OR = 3.56, 95% CI: 0.39–31.79). **Conclusions:** These findings suggest that while preoperative MCI is associated with a higher crude incidence of post-CABG delirium, this relationship is not independent of age, gender, or comorbidity burden. The results highlight the importance of considering overall clinical context when assessing delirium risk, rather than relying on MCI status alone.

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Abstract: 1180

CONFLICT OR CONNECTION? PARENTING BUFFERS OR CONFERS RISK FOR THE BIOLOGICAL EMBEDDING OF ADOLESCENT STRESS

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Links between childhood stress and elevated inflammatory markers, such as cytokines, are well documented and are known to contribute to risk for elevated physical and mental health concerns into adulthood. Evidence points to positive parenting as an important buffer against negative impacts of childhood stress. However, less is known about how parenting may either serve to buffer or contribute to risk for the biological embedding of child stress through inflammation. The current project investigated associations between child stress and tumor necrosis factor (TNF-α), a chemical messenger that contributes to inflammatory responses in the immune system, and the moderating impact of positive parenting (e.g., parenting warmth and support) and parent-child conflict. Participants were 80 adolescents (ages 12-17) in Colorado who reported on overall stress, their relationship with their parent, and demographic information. Participants completed a blood draw to obtain measures of inflammation, which were averaged over two time points for the current project. Possible confounding variables, including waist-to-hip measurements, age, biological sex, socioeconomic status, and racial/ethnic identity, were also addressed. Results indicated that positive parenting significantly moderated the association between child stress and TNF-α ($b_{stressXparenting}$ = -0.002, SE = 0.01, t = -2.575, p = 0.012). Specifically, under low levels of positive parenting, higher stress was associated with greater inflammation, while under high levels of positive parenting, higher stress was linked to lower inflammation. Additionally, higher conflict moderated the association between child stress and TNF-α ($b_{stressXconflict}$ = .001, SE = .000, t = 2.880, p = 0.005), such that higher conflict was linked to a positive association between stress and inflammation, and lower conflict was linked to less inflammation despite increasing stress exposure. These findings suggest that positive parenting or reduced child-parent conflict may buffer the biological embedding of child stress, while parent conflict may strengthen the link between stress and TNF-α. This work may importantly inform our understanding of how parenting relationships may either buffer against or contribute to risk for inflammation after experiencing childhood stress.

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Abstract: 1220

THERAPEUTIC TECHNIQUES AS CANDIDATE MEDIATORS OF MODERNIZED COLLABORATIVE CARE FOR DEPRESSION IN PRIMARY CARE PATIENTS: DATA FROM THE EIMPACT TRIAL

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Depression is highly prevalent in patients with or at elevated risk of cardiovascular disease (CVD) and is associated with poorer health outcomes. While cognitive behavioral therapy (CBT) has

been shown to be effective in reducing depression in these patient populations, the mechanisms through which these improvements occur are unknown. To help elucidate candidate mechanisms, we examined data from the eIMPACT trial (R01HL122245, NCT02458690). In total, 216 primary care patients with depression and elevated CVD risk from a safety net healthcare system (M_{age} = 59 years, 78% women, 50% Black, 5% Hispanic, 46% with income <$10,000/year) were randomized to either 12 months of the eIMPACT intervention (a modernized collaborative care intervention involving internet CBT, telephonic CBT, and/or select antidepressants; *n*=107) or usual primary care for depression (primary care providers supported by embedded behavioral health clinicians and affiliated psychiatrists; *n*=109). Depressive symptoms were measured by the Patient Health Questionnaire-9 (PHQ-9) at baseline, mid-treatment, post-treatment, and follow-up. The Techniques for Overcoming Depression scale (TOD) contains sixteen 4-point Likert scale items measuring usage of a variety of CBT techniques. Exploratory factor analysis was first conducted in R *lavaan* to determine the factor structure of TOD, which suggested three latent factors (labeled as behavioral activation, problem-focused coping, and cognitive restructuring). Using path analysis in R *lavaan,* single mediation models were tested with each of the three factors (represented by their factor scores) and TOD total (sum of all items) as the mediator, and each of the PHQ-9 variables (total and subscales scores) as the outcome. Indirect effects are tested using 95% bootstrapping confidence intervals. As shown in Table 1, significant indirect effects emerged for behavioral activation and problem-focused coping: the intervention increased either skill (see *a* path in Table 1), which in turn decreased PHQ-9 total, cognitive/affective, or somatic depressive symptoms (see *b* path in Table 1). These effects accounted for 9-18% of the total intervention effect. In contrast, cognitive restructuring failed to mediate the intervention effect because it did not predict any of the outcomes, despite being the skill that the intervention increased the most. These findings suggest that CBT for patients at elevated CVD risk may be most effective when emphasizing behavioral activation and coping, while cognitive restructuring appears less central to depression improvements. Tailoring interventions toward these mechanisms could improve treatment efficiency and better address patient needs in resource-limited settings.

Table 1. Unstandardized Mediation Analysis Results (*n* = 216)

Outcome	Mediator	a Path	b Path	Indirect Effect [95% CI]	% Mediated	Direct Effect
PHQ-9 Total	TOD	3.489*	-0.121*	-0.423 [-1.043, -0.078]*	11.80	-3.163*
	Behavioral Activation	0.251*	-2.307*	-0.578 [-1.312, -0.023]*	16.03	-3.028*
	Cognitive Restructuring	0.381*	-0.496	-0.189 [-0.713, 0.110]	5.28	-3.393*
	Problem-Focused Coping	0.260*	-1.224*	-0.318 [-0.879, -0.020]*	8.86	-3.270*
PHQ-9 C/A	TOD	3.490*	-0.078*	-0.274 [-0.692, -0.047]*	13.28	-1.789*
	Behavioral Activation	0.251*	-1.463*	-0.367 [-0.842, -0.018]*	17.78	-1.697*
	Cognitive Restructuring	0.381*	-0.388	-0.148 [-0.514, 0.055]	7.17	-1.915*
	Problem-Focused Coping	0.260*	-0.782*	-0.203 [-0.584, -0.011]*	9.84	-1.860*
PHQ-9 SOM	TOD	3.490*	-0.044*	-0.153 [-0.382, -0.027]*	9.68	-1.428*
	Behavioral Activation	0.251*	-0.877*	-0.220 [-0.509, -0.010]*	13.74	-1.381*
	Cognitive Restructuring	0.381*	-0.098	-0.037 [-0.225, 0.107]	2.35	-1.538*
	Problem-Focused Coping	0.260*	-0.454*	-0.118 [-0.327, -0.007]*	7.47	-1.462*

Note: * = $p \leq 0.05$ or the 95% confidence interval does not cross 0. PHQ-9 = Patient Health Questionnaire-9. PHQ-9 C/A = PHQ-9 cognitive/affective subscale. PHQ-9 SOM = PHQ-9 somatic subscale. Problem-Focused Coping, Cognitive Restructuring, and Behavioral Activation represent the three factors from the Techniques for Overcoming Depression (TOD) factor analysis results. All models include income as a covariate due to baseline treatment group imbalance. Note that a Path represents the effect from intervention to each mediator, and b path represents the effect from each mediator to each outcome.

Abstract: 1365

BIDIRECTIONAL RELATIONSHIPS BETWEEN DEPRESSION, INFLAMMATION, AND PHYSICAL ACTIVITY IN MIDDLE-AGED WOMEN: A CROSS-LAGGED PANEL ANALYSIS

Kelsey Julian; Michael Persin, MS; Jeanette Bennett, PhD, University of North Carolina at Charlotte

Background: Midlife is a critical period marked by hormonal changes, psychosocial stressors, and health behavior shifts that increase women's vulnerability to depression, inflammation, and declines in physical activity. Each process is linked to cardiometabolic and mental health risks, and they may also interact bidirectionally. For example, depressive symptoms can reduce motivation for activity, inactivity may exacerbate inflammation, and inflammation has been implicated in depression pathophysiology. Yet, few studies have simultaneously modeled these relationships, especially in middle-aged women.

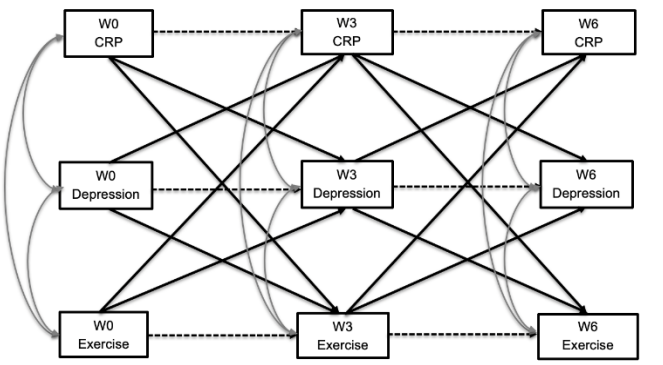
Methods: We analyzed data from the Study of Women's Health Across the Nation (SWAN), at baseline, wave 3, and wave 6 (N ≈ 3,300). Participants were racially diverse (47% White, 28% Black, 8% Japanese, 8% Hispanic, 8% Chinese; M_age = 45.8 years, SD = 2.7). Cross-lagged panel models tested reciprocal relationships among depressive symptoms (CES-D), inflammation (CRP), and physical activity (Baecke index), adjusting for age, race/ethnicity, smoking, income, BMI, and menopausal status. Missing data were handled with FIML, and models were estimated with MLR in lavaan (See Fig. 1).

Results: All constructs showed strong autoregressive stability across waves (βs = .39 – .65, p < .01). The analysis revealed bidirectional relationships between physical activity and depressive symptoms: higher activity at baseline predicted lower depressive symptoms at wave 3 (β = −.06, p < .01) and wave 6 (β = −.04, p = .03), while depressive symptoms predicted lower subsequent activity at wave 3 (β = −.04, p = .04) and marginally at wave 6 (β = −.04, p = .05). Evidence for inflammation effects was weaker, with higher CRP at wave 3 predicting lower physical activity at wave 6 (β = −.07, p < .01). Model fit was acceptable though modest (CFI = .82, RMSEA = .08, SRMR = .06).

Conclusions: Findings demonstrate bidirectional links between physical activity and depressive symptoms during midlife, with weaker evidence for reciprocal effects with inflammation. This study extends prior work by testing these dynamics in a large, racially diverse cohort of midlife women, a population often underrepresented in biomarker-informed mental health research. Physical activity emerges as a key resilience factor that may help midlife women navigate depressive symptoms and broader health risks during the menopausal transition.

Figure 1

Cross-Lagged Panel Model of Depression, Inflammation, and Physical Activity (Waves 0–6)



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Abstract: 1289

ANXIETY SENSITIVITY TOWARD CARDIAC SENSATIONS EARLY AFTER SUSPECTED ACUTE CORONARY SYNDROMES PREDICTS LATER INSOMNIA SYMPTOMS

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Background: Distress and poor sleep are both prevalent symptoms after cardiovascular medical events such as acute coronary syndrome (ACS). Patients' heightened attention to cardiac-related interoceptive signals may contribute to a persistent sense of threat from within the body long after the event. A recent study targeting hypervigilance to cardiac sensations showed that an interoceptive exposure therapy improved self-reported insomnia. However, it is unknown whether increased sensitivity to cardiac-related interoception cues contributes to the development of insomnia symptoms after acute cardiovascular events such as ACS.

Methods: We enrolled 1,741 patients presenting with suspected ACS at a large urban hospital. Participants completed baseline surveys in the hospital and were re-contacted 1 and 6 months later. Anxiety sensitivity toward cardiac-related interoceptive cues was measured at 1 month by summing four items from the Anxiety Sensitivity Index-3 (e.g., "It scares me when my heart beats rapidly"; 0 = "Very little" to 4 = "Very much"). Insomnia symptoms at 6 months were defined as a rating of "moderate" or higher (on a 0–4 scale) for the "trouble falling or staying asleep" item on the PTSD Checklist (PCL) keyed to the ACS event. This cutpoint has been validated as an indicator of insomnia in ICU survivors. Logistic regression models tested 1-month cardiac anxiety sensitivity as a predictor of 6-month insomnia, adjusting for baseline insomnia (PCL sleep item keyed to the month pre-event), demographics, and medical covariates (Charlson Comorbidity Index, Global Registry of Cardiac Risk Events prognostic score, and ACS confirmation vs. rule-out).

Results: Of 635 patients with 1- and 6-mo data (M_{age} = 60.5 years, *SD* = 13.0); 17% Black, 58% Hispanic, 16% White, 45% other race), the mean prevalence of 1-month cardiac anxiety sensitivity was 6.98 (*SD* = 5.15; range = 0–16), and 17.5% endorsed moderate or higher 6-month insomnia symptoms. The likelihood of having insomnia symptoms at 6 months increased 80% for each 1 SD increase in cardiac anxiety sensitivity (OR = 1.80 [1.40–2.35], $p < .001$) after adjusting for age, race/ethnicity, medical comorbidities, degree of cardiac risk, and pre-existing insomnia (12.6%). The effect did not differ if the suspected ACS was confirmed (34.3%) or ruled out (65.7%; $p_{interaction} = .30$).

Conclusions: Greater cardiac-related anxiety sensitivity soon after a suspected ACS increased the risk of developing clinically relevant insomnia symptoms 6 months later and did not differ whether the event was ultimately confirmed to be a true ACS. Since insomnia is a risk factor for cardiovascular events, addressing anxiety sensitivity toward cardiac sensations may reduce insomnia and improve prognosis after suspected ACS.

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Abstract: 1361

TRAJECTORIES OF MULTIDIMENSIONAL SLEEP HEALTH FROM PREGNANCY TO POSTPARTUM AND THEIR ASSOCIATIONS WITH POSTPARTUM WEIGHT RETENTION

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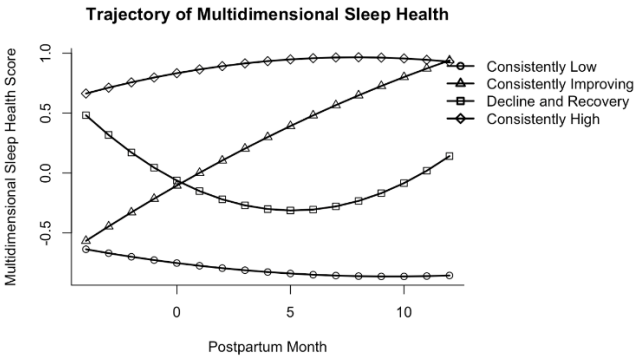
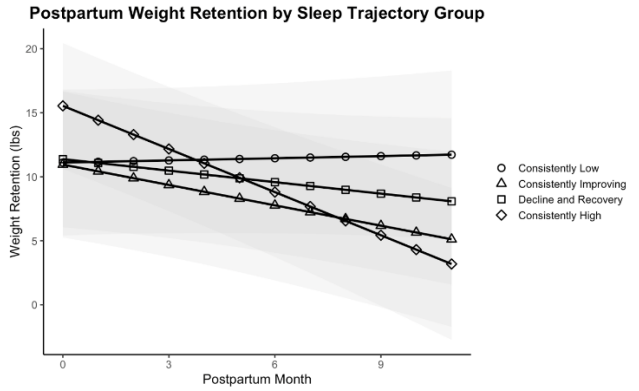
Background: Postpartum weight retention (PPWR) is associated with long-term obesity and cardiometabolic disease. While shorter sleep duration and poor sleep quality were associated with PPWR, little is known about PPWR within a multidimensional sleep health framework. Understanding these associations is essential to inform effective strategies for mitigating long-term cardiometabolic risk. We examined whether poor multidimensional sleep health trajectories from pregnancy through postpartum were associated with greater PPWR. Methods: The Postpartum Mobile Mothers Study, a prospective cohort study (N=313), examined factors that underlie racial inequities in postpartum health. This secondary analysis included 240 (77%) participants recruited between 2017-2020 with valid sleep and weight data (mean age=30.0 ± 4.7, 64% white, pre-pregnancy body mass index=26.6 ± 6.5 kg/m^2). Weight was assessed through weekly self-weighing on Bluetooth-enabled scales. Participants reported bedtime and wake time daily at the beginning of the day from the third trimester through 1 year postpartum via smart phone-based ecological momentary assessment surveys. Multidimensional sleep health was defined

as a composite score of duration (8 hours), bedtime (11 PM), and regularity (standard deviation of bedtime). Deviations from these values were aggregated, with higher scores reflecting better sleep health. Latent class growth analysis identified sleep trajectories, and linear mixed models with random intercepts and slopes estimated weight change, adjusting for sociodemographic, lifestyle, and clinical covariates. Results: Four trajectories were identified: Consistently High (26%), Consistently Low (32%), Consistently Improving (20%), and Decline and Recovery (22%). Mean weight retention during the first month postpartum was 13.1 ± 14.4 lbs and there was no significant difference across groups. The High group exhibited the steepest weight loss (-1.1 lbs/month; 95% CI -1.46, -0.70) from 1 to 12 months postpartum. The Low (0.07 lbs/month; 95% CI -0.30, 0.44), Improving (-0.5 lbs/month; 95% CI -0.94, -0.07), and Decline and Recovery (-0.3 lbs/month; 95% CI -0.72, 0.13) groups declined more slowly, with slope differences of 1.15, 0.58, and 0.79 lbs/month compared to the High group (all p<0.05). At 1 year postpartum, weight retention differed by group (p=0.048), with the Low (10.0 ± 18.9 lbs) and Decline and Recovery (9.2 ± 12.6 lbs) groups showing the greatest retention, compared to the High (3.8 ± 19.2 lbs) and Improving (2.3 ± 10.6 lbs) groups. Discussion: Our findings identified distinct multidimensional sleep health trajectories during and after pregnancy and identified individuals in need of targeted interventions to help mitigate PPWR and its long-term health conditions.





Abstract: 1260

GRIP STRENGTH AND COGNITIVE FUNCTION ACROSS MIDLIFE: LONGITUDINAL AND CONCURRENT INSIGHTS

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Introduction:Cognitive health is an essential dimension of overall well-being and successful aging. From a wellness perspective, physical and cognitive functioning are not separate domains but interconnected indicators of resilience and vitality across the lifespan. Handgrip strength, a simple and noninvasive marker of physical health, has been linked to cognitive outcomes, yet findings are inconsistent and may differ across demographic groups. Gender is particularly relevant, as men and women show distinct baseline strength, aging trajectories, and vulnerabilities to cognitive decline. This study examined whether gender moderates the association between grip strength and cognition at two time points, testing whether physical function serves as a differential indicator of cognitive functioning.

Method: Participants included 1044 adults (57% female, 19.9% ethnoracial minority) who were on average 54.44± 11.52 years old the Midlife in the United States (MIDUS) study at wave 2 (M2). At M2, they completed assessments of handgrip strength, along with demographic and health measures, while cognitive performance was assessed at M2 and MIDUS wave 3. Gender was examined as a moderator of the grip–cognition association using PROCESS Model 1 for SPSS. Covariates included age, education, ethnoracial status, and physical activity, with M2 cognition included in the longitudinal model.

Results: Across models, higher education and younger age consistently predicted better cognitive performance, while ethnoracial minority status predicted lower scores. In the cross-sectional model, the grip × gender interaction was marginal (p = .070). Conditional effects indicated that grip strength predicted better cognition in women (b = .0165, p = .0002) but did not reach statistical significance in men (b = .0066, p = .067). In the longitudinal model, the grip × gender interaction was significant (p = .040). Again, conditional effects showed that grip strength predicted higher cognition in women (b = .0085, p = .0015) but not in men (b = .0016, p = .487).

Conclusion: Across both cross-sectional and longitudinal models, handgrip strength emerged as a more sensitive predictor of cognitive performance among women, underscoring gender-specific pathways linking physical and cognitive wellness. These findings highlight the importance of a holistic approach to aging, in which physical markers such as grip strength can help identify individuals—particularly women—at elevated risk for cognitive decline. Integrating physical and cognitive health perspectives within wellness models offers new opportunities for prevention, intervention, and the promotion of resilience across the lifespan.

Abstract: 1330

INFLAMMATION AND PAIN IN WOMEN WITH BREAST CANCER: LONGITUDINAL ASSOCIATIONS AND MODERATORS

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Background: Higher levels of inflammation have been associated with more pain among breast cancer survivors (BCS) in the immediate aftermath of treatment. However, pain may continue for months or years after treatment, and the role of inflammation in more chronic pain symptoms has not been thoroughly examined. In addition, although individual difference factors are known to influence the association between inflammation and behavioral symptoms such as depression, this has been relatively unexplored in the context of cancer-related pain. The current study examines the between- and within-subject associations between inflammation and pain in BCS and potential moderators, focusing on factors that are known to be associated with both inflammation and pain. We hypothesized that inflammation would be positively associated with post-treatment pain, and that this association would be stronger among women with low social support or a history of depression.

Methods: 270 women with stage 0-IIIA breast cancer were assessed after diagnosis, after adjuvant therapy (for those who received it), and at 6, 12, and 18 months post-treatment follow-ups. Blood samples were collected to measure plasma markers of inflammation (IL-6, CRP, TNF-α, and sTNF-RII). Participants completed questionnaires to assess pain (SF-36) and perceived social support (Social Provisions Scale) and trained interviewers administered the SCID to determine a history of major depressive disorder prior to cancer diagnosis. We used multilevel models, with repeated measures nested within individuals, to test hypotheses. Covariates included age at level-1 and baseline BMI and race/ethnicity at level-2.

Results: Between-subject associations between inflammation and pain were not significant. However, two of the inflammatory markers had significant within-subject associations with pain. Women reported more pain at visits when they had higher levels of CRP or sTNFR-II than usual for them (ps=.001). Depression history and social support significantly moderated the link between CRP and pain. Contrary to hypotheses, women who did not have depression before diagnosis or had high social support at baseline had more pain at visits where they had higher levels of CRP than usual (ps<.001).

Conclusion: Results support the relevance of inflammation for pain in breast cancer survivors in the aftermath of cancer treatment. This work also highlights the complex role of psychosocial factors, including depression and social support, as moderators of this association.

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Abstract: 1118

HIV-RELATED SHAME AND ALCOHOL USE AMONG MEN WHO HAVE SEX WITH MEN RECENTLY DIAGNOSED WITH HIV: THE MEDIATING ROLE OF POSTTRAUMATIC STRESS DISORDER SYMPTOMS RELATED TO BEING NEWLY DIAGNOSED WITH HIV

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Men who have sex with men (MSM) have high rates of alcohol use and are disproportionately affected by HIV. Among individuals living with HIV, alcohol use is associated with increased disease progression through biological mechanisms and reduced antiretroviral therapy adherence. Although shame has been shown to be associated with alcohol use, no studies have examined the relationship between shame specific to HIV and alcohol use among MSM. Additionally, few studies have examined the psychological mechanisms that explain the relationship between shame and alcohol use. A potential mechanism could be posttraumatic stress disorder (PTSD) symptoms, which have been associated with both shame and alcohol use. The present study aimed to examine whether PTSD symptoms related to being newly diagnosed with HIV would mediate the relationship between HIV-related shame and alcohol use among racially diverse MSM recently diagnosed with HIV. We hypothesized that greater HIV-related shame would be associated with more PTSD symptoms, which in turn would be associated with greater alcohol use when controlling for age, education, race/ethnicity, and sexual orientation. Data came from the baseline assessment of a randomized controlled efficacy trial of a health enhancement and risk reduction intervention targeting MSM recently diagnosed with HIV. Participants (N = 202) were recruited from two community HIV clinics in New York City and completed an audio computer-assisted self-interview. We found that HIV-related shame was positively associated with PTSD symptoms (b = 1.025, SE = .067, 95% CI = [.893, 1.157]), PTSD symptoms were positively associated with alcohol use (b = .116, SE = .035, 95% CI = [.048, .185]), and HIV-related shame was positively associated with alcohol use (b = .095, SE = .033, 95% CI = [.029, .160]). When controlling for PTSD symptoms, HIV-related shame and alcohol use were no longer associated (b = -.024, SE = .048, 95% CI = [-.119, .070]). Furthermore, we found that PTSD symptoms mediated the relationship between HIV-related shame and alcohol use (indirect effect = .119, SE = .042, 95% CI = [.039, .202]). These findings suggest that interventions addressing PTSD symptoms could help reduce alcohol use and improve health outcomes among MSM recently diagnosed with HIV.

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Abstract: 1126

A MACHINE LEARNING APPROACH INTEGRATING SOCIAL DETERMINANTS OF HEALTH AND ALLOSTATIC LOAD TO PREDICT TYPE 2 DIABETES

Dante Tolentino, UCLA

Background. Type 2 diabetes is a significant global public health challenge, with increasing prevalence, economic costs, and a disproportionate burden on marginalized groups. Social determinants of health (SDOH) impact health outcomes and can have a greater influence than medical factors. Adverse SDOHs can act as chronic physiological stressors, leading to elevated allostatic load (AL), a measure of cumulative physiological dysregulation across multiple body systems. While the importance of SDOH and the association of AL with disease burden are recognized, integrating SDOH with AL for diabetes prediction has been limited, and most existing models overlook SDOH.

Aim. To develop a machine learning (ML) model that combines SDOH with AL biomarkers to predict type 2 diabetes.

Methods. A supervised machine learning approach utilizing the XGBoost algorithm was used to predict diabetes status. The study used AI-READI, a multimodal dataset, comprising 1,067 participants aged 40 and older. Data included participant demographics, clinical information, SDOH assessments via surveys, and AL biomarker data. Twelve features were selected for the model: six SDOH factors (healthcare discrimination, hospitalization, delayed medical care, Medicaid coverage, prescription affordability, education) and six AL domains (Cardiovascular, Metabolic, Glycemic, Inflammation, Renal, and total AL score). The model's performance was evaluated using AUC-ROC, accuracy, precision, recall, and F1-score on a held-out test set, and feature importance was assessed using gain-based analysis.

Results. The XGBoost classifier demonstrated strong predictive performance for diabetes status on the held-out test set. Key performance metrics included an Overall Accuracy of 74.8%, Precision of 86.0%, Recall of 79.2%, F1 Score of 82.5%, and an ROC-AUC of 83.7%. Feature importance analysis revealed that clinical biomarkers were the primary drivers of prediction, with HbA1c emerging as the most critical predictor (34.6% gain), followed by other metabolic, cardiovascular, inflammatory, and renal markers. SDOH variables contributed modestly, accounting for 0.63% of the overall model gain, indicating that while clinical biomarkers are the main predictors, SDOH factors provide additional predictive value.

Conclusion. While clinical biomarkers predominantly drive the predictions, the inclusion of SDOH variables offers additional modest predictive value and provides a more holistic understanding of diabetes risk. This integrated approach can enhance risk stratification and guide healthcare systems in identifying high-risk individuals who may benefit from both clinical and social support interventions.

TESTING THE BIDIRECTIONAL ASSOCIATIONS BETWEEN DAILY POSITIVE EXPERIENCES AND COGNITIVE FUNCTIONING

Alice Luan; Lydia Ong, MA; Nicole Stuart, MA; Nancy Sin, PhD, University of British Columbia

Introduction: Positive affect and other aspects of positive psychological well-being are known to be protective across various domains of health. Emerging evidence also suggests that minor positive events in everyday life are related to better health behaviours, which may extend to perceptions of better cognition. At the same time, subjective cognition (i.e., perceiving better attention and memory) may provide greater cognitive capacity and resources to engage in positive events and to generate positive affect. Past research suggests that positive affect and experiences may be beneficial for cognitive performance, yet less is known about whether subjective cognitive functioning also predicts subsequent positive experiences. This pre-registered ecological momentary assessment (EMA) study examined the bidirectional associations between positive experiences and subjective cognitive functioning.

Methods: 207 adults in British Columbia, Canada (ages 26-88, M = 49.41; 68.8% women; 34.1% racial minorities) completed 14 days of EMA. Momentary positive events and positive affect were assessed 4x/day, and subjective memory and attention 3x/day. Concurrent and time-lagged associations were assessed using random-intercept cross-lagged panel models, which disaggregate between- and within-person analysis. Models controlled for sociodemographic factors and depressive symptoms.

Results: Moments with higher positive affect and positive events were linked to better-than-usual concurrent subjective memory and attention within individuals. In lagged analyses, higher momentary positive affect predicted higher subsequent subjective attention (but not memory) at the next assessment (b = 0.02, SE = 0.01, p = .033), whereas momentary positive events were not linked to subsequent subjective attention, nor memory. In the reverse direction, better subjective attention predicted a higher likelihood of reporting a positive event at the next assessment (b = 0.19, SE = 0.09, p = 0.038) but not subsequent positive affect. Subjective memory did not significantly predict subsequent positive events or affect.

Discussion: Experiencing higher positive affect predicted better attention but not memory several hours later, whereas moments of better attention predicted subsequent positive events, suggesting distinct patterns for the different directions of association. These patterns may indicate that attention is more sensitive to short-term fluctuations in affective states and events, whereas memory may rely on consolidation processes over longer timescales. Future research can examine mechanisms linking positive experiences and subjective cognition, such as physiological pathways and social engagement.

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Abstract: 1284

THE MODERATING ROLE OF HEART RATE VARIABILITY IN ASSOCIATIONS OF DEPRESSIVE SYMPTOMS AND PERCEIVED STRESS WITH PHYSICAL SYMPTOMS

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Higher depressive symptoms and perceived stress are known to be associated with elevated perception of physical symptoms, but the extent and nature of these effects can vary across individuals. One factor that may be relevant to these associations is resting heart rate variability (HRV). HRV is an index of autonomic flexibility and the body's capacity for psychophysiological regulation, with higher HRV (i.e., greater cardiac functioning and self-regulation) potentially altering health-relevant associations. HRV has been identified as a potential moderator for associations of psychological factors with psychosomatic outcomes but the evidence thus far is inconsistent. The present study tested whether HRV moderates the association of both depressive symptoms and perceived stress with perceived physical symptoms. A sample of 158 ethnically diverse young adults (58.2% female; mean age = 20.49, SD = 2.08) completed self-report measures of depressive symptoms, perceived stress, and physical symptoms. Baseline HRV was recorded during a three-minute resting period. After accounting for covariates (sex, age, ethnicity), higher depressive symptoms were significantly associated with higher physical symptoms (b = 1.87, SE = 0.23, p < .001) and higher perceived stress was also significantly associated with higher physical symptoms (b = 0.76, SE = 0.17, p < .001). HRV significantly moderated the associations of both depressive symptoms (R^2 = 0.48, b = 0.92, SE = 0.26, p = .001, 95% CI [0.40, 1.44]) and perceived stress (R^2 = 0.24, b = 0.34, SE = 0.17, p = .04, 95% CI [0.01, 0.67]) with physical symptoms, with the strength of the associations increasing when HRV was higher. These findings highlight the potential role of autonomic regulation in the link of poor psychological health with perceptions of bodily states (e.g., depression is often associated with impaired bodily awareness). Discussion is focused on implications of HRV for perception and interpretation of internal bodily signals.

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Abstract: 1293

EARLY LIFE GUT MICROBIOME DEVELOPMENT FOLLOWING PRENATAL EXPOSURE TO MATERNAL PSYCHOLOGICAL DISTRESS

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Maternal psychological distress (MPD), including anxiety and depression, is a common prenatal exposure linked to offspring risk for mental and physical health problems. The mechanisms by which MPD becomes biologically embedded to perpetuate risk across generations remain unclear but are important to understand as they may represent targets for intervention. One plausible mechanism is the gut microbiome, or the ecosystem of microorganisms that inhabit the gastrointestinal tract and interact with the brain and other organ systems to influence health. Critically, the gut microbiome has a sensitive period in the first two years of life, when early exposures may shape long-term developmental trajectories. While cross-sectional studies report differences in gut microbiome composition associated with MPD, little is known about how MPD alters the *development* of the gut microbiome within children.

Data were drawn from 96 mother-child dyads enrolled in the Growing Up in Singapore Towards Healthy Outcomes (GUSTO) cohort study. Between 26–28-weeks' gestation, mothers completed self-report questionnaires assessing symptoms of anxiety and depression, which were used to derive a composite MPD measure. Stool samples were collected from children at 3, 6, 12, and 24 months of age for taxonomic profiling. Analyses targeted two distinct features of the gut microbiome: volatility (temporal instability of microbial composition, measured as within-individual Aitchison distances) and alpha diversity (within-individual microbial diversity, measured using Shannon's Index). Multiple linear regression was used to examine associations between MPD and volatility within each age interval. Developmental change in alpha diversity was examined using a mixed-effects model with linear and quadratic effects of age and their interactions with MPD. All models controlled for maternal age, infant sex, and ethnicity.

Greater MPD was associated with lower volatility between 3–6 months of age (b = -1.101, p = .040), but not between 6–12 (b = -0.565, p = .238) or 12–24 months (b = 0.770, p = .173). With respect to the developmental trajectory of alpha diversity, the mixed-effects model revealed a quadratic pattern of change, consistent with a deceleration of growth over time (b = -0.004, p < .001). Importantly, MPD moderated this effect, such that children exposed to greater MPD showed a less pronounced deceleration in alpha diversity than those with lower exposure (b = 0.002, p = .049). Though modest, these results suggest that prenatal MPD exposure may alter expected patterns of gut microbiome development during a sensitive period of early life, which might

have implications for later health outcomes. Future work will extend these analyses to additional diversity indices and differentially abundant taxa.

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Abstract: 1355

ASSOCIATION BETWEEN ALLOSTATIC LOAD IN YOUNG ADULTHOOD AND COGNITION IN MIDLIFE: THE BOGALUSA HEART STUDY

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Allostasis refers to the continuous physiological processes that allow us to adapt to changes in the environment[1]. Chronic stressors can cause dysfunction in allostatic systems, and higher exposure to these stressors is known as allostatic load (AL)[2] . Higher AL is associated with poorer physical health [3], but less is known about the effects of AL earlier in life on cognition in midlife[4]. Disparities have also been noted in levels of AL between different racial and ethnic groups[5]. The goal of the current study is to examine the effects of AL in young adulthood on cognition in midlife within a sample from the Bogalusa Heart Study (BHS), and assess differences between White American and Black American participants in this relationship. We hypothesized that higher AL would be associated with poorer cognition. The BHS is a rural epidemiological cohort from southeastern Louisiana, with measures spanning from childhood to midlife. Our sample consisted of 488 BHS participants (62.9% Female, 71.5% White American) who had cognition data from midlife (mean age = 50.92, SD = 3.15), and AL biomarkers in young adulthood (mean age = 24.03, SD = 2.93). Participants completed a cognitive battery that included digit symbol coding, digit span, logical memory, vocabulary, word reading, and trail-making tasks. Allostatic load biomarkers included waist circumference, total cholesterol, HDL and LDL cholesterol, triglycerides, blood pressure (systolic and diastolic), insulin, and glucose. Participants were assigned a score of "1" for each biomarker if it fell above the 75th percentile (below the 25th percentile for HDL), and scores were summed to generate an AL summary score (range 0-9). Statistical analyses consisted of linear regression models with AL as the predictor, and cognitive scores as outcomes. Covariates included age, smoking, alcohol consumption, education, and employment. AL was not significantly associated with a global cognition score (b = 0.11, SE = 0.11, t = 1.09, p = 0.28). However, higher AL was associated with slower completion time on the Trail A task (b = 0.06, SE = 0.02, t = 2.64, p < .01). A significant interaction was also found between AL and race in this model (b = 0.18, SE = 0.05, t = 3.56, p <.01), and race-stratified analyses revealed that the association was significant in Black participants (b = 0.20, SE = 0.06, t = 3.21, p < 0.1), but not White American participants (b = 0.02, SE = 0.02, t = 0.95, p = 0.34). Furthermore, the AL and race interaction term remained significant at the highest education level (b = 0.16, SE = 0.07, t = 2.25, p = 0.02). In conclusion, greater AL in young adulthood was associated with poorer attention and processing speed in midlife among Black American BHS participants.

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Abstract: 1412

ASSOCIATIONS OF DEPRESSION AND ANXIETY WITH AMYLOID-B AND TAU IN MIDDLE- TO OLDER ADULTS: EVIDENCE FROM POSITRON EMISSION TOMOGRAPHY AND CEREBROSPINAL FLUID PARAMETERS

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Purpose: Anxiety and depression have been consistently linked to increased dementia risk (Rubin, 2018; Sanrabárbara et al., 2019). However, the extent to which these symptoms relate to underlying Alzheimer's disease pathology remains unclear. Prior studies examining associations between amyloid-β (Aβ), tau proteins, and affective symptoms have yielded mixed results (Kim et al., 2024; Lewis et al., 2022). The present study investigated whether depression and anxiety symptoms are associated with Aβ and tau abnormalities measured through positron emission tomography (PET) and cerebrospinal fluid (CSF) biomarkers.

Methods: We analyzed data from the National Alzheimer's Coordinating Center (NACC) from September 2005–June 2025 (*N* = 976) in a cross-sectional design. Depression was assessed using the Geriatric Depression Scale (GDS), and anxiety was measured with the anxiety subtest of the Neuropsychiatric Inventory Questionnaire (NPI-Q). Binary logistic regression models examined whether higher depression scores and the presence of anxiety were associated with three dichotomous biomarker outcomes: elevated Aβ on PET, abnormally low CSF Aβ, and elevated CSF tau.

Results: Binary logistic regression showed that higher scores on the GDS and a positive indicator on the anxiety subtest in the NPI-Q were associated with a higher likelihood of having elevated Aβ disposition, abnormally low Aβ concentrations in the CSF, and elevated tau protein concentrations in the CSF when controlling for covariates; age, sex, BMI, years of education, diabetes, hypertension, sleep apnea, and APOE4 allele .

Conclusion: Depression and anxiety were linked to both Aβ and tau abnormalities across from PET and CSF parameters that have been found to be predictive of Alzheimer's dementia. These findings suggest that affective symptoms may serve as clinical indicators of dementia-related pathology. Future longitudinal studies and more detailed analyses Aβ and tau depositions in different brain regions are needed to determine the extent to which depression and anxiety contribute causally to these deposition changes or can serve as early risk factor for dementia-specific pathological processes.

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Abstract: 1155

PSYCHOPHYSIOLOGICAL RESPONSES TO IMMERSIVE PRE-RECORDED AUDIENCES: THE IMPACT OF VIRTUAL SOCIAL SUPPORT

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As the use of telemedicine continues to broaden, it is important to understand how virtual stimuli can influence psychological and physiological processes. One such stimulus is the provision of social support, which has been salubrious when provided in-person or perceived by the support receiver.

The present study investigated how pre-recorded virtual social support from two different sources affected psychophysiological responses to a virtual Trier Social Stress Test (VTSST). The VTSST is a protocol that was developed by our lab which uses a MetaQuest headset to display an immersive (3D) pre-recorded audience to participants. A 2x2 factorial design was utilized where 113 individuals were randomly assigned to one of four pre-recorded conditions: a 200-person supportive audience, a 2-person supportive audience, a 200-person non-supportive audience, and a 2-person non-supportive audience. Audiences were instructed to respond to a speaker in either a supportive fashion (e.g., smiling, nodding, paying attention) or non-supportive fashion (e.g., wandering attention, slight head shakes, bored looks on faces). Participants gave a five-minute speech and performed arithmetic orally while physiological measures (e.g., blood pressure, LVET) were recorded. Post-task self-reported psychological responses to the VTSST included standardized affect and stress surveys.

Compared to a non-supportive audience, the supportive condition elicited less negative affect ($F(1, 109) = 13.74$, $p < 0.05$) and stress ($F(1, 109) = 5.80$ $p < 0.05$). However, a marginally significant interaction suggested that the impact on negative affect was diluted when the social support was provided by a large audience ($F(1, 109) = 3.73$, $p = 0.06$). Betweeen conditions, diastolic blood pressure (DBP) reactivity after controlling for baseline was increased by social support ($F(1, 109) = 7.13$, $p < 0.05$). A similar effect on systolic blood pressure was not detected. Additionally, there was an effect of audience size on LVET reactivity after controlling for baseline ($F(1, 109) = 5.06$, $p < 0.05$). This effect suggests greater sympathetic cardiac influence during the 200-person audience condition.

Presented here are some of the first results indicating that immersive pre-recorded social support can decrease psychological stress and negative affect. The results also suggest concomitant physiological influences of virtual support including an increase in DBP responses, perhaps indicating greater engagement. Thus, immersive pre-recorded stimuli may prove useful in examining the effects of social support and may provide a potential avenue for online treatment of individuals that would benefit from support.

Abstract: 1185

DISENTANGLING CAUSAL IMPACTS OF NEGATIVE AND POSITIVE PSYCHOLOGICAL DISPOSITION ON AFFECTIVE REACTIVITY TO DAILY STRESSORS AMONG MIDLIFE ADULTS

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Low affective reactivity—little change in negative affect (NA) or positive affect (PA) in response to daily stressors—predicts lower mortality and healthy aging. Negative and positive psychological dispositions, which are inversely related, each predict affective reactivity. However, the extent to which each independently influences affective reactivity remains unclear. Moreover, research to date has predominantly focused on observational studies, providing weak causal inference.

The present study examined the extent to which low affective reactivity is driven by genetically instrumented negative or positive psychological dispositions, controlling for each other, using a multivariable Mendelian randomization.

We analyzed 761 participants from the Midlife in the United States (mean age = 52.8, 55.5% women) with complete genetic and diary data for NA/PA across 8 days. We operationalized affective reactivity as the magnitude of changes in NA or PA in response to daily stressors, computed using person-level mixed models that yielded reactivity slopes for NA and PA. The positive psychological disposition combined measures of positive personality traits (e.g., extraversion) and psychological well-being (e.g., optimism). The negative psychological disposition combined measures of neuroticism, pessimism, and negative affect. Genetic instruments were composites of polygenic risk score (PGS): a negative psychological disposition score, combined PGS of neuroticism and depression, and a positive psychological disposition score, combined PGS of subjective well-being, emotional acceptance, and extraversion. We estimated independent causal effects using two-stage least squares regression, adjusting for age, sex, and five ancestry principal components.

One standard deviation increase in genetically instrumented negative psychological disposition was associated with a 0.04-unit increase in NA on days when stressors occurred compared to days without stressors ($p = .04$), with PA showing no impact ($\beta = 0.00$, $p = .53$). No associations were observed between PA reactivity and genetically instrumented positive psychological disposition.

Higher genetically instrumented negative psychological disposition enhanced NA reactivity, independent of PA. Future research may examine the independent effects of negative and positive psychological dispositions on other aging phenotypes.

Abstract: 1190

CROSS-RACE SOCIAL EVALUATION AS SOCIAL THREAT: NEURAL PATHWAYS AND ASSOCIATIONS WITH RACISM-RELATED STRESS IN BLACK ADOLESCENTS AND YOUNG ADULTS

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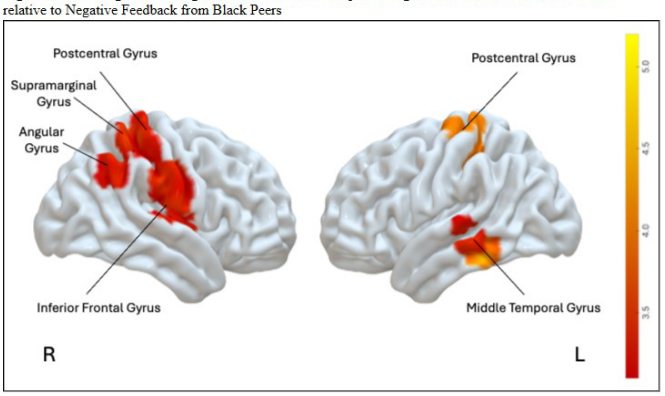
BACKGROUND: Racism-related stress is a critical contributor to racial health inequities, with cumulative exposure theorized to accelerate "weathering" across biological systems. While peripheral physiological pathways linking racism to health have been widely studied, the neural mechanisms through which racism-related stress becomes embodied remain less clear. Everyday cross-race social threats, such as being socially evaluated, are contexts in which prior experiences of racism may shape responding. This kind of social threat may act as a subtle, yet routine, stressor that contributes to cumulative stress burden among racially minoritized individuals. This study examined whether neural responses to cross-race versus same-race social evaluation in Black adolescents and emerging adults were shaped by prior experiences of racism.

METHOD: Forty-nine Black participants (ages 15–22; Mage=19.08, SD=1.67) from an ongoing longitudinal neuroimaging study created a study-specific social media profile to be evaluated. While undergoing fMRI, participants received negative, neutral, and positive feedback on their profile from both Black (same-race) and White (cross-race) peers. Past exposure to racism-related stress was assessed with the Index of Racism-Related Stress–Brief (IRRS-B). Whole-brain analyses contrasted cross-race versus same-race evaluation for each feedback valence, and regression models tested associations between IRRS-B scores and neural activation.

RESULTS: Race-based neural differences emerged for negative peer feedback: compared to same-race peers, negative evaluation from White peers elicited greater activation in bilateral postcentral gyri, right inferior frontal gyrus, and middle temporal gyrus extending into the temporoparietal junction. However, racism exposure scores were not significantly associated with neural activity, and effects were not robust when controlling for covariates beyond age and gender.

DISCUSSION: Though interpretations must be cautious, findings suggest that negative cross-race evaluation engages somatosensory/interoceptive and mentalizing processes, indicating a more embodied representation of social threat and greater social cognitive demand following negative evaluation from White versus Black peers. Even without direct associations with prior racism exposure, these results highlight neural pathways involved in potentially stressful cross-race encounters and may offer insight into how such stress maps onto somatic representations of social threat. Clarifying these mechanisms and their contribution to racial health inequities remains an important next step, particularly given that cross-race evaluation is common in clinical, educational, and workplace contexts where the effects of racism can critically shape health outcomes.

Figure 1. Brain Regions with Significant Activation in Response **Negative feedback from White Peers** relative to Negative Feedback from Black Peers



Whole brain maps of activation for the main effect of the White Negative > Black Negative contrast. Stronger activation is represented by brighter colors (i.e., orange, yellow).

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Abstract: 1212

PRIMED TO FEEL, NOT TO FLARE: EARLY LIFE STRESS AND PSYCHOLOGICAL SENSITIVITY TO INFLAMMATION

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Background: There have been recent calls to investigate potential moderators of inflammation's psychological and behavioral effects in humans. One such moderator may be early life adversity (ELA). In a prior small observational study, Kuhlman et al. (2020) showed that those with greater ELA exhibited heightened psychological sensitivity (i.e., depressed mood, poorer cognition) in response to flu vaccine-induced increases in interleukin-6 (IL-6).

Objective: The present study seeks to replicate and extend these findings using a larger sample and a within-subjects randomized-to-sequence design featuring a mild inflammatory stimulus (the typhoid Vi polysaccharide (ViCPS) vaccine) versus a saline placebo injection. We tested whether ELA moderates psychological, cognitive, and social sensitivity to inflammation.

Method: Female breast cancer survivors (N = 158; age range: 36–72 years) received either the typhoid ViCPS vaccine or a saline placebo injection in a counterbalanced order across two monthly laboratory visits. ELA was assessed using the Childhood Trauma Questionnaire and the Kessler Adversity List. Blood samples

were collected at baseline and multiple time points post-injection. Participants completed subjective ratings of focus, memory, and sadness at each blood draw. Additionally, they reported on perceived social connection and completed a cognitive test battery comprising the Stroop Task, N-back Task, Conners' Continuous Performance Test, and the Hopkins Verbal Learning Task.

Results: The vaccine reliably increased IL-6 levels (p<.001). However, ELA did not predict greater IL-6 reactivity (p=.53) nor did it moderate vaccine effects on psychological, cognitive, or social outcomes (ps>.08). Among breast cancer survivors with higher ELA, greater IL-6 increases were associated with greater sadness (p=.04), worse subjective focus (p=.03), and marginally worse subjective memory (p=.067), but not cognitive test performance or social connection (ps>.16).

Conclusion: This replication study demonstrates results consistent with Kuhlman's findings, showing ELA heightens inflammation-induced mood and cognitive—but not to social—symptoms. We further extended the prior study by examining objective cognitive test performance, which was not moderated by ELA. These findings suggest that females who experience ELA may be more vulnerable to inflammation-induced mood and cognitive symptoms, which could translate to increased risk for inflammation-driven psychological symptoms in a variety of psychiatric disorders, including depression.

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Abstract: 1384

THE EFFICACY OF SLOW-PACED BREATHING ON PRIMARY SYMPTOM SEVERITY VARIES ACROSS TREATMENT PHASES: A LONGITUDINAL DOSE-RESPONSE ANALYSIS FROM THE VAST RCT

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Background: Targeting the vagus nerve is a key therapeutic strategy in psychosomatic medicine. Slow-Paced Breathing (SPB) offers a powerful method to bidirectionally stimulate the vagus nerve non-invasively, providing a safe, accessible, and self-administered alternative of neuromodulation. SPB is an easy-to-learn technique. The VAST study was specifically designed to provide such a tool to patients on the waiting list and to longitudinally assess if this intervention could impact the symptom load of the primary diagnosis across distinct phases of care.

Methods: We analyzed data from a pre-registered RCT (VAST Study; DRKS00032629). Six lab visits (=5 Phases A-E) with an average total observation period of 234 days (±61) from 63 patients (224 obs.) were collected. Psychosomatic patients awaiting hospitalization were randomized to treatment-as-usual (TAU) or a SPB intervention with 2x10min daily@6 breath per minute. The IG started at the first visit. The TAU group started SPB at clinical admission (third visit). The primary outcome was a 0-100 standardized **Main Symptom Index**, derived from the patient's primary diagnostic scale (PHQ-9 for depression, GAD-7 for anxiety, or PHQ-15 for somatoform disorders). Linear mixed-effects models with interaction between cumulative SPB minutes (per phase) and phase, adjusting for baseline symptom severity, sex and days in each phase were calculated.

Results: A significant interaction was found between SPB minutes and treatment phase ($p < .05$). In the pre-clinic phase (Phases A & B), and post-clinical phase (E), a higher SPB dosage were associated with a reduction in symptom severity (e.g. $\beta = -0.010$, p=.032), while only attenuated beneficial effects were observed in the hospital phase (C & D).

Conclusion: The efficacy of SPB on primary symptom load seems moderated by the therapeutic context. SPB may serve as a potent self-regulation tool during less structured periods, such as while waiting for treatment. These findings suggest that the integration of behavioral interventions like SPB should be carefully tailored to the concurrent therapeutic environment to maximize efficacy.

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Abstract: 1370

PROFILES OF WELL-BEING PRACTICES AND PROSPECTIVE CARDIOVASCULAR HEALTH IN MIDLIFE

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Introduction

Identifying practices that promote cardiovascular health (CVH) is critical for fostering healthy aging. This study tested whether qualitatively derived profiles of well-being practices predicted later CVH in a national longitudinal sample of adults.

Method

The sample included 747 adults from the Midlife in the United States (MIDUS) Study who completed biomarker assessments at Waves II and III; the analytic sample was 652 after accounting for missing CVH data. Participants wrote responses to the question, "*What do you do to make your life go well?*" Responses averaged 60 words (range = 1–457). Directed content analysis produced a codebook of 12 well-being practices (e.g., relationships, health, coping). Each response was coded by three independent raters, with practices endorsed if at least two agreed (agreement = .91). On average, participants endorsed 4.43 practices (SD = 2.25). These practices served as inputs to a latent class analysis (LCA) to identify subgroups of well-being practices, which were then used to prospectively predict CVH. CVH was defined by the American Heart Association's Essential Eight (diet, activity,

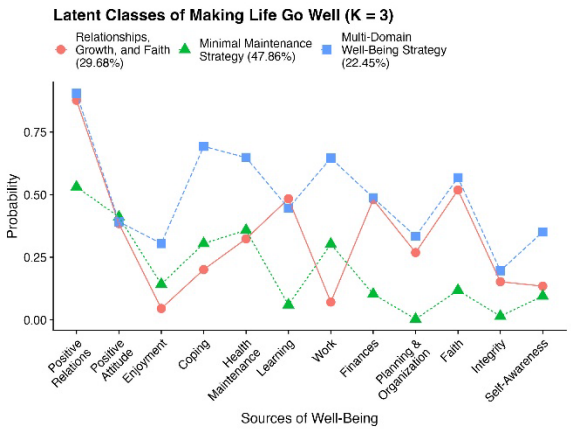
nicotine exposure, sleep, BMI, lipids, HbA1c, blood pressure). Scores (0–100) were averaged to yield an overall index, with higher values reflecting better health.

Results

LCA supported a three-class solution (Figure 1): Class 1 (29.7%) emphasized relationships, growth, and faith (Relationships, Growth, and Faith Strategy); Class 2 (47.9%) showed low-to-moderate endorsement with modest emphasis on work, health, and relationships (Minimal Maintenance Strategy); and Class 3 (22.5%) demonstrated engagement across multiple domains (Multi-Domain Well-Being Strategy). Using the BCH method, prospective analyses showed significant Wave III CVH differences. Class 3 had the highest mean CVH (75.1), followed by Class 1 (70.3) and Class 2 (66.7). Pairwise contrasts indicated Class 3 was significantly higher than both Class 1 (≈4.8 points, p = .031) and Class 2 (≈8.4 points, p < .001), and Class 1 exceeded Class 2 (≈3.7 points, p = .033).

Discussion

Profiles of well-being practices, identified through qualitative coding and LCA, were associated with differences in later CVH. Adults engaging broadly across practices had the most favorable CVH, followed by those emphasizing relationships, growth, and faith, and minimal maintainers lowest, suggesting broader engagement may yield greater advantage. Although differences of ≈3–8 points appear modest, prior studies suggest changes of this size correspond to meaningful variation in cardiovascular risk. These findings highlight the value of integrating qualitative self-reports of well-being into quantitative models of long-term health.



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Abstract: 1419

MEDICAID TELEHEALTH POLICY AND RURAL HEALTH EQUITY: IMPACTS ON ALCOHOL AND SUBSTANCE USE DISORDER TREATMENT AT FEDERALLY QUALIFIED HEALTH CENTERS IN RURAL COMMUNITIES

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Introduction:
The COVID-19 pandemic prompted rapid expansion of telehealth, including for alcohol and substance use disorder (ASUD) treatment among Medicaid beneficiaries. As emergency orders expired, state Medicaid programs adopted divergent telehealth reimbursement policies. These policy decisions may have profound implications for rural health equity, particularly in Federally Qualified Health Centers (FQHCs), which serve as a major source of both primary and behavioral healthcare in medically underserved rural areas.

Objective:
This study examined the impact of state-level Medicaid reimbursement policies for telehealth-delivered ASUD treatment on service utilization at rural FQHCs from 2019 to 2022.

Methods:
We used a differences-in-differences design to compare ASUD service use, measured as counts of visits and unique patients, at rural FQHCs in states that permitted Medicaid reimbursement for ASUD telehealth services versus those that did not. Policy data came from the Kaiser Family Foundation's annual Medicaid Budget Survey and were merged with Uniform Data System (UDS) records. Negative binomial regression models were used, adjusting for patient demographics and year, with standard errors clustered at the state level.

Results:
States that permitted Medicaid telehealth reimbursement for ASUD services experienced significantly greater utilization of these services at rural FQHCs. Specifically, telehealth-permissive policies were associated with a 47% increase in AUD visits (IRR: 1.47, p < 0.001), a 32% increase in AUD patients (IRR: 1.32, p < 0.001), and a 27% increase in SUD patients (IRR: 1.27, p < 0.001).

Conclusions:
Supportive Medicaid telehealth policies were significantly associated with increased ASUD service utilization at rural FQHCs. These findings highlight telehealth's potential to reduce longstanding access barriers in rural areas and reinforce the need for sustained policy efforts to advance rural health equity.

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Abstract: 1094

ANXIETY AND CARDIOVASCULAR REACTIVITY TO ACUTE PSYCHOLOGICAL STRESS: PRELIMINARY FINDINGS FROM A SYSTEMATIC REVIEW

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Background: Anxiety is one of the most prevalent mental health conditions and is associated with increased cardiovascular disease morbidity and mortality. Cardiovascular reactivity (CVR) to acute psychological stress has been proposed as a potential mechanism linking anxiety to adverse cardiovascular outcomes.

However, the literature presents inconsistent findings regarding the nature of this the relationship between anxiety and CVR to psychological stress, warranting a systematic review and meta-analysis.

Aim: This systematic review and meta-analysis aims to establish if anxiety is associated cardiovascular responses to acute psychological stress and if so, evaluate the strength and direction of the associations as well as variations across stress task type, and anxiety type.

Methods: Following PRISMA guidelines, we systematically searched electronic databases (MEDLINE, PsycARTICLES, PsycINFO, PubMed, CINAHL, EMBASE, and Web of Science) for English-language, peer-reviewed articles. Eligible studies assessed anxiety using validated scales (e.g., HADS, STAI, GAD-7 etc.) and measured CVR (e.g., systolic/diastolic blood pressure, heart rate, cardiac output, total peripheral resistance, or heart rate variability) in response to acute psychological stressors.

Results: We will report preliminary results providing an overview of: (1) the direction and magnitude of associations between anxiety and CVR, (2) the types of stressors most strongly linked to CVR, and (3) the specific anxiety type associated with CVR. Subgroup analyses will be conducted where appropriate.

Conclusions: This review will contribute to a clearer understanding of how anxiety influences cardiovascular reactivity to stress, with implications for elucidating biopsychosocial mechanisms underlying the mind-body connection.

Key words: anxiety, cardiovascular reactivity, psychological stress

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Abstract: 1098

THE IMPACTS OF PERCEIVED STRESS AND FOOD INSECURITY ON MOTHERS' HEALTH – TO WHAT EXTENT DOES NEIGHBORHOOD SOCIAL SUPPORT BUFFER THESE EFFECTS?

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Food insecurity is a growing public health problem afflicting more than 18 million homes in the United States and is associated with higher depressive symptoms, as well as greater risk for markers of cardiometabolic disease. Moreover, perceived stress has been theorized to be a mechanism by which food insecurity increases risk for poor health. However, the extent to which social support moderates the strength of this mediation has been minimally explored. As such, we examined: (1) perceived stress as a potential mediator of the association between food insecurity and health; (2) the extent to which neighborhood social support buffers this effect; and (3) tested whether there are group effects in the strength of this moderated mediation model between Black and White mothers. Data include 406 mothers from the Family Health Study, a longitudinal study of households that experienced poverty. Food insecurity was measured using the USDA 6-item food insecurity measure, depressive symptoms were assessed with the 20-item CES-D, and self-reported height and weight were utilized to estimate body mass index (BMI). Perceived stress (mediator) was assessed with the 14-item perceived stress scale, and neighborhood social support (moderator) was assessed with the 14-item collective socialization scale. Results show that the total effect of food insecurity on depressive symptoms (p<0.000) and BMI (p=0.046) was significant. The indirect effect of perceived stress on the association between food insecurity and depressive symptoms was statistically significant (p<0.000); however, the indirect effect of perceived stress on the association between food insecurity and BMI was not (p=0.310). Expanding further on the depression mediation model, neighborhood social support was shown to moderate the a-path, minimizing the perceived stress associated with food insecurity (p=0.043). While the entire moderated mediation was insignificant, conditional indirect effects show that at lower levels of neighborhood social support (-1 SD), the indirect effect of perceived stress was higher (p=0.000). The effect was reduced at higher levels of support (+1 SD; p=0.046). Group-specific conditional indirect effects revealed that at lower levels of social support, the mediational effects of perceived stress were stronger for White mothers than they were for Black mothers. Findings suggest that the indirect effects of perceived stress on depressive symptoms may differ between Black and White mothers. Moreover, higher levels of neighborhood social support may attenuate this association for both groups. Future research should examine the structural and sociocultural factors that explain the findings presented here (i.e., access to resources, food sharing, and exposure to other forms of adversity).

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Abstract: 1132

ROLE STRAIN, INFLAMMATION, AND DEPRESSIVE SYMPTOMS AMONG BLACK YOUTH

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Role strain, described as the competing demands and stressors of daily life, is posited to worsen psychological well-being. Compared to White youth, Black youth may experience greater vulnerability to role strain, which may negatively affect well-being and health. To test the social signal transduction theory of depression, which proposes that social stressors, like role strain, may increase inflammatory activity and heighten biopsychological changes that foster depressive symptoms, we examined whether greater role strain would be associated with higher depressive symptoms, and whether low-grade inflammation would explain (statistically mediate) this relationship among Black youth.

Participants included 400 Black youth from lower-income households aged 14 to 19 (Mean age = 16.39; 64% female) who participated in a cross-sectional study. Self-report role strain, depressive symptoms, and whole blood were obtained in the morning under fasting conditions. Markers reflecting low grade inflammation (interleukin (IL)-10, IL-6, IL-8, tumor necrosis factor-α, urokinase-type plasminogen activator receptor, and C-reactive protein) were log-transformed and averaged into a composite inflammation variable. Body mass index, age, sex at birth, and pubertal development status were included as covariates. Mediation analyses were completed in RStudio using the mediation package and bootstrapped at 1000 simulations.

There was a significant direct association between higher role strain and higher depressive symptoms in youth (adjusted: b = .33, p < .001; unadjusted: b = .34, p < .001). However, low-grade inflammation did not mediate the relationship between role strain and depressive symptoms (adjusted: b = .01, p = .38; unadjusted: b =.01, p =.79).

Our findings suggest that greater role strain, or an overload of demands such as the pressures of finances, completing schoolwork, and/or supporting family, may have links to depressive symptoms among Black youth who come from lower-income households. While we did not find evidence that inflammation mediated the relationship between role strain and depressive symptoms, further research is needed to determine other biopsychosocial mechanisms that may underlie the relationship between role strain and depressive symptoms in adolescents.

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Abstract: 1142

ASSOCIATION BETWEEN CLIMATE CHANGE ANXIETY AND RESTING HEART RATE IN AN ADOLESCENT SAMPLE

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Background: As humans experience the effects of climate change, the myriad ways in which climate change impacts health have become an important area of scientific research. From a psychosocial perspective, the construct of climate change anxiety, which describes anxiety related to the present and projected future impacts of climate change, has been found to be associated with poor mental health outcomes. However, very little research has explored how experiences of climate change anxiety may impact measures of physical health, specifically resting heart rate. Heart rate is considered a predictor of cardiovascular health, with increases in resting heart rate associated with heart disease, stroke, and mortality. There is evidence that higher resting heart rate is associated with anxiety symptoms, although this association has yet to be studied in the context of climate change anxiety specifically. Therefore, we sought to examine the association between climate change anxiety and resting heart rate.

Methods: The present sample (n = 39) is comprised of adolescents ages 13-17 recruited from the Denver Metro Area. Resting heart rate was measured by taking the mean of three serial heart rate measurements using the GE DINAMAP blood pressure cuff. Climate change anxiety was measured via the Climate Change Anxiety Scale. Analyses involved a multiple linear regression model, in which heart rate was regressed onto climate change anxiety while covarying for age, biological sex, and body mass index (BMI). Analyses were repeated with the Multidimensional Anxiety Scale for Children (MASC) added as a covariate to test whether this relationship was specific to climate change anxiety.

Results: We found that climate change anxiety was significantly associated with resting heart rate above and beyond the included covariates (beta = 0.41; S.E. = 0.20; t = 2.04; p = 0.049). When the MASC covariate was added to the model, climate change anxiety continued to be significantly associated with heart rate (beta = 0.44; S.E. = 0.20; t = 2.18; p = 0.037).

Discussion: Climate change anxiety was found to be significantly associated with resting heart rate in this sample, and this relationship was not accounted for by broader anxiety symptoms. These findings suggest that experiences of climate change anxiety may not only be associated with psychological distress, but physiological distress as well, specifically resting heart rate. Further investigation in larger samples is warranted. Should these findings be replicated, this may inform the need for clinical interventions to focus on reduction of physiological arousal in experiences of climate change anxiety. Furthermore, there is a need for longitudinal study to see how experiences of climate anxiety may impact a variety of physical health outcomes over time.

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Abstract: 1197

STRESS AND ACTIGRAPHY-BASED MEASURES OF SLEEP AMONG MIDDLE-AGED TO OLDER AFRICAN AMERICAN ADULTS

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Background. Stress purportedly mediates the association between socioeconomic status (SES) and sleep health, but this mediation pathway remains poorly delineated. This is especially true among African Americans, who tend to experience lower SES, greater stress, and poorer sleep health compared to White Americans.

Methods. Data are from the Health Among Older Adults Living in Detroit study, which examined psychosocial determinants of health among African American adults (age 50-89 years). Data collection occurred across two home visits, separated by a

seven-day home assessment period. Participants were asked to wear an actigraphy watch and complete daily diaries, including a modified version of the 4-item Perceived Stress Scale, for five consecutive days. Nocturnal total sleep time (TST) and wake after sleep onset (WASO) were derived from actigraphy data, providing well-validated measures of sleep duration and sleep quality, respectively. Participants with at least three valid days of both actigraphy and stress data were included in the present analyses (n = 150). Regression was used to test the effect of SES on variability (i.e., within-person standard deviation) in TST and WASO. Multilevel modeling was used to test whether daily stress mediates the effect of SES on daily sleep.

Results. Lower SES was associated with greater variability in TST (B = -8.26, p = 0.02) and WASO (B = -2.90, p = 0.02), and with higher daily stress (B = -0.69, $p < 0.01$). No significant effects of SES on daily TST were found. Greater person-level stress was associated with greater daily WASO (B = 1.95, p = 0.044); the effect of day-level stress was nominally negative (B = -0.71, p = 0.15). The positive indirect effect of SES on daily WASO indicated significant mediation (point estimate [95% CI] = 0.49 [0.03, 1.13]). In sum, lower SES was associated with higher daily stress levels, and on days when stress was higher, WASO was nominally lower. Given the positive indirect effect of SES on WASO, this pattern of results suggests that lower SES individuals may experience better daily sleep quality via greater daily stress levels, potentially reflecting stress-induced fatigue. However, this effect was not robust to sensitivity analyses that accounted for TST.

Conclusions. Results suggest that SES impacts sleep health in this sample, directly affecting within-person variability in sleep duration and sleep quality. The unexpected finding that lower SES worked through greater day-level stress to improve daily sleep quality warrants further research. However, inclusion of TST in the model rendered this effect non-significant. This may indicate that the observed decreases in WASO were related to shorter sleep duration in high-stress circumstances, though effects of SES and daily stress on daily TST were not significant.

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Abstract: 1338

ENHANCING MOTIVATION: EFFECTS OF TRANSCUTANEOUS AURICULAR VAGUS NERVE STIMULATION ON REWARD-BASED BEHAVIOR

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This study examines the effects of transcutaneous auricular vagus nerve stimulation (taVNS) on reward-driven behavior in individuals with (n = 34) and without (n = 34) depressive symptoms. Anhedonia, a hallmark symptom of major depressive disorder, is linked to impaired reward processing. Previous evidence suggests that taVNS may boost motivation for rewards, potentially by modulating dopamine activity.

Using a within-subject design, participants with and without depressive symptoms received either taVNS or sham stimulation on two separate days. During each session, they performed the Effort Expenditure for Rewards Task and the Probabilistic Reward Task (PRT) to assess reward-related behavior. Both the stimulation condition (active vs. sham) and the task order were randomized.

Results revealed a significant increase in heart rate variability (HRV) following taVNS (vs. sham), particularly among participants with depressive symptoms ($F = 7.51$, $\eta^2 = .019$). TaVNS also enhanced willingness to exert effort for rewards, especially in trials with low ($F = 3.28$, $\eta^2 = 0.01$) and medium ($F = 2.96$, $\eta^2 = 0.01$) reward probabilities. These effects were more pronounced in the depressive group. However, taVNS did not influence reward learning as measured by the PRT.

Self-report data showed that taVNS significantly reduced anxiety levels in both groups ($F = 7.626$, $\eta^2 = 0.05$). Although limited by the use of a single stimulation session, these findings provide insight into the mechanisms of taVNS and its potential benefits for anhedonia, particularly by enhancing motivation to exert effort when reward probabilities are uncertain.

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Abstract: 1054

QUALITATIVE PERSPECTIVES ON EMOTION REGULATION: THEORETICAL INSIGHTS FROM A SCOPING REVIEW

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In an era of increasing psychological and societal “storms,” effective emotion regulation is a critical factor for maintaining mental and physical well-being. Although extensively studied, most existing research relies on quantitative, theory-driven approaches that may overlook the lived experiences of how people themselves describe regulating their emotions in everyday contexts. This scoping review aims to synthesize qualitative studies that capture these first-hand accounts of emotion regulation strategies and to examine how these lived experiences align with or extend beyond the Process Model of emotion regulation, a widely used framework that conceptualizes emotion regulation as the processes by which people influence their emotional experiences. Using a systematic search across PsycINFO and PubMed (January 1995 to February 2025), cross-validated with a prior review that used Scopus and Web of Science, we identified 46 studies with a total of 1,937 adult participants from 24 countries. We included qualitative studies with adult participants written in English, that reported naturally occurring, intrapersonal emotion regulation strategies. Strategies like attentional deployment (e.g., distraction, attention shifting), cognitive change (e.g., reappraisal, perspective-taking), and

response modulation (e.g., suppression, expression) aligned well with the Process Model. We also identified additional strategies, such as generative (humor, spirituality, hope and dreams, positivity and gratitude), relational (downward comparison, external attribution, normalizing), internal dialogical (self-talk), and accommodative (acceptance), and discussed how these strategies both align with and diverge from the model. These findings suggest that real-world emotion regulation often involves complex, dynamic processes, underscoring the need to integrate narrative, lived-experience perspectives into theoretical frameworks to improve ecological validity and better support well-being in times of increasing societal stress.

Keywords: Emotion regulation, qualitative research, Process Model, lived experiences

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Abstract: 1213

PRENATAL MATERNAL INFLAMMATION AND GESTATIONAL LENGTH: THE ROLE PLAYED BY PATERNAL RESILIENCE RESOURCES

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Objective: Adverse birth outcomes including preterm birth and low birthweight can have lasting developmental consequences for the health and wellbeing of offspring. Prior research demonstrates that chronic systemic inflammation among mothers during pregnancy predicts increased risk for adverse birth outcomes and developmental adversities. However, few studies have tested whether protective factors conceptualized as psychological resilience resources might predict lower maternal inflammation in pregnancy, and thereby indirectly decrease the risk of preterm birth and infant low birth weight.

Methods: We tested whether maternal and paternal resilience resources predicted gestational length and birthweight via maternal C-Reactive Protein (CRP) levels, and explored whether these effects varied by parental marital status. Psychosocial resilience resources were modeled as latent factors composed of social support, self-esteem, mastery, optimism. We tested a two-stage latent moderated-mediation model followed by a multigroup structural equation model in a sample of 217 parent dyads from the Community Child Health Network (CCHN) study.

Results: Among married parental dyads, paternal resilience resources predicted lower prenatal maternal CRP (b = -0.39, p = .009, SE= 0.05), which in turn predicted a longer gestational length (b = -0.41, p = .042, SE= 0.53). These associations were not observed in unmarried dyads. Maternal resilience resources did not significantly predict CRP or birth outcomes in any group.

Conclusion: This research suggests that paternal resilience resources may play a protective role in promoting maternal-child health outcomes, especially within the context of marriage. These findings highlight the importance of considering paternal psychosocial factors in prenatal health research.

Keywords: Resilience resources, protective factors, preterm birth, paternal, marital status, C-Reactive Protein, preterm birth.

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Abstract: 1298

STRONG BLACK WOMANHOOD DRIVES THE ASSOCIATION BETWEEN SHIFTING AND DISEASE ACTIVITY IN BLACK WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Systemic Lupus Erythematosus (SLE), a chronic and debilitating autoimmune condition, disproportionately impacts U.S. Black women. Though psychosocial stressors (e.g., discrimination) are linked to heightened disease activity, associations between intersectional stressors (i.e., those capturing Black women's unique lived experience) and disease activity are poorly understood. This analysis examined whether engaging in shifting --- a sociocultural phenomenon in which Black women alter their behavior, physical appearance, and patterns of speech across different racialized contexts --- is associated with disease activity.

Methods: Data were from the Vascular Aging, Inflammation, and Stress in African American Women's Health research Study (VISTA; 2017-2020), which included 201 Black women with SLE recruited from the Atlanta, Georgia metropolitan area. Shifting was assessed by the 13-item African American Women's Shifting Scale (AAWSS), which includes three dimensions: Strong Black Womanhood (SBW), Awareness of Shifting Behavior, and Sensitivity to Perceptions of Black Americans. Disease activity was assessed by the self-reported Systemic Lupus Activity Questionnaire (SLAQ). Linear regression and logistic regression models were conducted for continuous and clinically important SLAQ (i.e., ≥ 9) scores, respectively. Models were adjusted for sociodemographic (e.g., income, age) and health-related (e.g., BMI, smoking status) factors.

Results: The mean SLAQ score was 15.44 (SD = 8.21) and 77.5% of participants had clinically important SLAQ (score ≥ 9). After adjustment for covariates, there was a positive association between shifting endorsement and disease activity (β = 3.44; p =.003; 95% CI: 1.23, 5.67). When the three shifting dimensions were analyzed, SBW was associated with greater

disease activity (β = 2.90; *p* = .033; 95% CI: .24, 5.55). Awareness of Shifting Behavior and Sensitivity to the Perceptions of Black Americans were not linked with disease activity. In adjusted models, shifting overall was unrelated to clinically important SLAQ. SBW was marginally but positively associated with clinically important SLAQ (Odds Ratio [OR] = 2.37; *p* = .089). The other two shifting dimensions were not significantly associated with clinically important SLAQ.

Conclusion: Findings indicate that expectations to be strong (e.g., agreement with statements such as "I must always be strong for my family and friends", "I cannot show weakness to my family", and "others rarely see me as vulnerable or in need of support") could intensify disease activity in Black women with SLE. Psychosocial interventions should target deconstructing and problematizing the internalization of strong Black womanhood to reduce negative SLE-related clinical outcomes.

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Abstract: 1410

STRESSED BUT SAFE: THE ROLE OF SAFETY IN DETERMINING THE EFFECT OF PERCEIVED STRESS ON C-REACTIVE PROTEIN

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Appraisal-based stress theories focus on individual-level factors driving appraisals of acute stressors. Safety-based models of stress, such as the Generalized Unsafety Theory of Stress and Social Safety Theory, instead underscore the importance of studying stress by conceptualizing individual stress responses in the context of unsafety, which can be chronic and driven by factors beyond individual control. Integrating appraisal with safety theories may help to better predict elevations in biological stress, and is particularly important to study during adolescence, when both unsafety and threat appraisals can impact long-term health.

Participants were a community sample (n = 191) of socioeconomically and racially diverse (68% Black, Multiracial, or Latino; 32% White; 58% Female) adolescents (Mage=15.6). Participants completed a week of daily phone surveys (Ecological Momentary Assessments) where self-reported safety was collected multiple times per day. At the end of the phone survey week, participants completed a lab session where finger prick blood samples were collected to assess C-reactive protein(CRP), a biomarker of inflammation, and participants self-reported stressor appraisals over the past month with Cohen's Perceived Stress Scale. We aimed to determine if the effect of perceived stress on CRP varied as a function of participants' self-reported safety across the week.

Although the interaction between stress and safety on CRP was not significant (B= -.24, p = .56), simple slope analyses revealed that higher perceived stress was significantly associated with elevated CRP only for participants who reported uncertainty about safety throughout the phone survey week (B = .51, p = .015). Conversely, for participants who reported consistent certainty about safety, the effect of perceived stress on CRP was nonsignificant (B = 27, p = .47). These effects were robust to a variety of covariates.

The present work suggests that drawing from both safety and appraisal theories of stress may help determine when adolescents' perceptions of stressors in their life result in upregulated stress biomarkers which can impact long-term health. The present work suggests that appraisals and safety are distinct factors and that it is possible to be relatively high in perceived stress, an indicator of threat appraisals, while still reporting certainty in safety, and that safety may buffer the effect of perceived stress on inflammatory responses. We discuss the importance of understanding stress in context (e.g. structural or uncontrollable safety threats) and not only through individual-level factors such as appraisals.

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Abstract: 1068

PSYCHOLOGICAL PREPARATION IS KEY FOR CARDIAC SURGERY: AN EXAMPLE FROM CARDIAC BEHAVIORAL MEDICINE

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A 73 year-old White widowed female presented with severe 3 vessel coronary artery disease with a high coronary artery calcium score, sustained and nonsustained ventricular tachycardia, and a history of breast cancer status post lumpectomy, knee replacement, anxiety, and vicarious medical trauma. She was referred to cardiac surgery by her cardiologist and underwent 4 vessel coronary artery bypass graft with bilateral leg endoscopic saphenous vein harvest at a large academic medical center, which she tolerated without complications. Before surgery she was physically active, engaged in her community, and had good social support from her adult children, siblings, and friends. Given tolerable symptoms and minimal cardiac-related functional impairment, more recent onset of cardiac disease, and anxiety exacerbation, the patient indicated to the cardiac surgery team that intervention with a staff cardiac behavioral medicine (CBM) psychologist was essential to proceeding with surgery. She was scheduled with a CBM psychologist for two appointments prior to scheduled surgery, and after initiation of treatment elected to push back surgery to allow for addition intervention to psychologically prepare. Treatment consisted of 5, 50-minute pre-surgical sessions, one post-operative inpatient intervention while patient was recovering on a cardiac floor, and approximately monthly follow-up for 6+ months. Pre-operative CBM intervention included cognitive behavioral therapy and mindfulness-based

stress reduction and focused on anxiety management, psychological preparation, and expectation-setting for surgery and recovery. Specifically, navigating the unique aspects of the cardiac surgical care (as compared to her experiences with surgical oncology and orthopedic surgery), addressing anxiety related to medical decision-making, medical trauma, and setting realistic expectations for acute and longer-term recovery were addressed in treatment. Post-surgical follow-up addressed adjustment, navigating post-operative symptoms and pace of recovery, and changes in mood and anxiety symptoms. This case presentation will highlight the relevance of treatment focused on psychological preparation and expectation setting for elective cardiac surgery, particularly for women who are less likely to have same-sex peers who have undergone similar surgeries. Given the influence of psychological symptoms (new or exacerbated) and expectation setting on surgical outcomes, pre-operative intervention can be critical to support patients and optimize clinical outcomes and quality of life. [Patient consent was provided for this case submission.]

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Abstract: 1133

IMMEDIATE EFFECT OF MIDAZOLAM FOR CATATONIA WITH ACUTE URINARY RETENTION

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Catatonia is a neuropsychiatric syndrome characterized by abnormalities in motor behavior, speech, and volition. Catatonia may be primary, occurring in psychiatric illness, or secondary, due to a non-psychiatric condition or exposure to medication or substance use. Aside from the psychiatric manifestations, catatonia can be accompanied by medical comorbidities such as urinary retention. We describe a case of a 21-year-old man with a history of ADHD, unspecified anxiety disorder, and cannabis, opioid, and tobacco use disorders who presented from a correctional facility due to being verbally non-responsive and not consuming food or water for three days. His heart rate was 107 bpm and BMI was 14.5, but vital signs were otherwise normal. Labs showed bilirubin of 0.8, total bilirubin of 3.6, AST of 37, CK of 390, and urinalysis with protein 100 and ketone 60. All other studies were normal, including unremarkable TSH, RPR, HIV, CT head, and chest x-ray. Urine drug screen was negative, but he reported using the synthetic marijuana K2, which is undetectable by standard drug screen. While admitted the patient was noted to have urinary retention with a bladder scan revealing 950 mL of urine. Lorazepam is the first-line medication for treating catatonia. In this case, intravenous midazolam was chosen due to the ongoing national shortage of parental lorazepam. The patient showed an immediate response to a two time dose of intravenous midazolam 5 mg with resolution of catatonia and urinary retention. Given the transient response, intravenous midazolam 2 mg every 6 hours was initiated. He was switched to intravenous diazepam 12 mg twice a day for a longer duration of action; however, this was associated with more agitated and aggressive behavior resulting in a switch back to midazolam. The patient's symptoms again resolved with midazolam, and thereafter he was successfully transitioned to oral lorazepam 1.25 mg every 8 hours taper with a gradual tapering of 25% each week. This case highlights that midazolam may be used as a rapidly effective alternative treatment to lorazepam while suggesting that all benzodiazepines may not show similar efficacy. Moreover, recognizing urinary retention in catatonia patients can prevent catastrophic complications such as bladder rupture.

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Abstract: 1131

SUSTAINABILITY OF BLENDED COLLABORATIVE CARE FOR DISTRESSED PATIENTS WITH CORONARY HEART DISEASE – RESULTS FROM THE TEACH TRIAL.

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Background: Secondary prevention of coronary heart disease (CHD) requires control of psychosocial distress and medical risk factors, which is, however, often unsuccessful. Blended collaborative care (BCC), in which trained care managers supervised by medical specialists support patients in healthy behaviors and distress coping, improved depressive symptoms and medical risk factors in US patients with diabetes and / or CHD. The multicenter TEACH trial is the first to test a BCC intervention in CHD patients in a European health care system.

Methods: CHD patients showing elevated distress levels on the HADS and/or PSS-4 at two screening time points 3 months apart and at least one uncontrolled medical risk factor were randomized 1:1 into usual care (UC) only vs. UC plus 12-months of BCC. Main outcomes at 12 month were health-related quality of life (HRQoL; primary), risk factor control, and psychological adjustment. After treatment, patients were followed up for another 6 to 18 months.

Results: Of 457 randomized patients (62.9 ± 9.5 years) 23% were female. At 12 months overall HRQoL (measured by the HeartQoL) improved by >50% in 19 % of BCC and 10% of UC patients ($p=0.005$), with significant greater improvements in the BCC group for both, mental and physical HRQoL (both $p<0.001$). BCC

also led to larger improvements in medical risk factors (p=0.005), distress (p<0.001), and treatment satisfaction (p=0.025). Follow-up analyses showed that the advantage of the BCC group in overall HRQoL persisted at 18 months (p=0.002) but not thereafter, mainly due to improved physical QoL, even persisting until 30 months, while the benefit for emotional QoL mostly vanished after the conclusion of the intervention. Risk factor status, major adverse cardiac events, and hospitalizations did not differ between groups during long-term follow up.

Conclusion: TEACH was successful at improving the primary and several secondary outcomes in the BCC group at 12 months. While effects were most sustainable for physical HRQoL, no sustained improvement could be observed for cardiac risk factor burden or differences in hard cardiac endpoints.

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Abstract: 1165

LONELINESS CLUSTERS OVER TIME AND THEIR ASSOCIATIONS WITH MENTAL HEALTH AND SLEEP IN BLACKFEET AMERICAN INDIANS

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Loneliness is a multi-dimensional state linked to poor mental and physical health outcomes, yet limited research exists about the role of loneliness in American Indian populations. Aim: To use a data-driven approach to identify unique groups of loneliness across three years in Blackfeet American Indian adults and to examine the relationship between the groups and health-related outcomes. Using three waves of data from Blackfeet American Indian adults (N = 206), participants completed questionnaires on loneliness, existential isolation, sleep, depression, and anxiety at three timepoints (April 2023, April 2024, April 2025). Using multivariate cluster analyses, unique profiles of loneliness, based on the UCLA Loneliness Scale, were identified. We conducted Ward's hierarchical cluster analysis on standardized loneliness scores. Three clusters emerged: (1) moderate but increasing loneliness (n = 43), (2) high but decreasing loneliness (n = 40), and (3) low, stable loneliness (n = 123). Analyses indicated that there was a significant cluster group × time interaction, $F(4, 406) = 35.50$, $p < .001$, $p\eta^2 = .259$, for loneliness. Clusters did not differ by age, gender, or education (p's > .40).

Across time, outcomes varied and diverged. The increasing-loneliness cluster showed worsening outcomes, including higher existential isolation, greater anxiety and depression, and poorer sleep. The decreasing-loneliness cluster got less lonely over time, with relatively stable levels of existential isolation, anxiety, depression, and sleep. The stable-low cluster demonstrated the lowest levels of depression and anxiety and the highest sleep quality. Interestingly, the stable-low cluster showed stability in all variables and an overall improvement in sleep quality, with higher sleep quality at Time 3 compared to Time 1.

These findings demonstrate heterogeneous loneliness clusters in Blackfeet American Indians over a three-year period. Those displaying rising loneliness had greater psychological distress, while those displaying decreasing loneliness reflected recovery only in loneliness, with little change in mental health and sleep outcomes. Those displaying stable-low loneliness reflected resilience in most outcomes, with overall improved sleep. Results suggest that low loneliness is protective and that increasing loneliness may be associated with poorer mental health and sleep. Results highlight the need for culturally grounded interventions that identify resilience and protective factors, and support high-risk clusters to promote long-term well-being.

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Abstract: 1231

INTIMATE PARTNER VIOLENCE AND PRO-INFLAMMATORY GENE EXPRESSION PATTERNS

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Background: Intimate partner violence (IPV) represents a critical intersection of structural and interpersonal violence that extends beyond immediate harm to influence health at the molecular level. While IPV victimization increases risk for numerous chronic diseases, the molecular mechanisms through which violence becomes biologically embedded remain poorly understood. This study examined how physical IPV exposure may be reflected in immune-related gene expression.

Methods: Data were drawn from 1,028 adults (M_{age} = 37 years, 50% female) in the National Longitudinal Study of Adolescent to Adult Health. IPV was assessed using validated self-report measures of physical violence in the past year of relationships. Gene expression was measured in peripheral blood leukocytes, focusing on four signatures: inflammatory, Type I interferon/antiviral, Conserved Transcriptional Response to Adversity (CTRA), and immunological activation. Statistical analyses included weighted linear regression models adjusting for sociodemographic factors, body mass index, assay batch, and leukocyte subset markers.

Results: Among participants, 92.3% reported IPV exposure in their most recent relationship. In adjusted models, IPV exposure was significantly associated with altered inflammatory (B = 0.14, 95% CI: 0.04-0.23) and Type I interferon/antiviral (B = 0.19, 95% CI: 0.06-0.32) gene expression, as well as heightened immunological activation (B = 0.32, 95% CI: 0.13-0.52). The CTRA

profile showed a non-significant trend toward elevation among IPV-exposed individuals (B = -0.05, 95% CI: -0.17-0.06).

Conclusions: These findings provide novel evidence that IPV may become biologically embedded through immune transcriptional alterations. Elevated inflammatory and immune activation pathways may represent one mechanism linking interpersonal violence to chronic disease risk. By demonstrating molecular correlates of IPV, these findings advance the biopsychosocial research agenda integrating social adversity with biological processes, underscoring the importance of examining violence as both a social stressor and a molecular determinant of health.

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Abstract: 1360

MEDICAL MISTRUST, STRESS, AND HEALTH IN TRANSGENDER AND GENDER NONCONFORMING INDIVIDUALS

Garrett Byron; Clayton Hilmert, Ph.D, North Dakota State University

Minority populations including transgender and gender non-conforming (TGNC) communities are more likely to have mistrust in medical systems due to discrimination, bias, past negative experiences, and, for people who are TGNC specifically, a lack of gender affirming care (Sajwani et al., 2025). This may contribute to why people who are TGNC face mental and physical health disparities (Reisner et al., 2014). Furthermore, there has been legislative stress in many states due to proposed limitations to TGNC existence which, may contribute negatively to TGNC health. The purpose of this descriptive study was to examine the relationship between general stress, TGNC specific stress (i.e., gender dysphoria, internalized transphobia), and their potential adverse effects on the health of people who are TGNC in the upper Midwest. A total of 52 participants completed an online survey of stress, TGNC specific stress, medical mistrust, and health. Additionally, participants were asked how much they felt negatively affected by recent anti-trans political events. Bivariate correlations were used to examine the strength and direction of associations among variables. Results revealed that, in general, more medical mistrust was associated with more depressive symptoms, anxiety, stress, and overall worse general health (all p's <.05, all r's > .3). Additionally, the negative effects of anti-trans political events were positively associated with stress, depressive symptoms, and anxiety (all p's < .05, all r's > .3). Medical mistrust was not associated with gender affirmation, but gender affirmation was associated with overall better general health, and less depressive symptoms, anxiety, stress, and internalized transphobia (all p's < .05, all r's > .28). Furthermore, there were positive associations between friend support and psychological gender affirmation and general health (all p's < .05, all r's > .4). These latter results provide potential pathways by which medical providers might mitigate medical mistrust, by being more gender affirming and providing better support.

42

Abstract: 1501

GREATER SOCIAL NETWORK INTEGRATION PROSPECTIVELY PREDICTS LOWER INFLAMMATION IN A POOLED SAMPLE OF OLDER ADULTS FROM THE UNITED STATES, ENGLAND, AND MEXICO

Abby Hillmann; Baradhi Kumar, BS; Rebecca Reed, PhD, University of Pittsburgh

Background: Low social integration is linked to higher levels of systemic inflammation– a marker of biological aging associated with increased disease risk. However, most of the evidence to date is cross-sectional and based on single samples, limiting generalizability. We tested whether social integration prospectively predicted systemic inflammation, using an integrative data analysis to pool data from three cohorts of older adults.

Method: The analysis harmonized data from the Health and Retirement Study in the US (N= 5,823, 60.6% female, M_{age}= 71.2), English Longitudinal Study of Aging in England (N= 3,994, 56.5% female, M_{age}= 68), and Mexican Health and Aging Study in Mexico (N= 541, 65.8% female, M_{age}= 67.6) to create a pooled sample (N= 10,358, M_{age}= 69.8). Participants reported their social integration at baseline and provided blood samples an average of 6 years later (range= 3-15 years). Social integration assessed participation in four social roles: marital status, having children, contact with close relatives/friends, and other community group involvement (M_{roles} = 2.78). Blood samples were assayed for high sensitivity C-reactive protein (hsCRP, mg/L) to capture systemic inflammation. CRP was log transformed and then harmonized to account for methodological differences.

Results: Multilevel models accounted for the nesting of individuals within households and adjusted for age at the time of the blood sample, sex, cohort, and the time elapsed between measuring social integration and CRP. We found that greater social integration at baseline prospectively predicted lower levels of CRP (g= -.052, SE= .01, t= -4.62, p< .001). Further adjustment for health-relevant covariates collected at the time of the blood sample, body mass index and smoking status, did not change this association (g= -.046, SE= .01, t= -4.32, p< .001).

Conclusion: These results replicate findings that holding more social roles is beneficial for biological aging. Importantly, our results extend the current literature by demonstrating this association is prospective and that the protective effects of social integration on inflammation may persist over time, up to 15 years later. By harmonizing data across three countries, our results also suggest this relationship is generalizable, but future work could further explore whether the strength of this association varies by geographic region.

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Abstract: 1528

FIRST TRIMESTER MMP-9 IS ASSOCIATED WITH MATERNAL DEPRESSION HISTORY AND TREATMENT

Lily Woods, BA,MA; Erin George, PhD; Elise Erickson, PhD; Julienne Rutherford, PhD, University of Arizona

Matrix metalloproteinase-9 (MMP-9) is an extracellular protease that regulates tissue remodeling and inflammation. It has been implicated in neuroinflammation, neuronal plasticity, and the pathophysiology of depression. In pregnancy, MMP-9 also facilitates placental invasion—an inflammatory process essential for placental attachment to the uterine wall. Dysregulated MMP-9 contributes to maternal morbidity, including hypertensive disorders of pregnancy and postpartum hemorrhage. Despite its dual relevance to neural and placental biology, the relationship between MMP-9 and maternal depression is largely unexplored.

We conducted a secondary analysis of pregnant participants in the Perinatal Research Repository. Maternal blood was collected between 8–38 weeks' gestation, centrifuged, and stored at –80 °C. MMP-9 concentrations were quantified using ELISA and log-transformed for analysis. Exclusions included multifetal gestation, IVF, fetal anomaly, and placenta previa/abruption. Associations between MMP-9 and depression history or pharmacologic treatment during pregnancy were examined using regression models adjusted for maternal age.

The final sample (n=461) was 61% Black/African American and 90% publicly insured. We analyzed 111, 385, and 235 blood samples in the first, second and third trimesters respectively; n=227 contributed >1 sample. 41% reported a history of depression and 18% received pharmacologic treatment during pregnancy. First-trimester MMP-9 concentrations were higher among participants with a depression history (β=0.32; 95% CI: 0.00–0.63; p=.048) and those receiving treatment (β=0.46; 95% CI: 0.02–0.90; p=.043). Second-trimester MMP-9 showed similar but weaker associations, and no differences were observed in the third trimester.

Elevated MMP-9 concentrations in early pregnancy were associated with both a history of depression and pharmacologic treatment during gestation. These findings highlight a potential link between maternal psychological health and biological processes of pregnancy. Larger studies are needed to further investigate these relationships and evaluate their clinical implications.

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Abstract: 1458

POSSIBLE ASSOCIATIONS OF CHILD MALTREATMENT WITH INDICATORS OF BIOLOGICAL AGING AND HYPOTHALAMIC-PITUITARY-ADRENAL AXIS REGULATION

Aaliya Ahamed, Pennsylvania State University , University Park; Qiaofeng Ye, PhD, Pennsylvania State University, University Park; Abner Apsley, PhD, University of Illinois, Urbana-Champaign; Laura Etzel, PhD; Eric D. Claus, PhD, Pennsylvania State University, University Park; Christine M. Heim, PhD, Charité – Universitätsmedizin Berlin; Jennie G. Noll, PhD, University of Rochester, Rochester; Hannah M. C. Schreier, PhD, Pennsylvania State University, University Park; Chad E. Shenk, PhD, University of Rochester, Rochester; Idan Shalev, PhD, Pennsylvania State University, University Park

Abstract Body

Background: Child maltreatment (CM) is associated with alterations in hypothalamic-pituitary-adrenal (HPA) axis regulation and shorter telomere length, two key biological systems implicated in stress adaptation and long-term health. The DNA methylation-based estimator of telomere length (DNAmTL) has emerged as a biomarker of biological aging. This study examines associations between CM, HPA-axis regulation, and DNAmTL in a high-risk pediatric cohort to advance understanding of the biological embedding of CM.

Methods: Participants (N=700; ages 8-13; 50% male) were drawn from the Child Health Study, with maltreatment status verified via the Child Welfare Information System (75% with CM exposure). Primary outcomes include: (1) DNAmTL derived from genome-wide DNA methylation in whole blood (analytic N=547), and (2) diurnal HPA-axis regulation indexed by area under the curve with respect to ground (AUCg) calculated from salivary cortisol samples collected three times daily over three days (analytic N=421). Generalized estimating equations tested for population-averaged estimates while accounting for family clustering.

Preliminary Results: Maltreated youth were older, more advanced in pubertal development, came from lower-income families, and more frequently identified as Hispanic ($p<0.001$). CM was significantly associated with shorter adjusted DNAmTL (adjusted for chronological age, DNA methylation-estimated immune cell proportions, and batch) (B=-0.03, $p=0.036$). Older age was consistently associated with shorter DNAmTL ($p<0.001$). CM was not significantly associated with AUCg ($p>0.05$), though maltreated youth showed directionally blunted cortisol at all timepoints. Exploratory analyses further revealed distinct sex differences in both biomarkers, with females exhibiting higher cortisol and longer DNAmTL compared to males ($ps < 0.05$). No significant association was found between AUCg and DNAmTL ($p>0.05$).

Future Directions: Absolute telomere length measurement using qPCR and additional cortisol indices are underway to validate DNAmTL-maltreatment associations and further characterize HPA-axis regulation. Future analyses will explore how maltreatment timing and chronicity relate to biomarker trajectories, with results anticipated by January 2026.

Conclusions: The preliminary findings suggest CM is associated with accelerated biological aging as indexed by DNAmTL, independent of HPA-axis regulation, which could indicate distinct pathways of biological embedding with notable sex differences emerging early in child development.

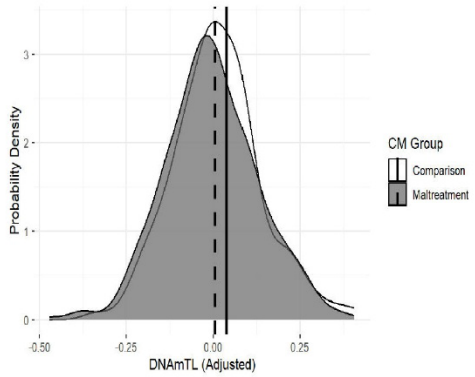

Figure 1: Distribution of Adjusted DNAmTL Stratified by Child Maltreatment Exposure. Overlapping probability density plots for the adjusted DNAmTL outcome variable. The X-axis represents the DNAmTL residual after adjusting for age, DNA methylation-estimated immune cell proportions, and batch. The Y-axis shows the probability density, where the height indicates how tightly youths' (comparison or maltreatment) adjusted DNAmTL values cluster around each x-value. The white distribution shows the distribution for the comparison group ($n = 126$), while the grey distribution shows the distribution for youth with a history of maltreatment exposure ($n = 421$). The visible leftward shift in the peak of the maltreatment group's distribution is consistent with the significant negative association found in our final model ($p = 0.036$). Vertical lines indicate the adjusted group means (solid line for Comparison, dashed line for Maltreatment).

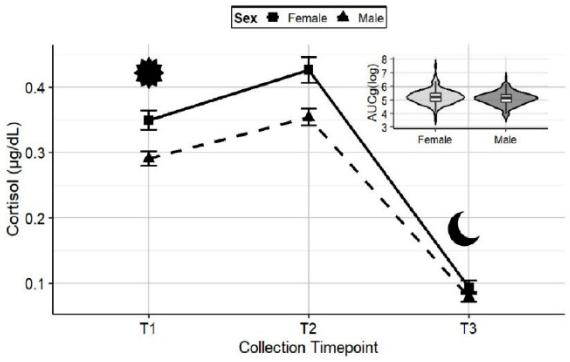

Figure 2: Diurnal Cortisol Pattern and Total Cortisol Output by Sex. In the main panel, females are represented by a solid black line and square points, while males are represented by a dashed black line and triangle points. The panel shows salivary cortisol levels (µg/dL) at three timepoints: upon waking (T1), 30 minutes post-waking (T2), and 30 minutes before bedtime (T3). Error bars represent the standard error of the mean at each time point. The violin plot in the top right corner displays the distribution of the total diurnal cortisol output, calculated as the log-transformed Area Under the Curve with respect to ground (AUCg(log)). For the violin plot, females are shown with a light grey fill and males with a dark grey fill. Each violin shape shows the density of the data, while the internal box plot displays the median (the center line) and the interquartile range (the box).

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Abstract: 1523

EARLY-LIFE MICROBIOME DEVELOPMENT AND ITS CONTRIBUTION TO BIOLOGICAL AGING AT AGE THREE

Laura Etzel, Pennsylvania State University; Patricia Garrett-Peters, PhD, Duke University; Idan Shalev, PhD, Pennsylvania State University

Abstract Body

Early childhood is a period of rapid physiological development, including maturation of the gut microbiome, that may shape long-term trajectories of biological aging (BA). Although adult studies link gut microbiome composition to aging, little is known about how early-life microbial dynamics contribute to BA in young children. This project asks: (1) How does the gut microbiome develop from infancy through toddlerhood? (2) Do longitudinal microbial features predict BA at age three? (3) Which microbial genera lusters show the strongest associations with accelerated or decelerated BA?

Participants are drawn from a longitudinal cohort tracked before birth, with stool samples collected at 2 weeks, 6 months, 18 months, and 30 months (N=53 with BA data). Genus-level abundances were derived via NCBI roll-up, filtered, and centered log-ratio transformed. Diversity indices (richness, Shannon, Simpson) and beta-diversity components were computed at each timepoint. Biological aging outcomes were assessed at 36 months via qPCR of absolute telomere length and multiple DNA methylation clocks (Horvath, Hannum, PhenoAge, PedBE, DunedinPACE), with age- and immune cell–adjusted acceleration scores generated through validated residualization procedures. Covariates include feeding history, illness burden, antibiotic exposure, demographic factors, and maternal prenatal characteristics (including maternal prenatal microbiome composition).

This study is a secondary data analysis pre-registered with the original study investigator team, and all microbiome sequencing and aging assays are complete. Longitudinal microbiome preprocessing, alignment, and compositional transformations are finalized; trajectory feature extraction and multivariate modeling are underway.

Analyses follow a dual strategy: (1) data-driven identification of predictors using elastic net regression, random forest models, and compositional clustering to detect modules of co-varying genera; and (2) hypothesis-driven mixed-effects regression evaluating whether microbial richness, beta-diversity change, and genus-level trajectories predict BA at 36 months while adjusting for relevant covariates. Sensitivity analyses will assess robustness to zero handling, sparsity, and alternative normalization strategies.

This work is among the first to link longitudinal gut microbiome development with early-childhood biological aging. Results will advance understanding of how early ecological environments shape molecular aging processes and may identify microbial, behavioral, or caregiving factors that are viable targets for early intervention.

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Abstract: 1513

FROM SPECIALIST CONCEPT TO ROUTINE CARE: PERSONALISED REHABILITATION AFTERCARE IMPROVES PAIN AND WORK OUTCOMES IN A STRATIFIED RCT

Pia-Maria Wippert, Universität Potsdam Medical Sociology and Psychobiology; Adamantios Arampatzis, PhD, Humboldt-University Berlin, Department of Exercise and Movement-Science; Heidrun Beck, MD, University Hospital Carl Gustav Carus, University Center for Orthopedics, Trauma & Plastic Surgery; Meyer-Feil Thorsten, PhD, Martin Luther University Halle-Wittenberg, Institute for Rehabilitation Medicine; Karsten Dreinhöfer, MD, Charité – Universitätsmedizin Berlin, Department

of Orthopedics and Trauma Surgery, Medical Park Berlin Humboldtmühle

Introduction: Nonspecific low back pain affects more than 700 million people worldwide and may reach 900 million by 2050. Although guidelines recommend early risk stratification and personalised treatment, such approaches are rarely implemented in routine rehabilitation. The Risk-Stratification-Index (RSI) offers a scalable method to individualise multimodal therapy. This study evaluated the effectiveness of RSI-guided personalised aftercare on pain and work-related outcomes.

Method: We conducted a prospective, multicentre, stratified randomised controlled three-arm trial across several German federal states (RENaBACK RCT, DRKS00020373). After a 3-week centre-based rehabilitation, participants received either (a) a 9-week personalised home-based programme, delivered in a uni- or multimodal format depending on screening results and analysed jointly as one intervention arm, or (b) standard aftercare. Randomisation followed a predefined stratified allocation list; allocation was concealed and participants were blinded. Outcomes were assessed at baseline and after 3, 12 and 24 weeks. Primary endpoints were pain intensity (Korff characteristic pain intensity over 3 months; BPI pain intensity over 24 h), pain-related disability (Korff disability; BPI interference), and work-related outcomes (subjective work prognosis [SPE], Work Ability Index [WAI], sickness-absence days). Analyses used adjusted linear regression models controlling for age, sex, centre and baseline values.

Results: Of 821 enrolled participants, 601 were analysed (mean age 49.7 ± 8.2 years; 58% women). At the 24-week follow-up (consolidation phase), personalised aftercare was associated with relevant improvements in subjective work prognosis (Cohen's d = 0.48; NNT = 3.76). For pain outcomes, reductions in Korff characteristic pain intensity (d = 0.26; NNT = 7.02) and pain-related disability (d = 0.31; NNT = 5.71) indicated clinically meaningful benefits, consistent with the intended therapeutic effects. Descriptive findings also pointed to earlier return-to-work, slightly improved work ability (WAI), and fewer sickness-absence days.

Conclusion: RSI-guided personalised rehabilitation is effective and can be delivered at scale through a structured home-based programme. These results challenge the prevailing assumption that personalised therapy is feasible only in highly specialised medicine and demonstrate its implementability within large-scale routine rehabilitation.

Puerto Valenica, L., Arampatzis, D.,... & Wippert, P.-M. (2021). RENaBack: Study Protocol for a Multicenter, Randomized Controlled Trial for low back pain patients in rehabilitation. Trials, 22:932.

Abstract: 1508

EDUCATION AND INCOME AT MID-LIFE ARE ASSOCIATED WITH ACCELERATED BIOLOGIC AGING IN MIDDLE-AGED AND OLDER ADULTS

Susan Everson-Rose; Zexi Rao, BS; Shuo Wang, PhD; Kelly Pum, BS; Weihua Guan, PhD; Anna Prizment, PhD, University of Minnesota

Background. Persons from socially disadvantaged backgrounds experience earlier onset and poorer outcomes of many age-related health conditions. Evidence suggests age-related physiological changes that contribute to declining health and increased risk of chronic conditions are influenced by the social environment, yet questions remain. This study examined the influence of education and income at mid-life on biologic age acceleration in middle-aged and older adults. Age acceleration was quantified by novel proteomic aging clocks (PAC) developed and validated by our team. Circulating proteins relate to age-related disease pathology, with relevance to clinical outcomes, making PAC promising measures of biologic aging. Methods. The analytic sample included 5,659 cancer-free adults (23% black, 77% white; 52% female, 48% males) from the Atherosclerosis Risk in Communities (ARIC) study, an ongoing prospective cohort study of white and black adults recruited from four U.S. study sites. A large array of protein biomarkers measured with SomaScan assays are available at multiple ARIC study visits starting with Visit 2 (1990-92) and were used to create PAC. For this analysis, income, education, and covariates were assessed at Visit 2; our primary outcome, PAC acceleration, was estimated as residuals of PAC regressed on chronological age and quantified at Visit 2 and Visit 5, an average of 20 years later. Adjusted linear regression models tested associations of education and income with PAC acceleration at both timepoints. Results. In models adjusted for sex, race, and study site, education and income were inversely associated with PAC acceleration in a dose-response pattern at Visit 2 and Visit 5, 20 years later. Associations remained statistically significant with further adjustments for marital status, smoking, alcohol consumption, physical activity, and body mass index. Table 1 presents estimates (and standard errors) of PAC acceleration from the fully adjusted models at both timepoints for education and income groups. At Visit 5, the difference in age acceleration observed between low and high education groups was .624 years, equivalent to ~7.5 months, suggesting faster age acceleration in the low education group; similarly, the difference in age acceleration between low and high income groups at Visit 5 was .53 years or ~6.4 months. Conclusions. We observed a robust, graded relationship of education and income with accelerated biologic aging in a diverse cohort of U.S. adults. Findings add to our understanding of biologic mechanisms by which socioeconomic factors affect age-related health outcomes. Proteomic-based biomarkers are potentially modifiable and could be important targets for future therapeutic interventions to slow aging processes.

Table 1	Education		Income	
	Visit 2	Visit 5	Visit 2	Visit 5
Low	.281** (.079)	.624** (.238)	.385*** (.104)	.530* (.234)
Moderate	.206** (.098)	.145 (.154)	.181* (.089)	.444** (.171)
High	referent	referent	referent	referent
*p<.05; **p<.01; ***p<.001				

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Abstract: 1534

THE PSYCHOMETRIC FEATURES OF LEISURE STRESS COPING DIMENSIONS AND RELATED HEALTH OUTCOMES ACROSS TIME AND PARTICIPANT

Avery Sparacino, B.S.; Jack Cowger, B.S.; Samay Rustagi, M.A., University of Wisconsin Milwaukee; Matthew Zawadzki, Ph.D., University of California, Merced; Marcellus Merritt, Univ of Wisconsin-Milwaukee

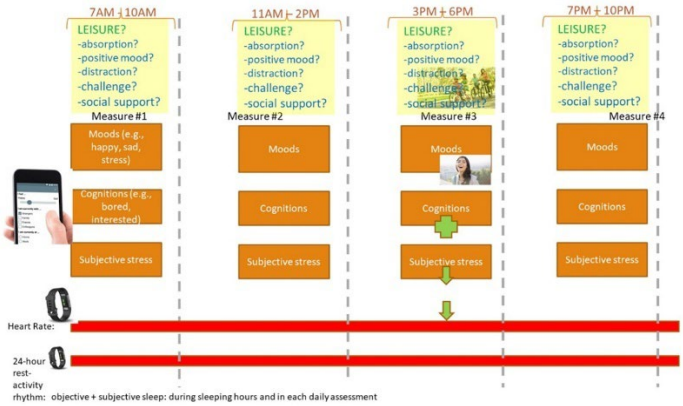
Abstract Body

Problem or Major Purpose. Engagement in favored leisure (i.e., self-enriching behavioral pursuits like painting or golfing that occur during non-work intervals) is uniquely beneficial for healthy outcomes like positive moods, interest, less stress, and lower heart rates (HRs) in the moment, plus better nighttime sleep quality. Still, we know less about why or how leisure works for daily health and well-being. So, the main aim is to first establish the feasibility and validity of identifying relevant psychosocial dimensions of preferred leisure activities over ten straight days, using an ecological momentary assessment (EMA) approach, when also tracking daily physical activity (PA) and nightly sleep time tangibly. Leisure dimensions are psychological features that make the activity more reinforcing or relaxing (e.g., distraction as mood-enhancing). We are also interested in tracking momentary moods (e.g., angry) and cognitions (e.g., interest), and later pertinent health behaviors and quality of social interactions as related risk factors for chronic diseases.

Procedure. Thirty mostly healthy college students (aged 18 to 40, with a representative sampling by gender and ethnicity) were asked to complete a 10-day electronic diary assessment of leisure dimensions (i.e., mental absorption, distraction/stress release, relevance relaxation, challenge, difficulty, guilt, reward, rejuvenation, and negativity), mood (i.e., sleepy, pleasant, active, depressed, excited, stressed, and relaxed), and health behavioral measures (four surveys daily at 4-hour intervals; an 85% overall compliance rate), along with continuous monitoring of PA and sleep time (see attached figure). Each participant wore a Fitbit Charge 2 device so high-fidelity indices of HR and physical movements were collected unobtrusively nonstop. In turn, that data will later indicate daily and aggregate PA, like step counts and moderate-to-vigorous intensity PA.

Results. There was a total of 524 reported leisure activities, or about 1.75 daily leisure activities per subject. There was a trend where likely healthier dimensions (e.g., absorption and distraction) sit high on the scale while less healthy dimensions (e.g., difficulty and guilt) sit near the low end. Each mood (on average across the 10 days) sat where it was expected (e.g., pleasant scores are generally moderately high and depressed generally low). Paired samples t-tests with SPSS software showed that pleasant and relaxed moods were notably higher on leisure (vs. non-leisure) days while depressed and stressed moods were notably lower on leisure (vs. non-leisure) days. Exploratory tests show that stronger endorsement of mental absorption is linked with corresponding increases in positive moods, and lower stress. In addition, most participants successfully wore a Fitbit Charge 2 device nonstop for the full ambulatory monitoring period.

Conclusions & Implications. A key innovation is being able to not only reliably tap the presence of leisure activity in an EMA context but also account for related leisure dimensions over time and social context, and their unique affective and cardiovascular health benefits.



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Abstract: 1443

INTERSECTIONAL DISCRIMINATION AND MENTAL HEALTH AMONG SEXUAL MINORITY MEN OF COLOR: ETHNIC IDENTITY AS A BUFFER

Eric Cortez; Manuel Ramirez, MA; Patrick Wilson, PhD, University of California, Los Angeles

Heterosexism and racism toward sexual minority men (SMM) of color in LGBTQ+ spaces and within their ethnic communities, respectively, is well documented (McConnell et al., 2018; Meyer, 2003; Velez et al., 2019). Yet, few studies have examined potential buffers in the relationship between intersectional discrimination and depressive symptoms. Ethnic identity belongingness (EIB) may serve as a protective factor against negative mental health outcomes, in part by fostering social connectedness (Moore et al., 2022). Therefore, we examined whether EIB could attenuate the harmful association between discrimination and depressive symptoms. We hypothesized that intersectional discrimination would be associated with greater

depressive symptoms and that EIB would buffer these associations, such that stronger belongingness would weaken the discrimination–depression relationship. We also expected that higher EIB would be directly associated with fewer depressive symptoms

Data were collected from 498 SMM recruited from the online survey platform Prolific. Intersectional discrimination experiences were assessed using a validated measure (Balsam et al., 2011) capturing distress-based ratings and frequencies of experiencing heterosexism from other POC and racism from the LGBTQ+ community to capture different dimensions of these experiences. Focal variables were mean centered, and analyses were conducted using the PROCESS macro in R.

Distress from intersectional discrimination experiences tied to racism from LGBTQ+ persons (b = 2.31, p < .001) and heterosexism from POC (b = 2.19, p < .001) showed a harmful association with depressive symptoms. Additionally, the frequency of intersectional discrimination tied to racism (b = 0.84, p < .001) and tied to heterosexism (b = 0.95, p < .001) was positively associated with depressive symptoms. Across all forms of discrimination, EIB had a significant positive effect on depressive symptoms (b = -0.20, p = .01). However, we found no buffering effect of EIB in any of the models.

This study contributes to our understanding of how experiencing intersectional discrimination, namely racism from other sexual minorities and heterosexism from other POC, can affect SMM of color. These experiences of discrimination negatively affect the mental health of men in this population. Although EIB did have a salutary association with depressive symptoms, we did not find it to be a buffer against the harmful effects of discrimination. These findings highlight the need for clinical approaches that address the mental health impacts of intersectional discrimination among SMM of color.

51

Abstract: 1526

POSTTRAUMATIC STRESS DISORDER AND RISK FOR AUTOIMMUNE DISEASES IN US MILITARY VETERANS

Kristen Nishimi, MPH,PhD, University of California San Francisco & San Francisco Veterans Affairs Health Care System; Thomas Neylan, MD; Gabriela Schmajuk, MD, MAS; Daniel Bertenthal, MPH; Marina Sirota, PhD; Amy Byers, PhD; Aoife O'Donovan, PhD

Background: Posttraumatic stress disorder (PTSD) may increase risk for autoimmune diseases (AID). In a large-scale study of US military Veterans, we examined associations of PTSD and other psychiatric disorders with risk for diagnosis with an AID.

Methods: We conducted a retrospective cohort study of Veteran patients accessing Department of Veterans Affairs healthcare from Jan 2010 to Dec 2019. Generalized linear models estimated associations of PTSD (with or without other psychiatric diagnoses) and other psychiatric disorders (besides PTSD) with likelihood of subsequent diagnosis with any AID, with diagnoses defined by clinical codes. Models were adjusted for socio-demographic and health and healthcare-related factors. Secondary models examined individual AIDs, individual psychiatric disorders, and socio-demographic effect modification.

Results: Of 3,023,051 Veteran patients, 14.4% had a PTSD diagnosis and 22.6% had another psychiatric disorder diagnosis. Over follow-up, 3.5% were diagnosed with any incident AIDs. Patients with PTSD had higher risk for any AID in adjusted models (adjusted relative risk, aRR=1.96, 95%CI 1.92-1.99) compared to those without psychiatric diagnoses. Patients with other psychiatric diagnoses also showed higher risk for any AID (aRR=1.67, 95%CI 1.64-1.70) than those without psychiatric diagnoses, but the association was significantly larger for PTSD. PTSD versus no psychiatric disorders was associated with significantly higher risk for 28 of 31 individual AIDs tested. PTSD-AID associations were evident across sociodemographic groups, though were particularly strong among females (female aRR=2.89 versus male aRR=1.87), young to middle-aged adults (age 18-49), Black or African American patients, and Hispanic patients.

Conclusions: PTSD was associated with increased risk for AIDs in a large cohort of military veterans. Veterans with PTSD may be at higher risk for comorbid AID; increased screening and additional mechanistic research is warranted.

Poster Session 1

March 12th, 2026

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Abstract: 1096

ANGER VULNERABILITY: TESTING THE INTERACTION BETWEEN ETHNICITY IDENTITY, ETHNIC DISCRIMINATION, AND TRAIT ANGER ON SLEEP HEALTH OUTCOMES

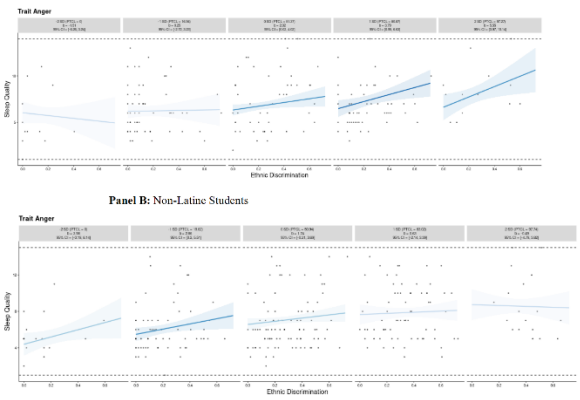
Amish Patel; Matthew Zawadzki, PhD, University of California at Merced

Ethnic discrimination is frequently experienced among ethnic minority university students and is linked to impaired sleep health. According to the Diathesis-Stress Model, environmental stressors (e.g., discrimination) in combination with psychological vulnerabilities (e.g., anger) may exacerbate a harmful stress response depending on one's predisposition. In particular, one population that may be more vulnerable to psychological vulnerabilities is Latine students, who often report chronic experiences of discrimination in university environments. Therefore, this paper advances research by testing how the three-way interaction between trait anger, ethnic discrimination, and Latine identity predicts sleep health outcomes (sleep quality, insomnia, fatigue). Participants included 448 university students

(75% female; 58.6% Latine) who completed cross-sectional surveys assessing anger, discrimination, and sleep. A significant three-way interaction among trait anger, ethnic discrimination, and Latine identity predicted sleep quality (p = .048), but not insomnia (p = .75) and fatigue (p = .84). For Latine students with average or higher levels of trait anger, discrimination was more strongly associated with poor sleep quality compared to students with lower trait anger. Among non-Latine students, the opposite pattern emerged, where discrimination predicted poorer sleep quality for students with lower trait anger compared to higher trait anger. Findings support anger as a diathesis for Latine students who report higher levels of trait anger and ethnic discrimination. Implications for this research include university counseling centers promoting emotional regulation therapies (e.g., Dialectical Behavioral Therapy) and skills (e.g., mindfulness meditation) to help students manage volatile emotions.

Figure 1:

The Interaction Between Trait Anger and Ethnic Discrimination on Sleep Quality Among Latine and Non-Latine Students



2

Abstract: 1311

DAILY MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY AND POSITIVE AND NEGATIVE AFFECT: EVALUATING WITHIN- AND BETWEEN-PERSON ASSOCIATIONS

Carmen Migic; Nicole Stuart, MA, The University of British Columbia; Nancy Sin, PhD, University of British Columbia

Background: Physical activity engagement has been linked to better emotional well-being and lower stress. However, less is known about the extent to which these affective benefits exist between-persons (i.e., Do habitually active people have higher positive affect and lower negative affect on average?) versus within-persons (i.e., Is physical activity related to same-day improvements in affect?). This study examined between- and within-person links between behaviourally assessed moderate-to-vigorous physical activity and daily positive and negative affect in a community-based sample of adults.

Method: Ecological momentary assessment data were collected from community-dwelling adults aged 26-90 (69% women, 34% racial minorities) in British Columbia, Canada. For 14 days, 236 participants wore a tri-axial accelerometer physical activity monitor and reported negative affect (anxious, sad, angry, ashamed) and positive affect (enthusiastic, happy, satisfied, calm, close to others, full of life) 4x daily. Multilevel models tested whether daily minutes of moderate-to-vigorous physical activity predicted daily positive and negative affect, controlling for sociodemographics.

Results: Accelerometer data revealed that this was an active sample, with an average of 43 minutes of daily moderate-to-vigorous activity (SD=30min). No within-person relationship was found between minutes of physical activity and same-day positive affect (b=-0.003, SE=0.019, p=.86) or negative affect (b=0.003, SE=0.006, p=.65). Between-persons, participants who had greater average daily physical activity did not differ on positive affect (b=0.028, SE=0.019, p=.13) or negative affect (b=-0.005, SE=0.006, p=.40) from less active participants.

Conclusion: Contrary to our expectations, daily minutes of moderate-to-vigorous physical activity engagement was not related to positive or negative affect within- or between-persons. Other dimensions of activity such as sedentary time or light physical activity may be more relevant for affective outcomes. Future work may examine how each physical activity intensity may relate to discrete emotions and explore biopsychosocial mechanisms and moderators (e.g., stress) in the physical activity-affect link.

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Abstract: 1032

DAILY STRESSOR EXPOSURE AND SUBJECTIVE MEMORY: DOES EXPERIENCING SIMILAR VERSUS DIVERSE TYPES OF STRESSORS MATTER?

Nicole Stuart; Nancy Sin, PhD, University of British Columbia

Recent evidence suggests that exposure to daily stressors balanced across different life domains may be beneficial for health; however, less work has considered how the combination of high stressor exposure and low stressor diversity may interact to predict cognitive health. Thus, this pre-registered study assessed the associations between daily stressor exposure and subjective memory, and whether this relationship is moderated by stressor diversity. Ecological momentary assessment data were collected from community-dwelling adults aged 26-90 across British Columbia, Canada. For 14 days, participants (N=189) reported momentary stressors across nine categories (e.g., interpersonal tensions, work, family, financial, health problem, discrimination) and rated their subjective memory 4x per day. Multilevel models were run to evaluate momentary

stressor exposure, person-level stressor diversity (calculated using Shannon's entropy index), and their interaction as predictors of subjective memory, controlling for depressive symptoms and demographics. Within-persons, memory was poorer during moments when stressors occurred, compared to stressor-free moments (b=-0.07, *p*=.002). Memory was poorer on days with higher-than-usual stressor exposure, compared to days with lower-than-usual stressor exposure (b=-0.06, *p*=.023). Between-persons, participants who experienced more days with stressors reported worse memory compared to individuals who experienced relatively fewer stressor days (b=-0.06, *p*<.001). This relationship was moderated by stressor diversity, such that participants with low stressor diversity showed a more deleterious relationship between stressor frequency and subjective memory (b=-0.05, *p*=.001), compared to those with high stressor diversity (b=-0.03, *p*=.005). In summary, stressor exposure was related to poorer momentary, daily, and between-person subjective memory, and this association was stronger for people with lower stressor diversity. Compared to exposure to similar types of stressors, experiencing more diverse stressors may require more problem solving and flexibility, which may promote better cognitive health. Future research may evaluate how stressor diversity relates to other aspects of cognitive health and to assess potential biopsychosocial mediators of this relationship, such as social engagement in daily life and cognitive activity.

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Abstract: 1329

SOCIAL STRAIN AND CARDIOVASCULAR REACTIVITY TO ACUTE PSYCHOLOGICAL STRESS: EXAMINING THE MEDIATING ROLE OF SELF-ESTEEM

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Social strain has been consistently associated with an increased risk of adverse cardiovascular health outcomes, with aberrant cardiovascular responses to acute psychological stress posited as one physiological mechanism of effect. Moreover, prior research has accentuated the mediating role of self-esteem in the connection between interpersonal relationships and physical health outcomes. Thus, the primary aims of the current study were to (1) examine the association between perceptions of social strain from a spouse/partner, other family members and friends, and cardiovascular reactivity to acute stress, and (2) to identify if the association between perceived social strain and cardiovascular reactivity to acute stress was mediated via subjective self-esteem. A sample of 659 participants completed measures assessing social strain from a spouse/partner, from other family members and from friends, and completed a standardized cardiovascular reactivity protocol consisting of resting baseline and stressor phase (mental arithmetic and Stroop). Systolic blood pressure (SBP), diastolic blood pressure (DBP) and heart rate (HR) were monitored throughout the baseline and stressor phases. Greater social strain from family members and from friends were significantly associated with blunted blood pressure reactivity to acute psychological stress. Moreover, diminished self-esteem significantly mediated the association between social strain from all sources and both cardiovascular and psychological responses to acute stress. Here, greater social strain predicted diminished subjective self-esteem, which in turn was significantly associated with increased levels of self-reported stress and blunted cardiovascular reactivity. These findings indicate a potential mechanistic pathway that may facilitate the association between social strain and adverse physical health outcomes.

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Abstract: 1411

A PREDICT-THEN-OPTIMIZE FRAMEWORK FOR PERSONALIZED LIFESTYLE RECOMMENDATIONS IN HYPERTENSION

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Lifestyle advice for high blood pressure can often be generic despite individual differences in health behaviors. A potential solution is a tool that creates a personalized plan with a predicted effect size and stated uncertainty. Here, we evaluate a predict-then-optimize approach: (1) train a machine learning model for systolic blood pressure using modifiable behaviors; (2) for each person, search over small, clinically bounded adjustments to find a combination the model suggests will lower blood pressure the most, with guardrails to keep recommendations reasonable. We compare this approach to a population-level approach that searches for one set of changes for everyone. We used NHANES adults (2005 - 2018; n = 42,143) to develop a predict-then-optimize pipeline for systolic blood pressure. An extreme gradient boosting model was trained on 2005 - 2014 data (n = 25,053), validated on 2015 - 2016 (n = 4,994), and tested on 2017 - 2018 (n = 4,545). Personalized recommendations were generated through Bayesian optimization over five categories (potassium, sodium, sleep, sedentary time, cigarettes). We focused our analysis of policy recommendations on adults with hypertension (systolic blood pressure ≥140 mmHg) and estimated uncertainty via 500 bootstrap resamples. The individualized objective maximized each person's predicted blood pressure reduction, whereas the population-level objective maximized the average predicted blood pressure reduction. Results show the predictive performance (survey-weighted root mean squared error) are 14.3 mmHg (validation) and 15.0 mmHg (test). Among hypertensive adults (n=944), the personalized policy resulted in a mean predicted systolic blood pressure reduction of 1.7 mmHg (95% CI 1.5 -1.8). Lever usage (weighted % with non-zero change) and typical magnitudes (weighted median [interquartile range] among those changed): potassium 71.7%, +1200 mg/day [+773, +1200]; sodium 51.4%, -910 mg/day [-1964, -389]; sleep 53.5%, +0.9 h/day [+0.6, +1.5]; sedentary 34.8%, -1.4 h/day [-2.6, -0.7]; cigarettes (smokers) 11.5%, -4.6/day [-12.6, -3.0]. The population-level policy resulted in a mean predicted systolic blood pressure reduction of 0.60 mmHg

(95% CI 0.5 - 0.7). Overall, this proof-of-concept study shows that a predict-then-optimize framework can generate feasible and personalized recommendations that outperform population-level approaches. Under identical bounds and support constraints, the personalized policy approach produced larger average reductions in blood pressure. While average predicted gains reported here are modest, future applications of this framework to longitudinal data combined with dose–response modeling and off-policy evaluation are promising.

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Abstract: 1017

DIAGNOSING AND TREATING CANCER-RELATED DEPRESSION IN INDIGENOUS CANCER SURVIVORS

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Background
Diagnosing and treating depression in cancer survivors can be challenging as it may be overlooked or
attributed to medical treatment. In addition, diagnosing and treating cancer-related depression among
Indigenous survivors can pose challenges due to unique cultural illness beliefs and traditions.
Purpose/Aims This paper reports on the voices of adult American Indian (AI) cancer survivors as they
shared their experiences following a cancer diagnosis. Issues of informed diagnosis, full disclosure of
treatment, and medical provider respect for the cultural constructs of illness and treatment are
examined in the stories told by American Indian cancer survivors.
Methods A study among Southwest American Indians held 13 focus groups in the state of Arizona to
better understand aspects of cancer-related symptom management of depression, pain, fatigue, and
loss of function. A total of 132 cancer-survivors held group sessions to discuss their experience with the
cancer diagnosis, treatment, and the influence of cultural beliefs and practices on their depression.
Qualitative methods of inquiry were applied to gather and analyze the data.
Results Four categories explaining culture-bound depression emerged from the findings: denial,
weakness, fear, and acceptance. Each category is explored in the context of the cultural constructs of
depression.
Conclusion: The ethics of diagnosis and treating cancer-related depression among American Indians is
requires attention to improved information on the diagnosis, recommended treatment, with allowance
and respect for the influence of cultural illness beliefs and traditional medicine. Allowing for open
dialogue, one that encourages discussions regarding the etiology of depression, experiences,
recommended treatment, and exploration of historical beliefs is valuable. A better understanding of
cancer-related depression was explored so that targeted treatment, counseling, and community/family
awareness could be fostered. Implications The cultural constructs of cancer experiences and depression
symptom management need to be legitimized through programs designed especially for American
Indians. Study findings on depression among AI cancer survivors have implications for clinical and
educational interventions and quality of life improvement.

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Abstract: 1209

FAMILY AUTHORIZATION FOR ORGAN DONATION AFTER TRAUMATIC BRAIN INJURY: THE CRITICAL ROLE OF TIMING

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Traumatic brain injury (TBI) is the second most common cause of brain death, yet families of these patients are often unprepared for the sudden shift from acute care to end-of-life decision-making. When brain death is declared, the patient's family is notified and approached by an organ procurement organization representative to make a time-sensitive decision about donation. This study examines whether the timing of this approach influences the likelihood of family authorization for donation in the context of the unexpected nature of TBI-related deaths. Data are from the Organ Retrieval and Collection of Health Information for Donation database, which includes referrals to six organ procurement organizations during 2015-2021. Included are 1317 adult patients with TBI whose families were approached for donation. Logistic regression was used to estimate the association between time to approach and authorization, adjusting for circumstance of death. Authorization was common, with 87.2% of families authorizing donation. Referrals of families who authorized were more likely to have suicide as the circumstance of death, and these families were more likely to be approached earlier in the process (median 2 versus 3 hours, p-value<0.001). Each additional hour between brain death and the approach was associated with a 9% decrease in the odds of authorization (OR=0.91, 95% CI: 0.85, 0.97). These findings suggest that earlier approaches for organ donation following brain death may improve authorization rates. Efforts to balance timely requests with sensitivity to the emotional burden of TBI-related deaths could enhance family decision-making and help address the shortage of organ donors.

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Abstract: 1378

RACIALIZED SOCIALIZATION MATTERS FOR THE HEART: ASSOCIATIONS BETWEEN BIRACIAL IDENTITY AND HEART DISEASE RISK FACTORS

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Racialized socialization matters for the heart: Associations between Biracial identity and heart disease risk factors

Justen Baker, MS Student, Nyx Kim, MA student & James J. García, PhD

INTRODUCTION: Recent data show that the racialized socialization of biracial/bi-ethnic people (e.g., racial/ethnic discrimination, microaggressions, and their own multicultural identity integration) can increase the risk for a variety of mental and physical health conditions (Albuja et al., 2019a; Albuja et al., 2019b). However, there is less known about how racialized socialization—in the form of multiracial identity integration and skin color—is associated with the health/health behaviors of Biracial/Bi-ethnic/Multiracial; this is severely underrepresented in the biopsychosocial medicine literature (Pedersen et al., 2022). To address this gap, the current study primarily focused on how multiracial identity integration as a psychosocial experience is associated with cardiovascular risk factors (CVD RFs) among Biracial/Bi-ethnic persons.

METHOD: Biracial/Bi-ethnic people (N = 421) completed the Multiracial Identity Integration Scale (MIIS; Cheng & Lee, 2009). We assessed CVD RFs via 8 items on whether a health professional had diagnosed them with a traditional CVD RF, which were summed into a composite score. We also used the New Immigrant Survey (NIS) Skin Color Scale (Massey et al., 2003) to assess phenotypical skin color. One hierarchical regression analysis was used, with age in block 1, the two subscales of the MIIS in block 2, and the NIS Skin Color in block 3 to predict CVD RFs.

RESULTS: Participants ranged from 18 to 76 years old (M = 34.9, SD = 10.4). They self-identified their multiracial identities as White-Other (27%), White-Black (19%), Asian-White (11%), While-Latinx (9%), Black-Latinx (4%) and Other (30%) persons. In block 1, controlling for age, results showed that MIIS distance (β = 0.192, p <.001) and MIIS Conflict (β = 0.202, p <.001) were positively associated with CVD RFs, accounting for about 19% and 20% variance, respectively. In block 2, controlling for age and MIIS subscales, results showed that darker skin color was positively associated with CVD RFs (β = 0.037, p <.006), accounting for 3.7% of variance.

DISCUSSION: Our results found that the more racial distance and conflict that a Biracial/Bi-ethnic or Multiracial person feels towards their multiracial identity, the greater the risk of CVD RFs. In addition, darker skin color was also predictive of higher CVD RFs. These findings contribute to the dearth of literature on how Biracial/Bi-ethnic/Multi-racial persons' CVD health may be impacted as they weather the storm related to the integration of their identities.

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Abstract: 1069

STIGMA, ACTIVISM, ALCOHOL USE, AND STRESS

Manuel Ramirez; Karissa Tran, BA; Eric Cortez, MS; Patrick Wilson, PhD, UCLA

From an Intersectionality perspective (Crenshaw, 1989), lesbian, gay, and bisexual persons of color (LGB-POC) live at the intersection of various systems of oppression (e.g., racism, homophobia). Thus, identifying resilience factors that buffer against such compounding forms of discrimination is critical, especially given the current social climate. One such factor is critical consciousness, which is a liberatory process that promotes realization of structural oppression in everyday life and our means to resist and overcome it (Freire, 1976; Watts et al., 2011). Salutary effects may be the result of attributions of discrimination to structural oppression instead of to personal shortcomings (Major et al., 2012). Indeed, among LGBT people, critical consciousness has been associated with improved depression, well-being, self-efficacy, and social group participation. However, critical action, a component of critical consciousness (i.e., activism), may be a double-edged sword and could undermine health and well-being (Vaccaro & Mena, 2013). Therefore, we examined whether critical action buffers the relationship between everyday discrimination and psychological distress and alcohol use among LGB-POC. We hypothesized that at higher levels of critical action, the effect of everyday discrimination on psychological distress and alcohol use would become attenuated. Using data on LGB-POC from the Generations Study (N = 143), we estimated two regression models to explore moderation while controlling for age, income, education, assigned sex at birth, and social support. The effect of everyday discrimination on psychological distress was significantly moderated by critical action (p = .034). Probing revealed that, contrary to our hypothesis, the effect of everyday discrimination became stronger at higher levels of critical action. Next, critical action significantly moderated the relationship between everyday discrimination and alcohol use (p = .031). Probing revealed that everyday discrimination had a small, positive effect on alcohol use but only for those with little to no critical action. Our results highlight the need to identify which aspects of critical consciousness (e.g., critical reflection, critical motivation, critical action) confer resilience in the face of everyday discrimination. Findings may benefit not only physical health but also community health.

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Abstract: 1302

CONTEXT MATTERS: PREDICTORS OF FEAR OF PAIN

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Fear of pain is an important predictor of chronic pain's influence on quality of life. Given the rising rates of chronic pain among adults in the U.S., it is beneficial to understand factors contributing to fear of pain, including health anxiety and

informational coping style, defined as how one approaches information gathering when confronting stress. It was hypothesized that health anxiety and both informational coping styles (monitoring [seeking information] and blunting [avoiding information]) would be significantly positively and inversely related to fear of pain respectively, that health anxiety would moderate the relation between informational coping style and fear of pain, and that health situation-specific informational coping would be a stronger predictor of fear of pain than general informational coping. Data were collected from 356 undergraduate students (Mage = 20.3, 66.3% female) through a battery of self-report questionnaires. Generalized health anxiety was measured by the Health Anxiety Questionnaire (HAQ) and informational coping style was measured generally by the Miller Behavioral Style Scale (MBSS) and specifically relating to medical situations using the Threatening Medical Situations Inventory (TMSI). A hierarchical multiple regression model was used to test the hypotheses, with the first stage regressing each variable, while the second added interaction effects. The first stage of the model was significant (R2 = .24, p < .001) with significant factors (controlling for all other included variables) being health anxiety (β = .32, p < .001), endorsement of health-specific monitoring coping (β = .20, p < .001), and endorsement of health-specific blunting coping (β = -.10, p = .039). Informational coping as measured by the MBSS was not significant when controlling for other factors. The second stage testing for moderation yielded a significant model (R2 = .26, p < .001), though no interaction effects were significant, nor was there a significant improvement over the first stage (R2Δ = .02, F(4,334) = 2.04, p = .088). This suggests that both health anxiety and informational coping style were associated with fear of pain and that health situation-specific measures of informational coping are more important than general informational coping when investigating health-related outcomes, though further research is necessary to assess how these constructs could be utilized among samples of chronic pain conditions and for facilitating effective treatment.

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Abstract: 1226

EXAMINING WHETHER SOCIAL SUPPORT BUFFERS ASSOCIATIONS BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND COVID-19 INFECTION

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Introduction. Over 60% of U.S. adults report at least one adverse childhood experience (ACE) with roughly 17% reporting four or more. Growing research supports a relationship between ACEs and health including compromised immune functioning. Emerging research links ACEs to greater susceptibility to and severity of SARS-CoV-2 infection (COVID-19). Less is known about the influence of social support, a moderator of stress-immune functioning relationships, on the linkages between ACEs exposure and susceptibility to COVID-19 infection. This study tested the hypothesis that greater social support buffers positive associations between ACEs exposure and COVID-19 infection incidence.

Methods. Cross-sectional, self-reported survey data were collected from college students across five U.S. universities (n = 3,176; M_{Age} = 24.9; 63.5% women; 36.5% non-Hispanic White, 29.3% Hispanic/Latinx) between fall 2022 and spring 2023. Participants completed validated measures of ACE exposure and perceived social support, in addition to answering whether they had ever contracted COVID-19. Analyses included ANOVAs, chi-square tests, t-tests and logistic regression models, including interaction terms for testing moderation and adjustments for age, gender, race/ethnicity, and household income.

Results. Most of the sample endorsed ACEs exposure, with 37.5% reporting 1-2 ACEs and 34.6% reporting ≥3 ACEs. Slightly over half of the sample (58.3%) indicated they had experienced COVID-19 infection. Regarding group differences, ACEs exposure and social support differed by gender, race/ethnicity, and household income (*p*'s < .01). COVID-19 infection history differed by gender and race/ethnicity (*p*'s < .001). T-test results demonstrated that ACEs exposure did not differ by COVID-19 infection history, but average social support was significantly lower among participants who had never contracted COVID-19 (t[2,895] = 3.91, p < .001, M_{Diff} = 1.01). Contrary to our hypotheses, adjusted logistic regression models demonstrated that ACEs exposure, social support, and the ACEs-social support interaction were not associated with COVID-19 infection (*B*s < 0.08, *p*s > .080, all Odds Ratio 95% CIs contained 1.00).

Conclusion. Overall, the results indicated that likelihood of contracting COVID-19 did not differ by ACEs history and this lack of association persisted across all levels of social support. To inform future research examining potential moderators of associations between ACEs and SARS-CoV-2 infection, we discuss potential measurement considerations related to differences in social support and varying infection outcomes (e.g., symptom severity, seroconversion biomarkers).

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Abstract: 1234

EVERYDAY DISCRIMINATION AND MENTAL HEALTH: THE MODERATING ROLE OF PHYSICAL ACTIVITY

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Everyday discrimination (ED) refers to discriminatory acts that minoritized individuals encounter in their daily lives (Jones et al., 2016). ED is common within college contexts and has been broadly linked to worse mental health (Nadal et al., 2014). There are ongoing efforts to investigate buffers for these negative outcomes. *Physical activity* (PA) has shown to have psychophysiological health benefits (Adam et al., 2010; Craft &

Perna, 2004), and may be a potential protective health behavior for experiences of ED. Previous work however is limited by its reliance on cross-sectional designs (Zhang & Halgunseth, 2024). Therefore, the current study aimed to investigate the concurrent and longitudinal role of ED on depressive symptoms among young adults. This study also examined the role of PA, hypothesizing that greater weekly PA would mitigate the impact of ED on young adults' short-term and long-term depressive symptoms.

College young adults (*n* = 232) were, on average, 20 years old (*SD* = 1.86). Most participants were enrolled in a higher education institution, self-identified their gender as women/female (69.3%, *n* = 160) and their race/ethnicity as Latine/Hispanic (51.5%; *n* = 117). ED was assessed using the Everyday Discrimination Scale (Williams et al., 2008). PA was assessed using items from the International Physical Activity Questionnaire (IPAQ) – Short Form (Craig et al., 2017). Depressive symptoms were assessed using the short form (10-item) Center for Epidemiological Studies Depression scale (Radloff, 1977), respectively.

On average, 90% of young adults reported at least one experience of discrimination across the study period. ED related to greater concurrent depressive symptoms, but not over time. PA was not associated with concurrent or longitudinal depressive symptoms. Regression models revealed that PA moderated the concurrent relation between ED and depressive symptoms (Table 1); however, a non-significant, marginal longitudinal interaction was found. As seen in Figure 1, the interaction revealed that that at low levels of PA, there were a stronger association between ED and short-term depressive symptoms. At high levels of PA, the association was weaker.

The findings revealed that ED was prevalent among young adults, and was a predictor for short-term, but not long-term mental health. PA emerged as a potential protective factor, such that students engaging in more days of PA showed a weaker link between ED and depressive symptoms, suggesting that PA may buffer the short-term mental health impacts of ED. Intervention work should incorporate accessible, exercise and wellness programs, particularly in-campus mental health initiatives. Future research should examine the mechanisms through which PA provides resilience against discrimination-related stress.

Abstract: 1328

YOUTH COMMUNITY VIOLENCE EXPOSURE AND BODY MASS INDEX IN ADULTHOOD: THE MODERATING ROLE OF EARLY MATERNAL WARMTH

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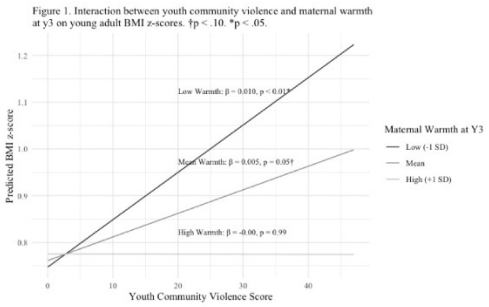
Greater community violence exposure (CVE) in childhood and adolescence is associated with negative physical health outcomes (e.g., obesity, cardiovascular disease risk) later in life. However, many youth exposed to community violence maintain positive health trajectories, raising questions about protective factors. Research shows that parental warmth early in life buffers against the negative health impacts of other early stressors linked with CVE (e.g., poverty, maltreatment). Therefore, the current study examined whether early maternal warmth moderated youth CVE impacts on young adult body mass index (BMI). Participants were from the Future of Families and Child Well-Being Study (N = 924), a birth cohort and their parents followed through early adulthood (age 22). Using the My Exposure to Violence Scale, parents reported CVE at ages 3, 5, 9, and 15. Scores across ages were then summed to create a composite youth CVE variable. Early-life maternal warmth was assessed at ages 3, 5, and 9 via interviewer ratings on the Warmth/Responsivity subscale of the Home Observation for Measurement of the Environment Inventory. Scores across ages were then averaged to index early maternal warmth. BMI was based on self-reported height and weight at age 22 and converted to age- and sex-adjusted z-scores using CDC growth charts. Outliers of BMI z-scores were winsorized at +/- 3 SDs. Linear regression analyses indicated that there was no significant interaction between youth CVE and average maternal warmth on BMI z-scores ($\beta = .04$, $p = .21$). However, when maternal warmth was examined at individual ages, youth CVE interacted with maternal warmth at age 3 ($\beta = -.02$, $p = .03$). As shown in Figure 1, CVE predicted higher BMI among individuals with low maternal warmth at age 3 ($\beta = .01$, $p < .01$), but not among those with high maternal warmth ($\beta = -.00$, $p = .99$). Findings remained when accounting for maternal warmth at age 5 and age 9, and for related maternal and child characteristics (e.g., early life and current socioeconomic status). Results point to timing effects of maternal warmth's lasting protective effects against community violence in youth on later obesity and cardiovascular risk.



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Abstract: 1122

RELATIONSHIPS BETWEEN PATHOLOGICAL EXERCISE AND AUTONOMIC PHENOTYPES IN PEOPLE ON THE ANOREXIA NERVOSA SPECTRUM

Zoe Hopewell; Amy Jordan, PhD; Tasneem Khanjar, BS; Rachel Torres, PhD; Pallavi Saxena, MBBS, University of Louisville; April Smith, PhD, Auburn University ; Cheri Levinson, PhD; Cheri Levinson, PhD, University of Louisville

Anorexia nervosa and atypical anorexia nervosa (i.e., anorexia nervosa spectrum (AN-S)), are eating disorders marked by dietary restriction (APA, 2013) and associated with life-threatening complications (Cass et al., 2020; Vo & Golden, 2022). Pathological exercise is common across AN-S and is associated with poorer prognosis (Monell et al., 2018, Sawyer et al., 2016). Researchers have used self-report measures to investigate motivators of pathological exercise (Cunningham et. al, 2016), but little research has explored how physiological factors contribute to pathological exercise behaviors.

Electrodermal activity (EDA) is an established marker of mental stress, reflecting changes in skin conductance due to sympathetically mediated sweat rate. EDA increases typically coincide with heart rate (HR) elevation, but recent research on individuals with AN-S has shown EDA increases without a rise in HR (Saxena et. al, 2025), suggesting a distinct autonomic phenotype in AN-S. Increases in EDA are accompanied by vasoconstriction (Posada-Quintero et al., 2016). If vasoconstriction occurs without a HR increase, cardiovascular damage ensues. In response, mechanisms like exercise may be used to sustain blood flow.

We hypothesize that higher EDA:HR ratios will positively correlate with exercise dependence and that higher EDA:HR ratios will positively correlate with step count.

This study used a sample of 80 U.S. adults (Mage = 30.2, 79% white) with AN-S. Participants completed baseline questionnaires and completed passive-sending through a wearable device to monitor physical activity and functioning. We performed bivariate correlation analyses between EDA:HR ratio and Exercise Dependence Scale (EDS) scores and between EDA:HR ratio and median step count. Significance was defined as $p<0.05$.

Mean daily step count among participants was 15,389 (S.D. 6,943). We found a positive correlation between EDS scores and median step count ($r(80) = 0.367$, $p = 0.001$). There was no correlation between EDA:HR ratios and EDS scores ($r(80) = -0.071$, $p = 0.531$) or between EDA:HR ratios and step count ($r(80) = -0.037$, $p = 0.746$).

The positive correlation between step count and EDS scores indicate that those with greater exercise dependence also get more daily steps, reinforcing the EDS as a valid measure of excessive exercise. The null results in the EDA:HR ratio comparisons may be due to consistently high EDA:HR ratios among participants, meaning the sample may not include enough variability to capture differences.

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Abstract: 1151

PARENT SELF-REGULATION IN THE CONTEXT OF PARENT-CHILD PHYSIOLOGICAL SYNCHRONY: A SCOPING REVIEW

Laura Boylan; Marcia Winter, PhD, Virginia Commonwealth University

Background: Parent self-regulation, which includes both psychological strategies and physiological processes, is critical not only for parents' own wellbeing but also in their ability to support children's developing regulation skills. When parents can effectively regulate their own emotional responses, they are better positioned to guide and co-regulate their child's emotions, increasing the child's ability to psychologically and physiologically respond to stress in adaptive ways. Conversely, when parents are dysregulated, synchrony may still occur but in maladaptive patterns, transmitting parent's dysregulation to children and increasing risk for negative outcomes. Therefore, the objective of this scoping review is to map and synthesize the existing evidence on parent self-regulation and patterns of parent-child physiological synchrony.

Methods: Following the JBI Manual for Evidence Synthesis and PRISMA-ScR guidelines, I am conducting a scoping review in

CINAHL, PsycINFO, Academic Search Complete, Psychology and Behavioral Sciences Collection, PubMed and Web of Science. Studies are included if they: (1) are peer-reviewed empirical articles written in English; (2) include an explicit measure of parent emotion regulation or socialization in response to child emotion expression via self-report, observation, or physiological methods; and (3) assess simultaneous parent-child physiological synchrony through autonomic nervous system indices (e.g., HRV, RSA, cortisol, skin conductance, EEG). Study characteristics, as well as parent self-regulation and synchrony methods will be extracted from included articles.

Results: A search was conducted between July 2025 and August 2025, yielding 18 articles for inclusion. Most studies focus on very young children, and when examining older children, research focused more on peer synchrony. Patterns of synchrony are currently being organized into themes, with attention to: (1) similarities and differences across physiological mechanisms and task contexts; (2) how parent self-regulation influences synchrony patterns at different ages/stages of child development; and (3) how these patterns relate to child outcomes.

Discussion: Although parents play a central role in children's emotional development across the lifespan, research on parent-child synchrony has mainly focused on early childhood or child-driven factors, with limited attention to parent self-regulation influences in older children. This review will highlight patterns in parent self-regulation as they pertain to synchrony and will consider limitations of the existing literature as well as implications and future directions for psychophysiological synchrony and self-regulation research.

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Abstract: 1200

EXAMINING THE RELATIONSHIPS OF POSTTRAUMATIC STRESS DISORDER SYMPTOM SEVERITY WITH METABOLIC SYNDROME AND AUTOIMMUNE DISORDERS

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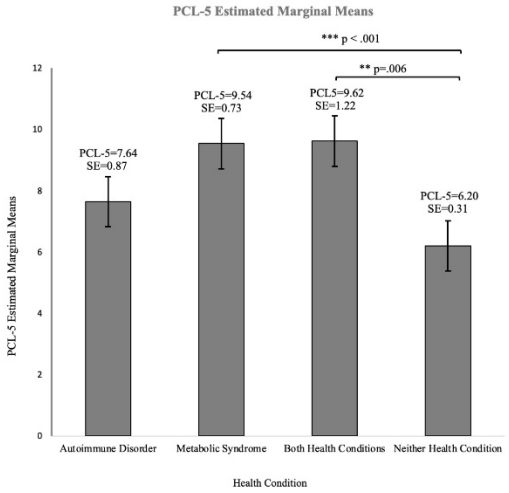
Background: Posttraumatic stress disorder (PTSD) is linked to a wide range of adverse health outcomes. However, limited research has explored whether PTSD symptom severity relates to metabolic and autoimmune conditions. This study examined the association between PTSD symptom severity and self-reported diagnoses of metabolic syndrome and autoimmune disorders in a community-based sample of adults. **Method:** Participants included an online convenience sample (N=652, 72% women, 62% Non-Hispanic White; M_{age}=33 yrs; SD=13.98) who completed a Qualtrics survey assessing various psychological and physical health outcomes in 2023. PTSD symptoms were measured using the abbreviated 8-item PTSD Checklist for the DSM-5 (PCL-5). An analysis of covariance (ANCOVA) was conducted to examine differences in PTSD symptom severity across four groups: (1) autoimmune disorder only (N=56), (2) metabolic syndrome only (N=84), (3) both autoimmune disorder and metabolic syndrome (N=29), and (4) neither condition (N=483), while controlling for age and gender. **Results:** There was a significant effect of group, $F(3,646)=7.41$, $p<.001$. Gender $F(1,646)=9.24$, $p=.002$, and age $F(1,646)=51.49$, $p<.001$ were also significant; women and younger people had significantly higher PCL-5 scores. Estimated marginal means computed for post hoc comparisons revealed that individuals with both autoimmune disorders and metabolic syndrome reported significantly higher PTSD symptom severity (M=9.62, SE=1.22) compared to those with neither condition (M=6.20, SE=0.31), $p=.006$. Individuals with only metabolic syndrome also reported significantly higher PTSD symptom severity (M=9.54, SE =0.74) than those without either condition (M=6.20, SE =0.31), $p < .001$. Individuals with only autoimmune disorders (M=7.64, SE=0.87) reported slightly higher PTSD symptom severity than those without either condition (M=6.20; 0.31); however, this difference did not reach statistical significance (p=.109). **Conclusion:** These findings demonstrate a significant relationship between PTSD symptom severity and the presence of metabolic syndrome alone or comorbid metabolic syndrome and autoimmune disorders. The results underscore the importance of trauma-informed, interdisciplinary healthcare approaches for individuals experiencing posttraumatic stress symptoms to address both psychological and physical health risks associated with PTSD.

Figure

ANCOVA Results: PCL-5 Estimated Marginal Means and Standard Errors



Note. SE= Standard Error

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Abstract: 1211

PHYSICAL ACTIVITY MODERATES THE ASSOCIATION BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND WEIGHT STATUS IN AMERICAN INDIAN YOUTH

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Background: Adverse childhood experiences (ACEs) include various forms of abuse experienced in childhood or among persons aged less than 18 years. Experience of multiple ACEs is related to negative health outcomes during childhood and adulthood. While previous research has found an association between ACEs and negative health outcomes, little is still known about the complex relationship between ACEs and childhood obesity. There has been limited work examining factors that may protect against the negative health consequences associated with ACEs. American Indians have disproportionately high incidence of obesity and chronic diseases that include obesity as a risk factor. However, previous work examining the role of ACEs and protective factors on obesity risk in American Indian children has been limited.

Aim: Examine whether physical activity moderates the relationship between adverse childhood experiences and weight status in a national sample of American Indian youth.

Methods: Participants were parents of 205 children ages 6 to 17 years (48.8% boys) who identified as American Indian from the 2022 National Survey of Children's Health. Parents reported: number of ACEs, weight status of their child (healthy weight, overweight/obese), if child received free lunch (SES indicator), and number of days their child engaged in 60 minutes or more of physical activity per week.

Results: Binary logistic regressions adjusting for SES indicated that the interaction between ACEs and number of days engaging in 60 minutes or more of physical activity statistically significantly predicted being overweight or obese ($\beta = -.205$, $p = .047$). Participants with multiple ACEs were more likely to be obese when physical activity levels were lower. There was no association between ACEs and overweight/obesity status when physical activity levels were high.

Conclusion: The present findings demonstrate that protective factors, such as physical activity, may buffer the negative impact of ACEs on physical health. Future research should examine if physical activity interventions improve health in children exposed to ACEs.

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Abstract: 1391

NAVIGATING RISKS: EXTERNAL INFLUENCES ON ADOLESCENT IMPAIRED DRIVING AND SUBSTANCE USE

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Background: Adolescence is a critical period of increased substance use initiation and escalation that often occurs in tandem with driver's education, putting this population at heightened risk for harms associated with impaired driving. Preventative efforts often lack a holistic approach in engaging families and peer circles to foster healthier behaviors within the adolescent's entire network, an important aspect in maintaining behavior longitudinally. Understanding the influence of these factors on adolescent impaired driving from a social learning perspective allows us to better tailor policy and intervention efforts to address the full context of the adolescent's behavior.

Methods: This study used data from a larger RCT (WebCHAT) that evaluated the efficacy of an online single-session program compared to usual care for adolescents (15.5 - 17 years old) enrolled in a driver education program. Participants (N=198) were 15.7 (SD=0.8) years old, 60% female, and 80% White. We compared the prevalence of baseline exposure to parent, sibling, and friend substance use consumption and impaired driving between adolescents who had ever driven (DUI) or rode (RWID) impaired and those who did not.

Results: Adolescents with a history of impaired driving had a significantly higher prevalence of being exposed to alcohol and cannabis consumption by parents (61% v. 38%; 11% v. 1%), siblings (80% v. 41%; 47% v. 20%), friends (59% v. 29%; 59% v. 31%), and DUI and RWID by friends (32% v. 9%; 50% v. 13%) than those who did not. Similar trends exist when comparing adolescents who consumed alcohol or cannabis in the past 3-months with those who did not.

Conclusions: We observed trends that highlight the influence and impact of external social factors on adolescent risk behaviors, suggesting that future policy and prevention efforts need to integrate social learning frameworks by addressing not only the adolescent, but those whom the adolescent models their behavior after. Future research should examine the longitudinal influences of these external factors to allow for more focused and holistic interventions. Tailoring interventions to the specific cultural contexts of the adolescent allow for a multifaceted approach in mitigating against adolescent impaired driving and substance use.

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Abstract: 1029

EXTREME EXERCISE DEPENDENCE PREDICTS LOWER CARDIOVASCULAR REACTIVITY TO ACUTE PSYCHOLOGICAL STRESS, BUT SEVERITY OF SYMPTOMS DOES NOT LINEARLY RELATE TO REACTIVITY.

Anna Whittaker; Yuan Tian, BSc.; Jenni Connelly, PhD, University of Stirling; Jennifer Heaney, PhD, University of Birmingham

Low or blunted cardiovascular and cortisol reactions to acute psychological stress have been shown to characterise those with a tobacco or alcohol addiction and non-substance dependencies such as exercise dependence, potentially indicating dysregulation in brain areas associated with motivation and reward. Differences in reactivity have been demonstrated between small groups extreme in exercise

dependence scores. The present study tested whether the degree of exercise dependence across the range of scores related to cardiovascular reactivity magnitude, hypothesising that more severe exercise dependency would be linearly associated with lower reactivity. Participants (n = 161, 65% female) undertook laboratory stress testing. Cardiovascular activity was measured at rest and in response to a 10-min Paced Auditory Serial Addition Test (PASAT). Exercise dependence was measured via three validated questionnaires. None of the linear associations between exercise dependence scores and reactivity were significant, although the majority were negative as expected. This did not change when adjusting for confounders such as socio-demographics, PASAT performance, estimated cardio-respiratory fitness or physical activity. When using the cut-off for dependence on the Exercise Dependence Questionnaire, those with higher scores showed marginally significantly lower DBP reactivity (p = .046). Sensitivity analysis of females similarly showed lower SBP reactivity among those classified as exercise dependent (p = .043). These effects were attenuated following adjustment for confounders, particularly estimated fitness and physical activity level. In conclusion, the blunted reactivity associated with exercise dependence appears only to be robust when comparing very extreme groups. In those with less severe symptoms, any lowering of reactivity appears to be driven by higher fitness and physical activity effects on the cardiovascular system. This suggests caution when interpreting negative health and behavioural correlates of low reactivity.

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Abstract: 1052

ALTERED RISK AVERSION IN INDIVIDUALS WITH EATING DISORDERS

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Background

Eating disorders (EDs) are psychiatric conditions marked by pathological eating behaviors, including restriction and binge eating; impairments in decision making are implicated in persistent eating-related psychopathology. Clarifying traits underlying decision-making in EDs may guide prevention and inform treatment development. Decision making is a multifaceted process of interdependent operations; risk and loss aversion are key components. Yet findings comparing individuals with EDs and healthy controls (HCs) are inconsistent. Behavioral economics indicates such preferences are context dependent. How these traits manifest in social contexts remains unclear. We analyzed risk and loss aversion across social and monetary domains using questionnaires assessing socioeconomic status (SES).

Method

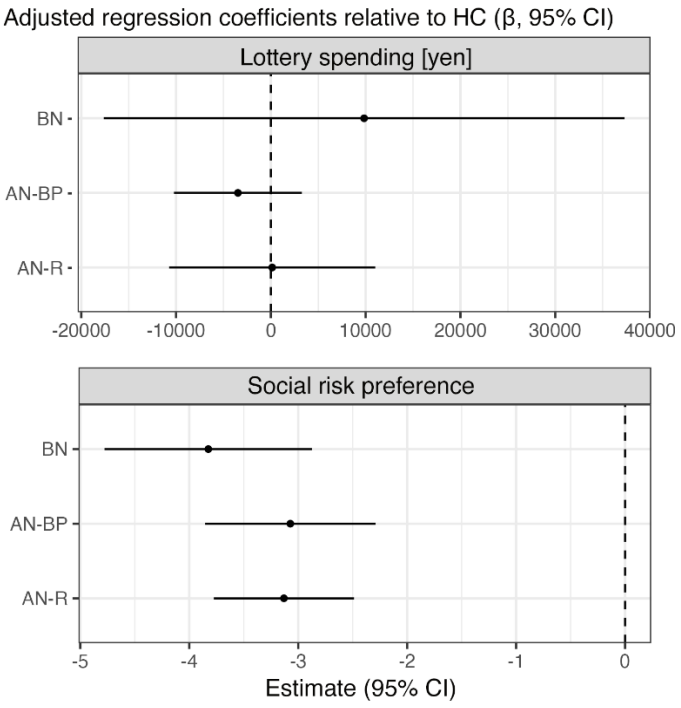
Data from individuals with EDs and a community-based sample of HCs were analyzed. Participants included AN (n = 176) (restricting [AN-R] (n = 73) and binge–purge [AN-BP] (n = 63)) and BN (n = 40), plus HCs (n = 2218). Interpersonal trust toward acquaintances and strangers was rated on 10-point Likert scales. Social risk preference was defined as the stranger–minus–acquaintance difference score, reducing the influence of general trust propensity. Monetary risk preference was proxied by self-reported lottery spending. Missing data were addressed with multiple imputation by chained equations under a missing-at-random assumption. Generalized propensity scores were estimated by cross-validated random forests, and multinomial generalized overlap weighting targeted the region of common support. Weighted regressions were fitted, and estimates were pooled across imputations using Rubin's rules. The primary analysis compared AN-R, AN-BP, and BN with HCs; secondary analyses performed pairwise comparisons.

Result

Using weighted multivariable regression with HCs as the reference, no ED groups differed significantly from HCs on the monetary domain index. Conversely, the social domain index was significantly lower for all ED groups than for HCs ($\beta<0$): AN-BP $\beta=-3.07$ (95% CI, −3.85 to −2.29); AN-R $\beta=-3.13$ (95% CI, −3.77 to −2.49); BN $\beta=-3.83$ (95% CI, −4.78 to −2.87); all $P<0.001$. Because lower scores indicate less social risk aversion, EDs showed reduced aversion versus HCs (Fig. 1). No ED group differed significantly from another in pairwise comparisons.

Conclusion

Within the social domain, individuals with EDs were less risk averse than HCs. This pattern is consistent with domain specificity, whereby risk attitudes may differ across monetary and social contexts. Accordingly, exclusive reliance on canonical economic models such as prospect theory may be insufficient to characterize decision processes in ED.



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Abstract: 1201

CHILDHOOD ADVERSITY, HAIR CORTISOL LEVELS, AND EMOTION REGULATION: A PREREGISTERED TEST IN MIDLIFE ADULTS.

Abigail Shell; Peter Gianaros, PhD; Anna Marsland, PhD, RN, The University of Pittsburgh

Childhood adversity(CA) is associated with increased risk for chronic diseases. It is posited that adversity during critical periods of development sensitizes stress physiology to be hyperresponsive to potential stressors as an adaptive mechanism. One such system is the Hypothalamic-Pituitary-Adrenal axis, which secretes cortisol when activated. Higher levels of cortisol may contribute to risk for chronic diseases. However, hair cortisol concentrations (HCC), which reflect mean cortisol levels over months, are not consistently associated with CA. It is possible that resiliency factors moderate the relationship between CA and HCC. Recent work suggests that increased emotion regulation (ER) diversity, the spread and frequency of an individual's ER strategies, is associated with lower levels of biomarkers associated with risk for chronic diseases. Primary aims were to investigate associations between CA and HCC and whether associations were moderated by ER diversity in midlife adults. We also investigated these associations longitudinally looking at change in HCC across a 2-year period. Preregistration link: https://doi.org/10.17605/OSF.IO/9WEJA. Data were drawn from a subsample of the Neurobiology of Adult Health (NOAH) study that had hair data at baseline (N=218). Participants (64% female, 85% white, mean age 41.89 years) filled out demographic information, the Childhood Trauma Questionnaire (CTQ), and Adverse Childhood Experiences (ACEs) Questionnaire at baseline; ER questionnaires (Emotion Regulation Questionnaire-ERQ; Brief-COPE) and hair samples were collected at baseline and follow-up (*R*=2.02-3.93 years). Shannon's Diversity Index was calculated to estimate ER diversity for ERQ and Brief-COPE subscales. Linear regressions estimated associations between CA and HCC adjusting for sex, age, race, income, and HCC at baseline in longitudinal analyses. Interaction terms were then added between CTQ and ER diversity. CTQ, ER diversity, and their interaction did not predict HCC at baseline (=0.00,p=0.76; =-0.02, p=0.57 respectively) or change in HCC (=0.01,p=0.24; =0.01,p=0.85 respectively). Post-hoc, unregistered tests showed similar patterns for ACEs. However, ACEs did relate to increases in HCC (=0.10,p<.05) that were not moderated by ER diversity (=-0.37,p=.20). Further research is needed on potential moderators between CA and health related outcomes.

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Abstract: 1154

PATTERNS OF SELF-COMPASSION AND SELF-EFFICACY AMONG WOMEN WITH METASTATIC BREAST CANCER IN A POSITIVE PSYCHOLOGICAL INTERVENTION

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Introduction: Thanks to treatment advances, the population of individuals living with metastatic breast cancer (MBC) is growing. Self-compassion (SC) is treating oneself with kindness during difficult times, while self-efficacy (SE) is one's belief in their ability to achieve an outcome. SC and SE may help women with MBC cope with their incurable disease. Using secondary data from a single arm pilot trial of a multimodal positive psychological intervention (PPI), we aimed to: (1) assess participants' levels of SC and SE; (2) examine pre-to-post-intervention changes in SC and SE; and (3) identify qualitative themes related to SC and SE using exit interview data.

Methods: Women with MBC (N=10) were recruited from an NCI-designated comprehensive cancer center. Participants completed a baseline survey including the Neff Self-Compassion Scale Short Form, and two PROMIS instruments for SE; General Self-Efficacy and Self-Efficacy for Managing Emotions. Participants then completed a PPI including five weekly 45 minute phone/video calls with study counselor, daily diaries, and coaching text messages. Post-intervention, participants completed a follow-up survey assessing SC and SE (N=10) and

completed exit interviews (n=9). Paired t-tests were used to examine changes in SC and SE pre-to-post-intervention. A rapid qualitative analysis (RQA) was used to identify themes related to SC and SE within the post-intervention exit interview transcripts.

Results: Participants were 55 years old on average (range: 35-75) and identified as non-Hispanic White (50%), non-Hispanic Black (40%), or Hispanic/Latina (10%). Participants did not demonstrate statistically significant pre-to-post-intervention changes in SC (t=-1.285, p=0.231, M_{pre}=3.34, M_{post}=3.56), general SE (t=-0.314, p=0.769, M_{pre}=49.00, M_{post}=50.10), or SE for managing emotions (t=-0.578, p=0.578, M_{pre}=47.95, M_{post}=48.96). However, participants' mean SE scores were similar to population norms (M=50, SD=10). RQA identified five themes related to SC and SE: growth and learning, positive adaptations, tenacity, meaning making, and hope and optimism.

Conclusions: Within our small sample size and the design of this PPI, exist the predisposition of our sample presenting higher levels of SC and SE than the average MBC population. While there were no statistically significant changes in SC or SE pre-to-post-intervention, and this PPI did not target SC or SE, RQA revealed participants' demonstration of core themes found in resilience models that overlap with SC and SE. Future research with larger samples should assess which skills participants already use to manage daily life with MBC and empower them to reinforce and acquire new skills while also targeting SC and SE as a practice.

Themes	Quotes from exit interviews
Growth and Learning	**PT01**: "This program is very helpful in helping someone with a terminal illness develop coping and positive skills for emotional stability. The nightly surveys were extremely helpful for me. They gave me an opportunity to stop and reflect on how I felt in those categories listed in the survey... this allowed me to reflect and try and detect patterns. I really got to talk about things that I would not have discussed with anyone else and I received and was reminded of very important skills to help me emotionally. I'm so grateful."
Self-efficacy and Positive Adaptations	**PT05**: "I wouldn't necessarily say I noticed a lot of changes because I was already doing quite a bit of this stuff. But I think it gave me confidence that what I've been doing is research-proven, right, that I am doing stuff that is actually going to help my anxiety and mental side of things... it was affirming in the way I've tried to, I don't know, approach everything, but also gave me some new skills to add as well."
Persistence and Tenacity	Interviewer: "What could we add to this study?" **PT06**: "Find a way to promote that endurance, promote that kind of inner strength of like, 'Okay. I don't know what's the next wave that's going to hit me. However, I am standing as strong as I could for this wave by the guidance of other people."
Meaning Making	Interviewer: "What else could we add to the study" **PT02**: "...Envisioning and thinking about, what would you want your ideal future to look like? Not just necessarily a goal. Just thinking about what you-- and how you could even kind of create and manifest your world for the future."
Hope and Optimism	**PT09**: "It would have been supportive for me to feel like I had permission to be more introspective and all of that if I felt like I was going to be around for a while.... Because sometimes if you think, "Okay. This is ridiculous. I have a terminal disease. Am I going to really benefit from looking at gratitude and looking at doing this and setting goals and all this stuff?"....But I had the opportunity to be so kind of reflective because I could look back over these years and have that experience…."You know what? You are going to have these opportunities. You are going to need these skills. And you might practice these skills for the next 20 years. You could easily."

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Abstract: 1326

FROM POLICY PROPOSALS TO PATIENT DECISIONS: THE PSYCHOSOCIAL FALLOUT OF THE 2025 INAUGURATION ON FEDERAL BENEFIT PROGRAM UTILIZATION IN MASSACHUSETTS

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Link Health is a national non-profit employing outreach strategies to enroll low-income households in federal benefits programs. The 2020 US election saw evidence that controversial proposals focusing on immigration policy swayed eligible families from enrolling in public benefit programs out of fear. The 2024 election saw similar rhetoric, with intense proposed budget cuts to federal benefit programs, health care delivery, and the public health sector overall. By mid-April, 59% of individuals worried a "great deal" about the availability and affordability of healthcare. With these considerations, Link Health seeks to elucidate the psychosocial effects of the 2025 inauguration on patient enrollment in federal benefit programs.

Link Health uses in-person and digital sign up methods, whereby patients are paired with a volunteer to screen for eligibility, complete the application, and follow up on any outstanding information needed to enroll. Link Health assists patient enrollment in Lifeline, Supplemental Nutrition Assistance Program (SNAP), Transitional Aid to Families with Dependent Children (TAFDC), and more. For each patient Link Health collected age, gender, and program enrollment specifics. This data was compared between the timeframes July 1, 2024 - December 31, 2024 (Period 1) and January 1, 2025 - June 30, 2025 (Period 2) to understand the immediate impact of the 2025 shift in administration.

In total, there were 1829 applications in Period 1 and 340 applications in Period 2. In Period 1, there were 1446 Lifeline, 117 SNAP, and 121 TAFDC applications. In Period 2, there was a decrease in applications with 206 Lifeline, 55 SNAP, and 37 TAFDC applications. Between Period 1 and 2 there were changes in age distribution as follows: -1.7% Under 18, +0.8% 18-24, +1.0% 25-34, -5.0% 35-44, -1.8% 45-54, +3.4% 55-64, +5.1% 65+, +1.9% of unknown age. Between Period 1 and Period 2, there was a +2.2% increase in female enrollment.

By June 2025, there was limited policy change that directly impacted budget or qualification factors for these programs. This analysis highlights that the change in federal program utilization stemmed from rhetoric alone. Simply, the mention of proposed changes by the current administration had negative impacts on utilization. This effect impacted individuals across all age categories and genders similarly, seen by the minimal shifts in the demographic composition. The decrease in utilization is alarming, as this impacts populations that are already vulnerable to financial and health disparities. Moving forward, it is important that healthcare providers and outreach organizations continue to inform patients of their eligibility and the availability of federal benefit programs to combat this decrease in utilization.

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Abstract: 1349

HEARTS AT RISK: WEATHERING THE FEAR OF INHERITED CARDIAC CONDITIONS

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Background Inherited cardiac conditions (ICC) are relatively rare, and potentially life-threatening. Their impact often extends beyond physical symptoms, provoking significant psychological

distress. There is limited research on how individuals at risk for, or with a diagnosis of an ICC *weather the fear* and adjust to the psychological impact of their diagnosis. Intolerance of uncertainty (IU) has been linked to poor adjustment, while high tolerance co-occurs with acceptance and constructive support-seeking. We aimed to examine whether greater tolerance of uncertainty was associated with lower fear in men and women awaiting genetic test results. In addition, we used focus group data to explore how patients with asymptomatic or symptomatic ICC manage disease impact.

Methods In 2019, 41 patients (61% male, aged 45±14.3) referred to the Medical Genetics Department (UZ Brussels) for whole genome sequencing for ICC completed a survey, assessing intolerance of uncertainty (IU-12), generalized anxiety (GAD-7), and cardiac anxiety (CAQ-18). In 2023, focus groups were conducted with 15 Dutch patients (40% male, aged 51±14.5) diagnosed with either asymptomatic (34%) or symptomatic disease (channelopathies and cardiomyopathies). Thematic analysis was guided by the Coping Circumplex Model (theoretical framework).

Results Regression analyses revealed that in people awaiting their genetic test results greater tolerance of uncertainty was related to lower generalized anxiety (β =-.40, p=.009), and lower cardiac-related fear (β =.28, p=.078), but not to avoidance and attention. Associations were more pronounced in women (β =-.56/-.46, p<.05) than men (β =-.27/-.09, ns). Qualitative analysis supported and expanded these findings, revealing problem-focused and emotion-focused coping strategies mapping onto the dimensions of the Coping Circumplex Model. Positive emotional coping, particularly acceptance of the diagnosis, was most frequently mentioned. Patients also commonly reported information-seeking and combining problem solving with emotional support. Negative emotional coping strategies like denial, avoidance, and cynical hostility were also noted, particularly among those struggling to adjust.

Conclusion These results highlight the psychological complexity of living with (the threat of) ICC, showing both adaptive and maladaptive responses to uncertainty and fear.

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Abstract: 1228

SEX AND RACE VULNERABILITIES IN THE LINK BETWEEN DISCRIMINATION AND METABOLIC SYNDROME SEVERITY

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Purpose: Metabolic syndrome (MetS) prevalence is elevated in older Americans. Research shows that Black adults face especially increased risks. These disparities could be explained by Black adults' disproportionate exposure to everyday (e.g., unfair treatment in social contexts) as well as lifetime discrimination (e.g., blocked opportunities for employment, housing). Research suggests that women may be more likely to experience discrimination (e.g., ageism, sexism); as such, this exposure may give way to increased risk for MetS in women, though evidence of such disparities is mixed. Intersections of race and sex may also heighten the risk of MetS, as Black women are even more exposed to discrimination. Furthermore, most studies on MetS focused on its presence or absence, rather than its severity. A focus on MetS severity could, however, provide critical insight for understanding subclinical processes underlying individuals' risks for morbidity and mortality. To our knowledge, no study has examined whether everyday and lifetime discrimination are separately linked to MetS severity in a national sample of Black and White older adults, nor whether there are race and/or sex differences in these associations.

Method: Black and White participants (N=3,254) from the Health and Retirement Study provided venous blood samples (e.g., glucose) and physical measures (e.g., blood pressure, waist circumference) in 2016. The MetS severity score was developed to represent the number of MetS criteria met by an individual. Information on everyday and lifetime discrimination, as well as sociodemographic, psychosocial, behavioral, and clinical covariates was collected via questionnaires. Separate structural equation models estimated whether everyday and lifetime discrimination were associated with MetS severity in Black and White participants, with additional models assessing whether sex moderated this association.

Results: In fully-adjusted models, higher levels of everyday discrimination were marginally to significantly related to lower MetS severity in Black individuals and White women, respectively. Further, higher levels of lifetime discrimination were related to higher MetS severity in the overall sample, in White participants, and in Black women.

Conclusion: The buffering effect of coping could partly explain why everyday discrimination is linked to lower MetS severity in Black individuals and White women. Regarding lifetime discrimination, such experiences might have blocked opportunities that could have impaired an individual's health, leading to greater MetS severity. Future longitudinal studies are needed to investigate the temporality of the discrimination-MetS severity association.

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Abstract: 1176

PSYCHOLOGICAL DISTRESS PREDICTS DISEASE ACTIVITY IN INFLAMMATORY BOWEL DISEASE: RESULTS FROM THE MIND-BODY IBD LONGITUDINAL STUDY.

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Background & Aims: Psychological distress (depression, anxiety, stress) is common in inflammatory bowel disease (IBD) and is linked to poorer outcomes, yet behavioural pathways and economic consequences remain unclear. This study tested a gut-brain-behaviour-outcome (GBBO) framework, testing: 1) reciprocal links between distress and disease activity; 2) whether health behaviours mediate distress-disease activity relationships; 3) if distress and self-reported disease activity (SRDA) predict adverse disease outcomes, controlling for inflammation and 4) whether disease activity mediates relationships between distress and adverse outcomes.

Methods: IBD patients (n=157) reported distress, health behaviours, SRDA, healthcare use and disease-related outcomes at 3 waves at 6-month intervals. Faecal calprotectin (FCP) was assayed at baseline and 6-months. Analyses were conducted using structural equational modelling and mixed-effects models.

Results: Baseline distress predicted higher SRDA six months later (β=0.16, *p*=.03) but did not predict FCP; reverse pathways were nonsignificant. Impaired sleep quality mediated 55% of the distress to SRDA effect (*p*=.04). Other behaviours were nonsignificant. Controlling for FCP, distress and SRDA independently predicted secondary healthcare usage (primary/secondary care) and disease-related outcomes (flare frequency/severity, absenteeism and productivity loss). FCP was positively related to flare frequency/severity and allied health practitioner visits only. Mediation analysis showed that SRDA partially mediated absenteeism

Conclusions: Psychological distress exacerbates symptoms and economic cost. Poor sleep partially mediates the relationship between distress and SRDA, but not inflammation. Psychological interventions that focus on improving sleep could be cost-effective ways to improve mental health, symptom burden and inflammation, with downstream impact on healthcare utilisation and productivity losses.

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Abstract: 1115

ASSOCIATION OF MIRNA IN INVASIVE BREAST CARCINOMA SURVIVAL AMONG VARIOUS POPULATIONS

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Background: Invasive breast carcinoma (IBC) encompasses a broad category of cancers, including Invasive Ductal Carcinoma and Invasive Lobular Carcinoma. Despite advances over the past several decades that have significantly enhanced overall breast cancer patient survival, outcomes for certain patient populations and specific tumor subtypes remain a significant challenge. MicroRNAs (miRNAs) are small non-coding RNAs that regulate gene expression post-transcriptionally. Mutations and dysfunctions of miRNA are large contributors to cancer development, prognosis, and survival. The impact of miRNAs on breast cancer outcomes across different populations is not adequately explored.

Methods: Data was obtained from the open data sources, The Cancer Genome Atlas (TCGA) and ClinicalTrials.gov. After reviewing the available data on miRNA in TCGA, the 20 most significant miRNA-coding genes were selected for further analysis based on their association with patient survival. Expression differences between races were evaluated using Student's t-test and one-way ANOVA. Survival outcomes were evaluated using Kaplan–Meier analysis and log-rank testing. Information on ClinicalTrials.gov was used to find trials focusing on miRNAs in IBC.

Results: All genes except hsa-mir-410 showed improved survival in low-expression groups. Six genes exhibited reduced expression in tumors compared to controls. Nine of the twenty genes showed significant expression differences between African Americans and Caucasians, while four were significantly different between African Americans and Asians; however, there were no significant differences found between Caucasians and Asians. High expression in Caucasians
was consistently associated with the shortest survival. Analysis of ClinicalTrials.gov data further revealed that approximately 0.4 percent of all breast cancer trials, and about 4 percent of invasive breast cancer trials, were focused on miRNAs.

Conclusion and Implications: Differences in miRNA expression may contribute to disparities in survival outcomes in IBC. It is an emerging area of interest, and the current findings are dependent on limited data accessed through TCGA. Future directions include accessing additional data sources and conducting laboratory studies to evaluate the translational potential of miRNAs in improving outcomes for patients with IBC.

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Abstract: 1557

THE MEDIATING ROLE OF SOCIAL SUPPORT IN THE LINK BETWEEN PEER-PEER CULTURAL MISMATCH AND DEPRESSIVE SYMPTOMS

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Researchers have documented *peer-peer cultural mismatch* - a mismatch between the collectivistic ideologies and practices of one peer and individualistic ideologies and practices of another – as being experienced among Latinx first-generation college students during the transition to university (Burgos-Cienfuegos et al., 2015). Although PPCM has been empirically linked to

elevated levels of psychological distress, a key risk factor for depressive symptomology (Vasquez-Salgado et. al., 2023, Moffateh, 2020), no work has directly tested its association to depression or examined social factors that may mediate or explain this association. Thus, the present study aimed to resolve these gaps in the literature by examining the relationship between PPCM and depressive symptoms among Latinx FGCS during their transition to university, as well as whether social support – the quality and depth of one's relationships with others, and the emotional, instrumental, and informational support that they provide (Dragset, 2021) – mediates this association. The following hypotheses were proposed for this study: (H1): Higher levels of PPCM will be associated with higher levels of depressive symptoms. (H2): The relationship between PPCM and depressive symptoms will be mediated by higher levels of social support. Latinx first-generation students (N = 393) in their first term (M_{age} = *18.1,* 69.1% Female) at two 4-year Hispanic-Serving Institutions completed a self-report online survey. Participants self-reported experiences with peer-peer cultural mismatch, depressive symptoms, and social support. Analyses were conducted using Hayes PROCESS Model 4 in SPSS, controlling for institution, biological sex, and socioeconomic status. All hypotheses were confirmed, revealing a significant association between PPCM and higher levels of depressive symptomology, with this association being partially explained by lower levels of social support. This work further confirms the need to incorporate culturally sensitivity training in wellness programs to further support students experiencing these obstacles, as well as working with higher education institutions to ensure these reforms.

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Abstract: 1500

"GIVING AND NOT RECEIVING BACK": RECIPROCATION MISMATCH AND CORTISOL AWAKENING RESPONSE ACROSS COHORTS OF LATINX FIRST-GENERATION COLLEGE STUDENTS

Gabrielle Halim; Evelyn Arrieta, B.A.; Katelan Galvan, B.A.; Yoselin De Leon-Lazo, B.A.; Angel Morales, B.A.; Claudia Toledo-Corral, Ph.D.; Yolanda Vasquez-Salgado, Ph.D., California State University, Northridge

Reciprocation mismatch – giving or offering a resource or service to one's peer but not receiving anything in return – has been associated with psychosocial stress among Latinx first-generation college students (FGCS; Burgos-Cienfuegos et al., 2015), yet no study has examined its association with an objective biomarker of stress. The present study addresses this gap by testing whether reciprocation mismatch is linked with cortisol awakening response (CAR), a marker of HPA-axis functioning; a lower CAR may reflect HPA-axis dysregulation commonly observed under psychosocial stress. Since this project was situated during a post-COVID-19 transition back to in-person learning, and peer interactions tend to be more salient on campus, we expected the association between mismatch and CAR to emerge only in the cohort with greater in-person exposure (Fall 2024). We also examined *navigational capital* – ability to navigate resources and the hidden curriculum in higher education (Yosso, 2005) – as a resilience factor against this association. Thus, we hypothesized that (H1) reciprocation mismatch would be associated with a lower CAR only among the Fall 2024 cohort, and (H2) that this association would be weaker among students with higher navigational capital. Latinx FGCS (*N* = 280) across two cohorts (Fall 2023, Fall 2024) in their first term at two public Hispanic Serving universities completed an online survey and collected saliva samples (wake, +30 minutes) across two consecutive weekdays. Analyses were conducted using PROCESS Models 1 (simple moderation; H1) and 3 (three-way moderation; H2), controlling for key covariates (e.g., education context, biological sex, BMI, wake time). Results supported H1: cohort was a significant moderator (*b* = –1.28, *SE* = .54, *p* = .018), with greater mismatch being associated with a lower CAR only among the Fall 2024 cohort, *b* = –.85, *SE* = .38, *p* = .024. H2 was not supported (*p* = .255). Conditional effects revealed no association between mismatch and CAR at any level of capital among the Fall 2023 cohort (*p*s = .296 – .481). In contrast, among the Fall 2024 cohort, greater mismatch was associated with a flatter CAR at low (*b* = –1.57, *SE* = .58, *p* = .007) and average (*b* = –.96, *SE* = .38, *p* = .012) levels of capital, but not at high levels (*b* = –.53, *SE* = .53, *p* = .630) – a trend consistent with theory. Results provide initial evidence that reciprocation mismatch is linked to physiological patterns often characteristic of psychosocial stress, but only among Latinx FGCS with greater in-person interaction, highlighting the importance of in-person interaction in sociocultural stress research. Navigational capital also warrants further investigation as a potential resilience factor.

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Abstract: 1503

A MODEL OF GRIT'S PROTECTIVE ROLE AGAINST ACADEMIC STRESS IN A LATINX FIRST-GENERATION COLLEGE SAMPLE

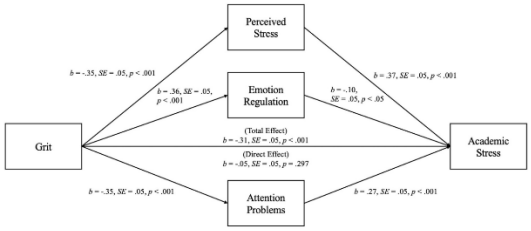
Katelan Galvan, BA; Yolanda Vasquez-Salgado, Ph.D, California State University, Northridge

Rooted in passion and perseverance, grit has been defined as "working strenuously" toward goals despite obstacles and has been linked to an array of positive outcomes (Duckworth et al., 2007; Allen et al., 2021). However, research surrounding grit as a protective factor among Latinx first-generation college students (FGCS) remains notably limited. Therefore, this study aims to extend the current literature by investigating grit's protective role against academic stress – stressors directly stemming from academic pressure, coursework, and demand – through the influence of emotional and cognitive factors in a sample of Latinx FGCS during the transition to college. We hypothesize that (H1) higher levels of grit will be associated with lower levels of academic stress, (H2) higher levels of grit will be associated with lower perceived stress, higher emotion regulation, and lower attention problems, and (H3) the relationship between grit and academic stress will be explained through the indirect effects of

each mediator. Latinx FGCS (N = 395; Mage = 18.10, SD = .30; 69.1% Female) completed a self-report online survey towards the end of their first semester or quarter at two Hispanic-Serving Institutions. A parallel mediation analysis was conducted using Hayes' PROCESS Model 4, controlling for age, biological sex, parental income, parental education, education context, and cohort. Analyses confirmed all hypotheses. (H1) Higher levels of grit were associated with lower levels of academic stress (b = -.31, SE = .05, p < .001). (H2) Grit significantly predicted each mediator. Notably, higher levels of grit were associated with lower perceived stress (b = -.35, SE = .05, p < .001), higher emotion regulation (b = .36, SE = .05, p < .001), and lower attention problems (b = -.35, SE = .05, p < .001). (H3) The indirect effects of grit on academic stress through each mediator were significant: perceived stress (b = -.13, 95% CI [-.18, -.08]), emotion regulation (b = -.04, 95% CI [-.08, -.01]), and attention problems (b = -.10, 95% CI [-.13, -.06]). After accounting for all mediators, grit no longer significantly predicted academic stress (b = -.05, SE = .05, p = .30), indicating full mediation. These findings suggest that grit is associated with lower academic stress, operating fully through emotional and cognitive factors among Latinx FGCS. Institutional efforts to reduce academic stress among this population may benefit from programming that fosters grit alongside strengthening stress management, emotion regulation, and attention-related skills.

Figure 1

Mediation Model for the Relationship Between Grit and Academic Stress as Mediated by Perceived Stress, Emotion Regulation, and Attention Problems



Abstract: 1514

INTEROCEPTIVE AWARENESS AS A RISK FACTOR: ASSOCIATIONS WITH PERCEIVED STRESS AND COPING IN EMERGING ADULTS

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Interoceptive awareness (IA) is widely recognized as an important contributor to emotional processing and regulation. Previous research suggests that heightened or inaccurately processed IA may be linked to greater psychological distress. Theoretical models of panic and stress disorders indicate that individuals who heavily monitor bodily sensations may be more prone to misinterpretations of these signals as threats, which may escalate feelings of worry or physiological distress. The current study examined whether perceived IA predicts stress levels and whether different coping approaches contribute to this relationship. Undergraduate students from California State University, Long Beach (N = 101; M = 19, R = 18-31; 59.4% Hispanic/Latino, 21.8% Asian, 20.8% White) completed self-report measures assessing interoception (THISQ), coping styles (Brief-COPE), and perceived stress (PSS). Greater interoceptive awareness significantly predicted higher stress (β = .26, p < .01). IA was positively associated with emotion-focused coping (β = .27, p < .01), but not avoidant coping (p = .29). Neither coping style significantly mediated (indirect effects ps > .30) or moderated (interaction ps > .54) these relationships. Avoidant coping, however, independently predicted greater stress (β = .39, p < .001). Exploratory analyses substituting anxiety as the outcome produced a similar pattern of findings. Interoceptive awareness significantly predicted anxiety (β = .26, p = .021), as did emotion-focused coping (β = .23, p = .018) and avoidant coping (β = .71, p < .001). However, neither interaction term (IA × emotion-focused coping: β = –.01, p = .23; IA × avoidant coping: β = 0.00, p = .92) was significant, indicating no moderation. Findings suggest that interoceptive awareness may exacerbate stress directly, rather than through coping, potentially reflecting maladaptive interpretations of bodily signals. This positions IA as a potential risk factor in stress-prone populations where adaptive emotional regulation is not present. Intervention implications include targeting interoceptive processing and psychoeducational material regarding strategies to identify and reduce maladaptive thought patterns, such as rumination and health anxiety. Future research should directly assess these mechanisms to enhance intervention models.

42

Abstract: 1560

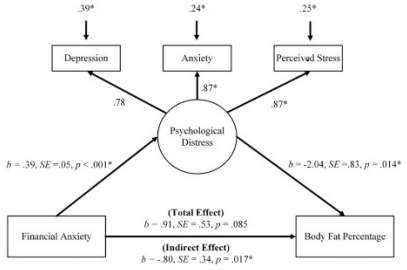
PHYSICAL COST OF FINANCIAL WORRY: EXAMINING FINANCIAL ANXIETY, PSYCHOLOGICAL DISTRESS AND BODY FAT PERCENTAGE AMONG LATINX COLLEGE STUDENTS

Evelyn Arrieta, California State University, Northridge; Yolanda Vasquez-Salgado, PhD, Culture, Health, and Development Lab

A large corpus of research on socioeconomic status (SES) posits an internalized lower SES can presage higher allostatic load and, in turn, multiple indices of ill health (Gallo et al., 2019; Isasi et al., 2015; Seeman et al., 2010). Findings like these raise a challenging question: How might *financial anxiety* (FA) – the chronic worry about money availability – manifest under the skin? FA is prevalent among first-generation college students (FGCS; Archuleta et al., 2013; Potter, Jayne, & Britt, 2020), but its impact on Latinx FGCS, a demographic burdened by financial worries (Deckard, Goosby, & Cheadle, 2022) and a challenging college transition (Vasquez-Salgado et al., 2015), has not been considered. This study aimed to test the interconnected nature of FA, psychological distress and body fat percentage (BFP). We hypothesized that (H1) FA will be associated with higher psychological distress, (H2) psychological distress will be linked to higher BFP and (H3) the relationship between FA and BFP will be explained or mediated by psychological distress. Latinx FGCS (N = 285, M*age* = 18.1, SD = .30, 68.1% female) attending their first term at two public Hispanic Serving universities completed an online survey and, thereafter, engaged in an in-person session where body composition was measured using a Tanita scale. Analyses used structural equation modeling (SEM), controlling for cohort, context, parent education and income, biological sex, and diet quality. Results revealed the model had an excellent fit, scaled $\chi^2(16) = 15.98$, $p = .39$; CFI = .99 and RMSEA = .02, 90% CI [.00, .06]. FA was robustly associated with greater psychological distress ($b = .39$, $SE = .05$, $p < .001$), supporting H1. Contrary to H2, although the link between psychological distress and BFP was significant, it was not in the expected direction ($b = -2.04$, $SE = .83$, $p = .014$) as psychological distress was associated with lower BFP. A close examination of total and indirect effects linking FA and BFP revealed a marginal, positive total effect and a negative indirect effect (see Figure 1), implying that while FA is associated with higher BFP, it is indirectly related to lower BFP via higher psychological distress. Thus, although there was significant mediation, it was opposite to our expectations (H3). Together, these findings provide initial evidence that for Latinx FGCS transitioning to university, FA may correspond to divergent health outcomes; under some conditions favoring fat storage, and, under others, favoring use on energy reserves. More work is needed to confirm these patterns using experimental and longitudinal studies.

Figure 1

Structural Equation Model of the Mediation Between Financial Anxiety and Body Fat Percentage Among Latinx First-Generation College Students



Note: Data were collected from two, 4-year universities in Southern California (1 teaching-centered, 1 research-centered; BFP was assessed using a Tanita, following standard procedures. Data are part of a larger, ongoing Multi-Site Transition to College Study.

Abstract: 1432

WEATHERING NEIGHBORHOOD VULNERABILITY: IMPACTS ON ADIPOSITY AMONG MEXICAN AMERICAN ADULTS IN THE CAMERON COUNTY HISPANIC COHORT.

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Previous research has shown that long-term residence in a disadvantaged neighborhood can lead to psychosocial and physiological “weathering”; yet, research is scant on how such structural vulnerability shapes adiposity, even more in groups/areas with obesity disparities. This cross-sectional study investigated whether neighborhood vulnerability associates with adiposity among Mexican American adults living in Brownsville in South Texas—an area faced with high socioeconomic disadvantage and obesity burden.

In the Border Health Research Cohort - Cameron County Hispanic Cohort site from Brownsville, TX, neighborhood vulnerability was measured at the census tract level, using two indices derived from American Community Survey (2014-2022) indicators: the Neighborhood Deprivation Index (NDI) and the Social Vulnerability Index (SVI). Participant adiposity outcomes included Body Mass Index (BMI), waist-to-height ratio (WtHr), abdominal visceral fat-to-subcutaneous fat ratio (VSR) and whole-body fat mass index (FMI, kg/m^2), as assessed by Dual Energy X-ray Absorptiometry (DXA). Multilevel linear models were used to examine the relationship between vulnerability and adiposity, while adjusting for participant age, sex, nativity, and year of DXA scan.

The sample was restricted to adults' first DXA visit (2015-2024), resulting in 715 participants (67% female, 68% foreign born). The range for SVI in the sample was from 0-1, and NDI ranged from -2.28-3.10; a higher score indicating more vulnerability. BMI, WtHr, and FMI were not associated with higher levels of either NDI or SVI. However, a higher NDI was associated with a higher VSR, even after adjusting for individual covariates and clustering by census block group (β= 0.04, p=0.04).

Our results offer insights into the role of neighborhood and its impact on body composition. Previous studies have linked visceral adiposity to worsened health outcomes, and we observe stronger VSR-NDI effects than the less specific adiposity measures with NDI. This study emphasizes the need for further refinement of adiposity measures, as well as neighborhood deprivation measures in high-risk areas.

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Abstract: 1474

A POSITIVE OUTLOOK AND THE AGING MIND: OPTIMISM AND COGNITIVE FUNCTION IN OLDER WOMEN

Hayami Koga; Sade Stenlund , Ph.D. , Harvard T.H. Chan School of Public Health ; Peter James , Ph.D , UC Davis ; Colleen McGrath, MS; Justin Farmer, MS; Laura Kubzansky, Ph.D , Harvard T.H. Chan School of Public Health ; Francince Grodstein, Ph.D. , Rush Alzheimer's Institute

Objectives: Optimism is associated with healthy aging, and cognitive health is a key component of healthy aging. Pathway studies of optimism and health suggest possible links between optimism and cognitive health, but few studies have examined this association. Here, we prospectively examine the association between optimism and global and domain-specific cognitive functioning.

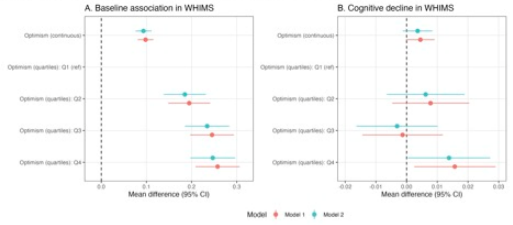
Methods: Participants were 7,194 postmenopausal women from the Women's Health Initiative Memory Study (WHIMS) including 2,195 participants also enrolled in the Women's Health Initiative Study of Cognitive Aging (WHISCA). Baseline optimism was measured using the Life Orientation Test-Revised. Cognitive function was assessed using the Modified Mini-Mental (3MS) in WHIMS and 8 additional cognitive tests in WHISCA. We examined associations between optimism and cognition over up to 10 years of follow-up, using linear mixed-effects models.

Results: Adjusting for demographics and probable depression, each increment in optimism was associated with better baseline cognitive function using 3MS in WHIMS (mean difference=0.093; 95% CI, 0.076, 0.111) and a global composite combining all tests in WHISCA (mean difference=0.063; 95% CI, 0.041, 0.084). Each increment in optimism was not significantly associated with cognitive decline in either cohort; however, when considering the highest quartile of optimism, a significant association with a slower annual rate of decline in global cognitive function was observed in WHIMS, compared to the lowest optimism quartile (mean difference=0.014, 95% CI 0.000, 0.027). Stratified analyses showed similar patterns in strata of non-Hispanic White and Black women.

Discussion: Optimism was significantly associated with higher baseline cognitive function and with cognitive decline. Overall, our results may indicate that optimism could provide a novel target to test for possible interventions to promote healthy cognitive aging.

Figures

Figure 1. Associations between baseline optimism and (A) baseline cognitive function and (B) cognitive decline over time, as measured by the Modified Mini-Mental State Exam (3MS) in the Women's Health Initiative Memory Study (WHIMS) (N=7194).



Note: Each dot represents the estimated mean differences for either 1-standard deviation increase in optimism (continuous) or comparing higher optimism quartiles with the lowest. The horizontal lines indicate the corresponding 95% confidence intervals. For models using quartiles of optimism, optimism was categorized into the following quartiles: 6≤Q1≤21, 21<Q2≤23, 23<Q3≤25, 25<Q4≤30. The lowest quartile (Q1) is the reference group. Mean follow-up time was 7.6 years.
Model 1 adjusts for age, race and ethnicity, and education.
Model 2 additionally adjusts for probable depression.

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Abstract: 1487

DIMENSIONS OF PSYCHOLOGICAL WELL-BEING AND RISK OF DEVELOPING DEMENTIA

Säde Stenlund; Säde Stenlund, PhD, MD; Justin Farmer, MS; Laura D. Kubzansky, PhD, Harvard University

Dimensions of psychological well-being (PWB)—including sense of purpose, dispositional optimism, and life satisfaction—have each been linked to a reduced risk of developing dementia in a number of studies. One prior study examined the associations of five PWB dimensions separately but not simultaneously. These dimensions are correlated, and it is not yet assessed whether they contribute uniquely to dementia risk.

With data from the Health and Retirement Study, a nationally representative sample of older U.S. adults, we examined the separate and joint associations of 4 PWB dimensions, optimism, purpose, life satisfaction, and positive affect, with risk of developing dementia. PWB dimensions were measured using validated scales in 7,148 dementia-free individuals within 2 years prior to each person's analytic baseline. Dementia was assessed by an algorithm (Expert Model) developed to perform well across major racial and ethnic groups, at 8 waves of data collection from 2006–2020. To assess associations with each dimension, we used Cox proportional hazards regression. First, we included each dimension in separate models, with a subsequent model including all dimensions simultaneously. Covariates included age, sex, race, education, depression, chronic conditions, physical activity, and smoking.

PWB dimensions were intercorrelated from r = 0.38 to 0.53. In the fully adjusted independent models, each dimension was significantly associated with reduced risk of incident dementia (HRs range 0.85–0.92), with life satisfaction showing the weakest association. After including all dimensions in the same model, associations were largely maintained but attenuated (HRs range 0.90–0.94); only life satisfaction was no longer statistically significant.

Findings suggest that while various dimensions of psychological well-being are moderately correlated, many, including sense of purpose, dispositional optimism, and positive affect, maintain an independent association with dementia risk. This study underscores the value of examining the associations between psychological well-being dimensions and dementia both separately and simultaneously.

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Abstract: 1477

FEELING OLDER VERSUS BEING OLDER: ASSOCIATIONS WITH AFFECTIVE RESPONSES TO DAILY STRESSORS AND POSITIVE EVENTS

Lydia Ong, University of British Columbia; Patrick Klaiber, PhD, Tilburg University; Anthony Ong, PhD, Cornell University; Nancy Sin, PhD, University of British Columbia

Across adulthood, people who feel older tend to experience less favorable health, well-being, and functioning, independent of their chronological age. One possible explanation is that feeling older is associated with greater affective responses to stressful and positive experiences, which have downstream implications for health. The current pre-registered study examined whether middle-aged and older adults with older subjective age displayed more pronounced affective responses to daily stressors (i.e., higher upticks in negative affect) and positive events (i.e., higher upticks in positive affect). Participants included 486 adults aged 34–81 from the second wave of the Midlife in the United States Study who also provided longitudinal biomarker data, based on the broader research questions of the study (*M*age = 52 years, 55% female, 46% college graduate). Participants reported their chronological age and the age they felt most of the time before completing an 8-day diary protocol in which they reported on their daily events and affect. Subjective age was calculated as the proportional discrepancy between how old one feels and how old one is in years. Slopes for affective responses to stressors and positive events were extracted from two-level multilevel models (days nested within persons). Subsequently, path analyses examined the between-person associations between subjective age and negative affective responses to stressors, or positive affective responses to positive events. Models controlled for age, sex, education, race, self-rated health, and neuroticism. Compared to people with younger subjective age, those with older subjective age tended to show greater negative affective responses to daily stressors (Est. = 0.07, 95% *CI* [0.01–0.13], *p* = .02), whereas there were no chronological age differences in negative affective stress responses (Est. = -0.001, 95% *CI* [-0.002, 0.000], *p* = .15). In contrast, older subjective age was not associated with positive affective responses to daily positive events (Est. = 0.01, 95% *CI* [-0.03, 0.04], *p* = .63), but older chronological age was associated with slightly smaller positive affective responses to positive events (Est. = -0.001, 95% *CI* [-0.002, -0.000], *p* = .006). Results indicate that older subjective age could capture stress-related vulnerability better than chronological age, but this may not extend to positive experience dynamics. Future directions will examine whether negative affective stress responses and positive affective responses to positive events mediate the relationship between subjective age and allostatic load several years later.

54

Abstract: 1522

EDUCATIONAL ATTAINMENT, WORKPLACE PHYSICAL AND PSYCHOSOCIAL CONTEXTS, AND EPIGENETIC AGING: A CROSS-SECTIONAL ANALYSIS USING DATA FROM THE MIDLIFE IN THE UNITED STATES (MIDUS) STUDY

Madeline Lengyel, NA; Madeline Plummer, NA; Agus Surachman, Drexel University

Workplace physical and psychosocial factors are critical modifiable social contexts through which socioeconomically disadvantaged populations may experience greater levels of physical and psychosocial stressors, contributing to disparities in accelerated aging. This study examines links among educational attainment, workplace physical hazards, chronic job discrimination, perceived inequality in work, and epigenetic aging. Data were from 900 participants (*M* age = 52, 54% female, 70% NH white) in the Midlife in the United States Study (MIDUS)

wave 2 and Refresher who completed the survey and biomarker protocol and consented to genetic analysis. Workplace physical hazards were quantified using 10 items related to hazardous (e.g., exposure to hazardous equipment or exposure to high places) and environmental (e.g., very hot or cold temperatures, or extremely bright or inadequate lighting conditions) factors associated with participants' occupations from the Occupational Information Network (O*NET) data. Chronic job discrimination was based on six items related to the frequency of experiencing unfair treatment in the workplace (e.g., "How often do you think you are unfairly given the jobs that no one else wanted to do?") on a 5-level Likert scale (never to once a week or more). The perceived inequality in work was measured using six items (e.g., "I feel cheated about the chances I have had to work at good jobs.") on a 4-level Likert scale (from not at all to a lot). Finally, we included three epigenetic aging measures known to be predictive of morbidity and mortality (PhenoAge, GrimAge2, and DunedinPACE pace of aging). Mediation analysis was conducted in R using the PROCESS package with 10,000 bootstrapped samples, adjusted for age, sex, BMI, and smoking status. Relative to those with bachelor's degrees or higher, participants with lower levels of education work in jobs with higher physical hazards, reported higher chronic job discrimination, and perceived inequality in work, as well as showed faster GrimAge2 age acceleration and DunedinPACE pace of aging. Adjusted for age and sex, higher workplace physical hazard and chronic job discrimination were associated with faster GrimAge2 and DunedinPACE, but the associations became non-significant after adding BMI and smoking in the models. Higher perceived inequality in work was associated with faster GrimAge2 and DunedinPACE, even after adjusting for BMI and smoking. The association between lower education and faster GrimAge2 and DunedinPACE was significantly mediated by higher perceived inequality in work. These findings highlight workplace inequality as a critical pathway through which socioeconomic disadvantage contributes to accelerated aging.

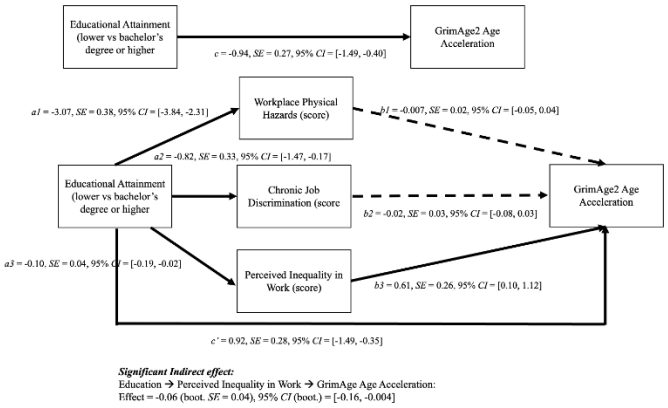

Figure 1. Summary of the mediation analysis among education, workplace physical hazards, chronic job discrimination, perceived inequality in work, and GrimAge2 age acceleration.

Abstract: 1535

ASSESSING GUT MICROBIOME DIVERSITY AND COMPOSITION IN DEPRESSION AND ASTHMA

Ellise Markevitch; Ellise Markevitch; Estelle Higgins, MS; Margaret Thairu, PhD; Jo Handelsman, PhD; Richard J. Davidson, PhD; Simon Goldberg, PhD; Melissa A. Rosenkranz, PhD

Background: Depression is one of the leading causes of disability worldwide, and asthma is one of the most prevalent chronic inflammatory diseases. Both asthma and depression can impair daily life even when treated. Despite their prevalence and co-occurrence, the mechanisms of these diseases are still not completely understood, especially regarding how they interact with various systems throughout the body. One of the systems under investigation for its role in asthma and depression is the gut microbiome, home to more microorganisms than there are cells that make up the human body.

Methods: We explored differences in alpha diversity and taxonomic composition between depressed individuals with and without asthma and asthmatic individuals with and without depression, using data from a large-scale mobile wellbeing app clinical trial in individuals with elevated depressive symptoms (enrolled n = 1,157). We also examined the relationship between depression symptom severity and microbial diversity, and whether asthma moderates this relationship. We used non-parametric Wilcoxon tests to calculate differences in alpha diversity metrics, including Shannon diversity, observed richness, Berger-Parker dominance, and Pielou evenness. We used sparse partial least squares discriminant analysis (sPLS-DA) to identify which microbial taxa could be driving differences between groups. Differences were explored at the level of amplicon sequence variants (ASVs) and genera.

Results: We found differences in alpha diversity metrics between depressed individuals with and without asthma. Specifically, depressed individuals with asthma had greater Berger-Parker dominance (p = 0.023), and those without asthma had greater Pielou evenness (p = 0.048) and Shannon diversity (p = 0.039). Using sPLS-DA, we found reliable ASVs and genera that discriminated between depressed individuals with and without asthma, and between asthmatic individuals with and without depression.

Conclusion: The differences in alpha diversity metrics between depressed individuals with and without asthma may indicate that those with asthma exhibit less balanced and less diverse microbiomes than those without asthma. This suggests that asthma may be associated with reduced microbial diversity within this population. However, it is not just how microbial taxa are distributed, but which taxonomic groups contribute to these patterns that is crucial to characterizing the gut microbiome. The results of sPLS-DA suggest that there are biologically meaningful microbial features that distinguish the co-occurrence of asthma and depression. This could reveal potential mechanistic pathways that could inform targeted clinical assessment and treatment in the long term.

Abstract: 1532

AUTONOMIC CORRELATES OF SUBCLINICAL CVD IN MIDLIFE ADULTS

Kristen Stopfer, BA,BS, Texas Tech University; James Cirillo, BS; Mia DeCataldo, BS, University of Pittsburgh; Caitlin DuPont, PhD; Ryan L. Brown, PhD, Texas Tech University; Pete Gianaros, PhD; Mark Scudder, PhD, University of Pittsburgh

High-frequency heart rate variability (HF-HRV) and pre-ejection period (PEP) index parasympathetic (PNS) and sympathetic (SNS) nervous system influences on the heart, respectively. Composite measures of HF-HRV and PEP have been proposed but not widely studied in relation to cardiovascular disease (CVD) risk factors; namely, cardiac autonomic balance (CAB) and cardiac autonomic regulation (CAR), which are thought to reflect autonomic reciprocity and coactivity, respectively. Specific subclinical CVD markers that have not yet been studied in relation to CAB and CAR are arterial stiffness (dual-impedance derived pulse wave velocity; PWV) and endothelial function (forearm blood flow induced by reactive hyperemia; FBF). Accordingly, this pre-registered study a) tested whether autonomic function is cross-sectionally associated with and longitudinally predictive of PWV and FBF among healthy midlife adults and b) compared the predictive utility of HF-HRV, PEP, CAB, and CAR in relation to subclinical CVD. Among 365 adults (aged 28-56, 62.2% female), HF-HRV, PEP, PWV, and FBF were collected at visits separated by ~2 years. Models controlled for age, sex, resting systolic blood pressure, adiposity, smoking status, and education. Cross-sectionally, only PEP had a significant positive main effect on PWV ($\beta = 0.94$, $p < .001$) such that longer PEP was associated with faster PWV, however an interaction term between PEP and HF-HRV moderated the latter effect ($\beta = -0.55$, $p = .011$). Additionally, greater parasympathetic dominance (assessed by CAB) was cross-sectionally associated with faster PWV ($\beta = 0.28$, $p < .001$). Lastly, greater autonomic coactivation (assessed by CAR) was cross-sectionally associated with slower PWV ($\beta = -0.51$, $p < .001$). In longitudinal models, neither CAB nor CAR predicted change in PWV over~2 years, though HRV, PEP, and the interaction term were all significant ($\beta = 0.41$, $p = .010$; $\beta = 0.43$, $p = .011$; $\beta = -.53$, $p = .009$, respectively); this indicates that greater HF-HRV and longer PEP predicted an increase in PWV across ~2 years, contrary to pre-registered predictions. Measures of autonomic activity were unrelated to endothelial function (FBF) cross-sectionally and longitudinally. Findings suggest that greater PNS and lower SNS activity are associated with greater arterial stiffness cross-sectionally and longitudinally, contrary to hypotheses. Further, while CAB and CAR behaved similarly to HF-HRV and PEP in cross-sectional models, they were not predictive of arterial stiffness longitudinally, highlighting a possible limitation of these composite measures. These findings shed light on our understanding of multiple measures of autonomic function in relation to CVD risk.

Abstract: 1542

SHORT-TERM INTERVENTION EFFECTS ON CANCER-SPECIFIC DISTRESS, INFLAMMATION, AND COGNITIVE FUNCTIONING IN MIDDLE-AGED AND OLDER WOMEN WITH BREAST CANCER

Rachel Plotke, MS; Paula Popok, MS; Jenna Hansen, BS; Millan Kanaya, BS; Sarah Webster, BA; Mason Kruger, MS; Lara Traeger, PhD; Dolores Perdomo, PhD; Michael Antoni, PhD, University of Miami

Background: Cancer-related cognitive impairment (CRCI) affects up to 75% of women with breast cancer (BC). Psychological distress and inflammation have been linked with CRCI, but the mechanisms involved are still not well understood. The current study examined the effects of a 10-week remotely-delivered Cognitive-Behavioral Stress Management (R-CBSM) intervention (versus wait-list control; WLC) on distress, inflammation, and subjective cognitive functioning in women with BC.

Methods: Middle-aged and older women ($\geq$50 years, N=101) recently diagnosed with Stage 0-III BC enrolled in a randomized controlled trial post-surgery. Participants were assigned to R-CBSM (N=51) or WLC (N=50) and completed measures of BC-specific distress (Impact of Event Scale-Intrusion subscale) and subjective cognitive functioning (Functional Assessment of Cancer Therapy-Cognitive Functioning, Perceived Cognitive Impairment subscale) at baseline (T0) and 6-month follow-up (T1; post-intervention for R-CBSM condition). Inflammatory markers (IL1b, IL6, TNFa) were also collected via blood samples at the same timepoints. Hierarchical linear regression models tested condition effects on distress, inflammation, and cognitive functioning from T0 – T1, and whether changes in distress or inflammation impacted the relationship between condition on cognitive functioning. Covariates included age, education, days since surgery, and receipt of treatment.

Results: Across conditions, subjective cognitive functioning significantly worsened (b=-2.87, SE=1.13, p=.013) and distress significantly improved (b=-1.57, SE=.59, p=.009) over time. No significant between-condition differences emerged for cognitive functioning, distress, or inflammation (ps>.05). Sub-group moderation analyses revealed differential intervention effects of cognitive functioning by distress level, such that women in the R-CBSM condition who maintained moderate-to-high levels of distress post-intervention had a significant decline in cognitive functioning over time (b=-10.79, SE=4.95, p=.033), whereas women with low levels of distress showed no significant change in cognitive functioning, though it trended upward (b=3.27, p>.05).

Conclusions: Women who maintained elevated BC-specific distress during cancer treatment reported poorer perceived cognitive functioning, irrespective of baseline levels, intercurrent cancer treatments, and exposure to R-CBSM. Maintaining sub-threshold levels of BC-specific distress may help preserve perceived cognitive functioning. Adapting R-CBSM to incorporate

components related to CRCI may better address the complex needs of this population, particularly for highly distressed individuals.

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Abstract: 1544

ASSOCIATIONS BETWEEN TYPE OF RUMINATION AND BLOOD PRESSURE RECOVERY IN RESPONSE TO ACUTE STRESS

Ruth Uribe-Kirby; Yvette Szabo, Ph.D., California State University, Los Angeles

Abstract Body

Research demonstrates that cognitive rumination is associated with slower blood pressure (BP) recovery after inducing stress and is typically examined as one trait-level construct. It is unclear if the type of rumination (e.g., brooding or reflecting) or the type of stressor (i.e., psychosocial or traumatic film) plays a role in blood pressure recovery. Related to this gap, the current study explores types of rumination (i.e., trait brooding and reflection, state rumination) and their association with blood pressure recovery following an acute stressor. A secondary aim will be to examine if there are differences between stressors: a modified version of the Trier Social Stress Test (TSST; psychosocial stress) and Trauma Film Paradigm (TFP; a film depicting physical and sexual violence). One hundred and fifty healthy participants, aged 18-40, from a minority serving institution, completed a modified version of the TSST or watched a short clip depicting sexual violence (TFP). Heart rate was measured at baseline, during the stressor and across a post-stressor period. Rumination was assessed using the Ruminative Responses Scale (RRS). Data analyzed is part of a larger, ongoing study.

Data cleaning and coding are in progress; However, it is expected that brooding will be associated with slower blood pressure recovery compared to reflection. It is also expected that individuals in the TFP condition will have slower BP recovery than in the TSST.

The study contributes to the theoretical understanding of emotion regulation and stress recovery by comparing two types of rumination in cardiovascular recovery from acute stress. Though more research is needed, the goal of this work is to improve our understanding of stress and its consequences, as well as inform evidence-based interventions following stress.

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Abstract: 1540

THE PROTECTIVE ROLE OF RESILIENCE IN ACADEMIC AND HEALTH DISTRESS AMONG LATINX COLLEGE STUDENTS

Gabriela Miranda; Gabriela Miranda, B.S. in progress; Grace Camacho, B.S. in progress; Daisy Enriquez, B.A. in progress; Evelyn Arrieta, B.A.; Yolanda Vasquez-Salgado, Ph.D., California State University, Northridge

Previous literature has documented students who are more engaged in their high school academics show superior health in adolescence (Conner and Pope, 2014) and into adulthood (Caroll et al., 2017). A separate line of work has demonstrated that high school grades are a significant predictor of postsecondary grades and retention (Hoffman & Lowitzik, 2005). However, the association between high school GPA, academic problems, and physical health in the context of one model has not yet been investigated. Thus, this study addresses this gap while also investigating the moderating role of resilience in a sample of Latinx first-generation college students (FGCS), a group theorized to hold several strengths (Yosso, 2005). We hypothesized that (H1) greater high school GPA would be associated with lower levels of physical health distress, (H2) lower academic problems around attention, learning and attendance would significantly mediate this association, and (H3) resilience would moderate the indirect effect between GPA and physical health distress through lower academic problems, demonstrating moderated mediation. We expect the indirect effect to be non-significant at high resilience as students in this group are anticipated to have superior academics and health, regardless of high school GPA.

Our sample consisted of 388 Latinx FGCS (Mage= 18; SD = 0.30) who completed an online survey towards the end of their first term at two public Hispanic-Serving four-year universities. Hayes PROCESS Models 4 and 7 were used to test our hypotheses while controlling for key variables (e.g., context, sex, parental education). All hypotheses were confirmed. H1: high school GPA was associated with lower levels of physical health distress (b = -.12, SE = 0.05, p = .021). H2: low school problems significantly mediated the relationship between greater high school GPA and lower physical health distress (b = -.12, 95% CI [-.18, -.07]). Furthermore, because the direct link between GPA and physical health distress was no longer significant once academic problems was incorporated into the mediation model (p = .948), this illustrates full mediation. Finally, although the indirect effect of high school GPA on physical health distress through school problems was moderated by resilience (b = -.05, 95% CI [-.10 -.00]), demonstrating moderated mediation (H3), it was not in the expected direction. The indirect effect was significant among Latinx FGCS with high (b = -.16, 95% CI [-.26 -.09]) and average (b = -.11, 95% CI [-.17, -.06]) levels of resilience, but not those with low (b = -.06, 95% CI [-.13, .00]) levels of resilience. Implications for programs and interventions in higher education will be discussed.

60

Abstract: 1555

PERCEIVED STRESS AS A KEY LINK BETWEEN EXTERNAL DYSFUNCTION AND DEPRESSION AMONG LATINX FIRST-GENERATION COLLEGE STUDENTS

Ray Arista; Ray Arista, Psychology B.A in progress; Zoe Ramirez, Psychology B.A in progress; George Pilar, Psychology B.A in progress; Gabrielle Halim, Psychology M.A.; Yolanda Vasquez-Salgado, Ph.D., California State University, Northridge

Empirical studies have documented a link between emotion regulation difficulties and depressive symptoms (Liu et al., 2025; Colonnello et al., 2024). However, these findings have not considered the role of stress or physical health in these associations. This is important as previous research has found that stress and physical symptoms are common among Latinx FGCS (Burgos-Cienfuegos et al., 2015; Vasquez-Salgado et al., 2015). This study aims to resolve this gap by investigating the mediating role of perceived stress in the relationship between external dysfunction (ED) and depression among Latinx FGCS transitioning to university. This study also investigates the moderating role of physical health distress (PHS). We hypothesized: (H1) Higher levels of ED will be associated with higher levels of depression. (H2) Perceived stress will fully mediate the relationship between ED and depression. Finally, (H3) the indirect effect will be moderated by PHS it will be stronger for those who report poorer PHS. Latinx FGCS (N = 395) completed an online survey during their first term at two Hispanic Serving universities. Results supported H1: higher levels of ED were associated with higher levels of depressive symptoms, b = .10, SE = .05, p = .039. H2 was also supported: the indirect effect of ED on depression symptoms via perceived stress was significant, b = .12, 95% CI [.07, .19], and since the direct effect of ED on depression symptoms was no longer significant, b = -.02, SE = .04 p = .626, once stress was incorporated, this suggested full mediation. H3 was not supported: the indirect effect of ED on depressive symptoms via stress was moderated by PHS, B = -.06, 95% CI [-.11, -.01]. However, it was not in the expected direction; the indirect effect was significant among Latinx FGCS with low and average levels of PHS, but not with high levels of PHS.

Our findings suggest that ED and stress play an important role in Latinx FGCS depression symptoms during the transition to university, with stress serving as the link. In addition, the associations linking emotion regulation, stress and depression may be more salient among students with low and average level PHS, probably because students with high PHS may be impacted by other experiences outside of emotion regulation. Implications, limitations and future directions will be discussed.

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Abstract: 1527

A LONGITUDINAL ANALYSIS OF RACE DIFFERENCES IN THE ASSOCIATION OF OBESITY AND HEMOGLOBIN A1C AMONG ADULTS WHO QUIT SMOKING

Jason Gaston; Jason Gaston; Andres Mauricio Garcia Sierra, PhD, MD, MPH, MPP; Marcia M. Tan, PhD, MPH, Department of Public Health Sciences, University of Chicago

Abstract Body

Objectives:

Smoking raises the risk of having type 2 diabetes [i.e., hemoglobin A1c (HbA1c) ≥ 6.5%] by approximately 30-40%, and a decrease in HbA1c levels after quitting smoking has been observed (1-2). However, racial disparities exist in prevalence of type 2 diabetes, as well as being overweight/obese and gaining weight, with non-Hispanic Blacks (NHB) having disproportionately high rates (3-5). A positive correlation has been found between body mass index (BMI) and HbA1c among individuals without diabetes (6). However, few studies have examined disparities in obesity and HbA1c after quitting smoking. This research will longitudinally assess HbA1c levels of non-Hispanic White (NHW) and NHB adults who quit smoking, and whether obesity measurements are associated with HbA1c change.

Methods:

This longitudinal study utilized HbA1c biomarker data across 2006-2014 from the Health and Retirement Study, a national panel study of older adults (7). The sample (N=5,162) included NHW and NHB individuals who had quit smoking for at least one year, did not have diabetes (HbA1c < 6.5%) at baseline (2006), and had at least one HbA1c measurement along with at least one obesity measurement (BMI, waist circumference, weight) across 2006-2014. Longitudinal, multilevel, mixed model analyses will be used to evaluate whether obesity variables are associated with HbA1c change among the entire sample; stratified NHW and NHB groups may then be examined for an association between obesity variables and HbA1c change, controlling for sociodemographic characteristics and smoking history.

Results:

The sample has a mean A1c of 5.70% (SD=0.65), mean weight of 181.69 lbs (SD=40.90), and a mean waist circumference of 40.40 inches (SD=6.10). Mean time since quitting smoking from baseline (2006) is 24.68 years (SD=14.77). Preliminary cross-sectional analyses demonstrated that mean HbA1c levels for NHWs and NHBs increased over time, with NHBs having larger increases (2006=5.53% for NHWs & 5.71% for NHBs; 2010=5.68% for NHWs & 5.93% for NHBs; 2014=5.81% for NHWs & 6.16% for NHBs). We hypothesize that race/ethnicity, obesity, and time since quitting smoking will have a statistically significant relationship with longitudinal HbA1c change among the entire sample and stratified groups.

Significance/Implications:

In a sample of older adults who quit smoking, we seek to identify longitudinal race differences in the association of obesity and HbA1c. Cross-sectional analyses suggest that racial disparities in type 2 diabetes may relate more to socioeconomic factors than physical factors, such as adiposity. Ultimately, the implications of this research are important to understand disparities in the long-term health outcomes particularly experienced by adults who formerly smoked.

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Abstract: 1549

CARDIAC AUTONOMIC CORRELATES OF HIGH-FIELD (7T) MRI MARKERS OF CEREBROVASCULAR HEALTH AND BRAIN AGING

Jeffrey Sun, BS, University of Pittsburgh; Kristen Stopfer, BS, Texas Tech University; Mia DeCataldo, BS; Tae Kim, PhD; Peter Gianaros, PhD; Mark Scudder, University of Pittsburgh

Abstract Body

Cardiac autonomic regulation has been implicated in healthy aging, as well as the pathophysiology of and risk for cardiovascular disease. Recent conceptual models and empirical evidence suggests a link between cardiac autonomic dysregulation (e.g., decreased high-frequency heart rate variability [HF-HRV], increased blood pressure variability [BPV], and suppressed baroreflex sensitivity [BRS]) and risk for vascular and other dementias, as well as premature cognitive decline. However, the latter empirical evidence has been largely limited to late-life populations and those with clinical and neurological conditions, limiting their generalizability across other periods of the lifespan. Also unclear are the specific brain-based correlates of cardiac autonomic regulation that may inform our understanding of the neurobiological pathways linking peripheral autonomic indicators to emergent dementia risk. Accordingly, the current study in progress will examine associations between multiple measures of autonomic function (i.e., HRV, BPV, and BRS) and high-field (7 Tesla) indicators of hippocampal subfield volumes and white matter hyperintensities (WMH) of presumed ischemic cerebrovascular origin in an otherwise healthy, middle-aged population. Participants (N=189) from the Neurobiology of Adult Health (NOAH) study were aged 28–56 (60% women) at enrollment, and they completed MRI and autonomic measures during separate study visits. For the computation of periventricular WMHs (PWMHs) and deep WMHs (DWMH), 2D T_2-weighted fluid attenuation inversion recovery (FLAIR) images were submitted to a deep fully-convolutional network (TensorFlow v1.8). For the computation of hippocampal subfield volumes, 3D T_1-weighted images (magnetization-prepared rapid gradient-echo, MPRAGEs) were processed in Freesurfer, with volumes summed bilaterally for the subiculum, CA1, dentate gyrus, CA3, CA4, and fimbria. Autonomic measures were collected using impedance and electrocardiography, with beat-to-beat (continuous) BP monitored non-invasively from the fingers. All signals were collected using a Mindware BioNex chassis 4-channel transducer module, and were expertly reviewed to exclude artifacts and unusable data segments. Multiple regression models with correction for multiple testing will use the MRI outcomes as dependent measures, and HF-HRV, BRS, and BPV as multiple predictors in the same models. Analyses are ongoing and results will be reported per the analytical plan above. Importantly, our healthy, midlife sample will allow us to examine associations of markers of brain health and autonomic function during a period of midlife prior to the emergence of accelerated risk for pathological outcomes.

Abstract: 1556

GEOGRAPHIC PREDICTORS OF BIOLOGICAL CIRCADIAN PHASE AND MISALIGNMENT IN MEDICAL INTERNS

Katherine Ross; Karina Pereira-Lima, PhD; Kerby Shedden, PhD; Srijan Sen, MD, PhD, University of Michigan

Abstract Body

Circadian rhythms are primarily entrained by light, and the duration and timing of daylight vary systematically with geographic position. Latitude determines seasonal variation in day length (photoperiod), and longitudinal position within time zone (PTZ) determines the timing of sunrise and sunset relative to local clock time. These geographic factors may influence both the timing of internal circadian rhythms and the alignment between internal phase and behavioral sleep schedules. Understanding how circadian regulation varies by geographic context is especially important in populations with constrained work schedules, where opportunities to self-select sleep timing are limited.

This study examines whether geographic factors predict variation in (1) biological circadian phase and (2) biological circadian misalignment among more than 8,000 U.S. medical interns. Data come from the Intern Health Study (2018–2022) and include nightly Fitbit-derived sleep timing and residency ZIP codes. Circadian phase is derived using wearable sleep, heart rate, and activity data to estimate the nightly central circadian oscillator (CRCO). Misalignment is defined as the absolute difference between daily sleep midpoint and CRCO. Geographic predictors include latitude and PTZ (longitudinal distance from the time zone meridian). Season is included to test whether geographic effects vary as photoperiod changes throughout the year.

This study will provide evidence on whether environmental light cues driven by geographic location systematically shape circadian timing and misalignment that may inform clinical recommendations related to sleep timing.

Data processing is complete, and final results will be presented at the 2026 SBSM meeting.

Poster Session 2

Thursday, March 12

1

Abstract: 1188

STICKS AND STONES: THE ASSOCIATION BETWEEN DISCRIMINATION AND ADOLESCENT HEALTH OUTCOMES

Sydney Yi , University of Denver ; Katherine A. Czech, M.A.,; Megan Waxman, M.A.,, University of Denver; Erika Manczak, Ph.D., University of Denver

Many people in the United States hold a stigmatized identity, whether it be related to their race, ethnicity, religion, socioeconomic status, sexuality, gender identity, body size, neurodiversity, physical ability, or a multitude of other factors. Due to these identities, people can be subjected to discriminatory experiences in their daily lives, which can negatively impact their physical health. Adolescence may be a particularly vulnerable time, with some studies linking adult health more strongly to teen and child discrimination exposure than current exposure. Therefore, the current study sought to examine the association between frequency of discrimination exposure and physical health outcomes in adolescents. Participants, ages 13-17 (M = 14.32 years old, SD = 1.45) were recruited from Colorado as part of a larger longitudinal study. The first aim examined the relationship between discrimination and overall teen health, represented by a self-report measure of days felt unwell over the last four weeks (n = 49). The second aim examined the relationship between discrimination and resting heart rate, in which three measurements of resting heart rate were collected consecutively and averaged (n = 37). Frequency of discrimination exposure over the last year was measured in both aims using the Everyday Discrimination Scale, where participants could also indicate which identities they felt were being targeted. Both aims utilized linear regression models and included sex, age, socioeconomic status, and body mass index as covariates. We hypothesized that a higher frequency of discrimination exposure over the last year would be associated with a higher frequency of days felt unwell over the last month and a higher resting heart rate. Discrimination exposure was significantly associated with overall teen health (b = .54, p = .016) and resting heart rate (b = 1.04, p = .014), supporting hypotheses. While the overall frequency of discrimination exposure within the sample ranged from low to moderate, many individual characteristics were named as targets for discrimination, including (but not limited to) race, skin tone, gender, religion, height, body weight, interests, and physical disabilities. These results provide preliminary evidence for the potential harm that discriminatory experiences against a wide variety of identities–even at a lower frequency–may have on teen health outcomes.

2

Abstract: 1194

HRV MEASUREMENT IN RESPONSE TO STRESS USING ELITE HRV AND KUBIOS HRV PLATFORMS

Thomas Boyer, West Virginia University; Matthew Grendell, B.S.; Kevin Larkin, Ph.D., West Virginia University; Emily Casey, A.A.; Matthew Dunn, A.A.; Benjamin Tower, A.A.

As researchers become increasingly interested in the collection and use of Heart Rate Variability (HRV) data, available devices for both collecting and analyzing HRV have proliferated. The purpose of this study was to evaluate if significant differences exist in the time-domain and frequency-domain measures of HRV from two popular heart rate variability programs: Elite HRV and Kubios HRV software. Data were collected from 20 human participants using a Polar H10 heart rate monitor during a rest and reaction time task period. HRV data from interbeat intervals were obtained from the Elite HRV app as well as the Kubios HRV software to examine whether comparability of the two software programs. Correlation analyses found that measures of average heart rate, mean RR, RMSSD, SDNN, and Low Frequency, and High Frequency HRV, were significantly associated between the two programs across all three experimental periods (r's = .864 – 1.000; p's = <.001). However, paired samples t-tests revealed significant differences in measures of SDNN between Elite HRV (M = 53.01 ms, SD = 15.82) and Kubios HRV (M = 41.15 ms, SD = 11.68) at rest, t(19) = 8.41, p <.001; and between Elite HRV (M = 51.11 ms, SD = 12.13) and Kubios HRV (M = 37.83 ms, SD = 11.18) during the task, t(19) = 12.00, p <.001. Significant differences in measures of RMSSD were also detected between Elite HRV (M = 32.65 ms, SD = 12.70) and Kubios HRV (M = 32.21 ms, SD = 12.59) at rest, t(19) = 2.93, p = .009, and between Elite HRV (M = 33.98 ms, SD = 14.38) and Kubios HRV (M = 33.74 ms, SD = 14.35) during task periods, t(19) = 8.45, p <.001. Finally, change scores evaluating HRV reactivity were significantly correlated among all the measures between the two programs, and paired samples t-test analyses did not reveal any significant differences between the two platforms. These results suggest that while the Elite HRV platform consistently produced higher SDNN and RMSSD values compared to Kubios HRV, the platforms reported comparable change scores for all HRV parameters, suggesting that they are reliable instruments for use in mental stress protocols.

3

Abstract: 1375

EXAMINING SELF-REPORTED COGNITIVE ABILITIES AND NEUROPSYCHOLOGICAL TEST SCORES IN ADULTS WITH AND WITHOUT ASTHMA

Windsor Hall, B.S.; Mikaela Lopez, M.S.; Margot L. Salsman, M.A., Southern Methodist University; David Khan, M.D., UT Soutwestern Medical Center; E. Sherwood Brown, Ph.D., UT Southwestern Medical Center; Denise Park, Ph.D., UT Dallas; Thomas Ritz, Ph.D., Southern Methodist University

Background. Perceived Cognitive Decline (PCD) describes the self-reported experience of worsening cognition, including in domains such as memory, attention, and processing speed. This term is used when the self-reported concerns are present, in the absence of a measurable decline in cognition (behaviorally tested cognitive decline or impairment) on neuropsychological assessments. PCD is considered a risk factor for the development of cognitive impairment or dementia and is sometimes seen as an early or pre-clinical sign of Alzheimer's disease. Cognitive complaints and declines are increased in psychopathological conditions, such as, depression and anxiety. Asthma, a chronic inflammatory respiratory disease, has been linked to increased cognitive deficits compared to healthy controls, particularly when the disease is more severe. Psychological disorders such as anxiety and depression are also

more common in asthma compared to those without asthma. Despite numerous studies on cognitive performance in asthma, there has been no study that investigates the relationship between PCD and cognitive function test performance in asthma compared to controls, to our knowledge. Thus, we aimed to investigate associations between perceived cognitive abilities and asthma status, and whether these would align with performance on neuropsychological test measures. Methods. Community adults aged 40-69 with and without asthma were recruited to complete a cross-sectional study (N=132). Participants completed questionnaires of PCD (PROMIS Cognitive Function – Abilities Short form 8a) and symptoms of anxiety and depression (Hospital Anxiety and Depression Scale – HADS), followed by a cognitive battery to assess executive control, processing speed, and episodic memory. Multiple linear regression models tested associations of asthma with PCD and neuropsychological test scores of three domains. The models included covariates of age, sex, education, anxiety, and depression. Results. The asthma group reported significantly worse cognitive abilities than the control group when controlling for anxiety and depression. In contrast, no group differences were found in domains of processing speed and executive control, while those with asthma were performing slightly better than controls in the domain of episodic memory. Conclusions. These findings indicate that middle-to older age adults with asthma underestimate their actual cognitive abilities compared to their peers without asthma.

4

Abstract: 1057

FASTING INTERVAL DURATION AND TIMING AMONG U.S. ADOLESCENTS AND ASSOCIATIONS WITH MULTI-METHOD SLEEP PARAMETERS

Shruti Kinkel-Ram; Rachel Kolko Conlon, PhD; Zijing Zhang, B.S.; Andrea Goldschmidt, PhD; Danielle Chapa, PhD; Brant Hasler, PhD, University of Pittsburgh

Introduction: Circadian rhythms are endogenous 24-hour cycles in physiology and behavior that regulate sleep, eating, and metabolic processes. The duration and timing of one's fasting interval (the interval between the last caloric intake of one day and the first caloric intake of the next) are shaped in part by circadian phase and sleep timing. Misalignment between circadian phase and eating behaviors is linked to poor weight-related outcomes and cardiometabolic risk in adults, but little is known about these associations in adolescence. This is a critical gap given that adolescence involves substantial shifts in sleep and eating patterns, making it a key period to examine circadian–eating alignment. The current project thus aimed to characterize fasting interval duration and timing in adolescents and evaluate associations with sleep and circadian markers.

Methods: Adolescents (N=107) participating in a sleep behavior study completed one 24-hour dietary recall to derive fasting interval duration and timing (i.e., midpoint of the fasting interval). Participants provided two sleep and circadian measures: (1) saliva samples during an overnight lab visit to assess biological circadian phase based on dim light melatonon onset (DLMO); and (2) actigraphy-derived past-week nightly sleep interval duration and timing. Descriptive and linear regression analyses were used to characterize fasting interval duration and midpoint, and evaluate associations between DLMO and sleep duration and midpoint.

Results: On average, fasting intervals lasted 13.07±3.34 hours, with a midpoint of 2:35 am±123.6 minutes. Actigraphy-derived sleep timing and duration were not significantly associated with fasting interval duration or midpoint (p's>0.17). In contrast, later DLMO was associated with shorter fasting intervals (β=-0.54, p=0.03), but not fasting midpoint (β=0.13, p=0.39). Exploratory analyses suggested this association was stronger among females (β=-0.68, p=0.02) than males.

Discussion: Findings suggest that adolescent fasting interval duration is more closely aligned with biological circadian phase (DLMO) than with actigraphy-derived sleep patterns. These results underscore the importance of objective circadian markers in understanding health behaviors such as fasting during adolescence. The identified sex differences suggest that both biological and sociocultural factors are associated with circadian–fasting alignment in adolescents. Adolescence may therefore represent a critical window for studying how circadian biology interacts with health behaviors, with implications for the early development of weight-related and cardiometabolic risk. Larger longitudinal studies are needed to test causal pathways between circadian phase, fasting interval, and health outcomes.

5

Abstract: 1123

ATTITUDES, BEHAVIORS, AND ENVIRONMENTAL FACTORS ASSOCIATED WITH DELAYED SLEEP TIMING

Steven Carlson; Paula Williams, PhD, University of Utah

Introduction. Delays in sleep timing can undermine sleep health, as well as mental and physical well-being. Although the contribution of circadian biology to sleep timing is well studied, about half of individuals with extreme sleep delays do not have delays in circadian rhythms. Emerging research suggests that cognitive and behavioral processes play a role in developing and maintaining sleep delays. The purpose of the present study was to evaluate whether sleep-related attitudes, behaviors, and environment were associated with delays in sleep timing.

Method. A sample of 359 undergraduates (M_{age} = 23.8, *SD* = 6.48) completed the Sleep Practices and Attitudes Questionnaire (SPAQ), a self-report measure with subscales assessing sleep-related attitudes, behaviors, and environment. Sleep delays were assessed via daily reported bedtime, but also as preferences for sleep timing (i.e., chronotype) and sleep delaying behavior (i.e., bedtime procrastination). Chronotype was measured with the Morningness Eveningness Questionnaire (MEQ). Daily bedtime

and bedtime procrastination (Bedtime Procrastination Scale) were measured daily over the course of 14 days. Multiple regression analysis was used to regress chronotype onto SPAQ scales, whereas linear mixed models were used to regress daily bedtime and bedtime procrastination onto SPAQ scales. All analyses adjusted for age, sex, and race.

Results. Low perceived importance of sleep was associated with evening chronotype, later bedtime, and bedtime procrastination ($|\beta|$ = 0.18 to 0.19, $p < 0.004$). External factors impacting sleep were associated with evening chronotype (β = -0.11, p = 0.034) and bedtime procrastination (β = 0.27, $p < 0.001$). Additionally, participating in activities while in bed was associated with evening chronotype (β = -0.14, p = 0.010) and bedtime procrastination (β = 0.24, $p < 0.001$). Finally, endorsing maladaptive coping to acute insomnia (β = 0.17, p = 0.004) was associated with bedtime procrastination.

Conclusion. Maladaptive sleep-related attitudes and behaviors were associated with sleep delays. External factors, including social and health factors, also appeared relevant for delayed sleep timing. Although further research is needed, the results of this study emphasize the importance of considering psychosocial factors in sleep timing.

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Abstract: 1312

LIFESPAN STRESS EXPOSURE AND YOGA INTERVENTION EFFICACY IN A PREGNANT SAMPLE

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Pregnancy is a critical period of profound change carrying important psychological and physical health risk for both mothers and offspring. Within pregnant populations and beyond, stress exposure can meaningfully exacerbate such risk in both the immediate and longer term. Thus, comprehensive understanding of effective stress reduction interventions for this vulnerable population is essential. Toward this aim, the present study sought to investigate the moderating effects of early and recent life stress exposure on a brief, single-session yoga intervention in a sample of perinatal individuals. Within a fully virtual, randomized, crossover test design, a sample of 71 women recruited from the greater Montreal area completed two visits: one audiobook-listening control session, and one videorecorded yoga session. ANCOVA analyses suggested that yoga precipitated improvement in present-moment curiosity ($F(1, 204) = 7.17$, $p = .008$, $\eta_p^2 = .03$), decentering ($F(1, 204) = 7.49$, $p = .006$, $\eta_p^2 = .04$), and positive affect ($F(1, 204) = 7.38$, $p = .007$, $\eta_p^2 = .03$). Notably, these benefits, particularly positive affect, were significantly moderated by early and recent life stress exposure at both between- and within-subjects levels. Physiological effects of the yoga intervention in a subsample of participants with usable cardiovascular data (n = 32) did not reach significance. The findings point to yoga as a potentially meaningful intervention for perinatal populations, whose efficacy may be influenced by individuals' life history and experiences. Such results reinforce the importance of incorporating stress exposure into the study of stress reduction research toward optimal intervention development and dissemination, and open exciting pathways for broader future research.

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Abstract: 1305

CHRONIC STRESS, DEPRESSION AND UNDIAGNOSED DIABETES AND CONTROL IN THE HISPANIC COMMUNITY HEALTH STUDY/STUDY OF LATINOS (HCHS/SOL)

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Research to date has focused on sociodemographic differences distinguishing individuals diagnosed with type 2 diabetes (T2DM) from those who remain undiagnosed. Psychological factors also play a critical role in T2DM management, but it is unknown whether and how depressive symptoms and chronic stress change with T2DM diagnosis status, particularly among marginalized populations such as Hispanic/Latinos. This study examined longitudinal associations of T2DM diagnosis with changes in depressive symptoms and chronic stress over six years in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Sociocultural Ancillary Study (SCAS).

Participants were 796 Hispanic/Latino adults (mean (SD) age: 54(13) years, 56% female) who met American Diabetes Criteria for T2DM based on glycated hemoglobin (HbA1c), fasting plasma glucose, or 2-hour oral glucose tolerance test. Those who self-reported a T2DM diagnosis or reported taking medication for T2DM were categorized as diagnosed. Based on ADA T2DM criteria and self-report, all participants were classified into three categories: a) Those consistently diagnosed at both Visit 1 and Visit 2 (Consistently Diagnosed 70%; N = 560); b) those who were undiagnosed at Visit 1 but became diagnosed after Visit 2 (Newly Diagnosed; 24%; N = 189); and c) those who remained undiagnosed at either visit (Undiagnosed; 6%; N = 47). Individuals completed the Center for Epidemiologic Studies Depression Scale (CESD-10) and an 8-item chronic stress scale.

Multivariate regression models adjusted for age, sex, Hispanic/Latino background, income, field center, and waist circumference revealed that consistently diagnosed participants

(b = -0.64, p = .01) and newly diagnosed individuals (b = 0.56, p = .04) reported higher chronic stress at Visit 2 compared with undiagnosed participants, controlling for baseline stress and depression. No significant differences in chronic stress were observed between those consistently and newly diagnosed (b = -0.10, p = .49). Similarly, no significant differences in depressive symptoms were found when comparing undiagnosed (b = -0.05, p = .96) or newly diagnosed (b = 0.30, p = .68) participants to those consistently diagnosed.

Findings indicate that both consistently and newly diagnosed individuals with T2DM report higher chronic stress than those who remain undiagnosed, with no differences observed for depressive symptoms. These results underscore the psychological burden of a T2DM diagnosis and the cumulative stress of self-management, highlighting the need for timely identification and intervention to support adherence and improve long-term outcomes.

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Abstract: 1047

CAN A NONSTEROIDAL ANTI-INFLAMMATORY DRUG REDUCE LONELINESS?

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Background: Loneliness is the distressing perception of unmet social needs, and is associated with a plethora of negative health consequences. One relevant pathway linking loneliness to poor health is inflammation. Although there is a bidirectional relationship between inflammation and loneliness, it is unclear whether reducing inflammation consequently reduces loneliness, as it has been demonstrated to reduce depression. The current study investigated whether a nonsteroidal anti-inflammatory drug (NSAID; naproxen) reduced loneliness, and examined two relevant moderators drawn from the literature on the effects of NSAIDs on depression. We hypothesized that naproxen would reduce loneliness in a lonely sample, as well as reduce depression, and increase social engagement. Furthermore, we expected that baseline stress and inflammation (c-reactive protein: CRP) would moderate these relationships, such that effects of naproxen on outcomes would be stronger for those higher in baseline stress and CRP.
Methods: 85 lonely, middle-aged adults were randomly assigned to take naproxen or placebo for two weeks. Baseline and post-treatment levels of loneliness, depression, and social engagement were collected as primary outcome measures. Moderators were baseline stress and CRP, measured from dried blood samples. Linear mixed models were used to assess Group X Time effects, and moderated three-way interactions (Group X Time X Moderator). Follow up tests examined the simple effects of time at the mean, and +/-1 standard deviation away.
Results: There were no significant unmoderated Group X Time interactions on any of the primary outcomes (p's > .12), or any moderated effects on social engagement. However, baseline stress significantly moderated the effect on loneliness, F(1, 78) = 12.4, p < .001. Follow-up tests revealed that individuals with high baseline stress (+1SD) taking naproxen reported significant decreases in loneliness, but those who took placebo did not. Additionally, baseline CRP moderated the effect on depression, F(1, 74.4) = 7.51, p = .008. Contrary to our hypotheses, follow-up tests revealed individuals with high baseline CRP (+1SD) in the placebo condition reported significant decreases in depression from baseline to post treatment, but those who took naproxen did not.
Conclusion: Findings provide insight into a novel loneliness intervention targeting inflammation. Although naproxen did not significantly affect the primary outcomes in our sample, there were significant effects when examining moderators. These effects highlight that highly lonely and stressed individuals may benefit most from an anti-inflammatory intervention. Additionally, the role of NSAIDs on loneliness may differ than the role of NSAIDs on depression.

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Abstract: 1374

PREVALENCE OF LONELINESS AND ITS ASSOCIATED FACTORS IN MIDDLE-AGED AND OLDER ADULTS WITH BREATHLESSNESS

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Rationale: Breathlessness is experienced by a third of older adults and is associated with chronic illness and reduced mobility. Loneliness plays a role in other health outcomes but is under researched in relation to breathlessness.

Objective: To estimate the prevalence of and characteristics associated with loneliness in adults with breathlessness.

Methods: This is a representative cross-sectional study of adults (≥50 years) from English Longitudinal Study of Ageing (2009-10). Participants self-reported breathlessness using the 4-point MRC Breathless Scale (0=no breathlessness to 3=Grade 3 breathlessness). Loneliness was measured with the 3-Item UCLA Loneliness Scale (scores ≥6 defined as lonely). Logistic regression was used adjusting for age, sex and ethnicity.

Results: Of 8,330 participants, 28.15% reported some breathlessness (Grades 1-3) and 19.3% were lonely. Participants with greater breathlessness were significantly older, more likely to be female and less wealthy (all p <0.001) than those without breathlessness. In unadjusted analyses, participants with greater breathlessness were more likely to be lonely (No breathlessness=16.3% vs Grade 3=34.9%, p <0.001), live alone

(No breathlessness=17.9% vs Grade 3=36.4%, p<0.001), be unmarried (No breathlessness=26.7% vs Grade 3=45.7%, p <0.001), and be more socially isolated (p<0.001). Greater breathlessness was associated with significantly higher depressive symptoms (p<0.001), greater likelihood of limiting longstanding illness (No breathlessness=19.8% vs Grade 3=78.1%, p<0.001) and more mobility issues (p<0.001).

Of those with chronic breathlessness (Grade 2&3, n= 1157), 32.8% were lonely. The characteristics associated with loneliness in this group were female sex (Odds Ratio [OR]: 1.33, 95% Confidence Interval [CI] 1.03-1.72, p= 0.029), lower wealth versus higher wealth [ref] (OR: 2.74, 95% CI 1.62-4.64, p < 0.001), being unmarried (OR: 3.49, 95% CI 2.67-4.57,p<0.001), living alone (OR: 3.71, 95% CI 2.80-4.91,p<0.001), greater depressive symptoms (OR: 1.58, 95% CI 1.47-1.69,p <0.001), having a limiting longstanding illness (OR: 1.76, 95% CI 1.30-2.38,p <0.001) smoking (OR: 1.46, 95% CI 1.06-2.01,p=0.022), greater difficulties with activities of daily living (OR: 1.33, 95% CI 1.21-1.46,p<0.001) and mobility (OR: 1.15, 95% CI 1.10-1.21,p <0.001). No significant associations between loneliness and age, ethnicity or social isolation were found in the breathlessness group.

Conclusions: Adults with breathlessness are more likely to be lonely. The demographic and clinical characteristics associated with loneliness this group identify those at highest risk to guide policy and clinical interventions.

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Abstract: 1272

CHILDHOOD TRAUMA MODERATES RELATIONSHIPS BETWEEN CAREGIVER BURDEN, PERCEIVED STRESS, AND EMOTIONAL HEALTH IN ADRD SPOUSAL CAREGIVERS

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Informal spousal dementia caregiving is a chronically stressful, strenuous, all encompassing, and time-intensive experience. Due to the unique physical, emotional, financial, and social demands involved in dementia spousal caregiving, caregivers are likely to experience high levels of caregiver burden and also report high levels of perceived stress. High caregiver burden and high perceived stress have been linked to increased risk for depressive symptoms, poorer emotional wellbeing, and greater proinflammatory cytokine production. Because not all caregivers exhibit the same adverse health outcomes in response to caregiving stress, this study sought to understand whether a history of childhood trauma may be one factor underlying differences in caregiver stress responding and emotional health. Multiple linear regression was performed to assess the relationships between caregiver burden, perceived stress, and health outcomes (depressive symptoms, emotional wellbeing, proinflammatory cytokine production) in dementia spousal caregivers (n = 326). Potential moderation of these relationships by reported childhood trauma was also examined. Childhood trauma significantly moderated the negative relationship between caregiver burden and emotional wellbeing (b = -0.06, SE = 0.03, p = .029), such that this relationship was strongest among caregivers reporting higher levels of childhood trauma. Childhood trauma significantly moderated the negative relationship between perceived stress and emotional wellbeing (b = -0.13, SE = 0.05, p = .007), such that this relationship was strongest among caregivers reporting higher levels of childhood trauma. Childhood trauma also significantly moderated the positive relationship between perceived stress and depressive symptoms (b = 0.07, SE = 0.02, p = .005), such that this relationship was strongest among caregivers reporting higher levels of childhood trauma. No significant effects were found for proinflammatory cytokine production. Results suggest that a history of childhood trauma may be one factor contributing to increased risk for poorer mental health outcomes among older adults facing chronic stressors like dementia caregiving.

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Abstract: 1323

EXPLORING THE BIOLOGICAL EMBEDDING OF ADVERSITY USING DATA FROM RURAL FAMILIES IN PA AND NC

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The fetal origins hypothesis posits that poor nutrition and health among pregnant women can lead to a preterm birth. This hypothesis has been widely used to understand how the fetal environment can influence health and disease outcomes from childhood through adulthood. The impacts of other stressful life events in utero, above and beyond undernutrition, are not well explored. In addition, minimal research has assessed how other forms of adversity to which a mother may be exposed while pregnant (i.e., severe poverty, death of a family member) may impact their children's cardiometabolic health trajectory. As such, this study examined: 1) children's critical developmental periods and 2) the importance of the intrauterine environment in predicting children's cardiometabolic disease risk (CMDR) in early childhood. Data include 1052 responses from biological mothers enrolled in the Family Life Project, a longitudinal study investigating children's development from birth to adolescence in poor communities. Adversity during pregnancy was assessed using the Life Experiences Survey when children were 2 months old. The number of life experiences that mothers reported as "bad" were included in the analyses to predict children's obesity,

a CMDR marker. Children's obesity status was measured using standardized body mass index (BMIZ) values, assessed in children when they were 24, 35, 48, 58, 90, and 154 months. Associations were stratified by race and sex. Less than half of mothers (40.2%) and children (42.1%) identified as Black. Roughly half of the children (49.1%) were female. Most (77.2%) mothers were categorized as being of low economic status. There were significant correlations between maternal reports of negative experiences and children's BMIZ scores at 48 (r=0.07, p =0.045), 58 (r=0.09, p =0.008), and 90 (r=0.07, p =0.044) months. Stratifying by sex, correlations remained significant among girls at 48 (r=0.16, p<0.01), 58 (r=0.17, p<0.01), 90 (r=0.16, p<0.01), and 154 (r=0.18, p<0.01) months. Correlations were insignificant among boys at all timepoints. There were no significant correlations between maternal reports of negative experiences during pregnancy and children's BMIZ scores after stratifying analyses by race. Preliminary findings from this study suggest potential moderation effects by sex on the association between adversity in utero and children's obesity risk. Such associations should be further explored through the lens of the fetal origins hypothesis to better understand if the impacts of adversity experienced by a pregnant mother on their child's cardiometabolic risk are greater among girls as compared to boys.

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Abstract: 1227

BEHAVIORAL AND FUNCTIONAL CHANGES IN FIRST RESPONDERS RECEIVING TREATMENT IN A TRANSDISCIPLINARY BIOPSYCHOSOCIAL THERAPEUTIC COMMUNITY MODEL PROGRAM

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Introduction: First responders are repeatedly exposed to trauma and injury, leading to behavioral and functional impairments. More die from suicide than injuries in the line of duty. An occupational medicine program addresses these issues and restores function by immersing first responders in a transdisciplinary biopsychosocial therapeutic community. As first responders' injuries are multifaceted, they are assessed in multiple domains, including ability to perform activities of daily living (ADLs) and mental health.

Objective: To examine the functional restoration and behavioral changes experienced by first responders following treatment in a transdisciplinary biopsychosocial therapeutic community model program.

Materials and Methods: Data from an occupational medicine provider were analyzed. Patients were eligible if they were first responders, began treatment from May 16, 2022 to August 4, 2025, and completed 90+ hours of treatment. Patients with incomplete data were excluded. Outcomes were measured at intake and discharge. ADLs included activity, food preparation, housekeeping, mobility, self-care, shopping, and transportation, with higher scores on a 0-4 point scale reflecting better function. Patients also completed the Brief Battery for Health Improvement 2 (BBHI-2), which assesses pain complaints, functional complaints, somatic complaints, anxiety, depression, and defensiveness, the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI). BAI ≥17 and BDI ≥20 defined clinically significant anxiety and depression. Paired *t*-tests compared continuous pre- and post-treatment scores, and McNemar's tests assessed changes in anxiety and depression prevalence.

Results: A total of 129 first responders were included. All seven ADL domains significantly improved, ranging from 0.23 (shopping, p=0.030) to 0.57 (activity, p<0.001). BBHI-2 scores declined for pain complaints (−10.3), functional complaints (−20.4), somatic complaints (−26.7), anxiety (−10.0), and depression (−16.0) (all p<0.001), while defensiveness increased (+23.1, p<0.001). BAI (−10.1, p<0.001) and BDI (−13.1, p<0.001) scores fell significantly. The proportion of patients with clinically significant anxiety decreased from 65.9% to 29.5% (χ^2=34.7, p<0.001), and the proportion with clinically significant depression decreased from 76.7% to 27.9% (χ^2=57.4, p<0.001).

Conclusion: Completion of the program was associated with significant improvements in functional capacity and behavioral health. First responders showed significant gains across all ADLs, reductions in anxiety, depression, pain, and somatic complaints, and decreases in clinically significant anxiety and depression.

Table: Changes in Behavioral and Functional Outcomes (N=129)

Outcome Measure	Mean Difference (Post–Pre)	*p*-value
Activities of Daily Living (ADLs)		
Activity	0.57	<0.001
Food Preparation	0.25	0.015
Housekeeping	0.51	<0.001
Mobility	0.36	<0.001
Self-Care	0.33	<0.001
Shopping	0.23	0.03
Transportation	0.33	0.007
BBHI-2 Subscales		
Pain Complaints	−10.3	<0.001
Functional Complaints	−20.4	<0.001
Somatic Complaints	−26.7	<0.001
Anxiety	−10.0	<0.001
Depression	−16.0	<0.001
Defensiveness	23.1	<0.001
Beck Inventories		
Anxiety (BAI)	−10.1	<0.001
Depression (BDI)	−13.1	<0.001

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Abstract: 1018

POSTPARTUM WEIGHT RETENTION FOLLOWING TRAUMATIC BIRTH EVENTS IN THE NUMOM2B-HHS COHORT

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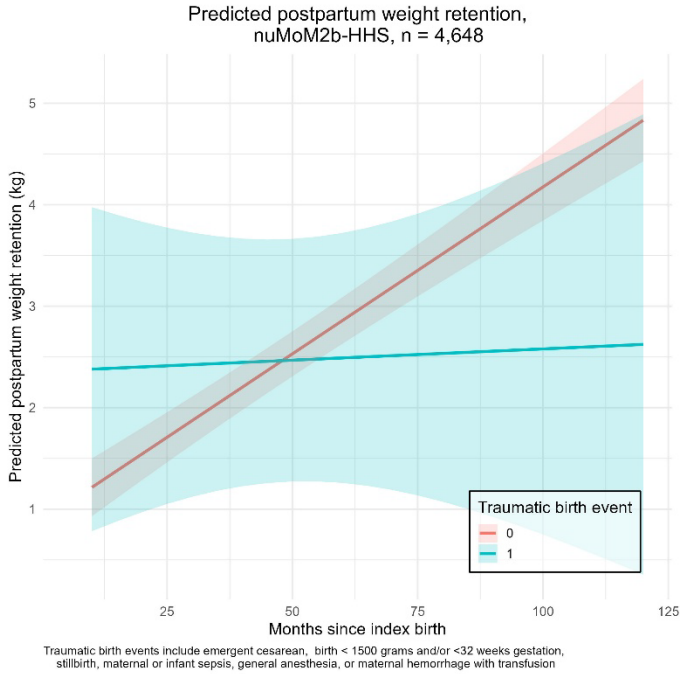
Birth-related trauma, defined as sudden, unexpected, and life-threatening complications that occur during labor and delivery (e.g., stillbirth, very preterm birth, or severe maternal morbidity), can have lasting psychological impacts, with childbirth-related

posttraumatic stress disorder occurring in 3% of postpartum people. Little research has considered the potential for birth-related trauma to impact physical health following pregnancy despite the known relationship between trauma and metabolic health during other life stages. Our objective was to estimate differences in postpartum weight retention by the presence/absence of traumatic birth events.

We included participants in the nuMoM2b study who completed one or more postpartum follow up questionnaires (between 6-120 months postpartum). We calculated postpartum weight retention as the difference between first trimester weight and weight reported at each follow-up, in kilograms (kg). We fit linear mixed models with weight retention as the dependent variable and a binary indicator of traumatic birth events (any/none) as the main exposure, controlling for months postpartum, using stabilized inverse probability of treatment weights to account for baseline differences. We included race, ethnicity, education, income (imputed at median for 1017 missing observations), insurance, first-trimester body mass index, systolic and diastolic blood pressure, bacterial vaginosis during pregnancy, age, and the diagnosis of pre-gestational chronic hypertension or diabetes in the estimation of the weights.

We included 4,648 participants with complete covariate information. Of those, 3.6 % (166) experienced a traumatic birth event, most commonly birth < 32 weeks' gestation (1.2%, 55). Overall, individuals who experienced one or more traumatic birth events had higher weight retention at the first postpartum follow up (unadjusted: 2.45 kg, 95% confidence interval: (0.64, 4.26), adjusted 1.47 kg, 95% CI: (-.34, 3.28)) though the adjusted difference was not significant. Further, differences attenuated over time and by 60 months postpartum, those with no trauma showed greater weight retention (Figure).

Experiencing a traumatic birth was not associated with sustained weight retention over the postpartum years. Future research should explore other aspects of postpartum cardiometabolic and mental health to understand these patterns.



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Abstract: 1067

ANTICIPATED STRESS & INDIVIDUAL HEALTH BEHAVIORS

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Objective: Experiencing daily stressors has been consistently linked with poorer health behaviors, such as unhealthy eating, decreased physical activity, and poor sleep. However, minimal work has evaluated the relationship between anticipating an upcoming stressful event, rather than actualized stressors, and these health behaviors. Thus, this study aimed to evaluate the within-person relationship between daily anticipated stress and daily diet, physical activity, and sleep in young adults.

Methods: Data were collected from college students (N = 136) who participated in a seven-day, twice-daily diary study. Surveys were completed each morning upon waking and each evening before going to sleep. Self-reported stressor anticipation and the previous night's sleep were assessed in the morning, and diet and physical activity were assessed in the evening. Self-reported stress anticipation was assessed in two ways. Participants were asked to rate how stressful they expected their day to be and to list specific upcoming events that they expected to be stressful.

Results: Previous night's sleep disturbance was significantly related to next days reported anticipated stress such that on days when participants reported greater than their average sleep disturbance, they were more likely to report greater stress anticipation (γ = .1356, 95% CI [.02334 – .2479], p = .018). Prior night's sleep quality and sleep duration were also significantly related to next day's stress anticipation when assessing general stress anticipation rather than specific stressful events. Diet and physical activity were not significantly related to next-day stress

anticipation, nor was stress anticipation related to that day's diet or physical activity behaviors.

Conclusion: This study provides support for the relationship between poor sleep and increased stress anticipation. This work also highlights the importance of different definitions of stress anticipation, as findings differ depending on how stress anticipation was measured. Although stress anticipation was not found to be associated with diet or physical activity, measurement concerns may be responsible for the lack of findings. Overall, these results highlight the importance of further evaluating the relationship between stress anticipation and health behaviors in young adults.

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Abstract: 1073

A NARRATIVE REVIEW ON THE RELATIONSHIP BETWEEN MINDFULNESS MEDITATION, STRESS, AND TUMOR PROGRESSION IN STAGE T2-T3 MELANOMA

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Melanoma, a non-communicable disease (NCD) with rising global incidence, remains a leading cause of skin cancer-related mortality. Psychological stress contributes to cancer progression by influencing immune function and inflammation. Mindfulness-based interventions (MBIs), particularly mindfulness meditation, have emerged as effective tools for reducing stress and improving mental well-being in cancer patients. This narrative review examined 20 studies exploring mindfulness meditation's role in modulating stress-related pathways and its potential effects on tumor progression in stage T2-T3 melanoma, integrating mental health promotion and NCD management perspectives. This paper reviewed English articles from 2000–2024 on mindfulness meditation and stress reduction, focusing on melanoma cancer patients. Both randomized controlled trials and observational studies with physiological or psychological stress outcomes were considered. Excluded articles were non-meditation, preclinical, or outcome-lacking studies.

The review found that MBIs can regulate the hypothalamic-pituitary-adrenal (HPA) axis, reduce cortisol levels, enhance immune activity through increased natural killer (NK) cell function and elevated immunoglobulin A (IgA), and decrease pro-inflammatory cytokines, such as interleukin-6 (IL-6), TNF-alpha, and C-reactive protein (CRP) - biomarkers implicated in tumor progression. Six themes emerged: (1) HPA axis regulation, (2) Reduction of pro-inflammatory markers, (3) Immune system and cortisol regulation, (4) Stress reduction in cancer patients, (5) Enhanced immune function, and (6) Oxytocin's role in stress resilience.

This review highlights a clear research gap: the lack of direct causal evidence linking mindfulness meditation to slowed melanoma progression. Nonetheless, MBIs represent a promising, low-cost, and non-invasive complement to conventional care. Investing in such interventions supports health promotion and equity by expanding access to supportive therapies for individuals managing chronic diseases. Addressing this gap through future randomized controlled trials in melanoma patients is essential to strengthen the evidence base and guide policy integration of mindfulness in oncology and public health.

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Abstract: 1136

EVERYDAY DISCRIMINATION FREQUENCY, INTERSECTIONAL ATTRIBUTIONS, AND C-REACTIVE PROTEIN FOR BLACK MIDLIFE WOMEN WHO EXPERIENCE DISCRIMINATION

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Black women have high levels of C-reactive protein (CRP), heightening their risk for sub-optimal health. During midlife, Black women undergo biological changes that can disrupt the balance between pro-inflammatory and anti-inflammatory cytokines. Examining predictors of systemic inflammation is essential to address health risk in this population. Chronic stress, specifically driven by discrimination at the intersection of race and gender, can contribute to greater physiological dysregulation in Black midlife women. Psychophysiological responses to discrimination depend not only on the frequency but also on the appraisal of the discrimination experienced. Studies have shown that more attributions are associated with greater mortality risk, but this work has infrequently examined intersectional identities like race and gender. Therefore, we do not know how these particular single or intersectional attributions may be associated with CRP for Black midlife women. The current study examines the role of both frequency and discrimination attributions (single gender, single race, intersectional gender and race) on levels of the inflammatory biomarker CRP. We used cross-sectional data from 209 Black midlife women (Mage = 52.67) who experienced relatively frequent discrimination from Visit 7 (1999-2000) of the Study of Women's Health Across the Nation. Black women's CRP levels were assayed from blood. They reported the frequency with which they experience discrimination and selected all attributions for that experience from a list of potential social identity statuses. From this attribution data, single race, single gender, or intersectional race and gender attributions were derived. Linear regression analyses revealed that discrimination frequency was not significantly associated with CRP. There was no difference in CRP levels between those who made a single race attribution and those who made an intersectional attribution. Black women who made a single attribution to gender had higher CRP levels compared to those who made an intersectional attribution (β = .14, 95% CI [.21, 7.01], p = .038). Attributions of discrimination to gender but not, at least in some part, to race may increase health risk for Black midlife women if inflammation is chronically elevated. Examination of the consequences of intersectional discrimination and attribution

experiences on biomarkers of inflammation remains a requisite consideration, given that these biomarkers index sub- or pre-clinical accumulative physiological dysregulation that underlies disease risk. However, more research on the content of intersectional attributions of discrimination, above and beyond frequency of exposure, is needed.

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Abstract: 1299

EFFECTS OF CHILDHOOD TRAUMA AND PERFECTIONISM ON STRESS, MOOD, DEFEAT AND ENTRAPMENT

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Background: Adverse experiences in early life significantly impact an individual's long-term physical and mental health. Socially prescribed perfectionism has also been found to be associated with negative health outcomes, including suicide risk. However, less is known about how these variables interact or their mechanisms of action in daily life. The current research explores the main and interactive effects of childhood trauma and socially prescribed perfectionism on measures of stress, mood, defeat and entrapment as well as indirect effects. Methods: Three studies (a cross-sectional survey & two 7-day intensive longitudinal design studies) are reported. Participants completed the Childhood Trauma Questionnaire and measures of socially prescribed perfectionism, history of suicide thoughts and behaviours, perceived stress, mood, defeat and entrapment. These data were analysed using a combination of moderated regression using PROCESS, multilevel modeling using HLM8 and multilevel mediation using MLmed. Findings: The results showed that childhood trauma and socially prescribed perfectionism were associated with higher levels of perceived stress, negative mood, defeat, entrapment and less positive mood in adulthood across the three separate studies. Childhood trauma and socially prescribed perfectionism also indirectly affected daily feelings of entrapment through daily levels of defeat and daily negative mood through daily stress levels. Discussion: These findings provide novel support for the defeat-entrapment pathway in the Integrated Motivational-Volitional Model of Suicide. Interventions aimed at mitigating the negative effects of childhood trauma and socially prescribed perfectionism ought to target modifiable risk factors such as stress, mood, defeat and entrapment.

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Abstract: 1337

IMPACT OF NICOTINE, CANNABIS, CO-USE AND NON-USE ON MORNING AND EVENING CORTISOL LEVELS AND SUBJECTIVE STATE IN NATURALISTIC SETTINGS

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Nicotine and cannabis are commonly used substances that affect overall health, with links to cardiovascular disease and alterations in mood and stress regulation. Considering the increased prevalence of nicotine-cannabis co-use, additional challenges may arise for programs aimed at addressing cessation. This study examined the independent effects of nicotine and cannabis, as well as the additive impact of co-use on adrenocortical and psychological measures. Across two separate 3-day ambulatory monitoring assessments, one during ad-libitum use and one following a period of abstinence, 116 healthy adults completed mood state questionnaires and collected saliva for cortisol measurement throughout each day. Results showed that nicotine users had higher cortisol levels compared to co-users and non-users and demonstrated flatter diurnal cortisol slopes compared to non-users who exhibited steeper declines. Co-users reported lower levels of positive affect, an earlier age of onset for both cannabis use and nicotine use, and a higher daily intake with greater dependency to cannabis compared to cannabis-only users. These findings highlight the need for cessation programs to take a tailored approach and consider targeting polysubstance use rather than addressing substances in isolation.

Keywords: nicotine, cannabis, co-use, affect, cortisol

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Abstract: 1420

CHANGES IN STRESS-INDUCED HEART RATE REACTIVITY ACROSS TRANSDIAGNOSTIC TREATMENTS FOR AFFECTIVE DISORDERS

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Purpose: Heart rate (HR) reactivity in response to psychological challenge has been shown to be blunted in a range of behavioral and health conditions, in particular, depression. It is suspected that a lack of effort or motivation is responsible for this blunted reactivity, since typical responding under such conditions would involve cardiac accelerations. However, it is yet unknown to what extent the lack of reactivity improves as a result of psychotherapy. We have developed two 15-week transdiagnostic treatments, a positive affect treatment (PAT) which targets reward system function by engagement in pleasurable activities, attending to and imagining the positive, and cultivating joy, and a negative affect treatment (NAT), which involves exposure to distressing and avoided stimuli, cognitive restructuring, and respiratory training. Both treatments have been shown to reduce depression and anxiety, and elevate positive mood in patients with low positive affect, moderate-to-severe depression or anxiety, and functional impairment, with some advantage of PAT over NAT (Craske et al., 2023; Meuret et al., in prep). In this analysis, we sought to explore whether improvements in

depression through PAT or NAT were specifically linked to improvements of HR reactivity to a challenging cognitive task.

Method: A total of N=98 patients were randomly assigned to PAT or NAT. As part of a repeated two-day test battery, a standard 3-min mental arithmetic task was administered at Pretreatment, Session 5, Session 10, Posttreatment, and 1-month Follow-up, while the electrocardiogram was recorded.

Results: Depression, anxiety, and stress were reduced more in PAT than in NAT (p=.006). HR reactivity gradually declined across repeated administration of the task in both PAT (p=.025) and NAT (p<.001). Additionally, when patients had smaller reductions in their average depression, their HR reactivity declined more (p=.031).

Conclusion: Whereas repeated administration of the same stress task predictably leads to reduction in HR reactivity, more successful treatment of depression can delay this reduction. Success of both PAT and NAT in reducing depression is associated with improvements in cardiac reactivity to psychological challenges.

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Abstract: 1181

NAVIGATING PROGNOSTIC UNCERTAINTY IN ADULT CONGENITAL HEART DISEASE: EMOTIONAL MECHANISMS FOR ADHERENCE

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Adults living with congenital heart disease (ACHD) inherit a lifelong dialogue with uncertainty shaped by medical interventions and the invisible weight of what cannot be predicted. Navigating this prognostic uncertainty shapes the heart and mind. We investigated how emotional processes influence adherence in ACHD, focusing on the mechanisms by which emotion interacts with uncertainty to affect adherence. We conducted a single-site, cross-sectional study of 102 ACHD outpatients. Clinical and psychometric data analyses were examined for covariates. Path analyses based on our theoretical model were conducted. Results show the sample reported elevated uncertainty compared to with reference groups ($p < .05$), with significant relations with emotions of depression and anxiety, p's < .05. Uncertainty and the emotional mechanisms correlated in a significant, negative direction with adherence suggesting that better adherence is associated with less uncertainty and less depression and anxiety. Covariate analyses show that sex is a moderator of these results. Preliminary findings show that higher uncertainty is associated with elevated emotional distress, which is associated with increased perceived stress and perceived poorer health. Our work shows emotion plays an important and potentially modifiable role in the health outcomes of adults with congenital heart disease. Understanding the causal pathways between uncertainty, emotion, and behavior offers new directions for psychosocial interventions and patient-centered care.

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Abstract: 1163

LATINO CULTURAL VALUES AS RISK FACTORS FOR MENTAL HEALTH IN LATINX LGBTQ+ PEOPLE

Jaquelyn Hernandez; Andrew Beserra, BA; James Garcia, PhD

Introduction: Previous literature suggests that *familsimo* acts as a protective buffer on certain mental health outcomes such as suicide, depression, and internalizing behaviors (Valdivieso-Mora et al. 2016). Latinx LGBTQ+ individuals face a significant risk of developing depression and anxiety, and cultural values may increase this risk. These cultural values can include Latinx families disregarding the importance of seeking mental health assistance, and Latinx queer individuals who have not yet come out to their family members face an even greater risk (Posada Rodríguez et al., 2025). The current study is interested in examining the association between familismo and cultural pride and the presence of depression and anxiety in a sample of Latinx LGBTQ+ individuals.

Method: Participants were recruited from Amazon Mechanical Turl in December 2024. Participants took a survey via Qualtrics, which lasted 10-20 minutes. The original sample included 352 participants, mostly of Central American Descent (45.5%), Bisexual men iwth a mean age of 30. For our study, we focused on 161 participants who had complete data for the following variables: Latino values scale (LVS; Kim et al., 2009), the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001), and the Generalized Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006).

Results: There was a total of 161 participants with ages ranging from 22-68. Of those, 119 identified as men, 28 identified as women, and 1 identified as transgender. Additionally, 5 identified as gay, 21 identified as lesbian, 103 identified as bisexual, and 32 identified as asexual. Regression results indicated a linear association between familismo and cultural pride on depression, $F(2,37) = 5.65$, $p < .01$. This model accounted for 7.6% of the variance in depression, with cultural pride being a significant positive predictor of depressive symptoms ($\beta = .258$, $p < .05$), while familismo was not ($\beta = .038$, $p = .767$). Regression results indicated a linear association between familismo and cultural pride on anxiety, $F(2,130)= 4.43$, $p < .05$. This model accounted for 6.4% of the variance in anxiety, with cultural pride being a significant positive predictor ($\beta = .299$, $p < .05$), while familismo was not ($\beta = -.070$, $p = .579$).

Discussion: Higher levels of cultural pride predicted more depression and anxiety symptoms, but this was not the case for familismo. This highlights the need to further explore cultural pride as a risk factor for mental health symptoms in the context, as Latinx LGBTQ+ persons may have experiences within heterosexual Latinx communities that impede their ability to

benefit from cultural pride as a resilience factor to weather against the storm of intersectional minority stress.

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Abstract: 1218

PRELIMINARY EVIDENCE THAT GREATER USE OF DIGITAL PHYSICAL ACTIVITY AND MUSIC RESOURCES RELATES TO LOWER INCIDENCE OF DISTRESS INCIDENTS AMONG OLDER CARE HOME RESIDENTS.

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Distress among older adults living in residential care homes is common as globally around 14% of older adults live with a mental disorder and 9% have dementia in the UK, rising to 70% in care home residents. Behavioral and psychological symptoms of dementia (BPSD) and poor mental health can manifest as distress and agitation and negatively affect residents' quality of life. Sometimes residents are given medications like sedatives as needed (pro re nata (PRN)) as a last resort if non-pharmacological intervention by care staff proves ineffective. Music and dance can be used as an intervention to positively impact residents living with dementia, and digital resources to support this are an increasingly common cost-effective delivery format. Engagement with music and dance stirs memories and creates meaningful connections that can combat distress and agitation. Consequently, this pilot study aimed to evaluate the impact of digital music and movement (the danceSing Care platform) delivered with support from on-site care staff on the number of distress incidents and consequent usage of PRN medication. Anonymized data were provided monthly from Abbotsford UK across seven care homes for six months on the number of residents, recorded distress incidents and PRN medication usages; danceSing provided usage data in hours per care home per month. Poisson regressions considering month, care home, and number of residents per home per month were used to examine whether hours usage of danceSing Care was associated with distress incidents or PRN medication use. Hours per month use of danceSing Care significantly reduced frequency of distress incidents (IRR=0.96, p = .02) but not frequency of PRN medication uses (IRR=0.98, p = .33). For every 1hr increase in usage of the digital resources per month there was a 4% decreased risk of incidents. A longitudinal larger-scale controlled study will be conducted to examine whether these preliminary findings are generalizable to other care homes and organizations, and whether effects extend to PRN medication usage. Future research should also explore potential mechanisms of effect and impact on care staff.

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Abstract: 1418

PATIENTS WITH CANCER HAVE HIGH USAGE OF BUT LOW EXPECTATIONS ABOUT COMPLEMENTARY TREATMENTS.

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Studies show that between 30% and 90% of patients with cancer use complementary, integrative, or alternative treatment methods (CAM), although there is little to now evidence for their effectiveness. The reasons for using such treatment methods are manifold, such as reducing side effects or attempting to cure the cancer. Predictors for the use of CAMs appear to be younger age, female gender, and higher educational status. Furthermore, the experience of placebo effects through high expectations about CAM could be a predictor of their usage, but have yet not been investigated.

To investigate the expectations about CAM compared to conventional treatments, the link to an online questionnaire was sent to self-help groups for cancer patients in Germany. The questionnaire included sociodemographic data, questions about cancer, conventional and CAM treatments as well as expectations about those treatments, and standardized, validated questionnaires such as beliefs about medicine (BMQ), anxiety and depression (PHQ-4), health locus of control (MHLC), fear of progression, and digital health literacy. A list of 50 CAM was provided to assess how often they are used.

One hundred patients filled in the online questionnaire (62 ± 12 years, 63% female), of whom 31 had urogenital cancer, 25 had breast cancer, 16 had gastrointestinal cancer, and 28 had another form of cancer. All of them received at least one form of conventional treatment (63 surgery, 49 radiation, 46 chemo-, 24 immunotherapy), and on average 17 CAM were used (range 2 – 41). However, the amount of CAM used did not correlate with the expectation of symptom improvement (r=0.099), of health improvement (r=0.146), improvement of quality of life (r=0.100), or side effects (r=-0.007; all p>0.05).

All patients used at least two CAM additional to conventional treatments but expectations did not correlate with the amount of CAM used. Full analyses of prediction of usage and expectations, and associations with conventional treatments will be presented at the conference.

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Abstract: 1258

TRAJECTORIES OF OBJECTIVE MOBILITY AND ACTIVITY BEHAVIOR DURING OUTPATIENT CHEMOTHERAPY

Jennifer Fedor, MS; Christianna Bartel, BS; Krina Durica, MA; Carissa Low, University of Pittsburgh

Background: Smartphones and wearable devices can capture objective real-world physical activity and geographic mobility data that may be useful in tracking health and functioning during outpatient chemotherapy. These data may reveal how activity changes during cancer treatment and whether certain patient groups are at risk for declining activity.

Objective: To examine longitudinal changes in real-world sensor metrics over 90 days among patients receiving chemotherapy for solid tumors.

Methods: We enrolled n = 213 participants (M 60 years old, 64% female, 60% Stage IV cancer) into this prospective observational study. Participants completed demographic and PROMIS Physical Function questionnaires at baseline. Participants were asked to wear a Fitbit device and to install a smartphone app that passively collected location data. Mobile sensor features (time at home, number of locations visited, step count, sedentary time, peak gait cadence, and activity fragmentation) were extracted on daily time segments and aggregated into weekly averages. A series of multivariable linear mixed effects models with participant-specific random intercepts and slopes for week were fit to examine the association between sensor trajectories and age, gender, cancer stage, chemotherapy, and physical function.

Results: Number of locations visited increased over time, but no other statistically significant time effects were observed. During weeks that participants received chemotherapy, they visited more places and had more sedentary behavior and lower step counts. Older age was associated with more time at home, visiting fewer locations, more sedentary time and activity fragmentation, and fewer steps with slower gait cadence, while better physical function was associated with visiting more places, taking more and faster steps, and less sedentary behavior and activity fragmentation.

Conclusion: Contrary to hypotheses, objective activity did not decline over 90 days of chemotherapy. In contrast, participants visited more locations over time. Patients were less physically active during chemotherapy weeks but visited more locations, potentially reflecting travel to clinic appointments. Older patients and those reporting worse physical function were less physically active with more fragmented activity and slower gait as well as less geographic mobility. Findings suggest that many patients are able to maintain levels of activity during outpatient cancer treatment. Collecting sensor data prior to starting treatment would allow us to understand whether activity during chemotherapy reflects any change from baseline. While age, gender, cancer stage, and physical function did not impact activity trajectories, other factors such as symptom burden or comorbidities may play a role.

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Abstract: 1455

PSYCHOLOGICAL FLEXIBILITY AND CARDIOVASCULAR STRESS-RESPONSE ADAPTATION TO RECURRENT AND CHANGING STRESS DEMANDS

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Psychological flexibility is a dynamic psychological construct that describes a person who can adapt to changing demands and situations. This psychological factor is associated with a range of positive psychological states and adjustment. However, its association with psychophysiological indicators of stress reactivity has yet to be established. In this paper, we present data from two laboratory studies examining how psychological flexibility is associated with adaptation to recurrent (Study 1, N = 114) and changing (Study 2, N = 90) task demands. Participants completed the Paced Auditory Serial Addition Task (PASAT), which is a cognitively demanding stressor used in laboratory studies of stress reactivity. Participants completed the PASAT on two occasions in the same laboratory sitting (Study 1), separated by a 8-minute inter-task interval, or the PASAT and a speech task, in counter balanced order (Study 2). Continuous monitoring of blood pressure and heart rate were assessed using Finometer. Psychological flexibility was assessed using the Psy-Flex scale and the Multidimensional Psychological Flexibility Inventory. Analyses examined whether those high in psychological flexibility showed an enhanced capacity to show physiological adaptation to recurrent stress, where the stressor employed identical task demands (Study 1) or where the stressor employed changing task demands (Study 2). This study will establish if there is a positive association between psychological flexibility and cardiovascular stress-response adaptation to recurrent stress.

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Abstract: 1504

EARLY LIFE ADVERSITY AND BDNF LEVELS IN ADULTHOOD: THE MODERATING ROLES OF SPOUSE SUPPORT AND SUPPORT SATISFACTION

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Early life adversity (ELA) and relational dynamics are highly influential for neurobiological and cognitive health outcomes in mid- and later-life. Brain derived neurotrophic factor (BDNF) is one of the most widely studied and distributed neurotrophins in the mammalian brain and plays a crucial role in brain health, functionality, and cognitive development. In this study, we applied life course and stress reactivity frameworks to examine how individuals' relational and early life experiences may influence BDNF levels in adulthood. We focus on BDNF (1) as an indicator of cognitive and neurobiological function given its strong ties to age-related neurodegenerative disease and (2) because relational effects on BDNF have not been widely examined despite the knowledge of a relationship's strong health influence. Data was used from a parent study which collected survey data on relational and early life experiences and blood draws for BDNF assessments at two visits from both partners of 43 married and mixed-gender couples (*n* = 86 individuals, ages 24 to 61). Participants completed a modified version of the Adverse Childhood Experiences scale, the Childhood Trauma

Questionnaire, and the Social Support Questionnaire Satisfaction- Short Form, Revised. Covariates included age, sex, visit, adiposity, parental education, and relationship satisfaction. Childhood maltreatment, household dysfunction, spouse support, and support satisfaction did not have a significant effect on BDNF independently (*b*s = 123.44 to 3825.73, *p*s > .11). However, the interaction between spouse support and childhood maltreatment was marginally significant (*b* = 9748.79, *p* = .05). Among individuals who experienced childhood maltreatment, those with greater spousal support had higher BDNF than those with lower spousal support (*b* = 7284.0, *p* = .06). No other interactions between ELA and spousal support/satisfaction were significant (*b*s = -1753.25 to 3147.30, *p*s > .08). Post hoc analyses revealed that individuals who experienced childhood maltreatment had lower support satisfaction than those without a history of maltreatment (*b* = .220, *p* = .03). However, neither childhood maltreatment nor household dysfunction predicted spouse support, and household dysfunction did not predict support satisfaction. These results show that a history of childhood maltreatment is associated with lower spousal support satisfaction in adulthood. However, spousal support can help reduce the negative effects of childhood maltreatment on BDNF levels. This study demonstrates the importance of both early life and adult relational experiences on neurobiological function. In particular, this work highlights spousal support's protective effects on BDNF among those with heightened health risks.

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Abstract: 1564

THE ASSOCIATION BETWEEN CLOSE OTHERS' VALIDATION AND SYMPTOMS AMONG LUPUS PATIENTS

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Research indicates that social validation is associated with reduced physical and mental symptomatology; however, few studies have examined what social source of validation (e.g., family, partner, friends) shows the strongest association with symptoms, and no known studies have investigated this specifically in patients with lupus. This study thus aimed to understand how partner, familial, and friend validation are associated with the number of patient-reported symptoms in individuals with Systemic Lupus Erythematosus. We analyzed an existing dataset of 146 participants (137 females, 9 males), aged 16 to 76 (M = 43.46, SD = 12.15). The sample consisted primarily of individuals with a Lupus diagnosis (n = 136), who frequently reported comorbid conditions such as Raynaud's syndrome (n = 70), Fibromyalgia (n = 48), and Sjögren's syndrome (n = 48). Data were collected via an online Qualtrics survey that included measures about participants' social relationships and symptoms. Our hypothesis was that higher partner, familial, and friend validation would be associated with fewer symptoms. Validation was measured with the the Illness Invalidation Inventory (3*I), and symptoms were obtained with the SLE Symptom Checklist (SSC). Two statistical techniques were utilized to evaluate the hypotheses: linear and multiple regression. Due to non-normality observed via Shapiro–Wilk tests and QQ plots, Spearman's correlation coefficients were employed. Simple linear regressions confirmed that when examined individually, partner validation (β = -1.60, p = .003), family validation (β = -2.02, p < .001), and friend validation (β = -1.24, p = .035) each predicted fewer symptoms. Multiple regression that included all three predictors simultaneously explained 11.7% of the variance in symptoms (R^2 = .12) and revealed that only family validation remained a unique predictor (β = -1.67, p = .016), while partner validation and friend validation were no longer significant. These results highlight the distinct and critical role of family support in the symptom experience of individuals with Lupus, suggesting that symptom reporting is context-dependent. Specifically, the number of symptoms reported is linked to the level of validation present within the family environment. Future longitudinal work is needed to determine causality.

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Abstract: 1434

EXAMINING THE RELATIONSHIP BETWEEN EMOTION REGULATION AND DEPRESSION: ROLE OF DISCRIMINATION

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Emotion regulation refers to the processes by which individuals influence which emotions they feel (e.g., anger, excitement) and how they are expressed. Difficulties in emotion regulation have been strongly associated with adverse mental health outcomes, including higher levels of depression. Previous research has shown that discriminating experiences predict increased use of maladaptive strategies such as rumination and repression, which in turn increase psychological discomfort. For example, individuals who experience stressors such as discrimination may face additional challenges in effectively managing their emotions, which can increase the link between regulation difficulties and mental health outcomes. Furthermore, individual differences exist in the types of regulation strategies people use; for example, some individuals rely more on cognitive reappraisal, while others lean toward suppression, which predicts lower psychological adjustment. However, it remains unclear whether discrimination strengthens or weakens the relationship between emotion regulation and depression. The current study aims to examine the relationship between emotion regulation and depression, and to test whether this relationship is influenced by discrimination. Participants (N = 100, Mage = 19.50, 73% Female, 22% Male, 5% Other) completed the Emotion Regulation Questionnaire to assess two regulation strategies: cognitive reappraisal and expressive suppression, as well as the Everyday Discrimination and Center of Epidemiologic Studies Depression Scales. Two multiple linear regressions were run to examine

whether discrimination moderated the relationship between emotion regulation and depression. Results indicated that discrimination did not moderate the relationship between cognitive reappraisal and emotional suppression on depression (β = -.004, p = .54, β = -.02, p = .07). Furthermore, cognitive reappraisal on its own predicted depressive symptoms (β = -.11, p =.04). While emotional suppression yielded no significance (β = .40, p = .09). Such that as cognitive reappraisal utilization increased, depressive symptoms decreased. Lastly, discrimination consistently predicted depressive symptoms on its own, regardless of cognitive reappraisal (β = .28, p < .001) or suppression (β = .68, p = < .001). Such as higher levels of discrimination were associated with increased depressive symptoms. Individuals who start to shift narratives of stressful events were shown to help promote healthier thinking patterns and reduce depressive symptoms. However, emotion regulation may not be sufficient to mitigate the impact discrimination has on mental health.

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Abstract: 1438

PREVALENCE RATES OF INTIMATE PARTNER VIOLENCE IN SEXUAL MINORITY GROUPS DURING THE COVID-19 PANDEMIC

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Intro: Intimate partner violence (IPV) is a major public health concern linked to elevated risk of mental illness, sleep disruption, substance use, and chronic disease. These health consequences are not evenly distributed, and sexual minority (SGM) populations may face disproportionate exposure to IPV. COVID-19 related stressors heightened these risks, with SGM individuals showing higher IPV prevalence. Within SGM communities, plurisexual individuals (i.e., those attracted to multiple genders) may face an even higher prevalence of IPV. However, little is known about prevalence rates of IPV in plurisexual people during the pandemic.

Method: Using Wave 1 data from the National Couples Health and Time Study (NCHAT), a nationally representative sample of partnered U.S. adults oversampled for sexual minority (SM) individuals, we examined disparities in psychological, physical, sexual, and overall IPV prevalence (via the Composite Abuse Scale-Short Form) during the COVID-19 pandemic. We analyzed data using two operationalizations of sexual identity: (1) heterosexual (n = 2009), gay/lesbian (n = 830), and plurisexual (n = 726); and (2) heterosexual (n = 2009), SM in same-gender relationships (n = 956), and SM in other-gender relationships (n = 645). We also examined whether IPV prevalence across sexual identities varied by age, race, gender, and immigration status.

Results: Overall, 76% of participants were white, 83% were married, 89% were U.S.-born, and the average age was 43.1 (SD=10.5). Thirty-three percent of participants reported at least one occurrence of psychological IPV, while 11% and 4% reported physical and sexual IPV, respectively. Plurisexual people reported more total violence and psychological abuse compared to heterosexual individuals (ps < .03). There were no differences in sexual or physical IPV rates across sexual identities (all ps > .05), and neither race nor gender interacted with sexual identity to predict IPV (ps > .05). Age (p=.03) and immigration status (ps < .052) emerged as at least marginal moderators, such that older and U.S.-born SM individuals in other-gender relationships reported more psychological IPV compared to their heterosexual and SM in same-gender relationship peers (ps<.02). Also, foreign-born heterosexual people reported more sexual abuse than foreign-born SM individuals in same-gender relationships (p = .03).

Conclusion: During the pandemic, plurisexual participants and SM participants in other-gender relationships experienced disproportionately high rates of psychological IPV, and age compounded this risk. Foreign-born heterosexual people experience more sexual IPV. Given the mental and physical health consequences of IPV, these disparities represent significant health equity concerns.

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Abstract: 1453

THE MODERATING ROLE OF DEMOGRAPHIC AND CLINICAL FACTORS IN THE EFFECTIVENESS OF A GROUP COGNITIVE-BEHAVIORAL THERAPY FOR FEAR OF CANCER RECURRENCE INTEGRATED IN ROUTINE CARE

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Objective: Fear of cancer recurrence (FCR), defined as the fear, worry, or concern that cancer may return or progress (Lebel et al., 2016), is among the most reported psychosocial difficulties experienced by cancer survivors. This study aimed to explore sociodemographic, clinical, and psychological moderators of the effect of a group-based cognitive-behavioral therapy (CBT) program for fear of cancer recurrence (FCR) integrated in routine care.

Methods: Over the past 6 years, 75 participants took part in a group CBT for FCR (groups of 5-11 participants), offered in routine care at the CHU de Québec-Université Laval, and completed a battery of questionnaires in the context of a quality-of-care assessment. Pre- and post-intervention measures were used. The following variables were analyzed as potential moderators of effectiveness: age, biological sex, education level, employment, cancer type, past cancer recurrence, past and ongoing treatments, and baseline anxiety, depression, insomnia, fatigue symptoms, and quality of life.

Results: Most participants were middle-aged women with post-secondary education. Breast cancer was the most frequent diagnosis. FCR severity decreased significantly from pre- to post-treatment. Only employment (greater reductions in FCR scores observed for retired and employed participants vs. “other” category), treatment status (greater FCR reduction for participants undergoing radiotherapy and for participants having completed hormone therapy), quality of life (greater FCR reduction for participants having a greater quality of life) were significant moderators of treatment effects.

Conclusions: These findings further support the effectiveness of this group-based therapy, with treatment outcomes remaining largely consistent across sociodemographic, clinical, and baseline psychological characteristics. To more accurately identify factors influencing treatment response, future research should employ larger and more representative samples, incorporate additional clinical variables such as cancer stage, and assess the long-term effects of treatment. Although this study has certain limitations, it contributes to the growing evidence suggesting that structured CBT interventions represent a promising approach for managing FCR within routine cancer care.

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Abstract: 1460

AGE-RELATED DIFFERENCES IN THE ASSOCIATION BETWEEN LIFE ADVERSITY AND CANNABIS USE

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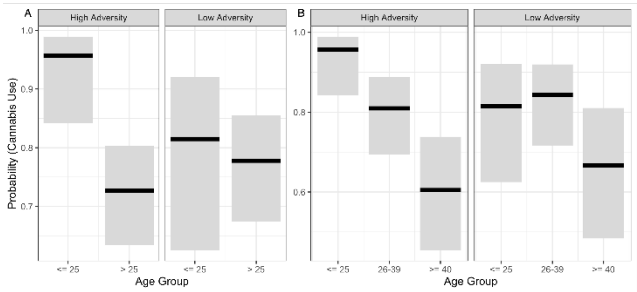
Background: While life adversity has been linked to cannabis use, it remains unclear whether this association differs by age. This study aimed to examine whether age modifies the relationship between life adversity exposure and cannabis use.

Methods: We analyzed data from a prospective study investigating stress responses among cannabis users and nonusers. Life adversity was assessed using an adverse childhood experience questionnaire and the DSM-5 life events checklist. Participants were categorized into high and low life adversity burden groups based on the median values on both measures. Age was divided into early adulthood (≤25 years) and middle/late adulthood (>25 years). Multivariable logistic regression with an interaction term between adversity and age group was applied to examine the effect modification.

Results: A total of 260 participants (206 cannabis users; 54 nonusers) were recruited. Individuals in middle/late adulthood showed lower chances of cannabis use (odds ratio [OR] = 0.12; 95% CI = 0.02 to 0.43; p < 0.01). Participants with low life adversity burden tended to have lower chances of cannabis use (OR = 0.20; 95% CI = 0.03 to 1.01; p = 0.07). The interaction between age >25 years and low life adversity exposure significantly modifies the main effects (OR = 6.59; 95% CI = 1.14 to 53.48; p <0.05). Together, these coefficients suggest that high adversity burden is associated with the risk of cannabis use only among individuals aged ≤ 25 years (**Figure 1A**). Similar patterns were also observed when age was categorized into three groups (**Figure 1B**).

Conclusion: People in their early adulthood with high life adversity exposure appear vulnerable to cannabis use. These exploratory findings indicate the importance of considering the role of age when assessing the impact of life adversity on cannabis use.



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Abstract: 1476

STRONG AND STABLE: CONCORDANCE BETWEEN PURPOSE AND AFFECTIVE WELL-BEING BEFORE AND AFTER A YOUTH COMMUNITY CONTRIBUTION INTERVENTION

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Introduction: Ample research indicates that a sense of purpose in life—a stable organizing aim that motivates goal pursuit and provides meaning—is linked to better psychological and physical health, including adaptive functioning and identity development among youths. Prosocial behaviors and civic engagement are associated with higher purpose, yet evidence suggests that these activities hold mixed associations with affective well-being, raising the possibility that they might alter the purpose–affect concordance. The present study examined whether the concordance between purpose and positive and negative affect became weaker (i.e., more independent) after youths participated in a contribution project.

Method: Participants aged 14-25 (*N* = 322, mean age = 17.4, 67% female) were recruited from 26 youth-serving organizations in the U.S. to partake in an 8–10-week intervention where they contributed to their community through a project of their choice (e.g., hosting multicultural events, building community gardens, supporting counseling access). Youths reported their sense of purpose and positive and negative affect at pre- and post-intervention. Regression models tested whether time (pre- vs. post-intervention) moderated the links between purpose and affective well-being, controlling for gender, race, and education.

Results: Pre-intervention, sense of purpose was correlated with higher positive affect (r = .51, p < .001) and lower negative affect (r = –.25, p < .001). Post-intervention, positive affect decreased (b = –1.72, SE = 0.56, p = .002) and negative affect marginally increased (b = 1.13, SE = 0.58, p = .051). As expected, youths higher in sense of purpose had higher positive affect (b = 3.95, SE = 0.41, p < .001). Yet unexpectedly, the strength of the association between purpose and positive affect remained stable before and after the intervention (interaction term: b = 0.44, SE = 0.59, p = .462). Similarly, youths higher in sense of purpose had lower negative affect (b = –1.79, SE = 0.42, p < .001), and the association between purpose and negative affect did not differ from pre- to post-intervention (interaction term: b = –0.44, SE = 0.62, p = .477).

Conclusion: Findings demonstrated that although engaging in prosocial contributions led to decreases in positive affect and modest increases in negative affect, the concordance between youths' sense of purpose and affective well-being remained stable. This suggests that, while affective costs may accompany youths' development of purpose, sense of purpose nonetheless remained associated with favorable affective well-being. Future work should examine whether these affective changes persist over time and whether sense of purpose is sustained beyond the contribution intervention.

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Abstract: 1484

TRANSCRANIAL MAGNETIC STIMULATION OF THE RIGHT SUPRAMARGINAL GYRUS AND INTEROCEPTIVE PERCEPTUAL LEARNING: TWO CANDIDATES TO NORMALIZE ALTERED INTEROCEPTION IN MENTAL DISORDERS WITH SOMATIC SYMPTOMS.

André Schulz, PhD; Lisa Lai, PhD; Ruta Müller, PhD, University of Luxembourg;

Altered interoception is considered a relevant mechanism of somatic symptom generation in mental disorders. Techniques to enhance interoception might be a promising intervention approach to reduce somatic symptom distress. We tested whether two novel intervention techniques are suitable to enhance cardiac interoception. In Study I (N=22), we stimulated the right supramarginal gyrus (rSMG) using an intermittent theta burst stimulation (iTBS), a protocol of transcranial magnetic stimulation (TMS). This iTBS protocol was compared against an inhibition protocol (continuous/cTBS) and a neutral protocol (intermediary/imTBS). In Study II (N=96), participants underwent an interoceptive or exteroceptive perceptual learning task, with and without a post-learning stress task (socially-evaluated cold pressor test). The iTBS protocol enhanced heartbeat-evoked potentials (HEPs), whereas the cTBS and imTBS protocols did not show this effect. As HEPs respond to attention focused on heartbeats, they serve as an indicator of cardiac interoceptive attention. Individuals who completed the interoceptive perceptual learning task and the post-learning stress test showed higher interoceptive accuracy in a heartbeat counting task. We demonstrated that enhancing brain activity in the rSMG using iTBS increases cardiac interoceptive attention, whereas interoceptive perceptual learning, enhanced by acute stress in the consolidation phase increases cardiac interoceptive accuracy. Both effects were observed over short periods (pre/post), whereas long-term effects are yet unknown. Follow-up studies are urgently needed to clarify whether enhancing these two key indicators of interoception also reduce somatic symptom distress in mental disorders.

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Abstract: 1488

THE ROLE OF HEALTHCARE DISCRIMINATION AND SOCIAL SUPPORT ON POSTPARTUM ANXIETY AND DEPRESSION

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The perinatal period reflects a sensitive window of physical, emotional, and psychological vulnerability. For Black mothers, this period is crucial to examine as they face high rates of maternal mortality, adverse birth outcomes, and historic healthcare discrimination. Given that patient-provider interactions are central to perinatal care, negative healthcare experiences can have lasting effects on maternal mental health. Social support, however, has been shown to buffer the impact of stress and improve well-being in this period. This study explores how healthcare discrimination and social support impact postpartum anxiety and depression in Black mothers, and whether social support moderates these relationships.

A total of 178 African American mothers who had given birth within the past year completed an online survey measuring prenatal healthcare discrimination (HDS), perceived social support (MSPSS), generalized anxiety (GAD), and depression (CES-D). Linear regressions assessed the relationships between HDS and MSPSS on anxiety and depression. A moderation analysis (PROCESS Model 1; Hayes, 2022) tested whether social support moderated the relationship between healthcare discrimination and postpartum mental health.

Higher HDS was associated with higher depressive symptoms (B = 0.560, p < .001) and anxiety (B = 0.402, p < .001). Additionally, higher social support was associated with lower depressive symptoms (B = -3.173, p < .001) and anxiety (B = -1.398, p < .001). Social support moderated the relationship between HDS and maternal mental health such that when social support was high, increased HDS was found with more depressive symptoms (B = 0.497, t = 5.611, p = < .001) and anxiety (B = 0.544, t = 6.34, p = < .001). Low social support had no significant effect on the interaction between HDS and depressive symptoms (p > 0.05) or anxiety (p > 0.05).

Prenatal healthcare discrimination was linked to worse postpartum mental health, and this relationship seemed to worsen in Black mothers with high social support. Using a broad

measure of social support may have overlooked differences in the strength and quality of support that help explain the buffering effects seen in other studies. The context of social support should be further explored as home stressors and the networks of support available (family, friends, etc.) may hold more weight than the presence of support alone.

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Abstract: 1491

INTERSECTIONALITY AND HEALTHCARE STEREOTYPE THREAT: EVIDENCE FROM A NATIONALLY REPRESENTATIVE SAMPLE OF U.S. ADULTS

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People with marginalized identities frequently experience healthcare stereotype threat (HST; Abdou & Fingerhut, 2014), which is the anticipation or expectation of judgment or unfair treatment in healthcare settings. Like experiencing other forms of identity threat, experiencing HST can harm people's mental and physical health over time, and it may also lead people to distrust or avoid interactions with healthcare professionals (Burgess et al., 2010). This issue is of particular interest among higher-weight people, given that obesity (i.e., BMI ≥ 30 kg/m^2) is conceptualized as both a medical condition and as a stigmatized social identity. Despite growing efforts to address bias in healthcare, little is known about the extent to which higher-weight people with multiple marginalized identities experience HST. The present study aimed to address this gap by using nationally-representative data (N = 3,222) from the National Couples' Health and Time (NCHAT) study. Specifically, we used multiple linear regression models to examine the interactions between body size and various other social identities (i.e., race/ethnicity, gender identity, sexual orientation) in predicting HST. Broadly, we anticipated that each of the non-marginalized reference groups would report lower HST than each of the other respective categories. We also anticipated significant interactions between body size and race/ethnicity, gender identity, and sexual orientation, such that higher-weight participants who had an additional marginalized identity would report higher threat. As hypothesized, Black, gender minority, and sexual minority participants reported higher HST than their majority group counterparts (i.e., white, cisgender, and straight participants; ps < .05). Similarly, participants in the "obese" BMI category reported experiencing higher HST than their "normal" BMI counterparts (ps < .001). Interactions between body size, gender identity, and sexual identity were non-significant. However, an interesting pattern emerged among Black participants, such that those in the "normal" (vs. "overweight" or "obese") BMI category reported the highest levels of HST (ps <.009). These results highlight the need for further intersectional approaches in this space, as our findings suggest heterogeneity in the ways that body size and racial identity influence healthcare experiences.

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Abstract: 1495

ACCULTURATIVE AND PERCEIVED STRESS AS PREDICTORS OF WELL-BEING IN ASIAN AMERICAN PATIENTS WITH ADVANCED/METASTATIC CANCER

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Background: Asian Americans with advanced/metastatic cancer experience psychosocial burdens, including acculturative stress (AS) and perceived stress (PS), which may affect quality of life (QoL) and depression over time. Stress exposure is also linked to elevated inflammatory biomarkers, suggesting a possible biological pathway. This study examined whether AS and PS predicted QoL and depressive symptoms across 3 months, and whether inflammatory biomarkers mediated these associations.
Method: Asian American adults with advanced/metastatic cancer (N=67) were assessed at study entry, 6 weeks, and 3 months. AS was measured at the study entry, and PS was measured at all time points. Dried blood spots were collected at 6 weeks (N=53) to assay C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-α (TNF-α). Bivariate correlation and separate linear regressions tested associations between AS and PS with each outcome variable. Biomarkers were examined as mediators.
Results: Participants were on average 58.9 years old (SD=13.60). 56.7% female, and 84.3% foreign-born; Vietnamese Americans were the largest subgroup (41%). At study entry, PS was moderate (M=15.79, SD=7.48), and AS was low (M=1.96, SD=1.95). AS correlated with 3-month QoL (r=–.48, p =.001) and depressive symptoms (r =.59, p<.0001). PS also correlated with 3-month QoL (r=–.62, p <.0001) and depressive symptoms (r=.62, p<.0001). Controlling initial outcome values, AS approached a significant association with QoL (β=-0.66, p=.08) and depressive symptoms (β=1.26, p=.07); PS did not predict either outcome. Among biomarkers, only TNF-α was associated with 3-month depressive symptoms (β=–3.07, p=.009). CRP, IL-6, and TNF-α did not mediate associations between stress and the outcomes.

Conclusion: Higher AS and PS at study entry were strongly correlated with poorer QoL and greater depressive symptoms at 3 months, though effects attenuated when accounting for initial values of QoL and depressive symptoms, suggesting prior QoL and mental health may be the strongest predictors of later outcomes. TNF-α levels were associated with later depressive symptoms, indicating a possible inflammatory pathway. Larger studies are needed to clarify stress and inflammation in Asian American patients with advanced cancer.

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Abstract: 1497

INVESTIGATING THE IMPACT OF WEIGHT BIAS INTERNALIZATION ON ACTIGRAPHY-BASED SLEEP OUTCOMES

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Weight bias internalization (WBI), defined as adopting negative weight-based stereotypes as self-beliefs, is associated with poor mental and physical health. Previous studies investigating the association between WBI and sleep outcomes however, have produced inconsistent results. Furthermore, few studies have examined the underlying psychological mechanisms that explain how WBI is linked to poor sleep. To address these gaps, the current study (N = 255) investigated the association between WBI and sleep duration, onset latency, efficiency, and subjective sleep quality from a sample of adults from Los Angeles. We also examined whether greater anxiety and depressive symptoms mediated these relationships. Exploratory models stratified by sex were also conducted. All analyses were pre-registered. Missing data and models were conducted using rBlimp. All models controlled for BMI, age, race, ethnicity, and sex as covariates. Results indicated that greater anxiety and depressive symptoms mediated the association between greater WBI and poor subjective sleep quality. WBI was not significantly associated with sleep duration, onset latency, or efficiency. Among males, greater WBI was associated with a greater onset latency. Among females, greater WBI was associated with worse subjective sleep quality, and this relationship was mediated by greater anxiety and depressive symptoms. These findings highlight anxiety and depressive symptoms as important mechanisms through which WBI impairs subjective sleep quality. They also highlight the importance of considering sex-specific pathways when assessing the health consequences of WBI.

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Abstract: 1524

PHYSIOLOGICAL AND PSYCHOSOCIAL CORRELATES OF SPEECH-PERCEPTION PERFORMANCE IN ADULT COCHLEAR IMPLANT USERS

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Speech-perception outcomes in adult cochlear implants (CI) users are highly variable and known factors only account for a small portion of this variability (e.g., duration of deafness, age of implantation, and electrode type). Listening-related stress, reflected by sympathetic nervous system (SNS) activity, may be a factor contributing to variability in CI outcomes. Although some SNS activity appears beneficial for completing demanding listening tasks, it is possible that overactivation of the SNS may impede successful speech understanding due to deactivation of necessary brain regions. Additionally, psychosocial protective factors, such as resilience and social connectedness, may play a role in SNS responses and help explain differences in CI outcomes. This pilot study explored how physiological measures of SNS activation (galvanic skin response [GSR], respiration, heart rate) during both quiet and noise listening tasks were associated with speech perception outcomes. Resilience – measured by the Connor Davidson Resilience Scale – and social connectedness – measured by the Lubben's Social Network Scale – were assessed to examine if patient-specific psychosocial factors were associated with speech-perception. Fourteen adult CI users (7 female, 7 male; mean = 62.5 years ± 19.1; range = 25-86) completed two experimental tasks in a single session. Experiment 1 was a stand-alone clinical speech-perception task with a quiet and noise condition, and Experiment 2 was a listening task optimized for collecting physiological measures with a quiet, noise, and control condition. Two performance groups – high and low performers – were created using a median split of speech-perception scores in noise. To quantify group and condition-specific differences in physiology, peak-to-peak amplitude values were used. Across both quiet and noise conditions, low performers showed larger increases in GSR than high performers (quiet: t = -4.594, p < 0.001; noise: t = -4.386, p < 0.001). For respiration, low performers exhibited greater respiration decreases in noise compared to high performers (t = 2.02, p = 0.045) but not in quiet (t = 0.18, p = 0.86). Interestingly, heart rate showed the opposite pattern, with high performers exhibiting greater fluctuations in heart rate compared to low performers in the noise condition (t = 2.14, p = 0.034). Psychosocial results revealed high performers reported stronger social connectedness (t(12)=2.22, p =.04), whereas resilience did not differ across groups. These findings suggest that overactivation of the SNS during challenging listening tasks and low social connectedness may contribute to poorer speech perception outcomes in adult CI users.

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Abstract: 1521

ASSOCIATION BETWEEN PSYCHOSOCIAL STRESS AFFECTS AND IMMUNE CELL MITOCHONDRIAL BIOLOGY: RESULTS FROM ADD HEALTH AND MIDUS

Jack Devine, MA; Anna Monzel, PhD; Martin Picard, PhD; Caroline Trumpff, Columbia University

Introduction: Psychosocial adversity, including socioeconomic disadvantage, chronic stress, life adversity, loneliness, social

isolation, and depressive symptoms, is linked to accelerated biological aging, yet the molecular pathways connecting psychosocial experiences to aging remain unclear. Alterations in mitochondrial biology have been proposed as a promising candidate mechanism. Although small studies suggest psychosocial adversity impairs mitochondrial biology, this hypothesis has not been tested in large population-based cohorts.

Methods: We used two datasets, Add Health (n=4,543) and MIDUS (n=543), containing blood/immune-cell RNA-seq and psychosocial measures. Using our Mitotyping framework, we computed 149 mitochondrial pathway scores (based on MitoCarta 3.0 annotations) to quantify inter-individual differences in mitochondrial biology (e.g., oxidative phosphorylation, mitochondrial translation). To assess psychosocial adversity, we are constructing an integrated psychosocial adversity index combining socioeconomic disadvantage, chronic stress, life adversity, loneliness, social isolation, and depressive symptoms. Associations between mitochondrial pathways and psychosocial adversity will be tested using linear regression adjusting for age, sex, and cell type composition.

Results: Preliminary findings in MIDUS show that higher psychosocial adversity is associated with lower oxidative phosphorylation gene expression, consistent with the hypothesis that psychological stress may become biologically embedded through altered immune-cell mitochondrial bioenergetics.

Discussion: By integrating large-scale transcriptomic data with comprehensive psychosocial measures, this project may help identify mitochondrial pathways underlying the biological embedding of psychosocial stress and identify potential targets for interventions that promote resilience and healthy aging.

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Abstract: 1529

ASSOCIATIONS BETWEEN CUMULATIVE PSYCHOSOCIAL RISK AND CARDIOMETABOLIC RISK FACTORS IN COMMUNITY-DWELLING OLDER ADULTS

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Background: Psychosocial risk factors can independently contribute to cardiometabolic risk and disease burden. However, limited work accounts for their potential aggregated effects which may be more accurately captured by a cumulative risk score. The present study examined whether a cumulative psychosocial risk score derived from multiple measures of negative affect, perceived stress, and social support was associated with cardiometabolic risk markers commonly assessed in primary care settings, and whether these associations differed by sex.

Methods: We used a sample of 152 healthy (other than hypertension), community-dwelling older adults (M= 66.1 years, SD= 6.9 years, 58% male, 89.5% white) from a study of cardiometabolic, neurocognitive, and brain health. A cumulative psychosocial risk index was created from summed z-scores of self-reported depressive symptoms (Beck Depression Inventory), trait anxiety and anger (Spielberger's State-Trait Personality Inventory), hostility (Cook-Medley Hostility Scale), perceived stress (Perceived Stress Scale), and social support (Interpersonal Support Evaluation List, z-scores reversed). Multivariable regression models were computed using SPSS PROCESS (Model 1) to examine relations of cumulative psychosocial risk, sex, and their interaction to cardiometabolic risk factors: resting systolic blood pressure (SBP), resting diastolic blood pressure (DBP), body mass index, total cholesterol, high-density lipoprotein (HDL) cholesterol, low-density lipoprotein (LDL) cholesterol, triglycerides, and fasting glucose. Covariates were age, education, race/ethnicity, smoking status, and antihypertensive medication use.

Results: Analyses revealed a significant positive association of cumulative psychosocial risk with total cholesterol (B = 1.226, SE = .580, p = .036) and LDL cholesterol (B = 1.075, SE = .523, p = .042), but no other cardiometabolic risk outcomes. There was no effect modification by sex.

Discussion: Our findings suggest that cumulative psychosocial risk burden, reflecting higher self-reported negative affectivity and perceived stress, and lower social support, is modestly linked to higher total and LDL cholesterol levels in older adults, but these effects are not contingent upon biological sex. Identification of associated behavioral or psychophysiological mechanisms may offer insight relevant to intervention efforts.

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Abstract: 1552

ASSOCIATION OF INSOMNIA WITH DOSE REDUCTION AND DISCONTINUATION OF ADJUVANT PALBOCICLIB IN EARLY BREAST CANCER: THE PALLAS TRIAL

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Objective. This study aimed to evaluate the association between sleep problems and palbociclib dose reduction and premature discontinuation in patients receiving adjuvant palbociclib for breast cancer.

Methods. This secondary analysis was conducted using data from the PALLAS trial (NCT02513394), a prospective, multicenter, randomized phase III study that enrolled 5,796 patients with hormone receptor–positive, hormone receptor–positive, HER2-early breast cancer. Patients were randomized to receive either: 1) two years of palbociclib (125 mg per day, days 1—21 of a 28-day cycle) in combination with adjuvant endocrine therapy (ET); or 2) adjuvant ET alone for a minimum of five years. Only patients randomized to the palbociclib plus ET arm were included in the present analysis. Among the 2,880 patients assigned to the palbociclib plus ET arm, 2,284 were included in the patient-reported outcomes (PRO) population. PRO data were obtained from patients who completed the cycle 1 day 1 questionnaire and at least one subsequent assessment. A total of 2,166 patients completed the EORTC QLQ-C30 at least twice and were included in the present analysis. Patients were classified as having insomnia or as good sleepers based on the EORTC QLQ-C30 sleep item.

Results. Patients with baseline insomnia showed a higher cumulative incidence of early palbociclib discontinuation in unadjusted analyses (p = 0.051). At 12 months, early discontinuation occurred in 32.6% of patients with insomnia compared with 26.8% of patients without insomnia, and at 24 months in 47.7% versus 43.6%, respectively. In univariable competing-risk models, baseline insomnia (HR = 1.15, 95% CI: 1.00-1.34; p = 0.056) and time-dependent insomnia (HR = 1.15, 95% CI: 1.01-1.31; p = 0.038) were associated with a higher risk of early discontinuation. After adjustment for tumor stage, grade, endocrine therapy class, ECOG performance status, prior chemotherapy, menopausal status, age, race, ethnicity, region, progesterone receptor status, and baseline quality of life, neither baseline nor time-dependent insomnia remained significantly associated with early discontinuation. Baseline insomnia was not associated with time to first palbociclib dose reduction to 100 mg (p = 0.305) or to 75 mg (p = 0.320).

Conclusion. Baseline insomnia showed a trend toward an association with premature palbociclib discontinuation in unadjusted analyses; however, this association was no longer observed after adjustment for clinical, demographic, and baseline quality-of-life factors. No association was found between insomnia and palbociclib dose reductions. These findings suggest that sleep problems do not predict palbociclib adherence over and above the influence of the overall symptom burden.

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Abstract: 1510

HOME CARE AIDES' SUPPORT FOR TYPE 2 DIABETES MANAGEMENT IN OLDER ASIAN AMERICAN ADULTS: EXPLORING EMOTIONAL AND ROLE-RELATED STRAIN

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Background: Older Asian American adults experience a high burden of type 2 diabetes (T2DM). While home care aides (HCAs) are essential to help older adults receive care at home, they face considerable emotional demands and burnout. We examined HCAs' role in supporting T2DM management among older Asian American adults, focusing on stress, cultural expectations, and role boundaries.

Methods: This explanatory sequential mixed-methods design included a convenience sample of HCAs from organizations serving Asian Americans across the Chicago, IL metro area. HCAs first completed an online survey assessing knowledge and confidence, followed by semi-structured interviews with a subset of HCAs to expand on quantitative findings. Descriptive statistics and thematic analyses were used to analyze interim findings.

Findings: To date, 168 HCAs (n=200 planned) completed surveys, and 22 (n=35 planned) completed interviews. Participants were predominantly Asian (92%) and female (82%); most communicated primarily in their heritage language (92%) and cared for a client with diabetes (50%), a family member (71%), or both. HCAs generally reported low to moderate caregiving burden, as 31% indicated no physical strain and 39% reported no emotional stress; supported by only 3.6% respondents indicating high emotional stress and 8.3% high physical stress. Regarding technology training, nearly half (49%) of HCAs desired stress management as well as nutrition (71%), physical activity (62%) and chronic disease management (58%). Skills-based training interests include stress management (39%), technology use (32%), and effective communication (38%).

Interim qualitative findings highlighted notable stress in HCAs, including heavy workloads, increased responsibility when caring for family members, and concern for loved ones' wellbeing. Shared language, cultural values, and family caregiving norms facilitated communication, but amplified expectations and blurred role boundaries. HCAs also reported challenges adapting to cultural diets, managing comorbidities and frailty, and navigating client resistance. Furthermore, HCAs expressed interest in culturally relevant nutrition training and community-based programs that support both their wellbeing and older adults' social connection.

Discussion: Mixed-methods findings reveal discordance in HCAs' perceived stress. Quantitative data suggested low to moderate burden, but qualitative data described high levels of stress related to emotional strain and heavy workloads. Findings highlight opportunities for future exploration of HCA wellbeing and development of digital interventions which are culturally tailored and HCA-centered.

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Abstract: 1437

EXPERIMENTAL INFLAMMATION AND STATUS AVOIDANCE: EVIDENCE FROM A VACCINE STUDY

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Abstract Body

Status avoidance—behavior aimed at minimizing social visibility, competition, or potential conflict—represents a critical yet understudied dimension of hierarchy navigation. Guided by a social psychoneuroimmunological framework, this study investigates whether mild, experimentally induced inflammation promotes greater avoidance of status-relevant situations. The project employs a randomized, double-blind, placebo-controlled design in which healthy adult participants receive either an influenza vaccine or a saline placebo across two laboratory visits approximately 24 hours apart.

Biological assessments include inflammatory cytokines (IL-1β, IL-6, IL-8, TNF-α) measured via plasma, as well as salivary hormone assays (testosterone, estradiol) collected at matched time points. Behavioral outcomes encompass multiple status-relevant paradigms, including a competition choice task, a dictator-style resource allocation task, and an approach–avoidance task assessing automatic behavioral tendencies toward high- and low-status cues.

The primary research question is whether individuals exposed to an immune challenge show increased behavioral avoidance of status relative to placebo. The preregistered analysis plan includes regression models testing whether inflammation levels and conditions predict individual differences in avoidance across tasks. Exploratory analyses will examine whether hormonal profiles moderate these effects.

Data collection is ongoing, with a planned sample size of N = 50. Approximately half of the participants have completed both laboratory visits, and all biological and behavioral measurement protocols have been successfully implemented. Recruitment and data processing are expected to be completed in January 2026, and initial results will be presented. This study provides a rigorous causal test of whether immune activation shapes social status avoidance, offering new insight into the biological pathways through which inflammation may influence hierarchy navigation and status-related behavior.

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Abstract: 1479

HEART UNDER PRESSURE: ASSESSING INDIRECT EFFECTS OF DEPRESSION IN THE LINK BETWEEN STRESS AND CARDIOVASCULAR HEALTH

Breana Aceituno; Agatha Santos, MPH; Rose An Mary Kadavumkal, B.S.; Chiara Cimarusti, B.S.; Evelyn Sarsar, Ph.D.; Claudia Toledo-Corral, Ph.D., California State University, Northridge

Abstract Body

Psychological stress and depression are recognized as significant contributors to cardiometabolic dysregulation. Chronic stress can disrupt the nervous system, elevate inflammation, and promote metabolic changes associated with cardiovascular disease (CVD). Depression may exacerbate these issues through both behavioral and biological mechanisms. Despite strong evidence that perceived stress and depression independently contribute to CVD risk, their psychological and physiological interplay remains insufficiently understood in community samples outside cardiac rehabilitation settings. This study investigates the pathways between perceived stress, depressive symptoms, and CVD risk among young adults in Los Angeles

This secondary, cross-sectional study will use data derived from an ongoing longitudinal study, the Allostatic Load in Latino Youth (ALLY), composed of individuals between the ages of 18 and 24 who identify as Latino or Caucasian within the greater Los Angeles area. Data collection began on July 1, 2023, and will continue through January 31, 2026. We currently have a sample size of 76 participants with a target sample size of 111. We will conduct four regression analyses using the supplementary plug-in PROCESS MACRO v3.5 for SPSS version 29.0 (Hayes, 2017) to assess indirect effects in the conceptual indirect effect modeling. For Model 1, the low-density lipoprotein (LDL) cholesterol was entered into the model as the dependent variable. The Perceived Stress Scale (PSS) was entered as the independent variable. To assess the indirect effect, the Center for Epidemiological Studies Depression Scale (CES-D) score was entered as the potential mediating variable. Models 2–4 will follow the same structure but will substitute the dependent variable with high-density lipoprotein (HDL) cholesterol, systolic blood pressure, and diastolic blood pressure, respectively. All models will adjust for age, sex, and ethnicity.We will adjust for age, sex, and ethnicity.

Most participants self-identified as female (75%, n=57), Hispanic/Latino (88.2%, n=67), and were on average 20 years old (SD=1.99). Participants completed a self-report survey composed of sociodemographics, a 10-item perceived stress questionnaire (PSS, α= .73), and a 10-item depressive symptoms questionnaire (CES-D, α=.83). Systolic and diastolic blood pressure were measured in triplicate, and fasting blood samples were used to evaluate HDL and LDL.

The findings of this study will shed light on the intricate relationship between perceived stress, depressive symptoms,

and cardiovascular risk factors. Furthermore, recommendations will be made to advocate for more public health programs tailored to the needs of marginalized populations such as the Hispanic/Latinx community.

Poster Session 3

March 13th, 2026

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Abstract: 1145

TARGETING UPSTREAM CARDIOVASCULAR RISK FACTORS: STRESS-RELATED COPING AND ONSET OF HYPERTENSION AND OBESITY

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Objective: Accumulating research suggests stress-related coping plays a role in cardiovascular disease risk, but its association with upstream cardiometabolic conditions remains unexplored. We examined whether coping strategies generally deemed adaptive (e.g., acceptance) and maladaptive (e.g., self-blame) predict increased risk of developing hypertension and obesity. We also explored whether variability in the use of these strategies, reflecting attempts to find the best strategies for managing stressors, relates to these outcomes.

Methods: Women (N=26,126) from the Nurses' Health Study II cohort reported use of eight coping strategies in 2001, from which we also derived coping variability levels (lower, moderate, greater). Biennially, until 2019, hypertension status was self-reported, and obesity was derived from height and updated weight information. Cox regression models, controlling for baseline demographic, health-related, and behavioral factors, estimated hazard ratios (HR) and 95% confidence intervals (CI). Potential effect modification by age, menopausal status, and neighborhood socio-economic status (SES) was evaluated.

Results: In the overall sample, many coping strategies were associated with increased risk of new onset obesity (e.g., per 1-SD increase in behavioral disengagement adjusting for demographic and health-related covariates: HR=1.08, 95CI%=1.05-1.11), but not hypertension. Greater versus lower variability levels were related to 8-10% lower risk of developing each condition. Associations were generally comparable across age, menopausal status, and neighborhood SES subgroups.

Conclusions: Stress-related coping strategies and variability in their use were associated with risk of developing obesity and hypertension among women. Future intervention research may consider how women manage stressors to lower risk of conditions that affect lifelong cardiovascular health.

2

Abstract: 1236

GUT MICROBIOME CLUSTERS AND CLINICAL OUTCOMES IN CHRONIC LOW BACK PAIN: CROSS-SECTIONAL AND LONGITUDINAL EVIDENCE FROM THE LB3P COHORT

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Chronic low back pain (CLBP) is a leading cause of disability, yet its biological underpinnings remain poorly understood. The gut microbiome (GM) has emerged as a potential contributor through regulation of systemic inflammation and musculoskeletal pain. Beta diversity, capturing inter-individual microbial differences, may reveal links between ecotypes, pain, and function.

Participants with CLBP, defined as pain for ≥3 months on at least half the days in the prior 6 months, were recruited at the University of Pittsburgh. Stool samples collected at enrollment from 867 CLBP participants underwent 16S rRNA sequencing. Beta diversity was calculated using Manhattan distance and Ward's clustering to generate cluster cutoffs. The Calinski–Harabasz Index identified the optimal cutoff by balancing within- and between-cluster separation. Outcomes included pain (Numeric Pain Rating Scale, NPRS) and disability (Oswestry Disability Index, ODI). Cross-sectional analyses compared outcomes between clusters at enrollment. For longitudinal analyses, participants were stratified into a musculoskeletal health intervention (MHI) group (n=402; physical therapy, occupational therapy, chiropractic care) and a non-MHI group (n=412). Six-month changes in pain and ODI across clusters were tested for both groups.

The cohort (mean age 59.2 years, 61% female, mean BMI 31.5) was predominantly White (77%) and non-Hispanic (98%). A two-cluster solution [GS1] emerged: a *Bacteroides-Enriched* cluster and a *Prevotella-Dominant* cluster. At enrollment, clusters showed no differences in pain (5.6 vs 5.4, p>0.05) or disability (32.9 vs 31.8, p>0.05). In longitudinal analyses, demographics of MHI and non-MHI groups matched those of the full cohort. After MHI, pain improvements were similar across clusters (Δ=0.88 vs Δ=0.89, p>0.05), but disability changes diverged with the *Prevotella-Dominant* cluster showing greater ODI improvement (Δ=4.1vs Δ=0.1, p=0.015). In the non-MHI group, pain and ODI changes did not differ across clusters.

Beta diversity clusters were not associated with pain or disability cross-sectionally, but in participants receiving MHI, cluster membership was linked to functional improvement. Prior literature associates Bacteroides-dominant communities with propionate- and butyrate-producing pathways from protein/fat-rich diets, whereas Prevotella-dominant communities are linked to fiber-driven, acetate-enriched metabolism supporting connective tissue repair and neuromuscular adaptation. These findings suggest that microbial variation, particularly Prevotella

dominance, may shape rehabilitation responsiveness. Future research should examine whether dietary–metabolic pathways underlie these results and can be leveraged for clinical translation.

3

Abstract: 1246

THE ROLE OF EMOTION REGULATION IN THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND RISK FOR EATING DISORDER SYMPTOMATOLOGY

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Background: Adverse childhood experiences (ACEs) are associated with increased risk for eating disorders. It has been proposed that difficulties in emotional regulation may be one possible mechanism through which the relationship between ACEs and eating disorder risk occurs.

Aim: Examine whether global difficulty in emotion regulation mediates the relationship between ACEs and likelihood of having eating disorder symptomatology.

Methods: Young adults (*N*= 621, 58.9% female, 65.1% Caucasian; 19.0% Hispanic/Latino; mean age = 20.05, SD = 2.10 years) recruited from the southern United States completed the ACEs Questionnaire, the SCOFF Questionnaire (to assess presence of core features of eating disorders), and the Difficulties in Emotion Regulation Scale (DERS). A single mediation model was conducted to examine if DERS mediated the association between ACEs and likelihood of having an eating disorder (previous validated binary cut-offs on the SCOFF: 0 = a score of less than 2, 1 = a score of 2 or more, likelihood of eating disorder).

Results: The single mediation model revealed direct paths of association between ACES to DERS (Effect = 3.425, $p < .001$, 95% CI [2.391, 4.459]), DERS to SCOFF (Effect = 0.028, $p < .001$, 95% CI [0.018, 0.038]), and ACES to SCOFF (Effect = 0.178, $p = .004$ 95% CI [0.056, 0.299]). Results also indicated that scores on the DERS partially mediated the relationship between ACEs and the likelihood of having eating disorder symptomatology (Indirect effect = 0.096, 95% CI [0.055, 0.140]). The presence of multiple ACEs indirectly predicted a greater likelihood of having eating disorder symptomatology by way of greater global difficulties in emotion regulation.

Conclusion: The present findings demonstrated a partial mediating pathway through which the relationship between ACEs and the likelihood of having eating disorder symptomatology occurs. This investigation furthers the understanding of the mediating role of difficulties in emotional regulation by focusing on a broad and more encompassing measurement of childhood trauma and household dysfunction through the study of ACEs. Future research should examine if interventions aimed at improving emotion regulation will decrease the prevalence of eating disorders among individuals exposed to ACEs.

4

Abstract: 1147

BEHAVIORAL-SOCIAL RHYTHMS AND MENTAL AND PHYSICAL HEALTH OUTCOMES: A SYSTEMATIC REVIEW

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Background: Behavioral-social rhythms (BSRs) refer to the regularity and timing of daily activities, which influence both biological rhythms and health outcomes. Disruptions in BSRs have been implicated in a range of mental and physical health conditions, but a comprehensive synthesis of these associations has not been completed. This systematic review aimed to evaluate the relationships between self-reported global BSRs and health outcomes, propose a mechanistic conceptual framework, and provide recommendations for future research.

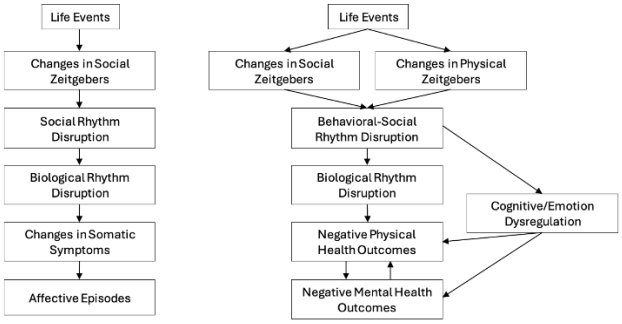
Methods: A comprehensive search identified 44 studies examining associations between BSRs and mental and physical health outcomes. Studies were assessed for quality using the Joanna Briggs Institute Critical Appraisal Checklist, and findings were synthesized based on study design, methodological rigor, and sample characteristics.

Results: Most studies employed cross-sectional designs (n=37), while other designs included cohort studies (n=1), quasi-experimental studies (n=2), and randomized controlled trials (n=4). Findings indicated consistent associations between BSR disruptions and mental health disorders, including depressive disorders, anxiety disorders, sleep wake disorders, and neurodevelopmental disorders. There was preliminary evidence from RCTs and quasi-experimental studies that interventions targeting BSRs, such as Interpersonal and Social Rhythm Therapy and Cognitive Behavioral Social Rhythm Therapy, can improve depressive disorders, posttraumatic stress disorders, and substance related disorders. BSR disruptions were also associated with physical health conditions, including chronic pain disorders, metabolic syndrome, and neurological diseases. However, significant methodological limitations, including reliance on cross-sectional data and inconsistent measurement approaches, limit causal conclusions.

Conclusions: The findings highlight BSR disruptions as a transdiagnostic risk factor for multiple health conditions, supporting the need for longitudinal and intervention studies to clarify causal relationships. A conceptual framework is proposed (see Figure 1) integrating BSRs with cognitive-emotional regulation and biological circadian processes. Future research should focus on standardized measurement of BSRs and interventions specifically targeting BSR disruptions to prevent and improve the management of multiple mental and physical health conditions.

Keywords: behavioral-social rhythms, social zeitgebers, circadian rhythms, lifestyle regularity, mental health disorders, physical health conditions

Figure 1. Proposed Mechanistic Conceptual Framework



Note. The left model is the original social zeitgeber hypothesis proposed by Ehler's et al. (1988). The right model is the newly proposed conceptual framework extending from the social zeitgeber hypothesis. Proposed changes include the separation of social zeitgebers and physical zeitgebers to represent their distinct influence on BSR disruption, the addition of a pathway where BSR disruption directly impacts mental and physical health outcomes through cognitive/emotion dysregulation, and the bidirectional relationship between negative physical and mental health outcomes.

6

Abstract: 1340

EMOTIONAL RESPONSES TO CARDIAC STRESS TESTING AND THE EFFECTS OF SUPPORTIVE COACHING: DIGITAL ANALYSIS OF FACIAL EXPRESSIONS

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Background: Cardiac stress testing with myocardial perfusion imaging single-photon emission computed tomography (MPI-SPECT) is widely used for the detection of ischemic heart disease, but can evoke negative emotional responses. Most research in this area is limited to self-report measures of emotions. The current study investigates changes in facial emotional expression during MPI-SPECT.

Methods: Patients undergoing cardiac stress testing were randomized to receive supportive coaching or care as usual during the diagnostic procedure for inducibility of myocardial ischemia using MPI-SPECT (t*rial registration number: NCT:05896982*). Video recordings were made during cardiac stress testing and digitally analyzed for facial emotion expressions (overall valence score, and specific emotions: happiness, sadness, anger and anxiety). We examined the magnitude and time-pattern of facial emotion expression during cardiac stress testing and whether supportive coaching had beneficial effects on expressed emotions. The role of myocardial ischemia and symptoms during stress testing in facially expressed emotions was also evaluated. In addition, we investigated whether the type of cardiac stress testing protocol (exercise vs. pharmacological) was associated with facial emotion expression.

Results: A total of 108 patients were included (mean age=68.2 [SD=9.7] years, 42 women, 51 receiving supportive coaching). Facial expression of negative emotional valence increased significantly during stress testing (η^2 = 0.040, p = .004), specifically in the first stage of cardiac stress testing (Δ =.037 [95% CI .013; .062], p < .001). Symptoms during testing were associated with negative emotions, whereas inducibility of ischemia was not. Supportive coaching did not reduce negative emotions, inducibility of ischemia or symptoms during cardiac stress testing. Patients undergoing the exercise-based protocol had less negative emotions compared to those receiving the pharmacological protocol (Δ = .080 [95% CI .020; .139], p = .009).

Conclusion: Cardiac stress testing with MPI-SPECT can negatively affect facial emotion expression. Exercise-based stress protocols might result in less negative emotional responses than pharmacological protocols. Short-term supportive coaching was insufficient to mitigate potential negative emotional responses in this specific diagnostic context. Additional research is needed on long-term coaching focussing on diverse clinical samples.

7

Abstract: 1186

DO VASCULAR ABNORMALITIES DURING PREGNANCY IMPACT HOW STRESS ASSOCIATES WITH COGNITION DURING MIDLIFE?

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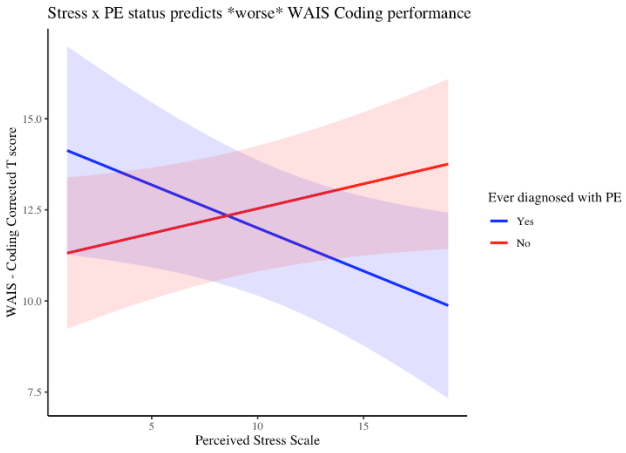
Objective: Psychological stress is negatively associated with age-related cognitive decline and has predicted Alzheimer's diagnosis 35 years later. Mechanisms explaining this effect are unclear, but cardiovascular function may play a role. Pre-eclampsia (PE) and placental evidence of maternal vascular malperfusion (MVM) are vascular disorders of pregnancy that may reveal vulnerabilities to future disease and are associated with later cognitive decline. The current study leveraged a sample of midlife women diagnosed (or not) with PE and/or MVM during a prior pregnancy 10 years prior to assess how cardiovascular vulnerabilities during pregnancy may affect the relationship between stress and cognition at midlife.

Methods: Participants (N = 154) from a longitudinal study of pregnancy and health (Mage at Time 1, 10 years after Time 0, the index pregnancy = 38.66, SD = 6.05) completed the Perceived Stress Scale at Time 1 and an extensive cognitive battery 5 years later (Time 2), including the Wechsler Adult Intelligence Scale, Stroop Test, Trail Making Test, the NIH Tool Box, and the Montreal Cognitive Assessment . PE (n=38) and MVM (n=56) were adjudicated from pregnancy health records. Linear regression models testing the interaction between stress and PE or MVM status and were adjusted for age at time 1, marital status, race,

education, income, insurance status, smoking, blood pressure medication, and blood pressure.

Results: PE+ women who reported high perceived stress at Time 1 performed significantly worse on WAIS – Coding (Contrast= -.037, 95% CI [-.63, -.11], *p* = .006) and Trails A (Contrast= -1.15, 95% CI [-2.20, -.09], *p* = .033) 5 years later compared to PE- women. Additionally, performance on WAIS Letter-Number Sequencing was significantly worse at higher levels of stress for MVM+, but not MVM-, women (Contrast: 6.66, 95% CI [1.69, 11.62], *p* = .009).

Conclusion: In the present study, midlife women who exhibited vulnerable vascular profiles during pregnancy were more sensitive to the effects of stress on some facets of cognition at midlife. However, more research in this area is warranted given that midlife is often too early to see these changes and some measures included in this study may not be sensitive enough to pick up pre-clinical signs of decline over 5 years of midlife. Future research should replicate and extend this work in a larger sample, with additional markers of cardiovascular and cognitive performance, and repeated measures over time.



8

Abstract: 1129

SOCIAL NETWORK FACTORS AND 5-YEAR ALLOSTATIC LOAD IN RACIAL-ETHNICALLY DIVERSE OLDER ADULTS

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Introduction: Social network density (SND), the degree to which members of one's social network know and interact with one another, has been associated with better cardiometabolic health. In contrast, loneliness has been linked to poor cardiometabolic health. However, it remains unclear whether SND and loneliness influence broader markers of chronic stress such as allostatic load (AL), which reflects disruptions on the cardiovascular, endocrine, immune, and nervous systems. Furthermore, differences in cultural values across racial/ethnic groups and structural advantages may impact the way these social factors influence health across the lifespan. This study aims to examine: (1) whether baseline SND and loneliness are related to AL over a 5-year period in older adults, and (2) whether these relationships vary across racial-ethnic groups.

Methods: This study used data from Wave 1(W1; 2005) and Wave 2(W2; 2010) of the *National Social Life, Health, and Aging Project* (NSHAP). The sample included N = 895 participants returning at W2 (Mage = 68.7± 7.46; 57.6% female; 69.49% non-Hispanic [NH] White, 10.61% Hispanic/Latino [H/L], 17.09% NH Black/African American [NHB/AA]. Social network analysis was used to calculate W1 SND. Loneliness was assessed at W1 using the *UCLA Loneliness Scale*. AL was aggregated from available NSHAP biomarkers at Wave 2 including blood pressure, DHEA (adrenal health), hs-CRP (inflammation), HbA1c (blood glucose control), and body mass index (BMI). Linear regression models were estimated to test whether race-ethnicity moderated the association between both W1 SND and loneliness and W2 AL, with adjustment for demographic (age, gender, marital status, and education) and health-related (alcohol use, smoking, depressive symptoms, BMI, and morbidity scores) variables.

Results: Analyses revealed that neither SND nor loneliness were associated with AL 5-years later. However, race-ethnicity moderated the relationship between SND and AL, ($F(3, 608) = 3.01$, $p = 0.0295$). Specifically, for NHB/AA older adults, SND was positively associated with AL ($b = 0.94$, $se = 0.42$, 95% CI(0.12, 1.77), $p = .02$), and this slope was significantly greater than the slope for H/L older adults ($b = 1.68$, $se = 0.67$, 95% CI(0.37, 2.98), $p = .0118$). Race-ethnicity did not moderate any association between loneliness and AL.

Conclusion: Results suggest that the degree to which one's network is interconnected may impact health through stress pathways differently across racial-ethnic groups. This suggests that social drivers of health vary across racial-ethnic groups and structural advantages which may inform equity-based interventions leveraging social resilience.

9

Abstract: 1167

NARRATING SIGNIFICANT CHALLENGES AND TELOMERE LENGTH: EVIDENCE FOR SHORTENED TELOMERES IN HEALTHY POPULATION

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The intersection of narrative identity and telomere length (TL), a biomarker of cellular aging, offers a novel perspective on the psychological and biological mechanisms of stress and health. TL were proven to be sensitive to cumulative stress; however, previous studies using traditional closed-ended surveys have yielded small effect sizes. We hope that incorporating narrative identity themes can complement these methods by offering depth and facilitating meaning-making processes. Thus, provide a more detailed understanding of the relationship between stress

and TL. This study explores the relationship between different types of life narrative themes (LNTs; i.e., agency, communion, and integration) and TL in "greatest challenge" narratives, that is, stories of working through a major life stressor. Participants were 108 adults aged 19-63. Bivariate correlations and linear hierarchical regressions were conducted between LNTs and TL scores. To examine possible non-linear relationships, a quadratic regression was conducted between agency, communion, and TL. Age, self-reported sex, body mass index, race, smoking history, and medication use were included as covariates. Results indicated that both agency ($\Delta R2 = .038$, $\Delta F(1,93) = 4.50$, $p = .04$, $\beta = -0.20$) and communion ($\Delta R2 = .03$, $\Delta F(1,94) = 4.09$, $p = .05$, $\beta = -0.19$) were significant negative linear predictors of TL, while integration ($\Delta R2 = .002$, $\Delta F(1,86) = .19$, $p = .67$, $\beta = .04$) was not associated with TL. To further interpret these patterns, we employed an explanatory sequential design, conducting a thematic analysis of high-agency and high-communion narratives. Qualitative results revealed that when individuals described uncontrollable challenges, extreme agency was associated with isolation and failed attempts at control, whereas extreme communion reflected self-sacrifice and caregiving burden. These maladaptive patterns may exacerbate stress physiology, shedding light on why agency and communion were negatively associated with TL. These findings suggest that the way individuals construct narrative identities around stressful life events reflects and potentially predicts biological aging processes. It underscores the need for further research into the connections between LNTs, health, and physiological functioning. Importantly, the “greatest challenge” narrative prompt centers on participants’ subjective experiences of stress. Linking these personal narratives to TL helps us understand why some people may be more biologically resilient than others. By complementing traditional close-ended questionnaires, this narrative approach offers depth, cultural sensitivity, and methodological triangulation in the study of stress and health.

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Abstract: 1253

DAILY SLEEP DURATION AND MOOD: BIVARIATE ANALYSES FOLLOWING MARITAL SEPARATION

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Sleep and affect share a close, symbiotic relationship across the lifespan. Despite considerable theorizing about the interdependence of sleep and subjective mood states, limited empirical work addresses the bidirectional and prospective associations between these constructs. The current study uses data from a sample of 140 adults who recently experienced a marital separation or divorce. As part of a larger study, daily sleep diaries, actigraphy data, and affect assessments were collected from participants for seven days at two timepoints spaced roughly 4 months apart. To better understand lead-lag associations between total sleep time (TST) and self-reported negative affect (NA), we applied a random intercept cross-lagged panel model (RI-CLPM) to the extant data. Separate models were fitted to diary- and actigraphy-assessed sleep duration data, and final models accounted for between-person differences in gender, age and relationship factors. No evidence was found to support the preregistered hypotheses; in equality-constrained models, daytime mood did not predict the following night’s sleep duration and sleep duration did not predict the next day’s mood. At the between-person level, although there was reliable individual variability in average levels of NA and TST, they were not significantly associated with each other. Despite study limitations, these nonsignificant findings are not anomalous in the context of existing literature. Further research is needed to examine more nuanced possibilities like the existence of a curvilinear relationship between variables, the importance of sleep duration variability over multiple nights, and the impact of specific negative affect domains.

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Abstract: 1214

SENSITIVITY TO SOCIAL PAIN AND RESTING BLOOD PRESSURE: THE UPS AND DOWNS

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Social pain, a subjective experience that evokes feelings of distress from actual or perceived harm to social bonds, is an unavoidable threat to social connectedness that can have consequences on one’s physical health. Each person’s daily experience of social pain differs, with some being more sensitive than others, and some showing greater ups and downs (i.e., variability) than others. Predictors of such variability are in need of more study. One health factor with potential relevance to variability in sensitivity to social pain is resting blood pressure (BP). Specifically, literature suggests those with elevated resting BP, even below thresholds for hypertension, also show reduced sensitivity to social pain. Given previous findings suggesting poor health outcomes are related to higher variability in emotional responding along with those relating high emotional variability to dysregulation of biological processes, it is possible that high resting BP will also be associated with higher variability in sensitivity to social pain. In the present study, we tested this possibility by means of a 14-day ecological momentary assessment. Following the collection of resting BP, 116 participants (M age = 20.052, 78% female) reported on their daily feelings of social pain three times a day for two weeks. Momentary sensitivity to social pain ratings were averaged across days. Variability was calculated as the person-specific standard deviation of reports. Partial correlations were then run relating resting BP with the two measures of sensitivity to social pain, adjusting for age and BMI. Results indicated higher resting BP, as collected in the lab, was related to lower mean levels of sensitivity to social pain, which replicates prior research ($r = -0.25$, $p \leq 0.01$). Additionally, and in line with hypotheses, higher resting BP was related to higher variability in daily reports of

sensitivity to social pain ($r = 0.24$, $p \leq 0.01$). That is, higher resting BP relates to more ups and downs in perceptions of social pain. Our results replicate and extend previous findings on BP and sensitivity to social pain to suggest that higher resting BP is indeed a risk factor for poor health, even at the socio-emotional level. Results further suggest that while resting BP might be beneficial in the acute setting in that it may dampen sensitivity to social pain in the moment, over longer periods of time, higher resting BP is still a correlate of poor health. Future studies could test the manipulation of BP across time to better understand the mechanisms explaining the link between blood pressure and social processing in daily life.

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Abstract: 1044

PERSISTENT ADHERENCE TO PANCREATIC ENZYME REPLACEMENT THERAPY AMONG ADULTS WITH CYSTIC FIBROSIS: A LONGITUDINAL STUDY

Allen Sherman

Most individuals with cystic fibrosis (CF) receive pancreatic enzyme replacement therapy (PERT) with meals and snacks, to address decreased production of pancreatic enzymes. Untreated, pancreatic insufficiency leads to malnutrition and disease progression. Unfortunately, use of PERT is part of an extensive, highly burdensome home treatment regime (which typically also includes airway clearance therapy, transmembrane conductance regulator modulators, nebulized mucolytics, and other treatments). There have been longstanding concerns regarding poor adherence. Surprisingly however, very little systematic information is available about adherence to PERT among adults with CF. Moreover, the few studies that are available generally involve a single assessment, which offers little understanding of "persistent" or sustained adherence over time, which has more direct clinical relevance. The current study was intended to address this important gap by examining persistent adherence over the course of one year among adult patients receiving care in a "real-world" practice setting.

Participants were recruited from a regional CF treatment center. Average FEV_1% predicted was 66.90 (24.27), and average age was 26.31 (7.26). A validated measure of self-reported adherence to PERT (Cystic Fibrosis Treatment Questionnaire) was administered at baseline, 6-months, and 12-months. "Persistent adherence" was defined as adherence across all assessment periods (based on a minimal threshold drawn from prior research), whereas "non-persistence" denoted all other participants. Notably, the adherence measure was not correlated with a measure of social desirability bias (r= .02).

Persistent or sustained adherence to PERT with both meals and snacks over the course of one year was 55.74%. Adherence at each assessment ranged from 60.66% to 70.18%. Persistence was not significantly related to any of the demographic or clinical variables evaluated.

Results contribute to the literature by providing an initial benchmark for a critical component of care-- persistent adherence to PERT. These findings shed light on the troubling scope of the problem among patients treated in a naturalistic clinical setting, outside the narrow confines of a clinical trial, and offer an important foundation for future research regarding risk factors and pragmatic interventions.

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Abstract: 1124

CARDIOVASCULAR REACTIVITY AND HABITUATION TO ACUTE PSYCHOLOGICAL STRESS: EXAMINING THE INFLUENCE OF TRAIT MINDFULNESS

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Trait mindfulness has been consistently associated with positive cardiovascular health outcomes, with adaptive cardiovascular responses to stress representing one potential physiological mechanism. The present study examined the influence of trait mindfulness on both cardiovascular reactivity and cardiovascular habituation to an acute psychological stress task. A sample of 139 undergraduate students participated in a standardized cardiovascular stress adaptation protocol, which included a 10-minute baseline, a 5-minute mental arithmetic task, and a 15-minute recovery period, completed twice within the same testing session. Cardiovascular indices including systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR) were continuously monitored. Trait mindfulness was assessed using the Mindfulness Attention Awareness Scale. Results indicated that trait mindfulness predicted greater DBP reactivity to the initial stress exposure, as well as enhanced SBP and DBP recovery following the stressor. In addition, mindfulness predicted greater DBP habituation from the first to the second stress exposure. No significant associations were observed between trait mindfulness and HR stress responsivity. Overall, these findings suggest that trait mindfulness is associated with adaptive cardiovascular stress responses, highlighting a potential physiological mechanism that may underlie the link between mindfulness and cardiovascular health.

15

Abstract: 1225

ROMANTIC RELATIONSHIP DISSATISFACTION AND AMBULATORY BLOOD PRESSURE: IS THERE A CONNECTION AND CAN SOCIAL SUPPORT BUFFER?

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Joshua Smith, MD; Daniel Taylor , Ph.D.; Bert Uchino, Ph.D.; John Ruiz, Ph.D.

Background: Social environments and interpersonal experiences robustly influence cardiovascular disease (CVD) risk. Poorer romantic relationship quality has been linked to elevated CVD-risk and pathogenic mechanisms (e.g., higher blood pressure [BP]). Separately, perceiving greater social support (SS) is related to lower CVD-risk. Less is known, however, about whether broad SS offsets deleterious effects of romantic relationship quality on CVD-risk. Accordingly, we tested whether SS buffers positive associations between romantic relationship dissatisfaction and ambulatory BP following interactions with relationship partners, with further investigation of sex differences.

Methods: A subset of people in stable romantic partnerships (≥ 1-year) from a diverse community sample was used (n = 222, M_{age}= 44.3, 46% female, 64% non-Hispanic White, 20% Hispanic/Latino). Validated surveys were used for one-time measurement of self-reported SS and romantic relationship dissatisfaction, for which two sub-scores (disaffection; disharmony) were derived. Within-person average BP (systolic [SBP], diastolic [DBP]) after interactions with one's romantic relationship partner was derived from ambulatory measurements over two days. Analyses included t-tests and hierarchical linear regressions adjusted for relevant covariates.

Results: Overall, average SBP (mmHg) following interactions with relationship partners was 146.0 and average DBP (mmHg) was 83.8. Average BP after partner interactions was higher for males (n = 120; SBP = 151.0, DBP = 86.5) than females (n = 102; SBP = 140.0 DBP = 80.6) (*p*'s < .01). Relationship dissatisfaction and SS did not differ by sex. Contrary to hypotheses, higher relationship disaffection was associated with lower SBP following partner interactions (B = -22.22, p = .011). Otherwise, relationship dissatisfaction, SS, and SS × relationship dissatisfaction interactions were not related to BP. Results differed by sex, such higher relationship disaffection was related to lower BP for females (SBP: B = -34.21, p < .001; DBP: B = -16.68, p = .002) but not males. A significant SS × relationship disaffection interaction emerged (B = -55.73, p = .022) such that relationship disaffection was associated with lower SBP for males who perceived high social support (+1 SD; B = -54.93, p = .04) but not for males who perceived low social support (-1 SD).

Conclusion: Our results indicate relationship dissatisfaction may be salient to BP after romantic partner interactions for females and for males with high social support. Counter to our predictions, however, higher relationship dissatisfaction was associated with lower BP. These results underscore the need for future research explicating associations between social relationships and CVD-risk.

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Abstract: 1331

PERCEIVED HOSTILITY IN SOCIAL RELATIONSHIPS MEDIATES THE ASSOCIATION BETWEEN SOCIAL ANXIETY AND CARDIOVASCULAR REACTIVITY TO ACUTE PSYCHOLOGICAL STRESS.

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The primary aims of the current study were (1) to examine the association between trait social anxiety and cardiovascular reactivity and habituation to acute psychological stress, and (2) to determine whether greater perceptions of hostility and rejection from others mediate the association between trait social anxiety and cardiovascular reactivity and habituation. A sample of 139 participants completed two identical stress-testing protocols, each consisting of a 10-minute baseline and a 5-minute stressor phase (serial subtraction task). Systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP), and heart rate (HR) were continuously monitored throughout. Participants also completed self-report measures assessing trait social anxiety as well as perceived hostility and rejection from others. Greater perceptions of hostility from others were significantly associated with lower HR reactivity to the initial stress exposure, as well as poorer HR adaptation from the first to the second stress exposure. Additionally, perceived hostility significantly mediated the association between trait social anxiety and lower HR reactivity. Specifically, trait social anxiety predicted greater perceptions of hostility from others, which in turn were associated with diminished HR reactivity. These maladaptive cardiovascular stress responses may represent a potential mechanism linking trait social anxiety to adverse prospective health outcomes.

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Abstract: 1317

BUFFERING AGAINST BIAS: HEART RATE VARIABILITY AS AN EMOTIONAL RESILIENCE MECHANISM TO DISCRIMINATION

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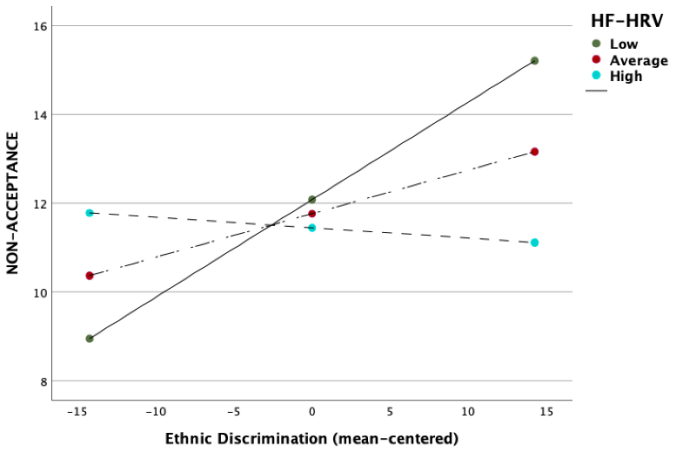
Discrimination is associated with a range of adverse physical and psychological outcomes in marginalized populations. One pathway through which discrimination may undermine well-being is by impairing the ability to regulate emotions effectively. Experiencing more discrimination has been linked to heightened rumination and anxiety, both of which reflect difficulties disengaging from distressing emotions. However, individual differences in heart rate variability (HRV), a physiological marker of autonomic and emotional flexibility, may buffer these effects. The present study examined whether HRV moderated the association between perceived ethnic discrimination and emotion regulation difficulties in 81 self-identified non-White participants (50.6% Black, 19.8% Asian, 9.9% Hispanic, 19.7% Mixed/Other).

Resting HRV was assessed via electrocardiography during a 5-minute baseline, and participants completed the Perceived Ethnic Discrimination Questionnaire (PEDQ) and the Difficulties in Emotion Regulation Scale (DERS). Given prior evidence that

discrimination is linked to emotion suppression and greater difficulties effectively downregulating negative emotions, the Non-Acceptance of Emotion and Limited Access to Emotion Regulation Strategies subscales were also analyzed (Non-Acceptance and Strategies, respectively).

Results showed HRV moderated the association between ethnic discrimination and Non-Acceptance (R^2 = 0.13, b = -0.12, SE = 0.05, p = 0.02). For participants with low (b = 0.22, SE = 0.07, p < 0.01) and average (b = 0.10, SE = 0.04, p = 0.03) HRV, higher discrimination was linked to more non-acceptance of emotions. This association was non-significant at high HRV (b = -0.02, SE = 0.06, p = 0.70). There was also a marginally significant interaction between ethnic discrimination and HRV on Strategies (R^2 = 0.15, b = -0.08, SE = 0.04, p = 0.09). For participants with low (b = 0.19, SE = 0.07, p < 0.01) and average (b = 0.11, SE = 0.04, p < 0.01) HRV, higher discrimination was associated with greater difficulties utilizing effective emotion regulation strategies. At high HRV, however, this association was non-significant (b = 0.03, SE = 0.06, p = 0.56)

Findings suggest that higher HRV may buffer the negative effects of ethnic discrimination on emotion regulation, supporting HRV as a potential resilience mechanism in marginalized populations.



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Abstract: 1417

HEART RATE VARIABILITY AND EXECUTIVE FUNCTION IN CHILDREN: PRELIMINARY ANALYSIS IN A CZECH COHORT OF SCHOOL-AGED CHILDREN FROM A SOCIOECONOMICALLY DISADVANTAGED REGION

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Background: Heart rate variability (HRV) reflects autonomic nervous system regulation and has been linked to cognitive function and self-regulatory mechanisms, primarily in adults. Less is known about these associations in general populations of children, particularly in socially disadvantaged contexts. This study examined whether resting HRV is associated with executive function in school-aged children from varying socioeconomic backgrounds.

Methods: Preliminary analyses included data from 94 children (aged 10–12 years) participating in the Czech cohort of 4th- and 5th-grade pupils, their parents, and teachers (REFRESH–Social-Lab-Research-Program4). Children completed cognitive tests in classroom settings assessing response inhibition (Flanker) and cognitive flexibility (Set Shift). Resting supine HRV was recorded via standard ECG for 10 minutes; a 5-minute segment was analyzed in Kubios, with RMSSD and HF-HRV as the primary indeces of vagal modulation of parasympathetic activity. Executive function was calculated as the sum of z-standardized scores for Flanker and Set Shift (reaction time and correct responses). Linear regression models tested associations between log-transformed HRV markers, and executive function score, adjusting for age, sex, parental education, with additional adjustment for household socioeconomic status, self-reported noise during measurement, and diagnosed health or learning conditions (i.e. ADHD/ADD, specific learning disorders, astmas).

Results: LnRMSSD and lnHF-HRV showed positive significant associations with executive function score (βRMSSD = .14, p = .012 and βHF-HRV=0.29, p=0.004),). Associations between HRV markers and executive function score remained significant even after full adjustments (p≤0.019). We observed no significant interactions with parental education or health/learning conditions.

Conclusions: In this preliminary analysis, heart rate variability was significantly associated with executive function in school-aged children, suggesting that higher vagal modulation may represent a potential target for preventive or intervention strategies supporting children´s cognitive functioning. The lack of moderation by parental education or health/learning conditions suggests that HRV–executive function associations may operate similarly across socioeconomic levels and health status. Analyses in larger samples are needed to clarify this relationship and the potential role of socioeconomic context.

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Abstract: 1091

“MY BODY WILL REMEMBER WHAT MY MIND WANTS TO FORGET”: TOWARDS A BIO-CULTURAL VULNERABILITY MODEL OF VETERAN MULTI-MORBIDITY

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Introduction: Military veterans have high rates of posttraumatic stress disorder (PTSD) along with multi-morbid problems, including physical pain and problematic substance use. The etiology of multi-morbid problems likely involves both military

experiences and culture. Qualitative research can build understanding of vulnerability for multi-morbid problems.

Methods: Participants were U.S. veterans with PTSD symptoms, pain, and problematic substance use (*n* = 20). Qualitative interviews focused on military experiences, multi-morbid problems, and coping. Transcripts were analyzed to develop an explanatory model of multi-morbidity.

Results: *Military experiences* that left veterans vulnerable to PTSD and multi-morbid problems included (1) *military deployments*, (2) *specific discrete events*, and (3) the *accumulation of stressors* over time. In the aftermath of these experiences, *military cultural factors* that *increased* vulnerability included (4) the *significance of losing one's physical and mental fitness*, (5) a tendency to *ignore or minimize pain*, (6) *discrepancies between military and civilian culture,* (7) *military drinking norms*, and (8) *treatment stigma*. Military cultural factors that *decreased* vulnerability included (9) *camaraderie* and (10) *service*.

Discussion: Military culture moderated the impact of challenging experiences to influence participants' vulnerability for PTSD and multi-morbid problems, in line with bio-cultural models of health. Clinical assessments and treatments should incorporate the range of military cultural risk and protective factors, and veterans' perceptions of how these influence their health.

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Abstract: 1137

EARLY LIFE PSYCHOSOCIAL STRESS, MORNING AND EVENING SALIVARY METABOLITES AND BIOLOGICAL AGING IN MIDLIFE

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Background: The human stress system is tightly interconnected with the circadian system; however, few studies have systematically explored whether exposure to psychosocial stress can impact the diurnal pattern of saliva metabolites except for cortisol. We aim to explore whether early life stress (ELS) is associated with morning and evening levels of saliva metabolites as well as their changing patterns. We further explore whether the ELS-related metabolites are associated with accelerated biological aging in midlife.

Methods: Data from 79 participants (mean age, 39.8±3.0; 50.6% females; and 49.4% Blacks) were obtained from a longitudinal data set, including: (1) saliva metabolites at evening (i.e. bedtime) and morning (a mixture of samples at wake-up; 30 mins and 60 mins post wakeup) from Metabolon; (2) DunedinPACE, a biomarker of pace of epigenetic aging; and (3) a total of 13 assessments of ELS obtained in the participants' first 25 years of life. An overall ELS score was derived by classifying each assessment into quantiles and then summing the resulting values. Age, sex and race were included as covariates in the analyses.

Results: After excluding metabolites with missing rate>50%, a total of 557 named metabolites were identified. Mixed regression analysis showed that 348 showed morning vs. evening differences at p<0.01, with majority of the signals (n=317) having a higher level in the morning and the top signal being cortisone (p=1.72e-25). Analysis also showed that ELS was associated with the average level of 46 metabolites across time points at p<0.01 with the top 5 signals being caffeine, theophylline, 3-ureidopropionate, nicotine, and sucrose, indicating that ELS is associated with higher intake of caffeine and higher prevalence of smoking behaviors. Out of these 46 metabolites, 5 were associated with accelerated biological aging at p<0.05 including nicotine, N,N-dimethyl-5-aminovalerate, butyrylputrescine/isobutyrylputrescine, histamine, and N-acetylmuramate. A significant time × stress interaction was observed for 26 metabolites. Out of the 26, the morning vs evening differences (i.e. the slope) in 7 were associated with DunedinPACE with cortisone being one of them. Like cortisone, a flattened diurnal slope of the other 6 (N-lactoyl tyrosine, butyrylcarnitine (C4), (S)-3-hydroxybutyrylcarnitine, alanine, homoarginine, and arabitol/xylitol) was associated with ELS and accelerated biological aging in midlife.

Conclusion: In addition to cortisol, we identified 6 more saliva metabolites with flattened diurnal slope being associated with ELS and accelerate biological aging at midlife. The average level of saliva metabolites might mainly reflect the lifestyle factors related to ELS.

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Abstract: 1179

QUALITATIVE APPROACHES TO INVESTIGATING STRESS AND CARDIOVASCULAR HEALTH AMONG OLDER AFRICAN AMERICAN ADULTS FROM THE HEART OF DETROIT STUDY

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Background. There are limited studies that qualitatively investigated how stressors directly and indirectly influence cardiovascular risk across the lifespan among urban-dwelling older African American adults. The constructivist grounded theory (CGT) methodology is focused on developing a theory based on participants' lived experiences. Combining CGT with the lifeline interview methodology (LIM) allows researchers to examine the chronology of significant experiences from participants' life trajectories. Those data may then be used to contextualize later life health status. We aim to demonstrate the strengths and outcomes of the innovative qualitative method of

integrating CGT and LIM in health psychology research, as in The Heart of Detroit Study (THDS). **Methods**. A subsample of THDS baseline participants was sorted into sex-balanced quadrants along the axes of perceived stress and CVD risk. 34 participants at the extremes for each quadrant were selected. A semi-structured interview guide, a lifeline for participants to fill out, and an interview debrief were used to facilitate interviews (45-120 min). A team of three coders will create a codebook and conduct data triangulation of field notes, lifelines, and interview transcripts on Dedoose to iteratively identify emergent themes. **Results**. These qualitative approaches will ensure rigor and a nuanced understanding of thematic categories to create a theoretical model of psychosocial determinants of cardiovascular health within older African American adults that builds on other directly applicable models like The Biopsychosocial Model of Racism and Intersectionality Theory. CGT guidelines provide the extraction of specific contexts in which sources of stress contribute to CVD risk, thereby adding rich theoretical information. Initial codes from a subsample of 5 interviews suggest that family dynamics (e.g., high-conflict patterns, grandparenting), religiosity, socioeconomic status, neighborhood safety, and traumatic experiences largely shaped the well-being of older African American adults across prominent life events. Experiences of discrimination varied by participants' school demographics, neighborhood characteristics, and occupation/corporate culture. **Conclusion**. Future mixed-methods studies like THDS should consider the advantages and challenges of incorporating similar qualitative approaches. Appropriate application of CGT and LIM would complement quantitative findings to promote better cardiovascular health among older African American adults.

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Abstract: 1195

THE ASSOCIATION BETWEEN ANXIETY AND PHYSIOLOGICAL AND PERCEIVED PHYSIOLOGICAL RESPONSES TO ACUTE PSYCHOLOGICAL STRESS

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Background: Individuals with higher levels of general anxiety report greater anticipatory anxiety before stressful events. Separately, research has demonstrated that acute psychological stress is associated with increases in actual physiological arousal (i.e., heart rate) and perceptions of physiological arousal (i.e., perceived heart rate changes). However, the relationship between general anxiety, anticipatory anxiety, and perceived and actual physiological arousal has not been explored.

Methods: Young adults (N=421, 62.7% Female) completed the Hospital Anxiety and Depression Scale anxiety subscale (as a marker of general anxiety).Participants then completed a resting baseline period (10 minutes) followed by a standardized acute psychological stress task (4 minutes; Paced Auditory Serial Addition Test). Participants reported their state cognitive and somatic anxiety intensity levels immediately after the task instructions before the beginning of the task. Immediately following the task, participants reported their stressor-evoked physiological arousal. Heart rate was measured continuously via electrocardiogram during baseline and the task. Heart rate reactivity was calculated as: stress – baseline.

Results: Data were analyzed using a path analysis. The *a priori* hypothesized model demonstrated a good fit to the data, $c^2(65) = 122.61$, $p < .001$, CFI: 0.96, TLI = 0.94, SRMR = 0.04, RMSEA = 0.05 (90% CI: 0.03-0.06). After controlling for covariates (gender, task engagement, and baseline cardiovascular activity), higher general anxiety was associated with increased levels of anticipatory cognitive anxiety and somatic anxiety intensity before the stress task. General anxiety was indirectly associated with perceived physiological arousal through anticipatory anxiety intensity. Anticipatory anxiety intensity was not statistically significantly associated with heart rate reactivity.

Conclusion: Individuals with elevated general anxiety may experience more anxious anticipation of a stressor, which relates to a potential perceptual discrepancy in perceived heart rate as a response to the stressor. It may be beneficial to aim at reducing anticipatory anxiety and perceived physiological arousal in the context of stress.

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Abstract: 1189

SOCIODEMOGRAPHIC CORRELATES OF SEVERE PSYCHOLOGICAL DISTRESS AMONG A MULTI-ETHNIC ADULT SAMPLE WITH PREDIABETES: DATA FROM THE CALIFORNIA HEALTH INTERVIEW SURVEY (CHIS) 2011-2018 AND 2021-2022

Clare Wongwai, UIC; Loretta Hsueh, PhD, University of Illinois Chicago (UIC)

Approximately 97.6 million US adults have prediabetes. Psychological distress may worsen prediabetes outcomes, leading to the progression of type 2 diabetes. We investigate the prevalence of psychological distress and sociodemographic associations among a multi-ethnic adult sample with self-reported prediabetes.

Methods: Using data from CHIS 2011-2018 and 2021-2022, we measured psychological distress using the Kessler Psychological Distress Scale, which includes 6 questions ("during the past 30 days, about how often did you feel: nervous, hopeless, restless or fidgety, so depressed that nothing could cheer you up, or that everything was an effort, worthless?"). The items are ranked on a five-point scale: "all of the time, most of the time, some of the time, a little of the time, or none of the time." The six questions are then summed for a psychological distress score (ranging from 0-24). A score of 13 or more indicates severe psychological distress. A logistic regression tested the association of severe

psychological distress, as a binary variable (no/yes), with sociodemographic factors.

Results: Our sample of N= 9,911adults (mean age: 57.63 yrs, 51.3% female) was primarily Hispanic (55.4%, n=5,495), followed by Asian (26.8%, n=2651), White (14.3%, n=1415), African American (1.4%, n=140), Multiracial (1.2%, n=119), American Indian/Alaskan Native (0.7%, n=64), and Native Hawaiian/Pacific Islander (0.3%, n=27). Prevalence of severe psychological distress was 7.1%. Severe psychological distress was associated with the following sociodemographics: younger age (OR=0.97, 95% CI:0.96-0.97), female gender (OR=1.36, 95% CI:1.15-1.62), limited English proficiency (OR=0.80, 95% CI:0.65-0.99), unmarried status (OR=1.47, 95% CI:1.23-1.76), smaller household size (OR=0.92, 95% CI:0.88-0.98), lower self-reported health status (OR=0.44, 95% CI=0.39-0.48), and not having a usual care place (OR=1.35, 95% CI:1.05-1.70). Otherwise, psychological distress was not associated with race/ethnicity, nativity, or educational attainment.

Discussion: Severe psychological distress was elevated in this multiracial sample of adults with prediabetes. Several sociodemographic characteristics were associated with severe psychological distress, although race/ethnicity, nativity, and educational attainment were not. Future work should explore how to integrate routine mental health screening in prediabetes care, particularly for sociodemographic groups at elevated risk of psychological distress and type 2 diabetes, to improve mental health and diabetes health-related outcomes.

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Abstract: 1087

DYADIC ASSOCIATIONS OF CARDIOVASCULAR SYNCHRONY WITH SLEEP HEALTH IN ADULTS WITH CANCER AND THEIR BEDPARTNER CAREGIVERS

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Adults with cancer and their bedpartner caregivers often report compromised sleep. Although elevated cancer-related distress has been linked to one's own and partner's poor sleep, the physiological processes underlying these associations remain unclear. Cardiovascular synchrony, the degree to which partners' cardiovascular functioning is reciprocally linked, is an interpersonal physiological process associated with health. This study examined the associations of cardiovascular synchrony in patient-caregiver dyads during stress with each partner's sleep.

Patients with colorectal cancer (*N*=134, 56.3 years old, 34.3% female, 65.7% Hispanic) and their caregivers (55.0 years old, 66.4% female, 62.7% Hispanic) underwent a health-related stress task together, during which their cardiovascular functioning was continuously measured. Participants also individually completed 14 consecutive days of sleep logs, from which sleep onset latency (SOL), wake after sleep onset (WASO), sleep duration (SD), and sleep efficiency (SE) were derived. Cardiovascular synchrony was quantified using the coupled linear oscillator model. Covariates were each person's age, gender, BMI, resting mean arterial pressure, cardiovascular medications, and patient's cancer stage.

Patients and caregivers showed significant cardiovascular synchrony across the stress task (p<.05). Additionally, they endorsed prolonged SOL (>20 min) but normal WASO (<20 min), SD (7-8 hours), and SE (>85%). Actor-partner interdependence models revealed that higher patient cardiovascular synchrony was associated with their own longer SOL (b=.44, p<.001) but their caregivers' higher SE (b=.002, p=.018). Higher caregiver cardiovascular synchrony was associated with their own higher SE (b=.36, p=.029), as well as their patients' shorter SOL (b=-37.26, p=.027), shorter WASO (b=-1430.43, p=.004), and higher SE (b=.79, p<.001).

Results highlighted the unique roles of cardiovascular synchrony between patients and caregivers, especially the salutary functions of synchrony in partners' sleep health. Sleep interventions targeting both members of a dyad may benefit from incorporating interpersonal physiological processes such as synchrony. Future studies are warranted to examine how dyadic cardiovascular synchrony manifests, including the roles of partners' verbal disclosures and nonverbal behaviors when coping with medically related stress.

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Abstract: 1366

WORK-RELATED STRESSORS AND SELF-REPORTED HEALTH AMONG A SAMPLE OF RIDESHARE DRIVERS IN THE CHICAGO METRO AREA

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BACKGROUND

Due to the precarious nature of their jobs, rideshare drivers and other contingent workers experience numerous occupation-related stressors which can adversely impact their health. However, limited research has explored how occupational stressors influence health-related measures among rideshare drivers. Therefore, the objective of this study was to examine associations of occupational stressors with self-reported health and diabetes among rideshare drivers.

METHODS

We surveyed a convenience sample of Chicagoland rideshare drivers using an online questionnaire between November 2024 and February 2025. Perceived health status and diabetes were self-reported via a general health questionnaire. Perceived health was dichotomized into "very good/good" or "fair/bad" health.

Diabetes was queried as having a history of diabetes/high blood sugar level (BSL). Occupational stressors including financial insecurity, work-related hazards, and stress were assessed using the health leads screening tool and the NIOSH social survey, respectively. Logistic regression was used to examine associations of occupational stress with self-reported health and diabetes, adjusting for age, sex, race/ethnicity, nativity, weekly work hours, tenure as a driver, and multiple job status.

RESULTS

Data from 246 adults were included (mean age 42.7 [SD=12.2] years; 29.7% non-Hispanic White; 23.2% female). A total of 55.7% of participants reported "very good/good" health, 33.3% "fair/bad" health, and 21.1% had a history of diabetes/high BSL. In these rideshare drivers, financial insecurity related to eating less or worrying about housing due to finances was associated with higher odds of fair/bad health (OR=3.87, 95% CI:1.57, 9.5) and diabetes/high BSL (OR=2.70, 95% CI:1.01, 7.19) compared with those not eating less or worrying about housing. Stress from rideshare driving and work hazards were not significantly associated with perceived health nor diabetes history (p>0.05).

CONCLUSIONS

Our results support the hypothesis that financial insecurity around housing and food among rideshare drivers is adversely associated with workers' perceived health and diabetes history. There is an opportunity to explore the occupational health risks impacting stress and physical health of rideshare drivers which can inform an expanded occupational health agenda.

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Abstract: 1300

CULTURAL PRIDE AND MAJOR INTERSECTIONAL DISCRIMINATION AS MODERATORS OF FAMILY ACCEPTANCE AND CARDIOVASCULAR DISEASE RISK FACTORS AMONG LATINO LGBTQ+ ADULTS

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INTRODUCTION: The minority stress theory describes how various social determinants contribute to health disparities among marginalized communities (Frost & Meyer, 2023). Marginalized groups, including both the LGBTQ+ and Latino communities, experience higher cardiovascular disease (CVD) risk than their cisgender, heterosexual, and White counterparts (Xaceres et al., 2020). Despite this, existing literature falls short in exploring the resilience factors among LGBTQ+ Latino communities. Although Latino ethnic pride has been linked to a lower risk of CVD (Torress-Harding et al., 2025), LGBTQ+ Latino individuals may show different health risk patterns. Thus, this study seeks to explore whether Latino cultural pride and major intersectional discrimination moderate the relationship between family acceptance and CVD risk factors among Latino LGBTQ+ individuals.

METHOD: Participants were recruited from Amazon Mechanical Turk (MTurk) to complete a brief survey. The survey included a battery of measures, including the Intersectional Discrimination Index (InDI) and the Family Acceptance Scale (FAS), as well as items asking about reported cardiovascular risk factors. The sample consisted of Latino LGBTQ+ adults (N = 347), whose age ranged from 24 to 62 (M = 31.20, SD = 5.27). A total of 243 participants identified as cisgender men, 91 as cisgender women, five as transgender men, four as transgender women, and one as genderqueer/gender non-conforming/gender non-binary. Additionally, 217 participants identified as bisexual, 76 participants identified as gay, 36 as lesbian, and 15 as asexual.

RESULTS: Regression results indicated a significant linear association between the interaction of family acceptance and cultural pride on CVD risk, with family acceptance (β = -.607, p = .004) and the interaction of family acceptance and Latino cultural pride (β = 0.825, p = .004) being significant predictors in the model. Main effect regression results indicated a significant linear association between intersectional discrimination and family acceptance, with major intersectional discrimination being a significant predictor (β = -0.159, p = .011). Regression results indicated a significant linear association between the interaction of family acceptance and major intersectional discrimination being a significant positive predictor (β = 1.718, p < .001) of CVD risk.

DISCUSSION: The findings suggest that Latino cultural pride may have a significant buffering effect for CVD risk among Latino LGBTQ+ individuals. In contrast, family acceptance is limited in its ability as a buffering factor against CVD risk, as major intersectional discrimination is a moderator for this association.

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Abstract: 1207

ENHANCING FAMILY AUTHORIZATION FOR ORGAN DONATION THROUGH EMOTIONALLY INFORMED EHR-BASED PREDICTIVE MODELING

Plamena Powla; Deekshitha Turaka, MBBS; Samantha Jankowski, BS; Farima Fakhri, MD

Organ donation remains a public health challenge in the United States, with over 100,000 people on the transplant waitlist and thousands dying each year due to organ shortages. A major barrier to increasing donation rates is the low surrogate authorization rate when the deceased was not a registered donor. Recent work by Powla and colleagues showed that the optimal timing of donation requests depends on the emotional intensity of the situation. For example, families grieving sudden deaths may need more time before they're able to engage in donation discussions. However, earlier requests may be equally effective in less emotionally charged contexts. These findings suggest that

timing should be adapted to the circumstances of each case. This proposed mixed-methods study will proceed in three phases and aim to improve authorization outcomes by leveraging health information exchange (HIE) data to time donation requests in a way that is effective and emotionally sensitive. First, we will survey next-of-kin of patients who were approached for organ donation to understand how emotional factors (e.g., anger, shock, or acceptance), perceptions of care, and request timing influenced their decision. Next, we will link these responses to data from the HIE to identify which elements of the patient's trajectory (e.g., ICU admission, code status changes) are associated with emotional responses. Finally, we will use these findings to determine proxy variables that can be derived from routinely available HIE data and build a predictive model to identify optimal windows for donation conversations based on clinical context and family readiness. This model could be integrated into existing HIE workflows to help guide conversations in a way that is both data-informed and sensitive to family's readiness and ultimately reduce distress and improve donation outcomes.

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Abstract: 1027

WEIGHT STIGMA AND MENTAL HEALTH SYMPTOMS: MEDIATION BY PERCEIVED STRESS

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Prior research has established that weight stigma, or social devaluation based on an individual's body size or weight, is directly related to greater depressive and anxiety symptoms. In this investigation, we apply the Cyclic Obesity/Weight-Based Stigma model to investigate if the association between weight stigma and poor mental health is mediated by greater perceived stress. We analyzed data from a census-matched sample (N=1,993) of the U.S. on age, race/ethnicity, gender, income, and census region. Issues with missing data and mediation models were addressed using a Bayesian multiple imputation approach. Analyses controlled for Body Mass Index and sociodemographic variables as covariates. Weight stigma was directly associated with greater depressive and anxiety symptoms. Moreover, the relationship between weight stigma and greater depressive and anxiety symptoms was mediated by greater perceived stress. Perceived stress explained 37% of the relationship between weight stigma and mental health outcomes, even after accounting for Body Mass Index. These results provide evidence for weight stigma as an important psychosocial stressor that contributes to poor mental health outcomes.

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Abstract: 1436

EFFECTS OF DIGITAL MEDITATION ON SLEEP IN A LARGE EMPLOYEE SAMPLE: A SECONDARY ANALYSIS OF THE STRESS FREE UC STUDY

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Sleep is routinely disrupted during periods of high stress, which can have negative consequences for overall health and well-being. Digital meditation programs, which are scalable, are known to improve stress ,but their effects on sleep are not well understood. Here, we present data from the Stress Free UC Study, a randomized clinical trial of a digital meditation app (Headspace) in a sample of moderately stressed (Perceived Stress Scale score> 15) employees at an academic medical center. Participants (n=1,458; aged 18-74 years; 80.8% female) were randomized to either the digital meditation (MED) condition or a waitlist control (WL) for 8-weeks. Self-reported sleep measures, derived from the Pittsburgh Sleep Quality Index, were obtained at baseline and 8-weeks post-randomization. Linear mixed models revealed that participants in the MED condition showed statistically significant improvement in self-reported sleep duration (Cohen's d=0.10, p=0.04), sleep quality (d=-0.31, p<0.001), sleep onset latency (d=-0.17, p<0.001), and daytime sleepiness (d=-0.18, p<0.001). Greater improvements in sleep duration and quality were seen in participants with greater treatment use, in a dose-dependent manner. Further, greater improvements in duration and quality were observed in individuals who specifically engaged with sleep-related content (e.g., sleep stories). Finally, treatment-related improvements in perceived stress appeared to partially mediate benefits in sleep outcomes. These analyses provide new evidence that a scalable, easily accessed digital stress intervention can have significant sleep benefits. Future studies exploring the dynamic links between sleep and stress in the context of digital interventions are warranted.

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Abstract: 1558

HIGHER BREASTFEEDING INTENSITY IS ASSOCIATED WITH LOWER DEPRESSIVE SYMPTOMATOLOGY AT 6 WEEKS POSTPARTUM

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Background: Postpartum depression (PPD) is a serious mental health condition impacting up to 20% of birthing people in the United States. Growing research demonstrates a biopsychosocial relationship between PPD and breastfeeding,

with evidence suggesting PPD contributes to early breastfeeding cessation and other research demonstrating breastfeeding as a protective factor for mental health. Thus, the directionality and pathophysiology of this relationship remain unclear. There is also heterogeneity of the measurement of breastfeeding, with studies often only acknowledging the presence/absence of breastfeeding. Here, we measured the proportion of breastmilk feedings to examine whether breastfeeding intensity was associated with PPD symptomatology at 6 weeks postpartum.

Methods: This data comes from The Postpartum Study (PPS), which enrolled 271 pregnant participants during their third trimester of pregnancy from its observational pregnancy-cohort parent study: The Stress, Pregnancy, and Health Study (1R01MD011749-01). Participants were eligible for the parent study if they were 18 years or older, <25weeks gestational age (GA), English speaking, a singleton pregnancy, and delivering at one hospital system in Cook County, Illinois. PPS participation included completing a series of telephone surveys. For this analysis, the exposure was breastfeeding intensity or the proportion of breastmilk feedings at 6 weeks postpartum. The outcome was Edinburgh Postnatal Depression Scale (EPDS) scores (0-30, >10 = probable depression) at 6 weeks postpartum. We ran linear regression models and adjusted for participants' age, marital status, and presence of mental health status prior to pregnancy. Analyses were run using Stata 15.1 SE.

Results: PPS participants were on average 33 years of age (SD = 5.68), 75.6% were married, and 32% had a mental health status before pregnancy. 249 participants were included in adjusted analyses. We found that higher breastfeeding intensity at week 6 postpartum was significantly associated with lower scores on the EPDS in the unadjusted model (β = -0.05, 95%CI = -0.09, -0.00) and approaching significance in the adjusted model (β = -0.04, 95%CI = -0.08, 0.01).

Significance: This analysis demonstrates the potential protective effect of breastfeeding and the importance of considering breastfeeding intensity, which has implications for the physiological relationship between PPD and breastfeeding experiences. These findings underscore the importance of ensuring lactation support is received early in the postpartum period while breastfeeding is being established, as it may be important for both infant feeding and maternal mental health outcomes.

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Abstract: 1431

NEUROTICISM AND HEART RATE VARIABILITY IN DIVERSE SAMPLES

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Neuroticism is a stable personality trait indexing one's tendency to be reactive to stress. High neuroticism can increase vulnerability to the negative effects of everyday stressors, making it a risk factor for poorer health, specifically cardiovascular disease. For this reason, neuroticism has been considered a public health concern and merits better understanding in diverse samples. We examined neuroticism's link to a reliable index of cardiovascular functioning, heart rate variability (HRV), in socio-demographically diverse samples. Despite the theoretical prediction that higher neuroticism would be linked with lower HRV and subsequently poorer health, research on this association is inconsistent. Some literature supports this negative link, other studies have found a null or even a positive association. Given the mixed literature on the association of neuroticism with HRV, the current study examined the association of neuroticism with HRV using pooled data from five socio-demographically diverse datasets that all measured neuroticism and HRV.

Neuroticism and cardiovascular data were pooled from five studies from three laboratories across two universities. Across all studies, healthy adults (N= 625, 67.9% women, Mage = 27.68 years, 51.4% ethnically minoritized) were recruited from university settings, surrounding community colleges, and local communities. Participants reported on levels of neuroticism; these reports were standardized across studies using a linear transformation to Percent of Maximum Possible (POMP) scores. Resting HRV, measured using respiratory sinus arrythmia, was obtained via an electrocardiogram during a baseline period.

Adjusting for age, sex, ethnicity, study code, and body mass index, neuroticism was negatively associated with HRV, but this association was not statistically significant (b = -0.03, SE = .08, p = .70).

In a large, socio-demographically diverse sample, neuroticism was not linked with cardiovascular functioning as indexed via HRV. Given the diversity of our sample, this null association suggests that any effect may be small or that variability might be explained by socio-demographics (e.g., age, gender, race/ethnicity). Continued examination of this association in diverse samples is therefore necessary and currently on-going. Limitations and future directions will be discussed.

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Abstract: 1430

EARLY LIFE STRESS AND CORTISOL REACTIVITY TO A PSYCHOSOCIAL STRESSOR: A MULTILEVEL ANALYSIS

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Early life stress (ELS) is a key risk factor for adverse health outcomes, often attributed to hypothalamic-pituitary-adrenal (HPA) axis dysregulation. The biological embedding model posits that adversity during sensitive developmental periods induces

lasting changes in stress response systems, while stress sensitization theory suggests ELS may heighten sensitivity to subsequent stressors, manifesting in exaggerated or blunted cortisol responses. This study investigated whether ELS and acute stress appraisals (threat, control, challenge) predict or moderate cortisol reactivity to a psychosocial stressor.

A sample of 119 undergraduates (52% Asian/Pacific Islander, 17% White, 12% Latino/Hispanic, 19% other) completed the Risky Families Questionnaire (*M*=26.5, *SD*=8.9; low-moderate range) and participated in a modified Trier Social Stress Test with salivary cortisol collected at baseline and four post-stressor intervals. Multilevel growth curve modeling examined cortisol trajectories.

Results revealed significant cortisol responding: linear increase (β=0.018, SE=0.009, p=.053) and quadratic curvature reflecting rise-then-recovery (β=-0.037, SE=0.005, *p*<.001). Contrary to hypotheses, ELS did not significantly moderate reactivity (ELS×Linear: β=-0.004, *p*=.68) or recovery (ELS×Quadratic: β=0.002, *p*=.75). Exploratory analyses revealed high-ELS individuals showed blunted anticipatory responding (smallest T1→T2 rise; *M*=0.013) compared to medium-ELS (*M*=0.058) and low-ELS (*M*=0.025) groups. Although non-significant (*F*=0.42, *p*=.66), the pattern (Cohen's *d*=0.21) suggests a small effect that may emerge more strongly in samples with greater ELS severity. Stress appraisals (threat, challenge, control) did not moderate trajectories (*p*>.40).

These findings highlight the need for samples including high/severe ELS exposure to adequately test stress sensitization hypotheses linking early adversity and HPA axis functioning.

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Abstract: 1439

RESTING HEART-RATE VARIABILITY AND EMOTION REGULATION STRATEGIES ACROSS FOUR U.S. ETHNORACIAL GROUPS: A SOCIOCULTURAL NEUROVISCERAL PERSPECTIVE

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Recent work found ethnic differences in the association between resting heart-rate variability (HRV), an index of emotion regulation (ER) capacity, and ER difficulties. In European samples, HRV predicted greater reappraisal and reduced suppression use longitudinally and cross-sectionally. However, in a racially diverse, unstratified sample of Americans, higher HRV was associated with both reappraisal and suppression. To clarify whether HRV supports habitual ER differently across sociocultural contexts which remain unexplored in the literature, including Asian Americans|AsA, African American|AfAm, and Hispanic or Latino Americans|Hispanics, we examined whether self-reported ethnicity differentially moderated the relationship between log-transformed high-frequency HRV and reappraisal and suppression. A total of 1047 emerging adults (Mage = 19.7 yrs [1.7]) had complete ER and resting 10-min HRV data (82 AfAm [65% women], 183 AsA [52% women], 228 Hispanics [59% women], and 554 non-Hispanic White|NHW [60% women]). Linear regression, adjusting for waist circumference and sex, showed that the HRV-reappraisal associations were of greater magnitude among self-identified ethnic minorities than NHW, despite similar mean reappraisal scores. Pre-planned slope difference tests showed less reappraisal with higher HRV among AfAm and Hispanics, a relationship twice as strong as in NHW, who showed more reappraisal use. The HRV-suppression effect sizes were comparable to those in meta-analyses. NHW showed a trend toward lower suppression. AsA and AfAm, who showed the highest and lowest HRV, respectively, showed similar trends toward higher suppression with higher HRV. These findings suggest that the relationship between HRV and strategy use depends on the demands of the strategy and sociocultural context. In American contexts, even individuals with greater regulatory capacity may use reappraisal less often before an emotional response unfolds when negative social contexts are too intense or personally relevant to reinterpret (e.g., discrimination, social status). Once the emotional response is activated, higher HRV may support ER strategies aligned with cultural values (i.e., up- or down-regulating suppression). Additional sociocultural contexts, including geographical locations and discrimination, should be explicitly tested in future work.

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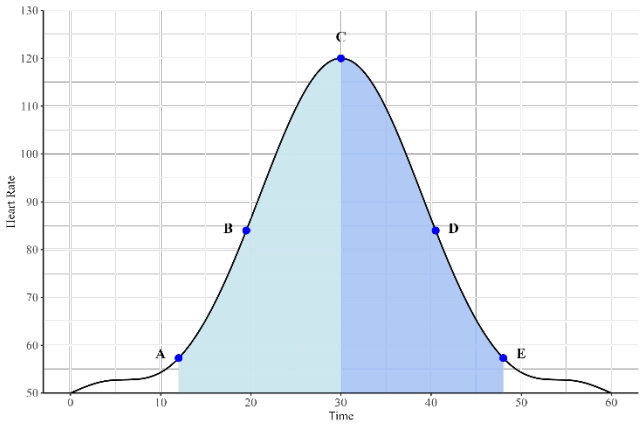
Abstract: 1450

REVISITING THE MOVING AVERAGE CONVERGENCE DIVERGENCE INDICATOR: ASSESSING ITS ACCURACY IN DETECTING THE ONSET OF A LABORATORY STRESSOR USING CONTINUOUS HEART RATE

Elizabeth Haudrich; Peggy Zoccola, PhD, Ohio University

Physiologically contingent experience sampling leverages the link between psychological stress and physiological activation to study naturalistic stressors and stress responses in daily life. The Moving Average Convergence Divergence (MACD) indicator, a time-series calculation traditionally used in stock market analyses, shows promise for onset detection of psychosocial stressors, as it tracks shifts in the strength, direction, and momentum of physiological trends such as heart rate (HR). This method is valued for its intuitive markers of meaningful trend changes, dynamic noise reduction, and personalization via parameter tuning. As such, it could be used to identify key landmarks of the typical stress response pattern and distinguish potential stress episodes from noise. However, the MACD has not been experimentally tested against a standardized stressor in the lab. The current study evaluated whether the MACD could accurately detect the onset of a laboratory stress task (Trier Social Stress Test) while remaining robust to extraneous noise when using individualized window parameters. Second-by-second HR data from 113 university students (51.3% female, ages 18-45 years) were analyzed. Hyperparameter grid searches

identified optimal window parameters for each participant. Detection accuracy (time difference between MACD-defined and actual onset) and noise resistance (e.g., potential stress episodes) were tested using one-sample Bayesian and frequentist t-tests, respectively. On average, the MACD was 52.01 (*SD* = 102.11) seconds early when detecting the stressor onset, *t* (114) = -5.46, *p* < .001, *d* = -0.51, a time discrepancy that was statistically large but clinically modest. Additionally, the MACD identified an average of 13.04 (*SD* = 4.55) potential stress episodes, suggesting high sensitivity to noise. Findings experimentally provide initial experimental support for the utility of the MACD for stress onset detection in the lab. Early onset detection may reflect anticipatory physiological. Larger window parameters may help improve detection accuracy and noise resistance. Further work is needed to examine its potential for use in real-world research and clinical settings, such as with physiologically contingent experience sampling and just-in-time interventions.



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Abstract: 1464

THE ASSOCIATION BETWEEN ACCULTURATION AND ADVERSE BIRTH OUTCOMES WAS MEDIATED BY GESTATIONAL WEIGHT GAIN

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Acculturation within the US Mexican women has been associated with adverse birth outcomes, but the pathway that leads to this relationship is not known. A potential pathway could be through gestational weight gain (GWG), which has also been related to adverse birth outcomes. Women of Mexican descent born in the US have exhibited higher GWG. Additionally, being born in the US has been related to pregnancy complications, which could increase the risk of adverse birth outcomes. The objective of this study was to examine whether GWG and/or pregnancy complications mediated the association between acculturation and adverse birth outcomes. Pregnant women of Mexican descent (N = 264) were recruited from local clinics during their first trimester of pregnancy and followed until birth. Mexican and US orientation were reported using the Brief Acculturation Rating Scale for Mexican American-II (ARSMA-II) at the first trimester. Weight gain during pregnancy was self-reported after birth. A composite of pregnancy complications was created using the sum of self-reported pregnancy complications (preeclampsia, gestational diabetes, c-section; 0-3). Adverse birth outcomes were dichotomized yes/no; preterm birth (born <37 weeks of gestation), low birthweight (<2500g), and small-for-gestational age (SGA; ≤10th percentile of birthweight for gestational age). Mediation models were conducted to examine whether the association between acculturation (Mexican vs. US orientation) and each adverse birth outcome was mediated by GWG and/or pregnancy complications. Neither GWG nor pregnancy complications mediated the relationship between Mexican orientation and any of the three adverse birth outcomes (p>0.05). However, greater GWG, but not pregnancy complications, mediated the association between higher US orientation and SGA (indirect effect =-.072, 95% CI =-.135 to -.009), but not preterm birth or low birthweight. Thus, US orientation was related to less risk of SGA via higher GWG. Overall results suggest higher GWG may be protective for infants born to women with a strong US orientation. It may be that US diet increases GWG, in turn leads to less SGA in those more acculturated. However, GWG has also been linked to large-for-gestational age babies and could be related to risky higher birthweight outcomes rather than those related to smaller offspring. This work has implications for culturally relevant perinatal care to address perinatal health disparities in the US Mexican population.

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Abstract: 1472

NEIGHBORHOOD RESOURCES AND INFRASTRUCTURE ON EPIGENETIC AGING AMONG MIDDLE-AGED AND OLDER ADULTS

Yanping Jiang; Leslie Zhen, PhD, Rutgers, The State University of New Jersey; Eunyoung Choi, PhD, University of South California; Adolfo Cuevas, PhD, New York University ; Fengyan Tang, PhD, University of Pittsburgh

Background: Epigenetic aging has been proposed as an important biological pathway linking neighborhood environments to health. Yet, most prior work has focused on distal socioeconomic conditions, leaving the role of more proximal, potentially modifiable factors largely understudied. To fill out this gap, this study examines whether neighborhood amenities, health services, and built infrastructure are associated with epigenetic aging. **Methods:** Data were from 3,786 middle-aged and older adults (mean age=68.6 years, 53.8% female, 77.9% non-Hispanic White) who participated in the Health and Retirement Study 2016 Venous Blood Study. Epigenetic aging was assessed using the Horvath, Hannum, PhenoAge, GrimAge, and DunedinPoAm38 clocks. Thirteen neighborhood indicators from the National Neighborhood Data Archive in 2016 were used to construct Census tract-level densities of amenities (e.g.,

libraries, museums), health services (e.g., drugstores), and built infrastructure (e.g., street connectivity, open parks). **Results:** Availability of amenities and health services and greater built infrastructure were all associated with decelerated epigenetic aging, though these relationships were only significant for Horvath and Hannum clocks. These relationships remained robust after adjusting for key sociodemographic, behavioral, and health covariates, as well as individual and neighborhood socioeconomic status. In addition, the relationship between neighborhood health services and decelerated Hannum and GrimAge was stronger in male than female participants. Greater built infrastructure was associated with decelerated Horvath and Hannum among non-Hispanic Whites, but appears to be related to accelerated Horvath and PhenoAge among non-Hispanic Blacks. **Conclusion**: This study indicates that the availability of neighborhood amenities, health services, and built infrastructure may slow down biological aging. Our results also suggest that the effect of neighborhood resources and infrastructure on epigenetic aging may not be one-size-fits-all. Given the relationship between decelerated biological aging and reduced risk of morbidity and mortality, our findings suggest that place-based interventions aimed at increasing local amenities, health services, and built infrastructure may represent a promising strategy for promoting healthy aging.

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Abstract: 1473

PSYCHOLOGICAL AND PHYSICAL HEALTH BENEFITS OF BLUE SPACE ACTIVITIES

Michael Smith; Stephanie Wilkie, PhD; Mark Wetherell, PhD, Northumbria University

Blue space interactions, such as visits to coasts, rivers, lakes, and canals, are known to support physical and psychological health. However, it remains unclear whether these wellbeing benefits vary depending on the activities people undertake during such visits. In this study, we examined i) whether visits to blue spaces are associated with better psychological wellbeing than visits to other natural environments, and ii) whether specific water-based activities (e.g. swimming, water sports, boating, fishing) confer greater wellbeing benefits than non-water-based activities commonly undertaken in these settings (e.g. walking, cycling, running).

We conducted a secondary analysis of data collected between 1 April 2020 and 31 December 2024 from 118,657 nationally representative adults in Natural England's People and Nature Survey. Respondents reported nature-based interactions within the previous 14 days, including visits to blue and green spaces, along with measures of mental and physical health and wellbeing.

Participants reported greater mental and physical health benefits from visiting blue spaces, particularly coastal settings, compared with other natural environments. Activities such as walking, wildlife watching, exercising, eating or drinking, and playing with children were associated with health benefits across all nature spaces. Boating and swimming were linked to improved mental and physical health only when undertaken in coastal blue spaces, with no such benefits observed in inland blue spaces.

These findings provide further evidence that visiting blue spaces supports physical and mental health and that a wide range of activities contribute to these benefits. Aside from swimming and boating in coastal environments, water-based activities did not convey health advantages. There are implications of these findings for nature-based social prescribing interventions.

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Abstract: 1478

THE ROLE OF SLEEP DISTURBANCE IN RELATIONS BETWEEN PERCEIVED CONTROL AND BLOOD PRESSURE AND STRESS REACTIVITY TO ACADEMIC STRESS

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Background: Perceived control (i.e., the extent to which individuals believe that their actions influence their life circumstances) is associated with lower cardiovascular disease risk. The mechanisms underlying the beneficial effects of perceived control are not well documented among young adults but may include reduced stress and blood pressure (BP) reactivity. Goals of the current study were to test 1) relations between perceived control, perceived stress reactivity, and blood pressure reactivity to an ecologically-valid stressor in young adults, and 2) if sleep disturbance could in part explain those relations.

Method: College students (N = 166, avg age = 19.32 years, 72.3% women) completed validated measures of two dimensions of perceived control (constraints and mastery), perceived stress, coping styles, stress appraisals, and physical activity at the start of the academic semester (i.e., a low-stress period) and again within three days of an academic exam (i.e., a high stress period). Resting BP was also assessed at both time points. Structural equation modeling was used to test the hypothesized pathways and mediation, with models pruned for fit and parsimony. Missing data were handled with full information maximum likelihood.

Results: In the final model, the constraints dimension of perceived control was positively associated with sleep disturbance (p = .002). Sleep disturbance was positively associated with perceived stress during the exam period (p = .008), and there was an indirect effect of sleep disturbance on the relation between constraints and perceived stress reactivity (p = .045). Sleep disturbance was also associated with greater systolic BP (p = .004) but not with diastolic BP (p =.057). Finally, sleep disturbance mediated the link between constraints and systolic BP changes (p = .045).

Discussion: Overall, higher levels of perceived control, specifically lower levels of perceived constraints, was associated with lower psychological and cardiovascular reactivity to a real-world academic stressor. Sleep disturbance was one pathway through which these associations operated. By demonstrating these relations in response to an ecologically-valid stressor, this work increases evidence describing how perceived control relates to stress reactivity and to cardiovascular functioning in young adults. Future research is needed to replicate these findings and examine whether interventions that target perceived control or sleep may reduce stress-related physiological responses and, in turn, long-term cardiovascular disease risk.

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Abstract: 1538

LAGGED ASSOCIATIONS OF MOMENTARY STRESS AND NEGATIVE EMOTIONS WITH INFLAMMATION IN OLDER ADULTS

Jacqueline Rodriguez-Stanley; Rebecca Reed, PhD, University of Pittsburgh

Objective. Elevated inflammation is a risk factor for a variety of age-related diseases whose prevalence increases among older adult populations. While stress and negative affectivity are associated with inflammation, the mechanisms of these associations at a momentary level are not fully understood. We hypothesized a bidirectional lagged relationship between stress and negative emotions across momentary observations with inflammation. Specifically, participants who report greater stressor severity than their average would show greater negative emotions than their average at the subsequent observation, and vice versa. In turn, this would be associated with greater inflammation. **Methods.** Community older adults from the Stress, Immunity, and Emotion Regulation in Aging (SIERA) study (N = 162, M_{age} = 71.7, SD = 6.3, range 60 – 96, 51% female, 77% White) reported the severity of recent stressors and their current negative emotions 3x/day throughout a ten-day ecological momentary assessment (EMA) period (30 observations ~5 hours apart). Negative emotions included anxious, depressive, and anger-related emotions. Blood samples were collected before, after, and six months following the EMA period and assayed for CRP, IL-6, and TNF-α. Analyses were conducted with dynamic structural equation modeling. **Results.** Intraindividual findings showed that greater perceived stressor severity (t – 1) at the previous observation was associated with stressor severity (t) at the subsequent observation (β = .17, 95% CI [.13, .21]). A similar carryover effect was also found for each negative emotion (anxious: β = .22, 95% CI [.18, .26]; depressive: β = .23, 95% CI [.18, .27]; anger: β = .14, 95% CI [.10, .18]). Further, higher anxiety and anger (t – 1) at the previous observation were associated with greater perceived stressor severity (t) at the subsequent observation (anxious: β = .14, 95% CI [.09, .18]; anger: β = .07, 95% CI [.03, .13]). No associations were found for depressive emotions. In contrast to hypotheses, there was no lagged effect of stressor severity (t – 1) with subsequent negative emotions (t). There were no significant prospective effects with inflammation. **Conclusion.** Results suggest that anger and anxious emotions are related to elevated stress perceptions 5 hours later, but data did not support associations with inflammation. Further research is required to examine the clinical implications of these momentary experiences.

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Abstract: 1482

UNSEEN BURDENS: EXAMINING EVERYDAY DISCRIMINATION AND SUBSTANCE USE IN YOUNG ADULTS LIVING IN LOS ANGELES

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Abstract Body

Young adulthood marks a developmental period characterized by increasing autonomy, identity formation, and heightened vulnerability to risky health behaviors, including substance use. Although marijuana use has increased by 34% in recent years, alcohol consumption remains the most used substance among young adults. Discrimination is often cited as a factor to explain the initiation and continuation of the consumption of alcohol. Vast amounts of literature has broadly linked general perceived stressors and substance use among young adults; however, the link between everyday discrimination and substance use, specifically, is understudied. This study aims to examine the association between everyday discrimination and substance use (e.g., alcohol and marijuana use) in young adults residing in Los Angeles.

This secondary cross-sectional study will use data collected from an ongoing longitudinal study, the Allostatic Load in Los Angeles Youth (ALLY), which is composed of individuals between 18 to 24 years of age who identify as Latinx or Caucasian, and reside within the greater Los Angeles area. Data collection began on July 1, 2023 and will continue through January 31, 2026. There is currently a sample size of 279 participants with a target sample size of 300 participants. After data collection, two logistic regression models will be used to assess the relationship between experiencing discrimination and substance use. Participants completed a self-report survey that included sociodemographics, questions regarding substance use, and a 10-item everyday discrimination questionnaire (Everyday Discrimination Scale; α=0.83) questionnaire. Most participants reported to be females (72.4%; n=202), Hispanic/Latino (51.8%; n=142), and have an average of 21 years (SD=1.85).

Utilizing logistic regression, this study will: a) examine whether everyday discrimination will relate to increased odds of alcohol use and b) examine whether everyday discrimination will relate to increased odds of marijuana use in young adults, while adjusting for demographic covariates.

This study will highlight how experiences of everyday discrimination relate to the usage of substances within the young adult population. The results of the current study will be used to determine which substance, alcohol or marijuana, show greater odds of usage due to the impact of everyday discrimination. Past research shows that substance use is often a coping mechanism for the stress that is derived from discriminatory experiences. This work will inform public health researchers and officials on the possible role of discrimination as a stressor while designing substance use prevention programs in this young adult population.

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Abstract: 1492

NATURE-BASED VIRTUAL REALITY (VR) FOR MANAGING CAREGIVER STRESS: A BIOPSYCHOSOCIAL PERSPECTIVE

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Introduction: Caregivers of oncology patients often experience high levels of stress and related symptoms, including fatigue and sleep disturbance. Virtual reality (VR) is a technology in clinical care, with evidence supporting its ability to reduce stress and symptom burden among patients; however, its effects on caregivers remain underexplored. This study evaluated the feasibility, acceptability, and preliminary effectiveness of a four-week nature-based VR intervention on stress and symptoms among allogeneic hematopoietic stem cell transplant (HSCT) caregivers.

Methods: This single-arm pre–post study (NCT#05909202) enrolled adults (≥18 years) serving as primary caregivers for patients undergoing allogeneic HSCT. Participants were instructed to view one 20-minute video daily for four weeks, which included videos of natural scenery and sounds (Figure 1). Outcomes included biomarkers (e.g., salivary cortisol, alpha-amylase), psychological (e.g., perceived stress, caregiving burden), and social measures (e.g., loneliness, mutuality).

Results: Of the 56 subjects screened for the study, 14 were enrolled, and 12 completed the study (Figure 2). The mean age of the caregivers was 49.1 (SD=11.1) years and 58% female. The average adherence rate was high at 68%, with no attrition. Caregivers reported the VR headset and program to be easy to use and experienced minimal VR-related symptoms. Although perceived stress did not significantly change, stress biomarkers (cortisol and alpha-amylase) demonstrated significant improvement. Sleep disturbance decreased significantly across time points (p = 0.030).

Conclusion: Nature-based VR is a feasible and acceptable approach to contribute to stress management among HSCT caregivers. This convenient and engaging intervention shows promise for reducing stress and improving symptoms—particularly sleep disturbance—without constraints of time or location. Findings from this pilot study provides a foundation for future research in diverse populations and settings as well as insight into strategies to enhance synergistic effects by integrating other methods, such as breathing exercises, within VR.

Figure 1. Themes and screenshots of virtual reality (VR) experiences available to study participants

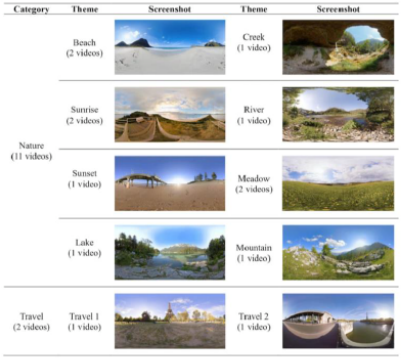
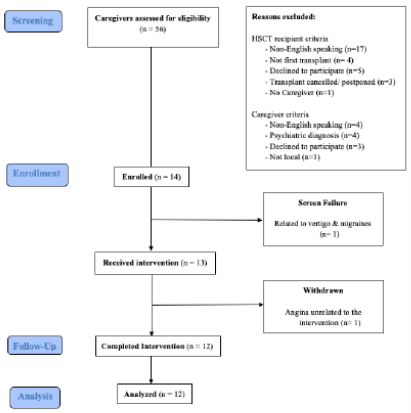


Figure 2. Consolidate Standard of Reporting Trial (CONSORT) Flow Diagram



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Abstract: 1486

CHEMOTHERAPY-INDUCED SLEEP DISTURBANCES MEDIATE IL-1B EFFECTS ON DECREASED SUBJECTIVE COGNITION AFTER TREATMENT IN BREAST CANCER PATIENTS

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Background: Chemotherapy causes side effects, such as cognitive dysfunction, both during and after treatment that can reduce quality of life. Understanding contributing factors could provide mechanistic insights to help mitigate these side effects. Cancer patients commonly experience increased sleep disturbances and inflammation during treatment, which have a

bi-directional relationship and may impact chemotherapy-associated cognitive dysfunction. We hypothesize that chemotherapy-induced sleep disturbances mediate the association between enhanced circulating inflammation and perceived cognitive deficits.

Methods: Seventy-five female breast cancer patients provided blood samples and completed Patient-Reported Outcome Measure Information System (PROMIS) assessments for sleep disturbances and subjective cognition over three visits: before, during, and after chemotherapy. Plasma cytokines (IL-6, TNFα, IL-1β) were quantified. Linear regression models determined relationships among cytokines, self-reported sleep disturbance, and subjective cognition. All models controlled for age and pre-chemotherapy levels, and cognitive measures controlled for education. Baron-Kenny analysis determined causal mediation between factors.

Results: Sleep disturbances increased during chemotherapy (p<0.05), whereas subjective cognition decreased during (p<0.001) and after (p<0.01) treatment. Increased IL-1β during chemotherapy was associated with decreased subjective cognition after chemotherapy (B=-3.95, p<0.05). Chemotherapy-induced IL-1β also associated with increased sleep disturbances during treatment (B=3.70, p<0.001). Finally, increased sleep disturbances during chemotherapy were associated with decreased subjective cognition during (B=-0.37, p<0.05) and after (B=-0.61, p<0.01) treatment. Mediation analysis demonstrated that chemotherapy-induced sleep disturbances mediate the predictive relationship between increased IL-1β during treatment and decreased subjective cognition after treatment (Average Causal Mediation Effect: B=-2.09, p<0.05; 95%CI [-4.46, -0.26]).

Conclusions: These findings indicate that increased plasma IL-1β during chemotherapy promotes sleep disturbances, which in turn contribute to subjective cognitive deficits. This identifies measurable factors during treatment that could predict post-treatment side effects and suggests managing chemotherapy-induced sleep disturbances could help mitigate cognitive deficits without needing to alter circulating inflammation.

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Abstract: 1499

PERCEIVED RECENT STRESS, COMPARED TO RETROSPECTIVE STRESS MEASURES, PREDICTS ACCELERATED BIOLOGICAL AGING FROM MID-TO-LATE LIFE

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Background: Psychological stress has been shown to associate with various markers of biological aging. However, to date, studies have been largely cross-sectional and conceptualized exposure to stress differently, making it hard to identify the nature and timing of exposure to stress that may be relevant for biological aging. Accordingly, the current study examined three different stress exposures – recent perceived stress, recalled childhood trauma, and a cumulative measure of exposure to life stressors – and their cross-sectional and longitudinal associations with a multi-system composite of blood-based biomarkers of aging across a 14-year period from mid-to-later life.

Methods: Participants from the Adult Health and Behavior (AHAB) study (N=706, 54% female) provided blood and answered questionnaires at two timepoints (Time 1: mean age=45 years; Time 2: mean age= 59 years). Stress was measured using the Perceived Stress Scale (PSS), Childhood Trauma Questionnaire (CTQ), and the interview-based Strain and Adversity Inventory (STRAIN) to measure total count of life stressors. Biological aging was quantified using a composite of eight multi-system blood biomarkers (insulin, IGF-1, GDF15, NT-proBNP, cystatin C, IL-6, TNF-a, and CRP). Cross-sectional models (at each time-point) controlled for age and sex. Longitudinal models also adjusted for Time 1 biological aging and days to follow up.

Results: Cross-sectional analyses showed that higher CTQ (β = .08, t(667) = 2.12, p=.035) and STRAIN (β = .08, t(621) = 2.00, p = .046*)* were positively associated with the biological aging composite at Time 1 and that higher STRAIN (β = .10, t(625) = 2.68, p= .008) and PSS (β = .11, t(520) = 2.56, p= .010) were positively associated with the biological aging composite at Time 2. Longitudinally, higher PSS at Time 1, but not CTQ nor STRAIN, significantly predicted increases in biological aging composite over 14 years (β = .09, t(658) = 2.47, p= .014).

Conclusion: Our study extends existing literature to examine longitudinal associations of three different stress measures with a composite of blood biomarkers of aging from mid to later life. Findings suggest that perceived stress but not retrospectively assessed cumulative frequency of life stressors or recalled childhood trauma prospectively predicts accelerated biological aging over 14 years from mid-to-later life. Perceived stress measures may provide a more reliable assessment of current levels of subjective stress and be less subject to recall bias related to retrospective recall of stress exposures earlier in life. If replicated in future work, it is possible that reducing subjective experiences of stress in midlife may be a target for intervention to slow trajectories of aging.

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Abstract: 1498

TRAIT DOMINANCE AND TESTOSTERONE'S PREDICTION OF COGNITIVE PERSISTENCE

David Hall; David Hall, BA; Rayan Elahi, BA; Erik Knight, PhD, University of Colorado Boulder

Abstract Body

Elevated displays of persistence can manifest as adherence to high-effort, long-term interventions, but it can also manifest as negative affect and/or consistency with risky health behaviors.

Understanding biobehavioral phenotypes of persistence can be integral to the retention and accurate implementation of intervention strategies aimed at mitigating undesired health behaviors. Testosterone, a sex steroid hormone, has been implicated in greater cognitive persistence. Similarly, trait dominance, a behavioral phenotype characterized by intimidation and social coercion, is associated with a greater need for control, which may in turn promote greater persistence. In the present study, participants (n = 145, 59% female) attempted to complete a puzzle task which, unbeknownst to them, was impossible. Participants had up to 15 minutes to attempt the task. After a social evaluative stressor, participants attempted the puzzle again. Using Bayesian modeling, we found moderate evidence against an effect of testosterone on persistence (i.e., time spent attempting to solve the puzzle) at T1 (BF01 = 3.04), contrary to past findings. We did, however, find strong evidence that testosterone was associated with greater persistence at T2 relative to T1 (BF10 = 5.08), especially in high-trait dominance men (BF10 = 7.11). These individuals, showing greater persistence in our puzzle task, may exhibit greater adherence to high-effort intervention protocols, but may be at greater risk of habit persistence as well. Therefore, these findings portray how testosterone and dominance are associated with persistence in laboratory conditions, but future work investigating whether these effects exist in naturalistic, longitudinal settings is necessary.

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Abstract: 1519

A CONTINUOUS GLUCOSE MONITORING (CGM)-BASED ANALYSIS OF DIAGNOSTIC HETEROGENEITY IN PREDIABETES

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Objective: To examine heterogeneity in prediabetes by diagnostic criteria among community-based adults ≥ 50 years old and provide Continuous Glucose Monitors (CGMs) metrics to inform clinical guidelines for CGM use in non-diabetic populations.

Background: There is currently insufficient evidence to support the use of continuous glucose monitoring devices (CGMs) for diagnosing prediabetes, which is further complicated by the wide heterogeneity within this group. To understand this heterogeneity and inform clinical guidelines for CGM ranges in prediabetes, we examined CGM metrics in community-based adults ≥ 50 years old.

Methods: Participants were 48 adults without T2DM from the Maryland area (mean (SD) age= 67.9 (7.8) years, 72.9% female, 39.6% African American, 4.2% Hispanic/Latine, 50% < bachelor's degree). Participants provided blood samples for measurements of fasting glucose, glycated hemoglobin (HbA1c), and glucose tolerance (i.e., 2-hour Oral Glucose Tolerance Test). Impaired fasting glucose (IFG; 100-125 mg/dL); impaired glucose tolerance (IGT; 140-199 mg/dL), and HbA1c for prediabetes (5.7-6.4%) were based on American Diabetes Association (ADA) criteria. Participants wore the blinded Dexcom G6 CGM for at least 6 days. CGM mean glucose, standard deviation (SD), Coefficient of Variation (%CV), and Time above Range (TAR; %) were calculated.

Results: Thirty-one (64.6%) participants met prediabetes criteria based on IFG: CGM Mean (SD)=119.3 (11.8), SD (SD)=21.8 (3.9); %CV (SD)=18.4 (3.1); TAR=2.7% (2.4). Only 11 (35.5%) exhibited isolated IFG with glucose tolerance and HbA1c in normoglycemic ranges. Seventeen participants (35.4%) met prediabetes criteria based on HbA1c: CGM Mean (SD)=119.6 (13.7), SD (SD)=22.8 (5.0), %CV (SD)=19.2 (4.4), TAR=2.9% (3.4). Only 2 (11.8%) had isolated impaired HbA1c. Ten participants (20.8%) met prediabetes criteria based on IGT: CGM Mean (SD)=123.7 (13.4), SD (SD)=23.8 (3.7), %CV (SD)=19.4 (3.2), TAR=4.0% (4.0). Only 1 (10%) had isolated IGT. Only 2 participants (4.2%) met all three criteria, and 6 (12.5%) met IFG+IGT criteria. CGM metrics showed similarities in glycemic variability among the prediabetes groups but differed in mean glucose (IGT vs. HbA1c was the only significant difference, p=.016, Cohen's d=0.71), and TAR (IGT group spent nearly twice as much time in hyperglycemia).

Discussion: This data revealed heterogeneous dysglycemia pathways in prediabetes with minimal (<5%) overlap across ADA diagnostic criteria. IGT group showed the greatest glucose dysfunction. Establishing test-specific CGM reference ranges with larger samples may validate these preliminary benchmarks, improve risk stratification, and enable personalized prevention.

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Abstract: 1525

PSYCHOLOGICAL RESPONSES TO TRAUMA AND RISK OF METABOLIC SYNDROME IN WOMEN

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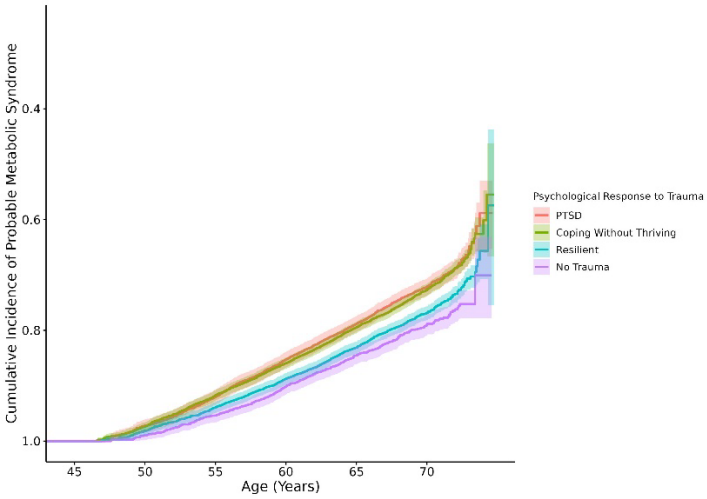
Objective. Previous research suggests an association between posttraumatic stress disorder (PTSD) and metabolic syndrome (MetS) but fails to disentangle the effects of trauma exposure and psychological responses beyond PTSD on MetS. The present study investigated variations in the risk of MetS by three psychological responses to trauma among 41,034 women aged 44-64 years in 2009 (M = 54.3 years; SD = 4.6 years; 95% White) in the Nurses' Health Study II.

Methods. Data from surveys in 2008 on PTSD symptoms, psychological distress, and positive psychological well-being (PWB) were used to construct three trauma response categories: resilient (favorable PWB; N = 11,418), coping without thriving (low PWB but no PTSD; N = 16,572), probable PTSD (N = 8,665), and a

no trauma control group (*N* = 4,379). Proportional hazards models were fit to evaluate the hazard of probable MetS diagnosis by trauma response among women with no history of probable MetS as of responding to the 2009 biennial survey. Time to probable MetS was calculated as the time to first meeting three out of four approximated MetS criteria: BMI ≥ 28 kg/m^2, clinician-diagnosed hypertension or use of antihypertensive medication, clinician-diagnosed hypercholesteremia or use of cholesterol-lowering medications, and clinician-diagnosed type 2 diabetes or use of hypoglycemic medications.

Results. Over 10 years of follow-up, there were 4,529 incident cases of probable MetS. In models adjusted for age, race/ethnicity, parental history of cardiovascular disease or hypertension, and childhood socioeconomic status (SES), women in the probable PTSD (aHR = 1.46 [1.29, 1.64]), coping without thriving (aHR = 1.35 [1.21, 1.52]), and resilient (aHR = 1.11 [0.99, 1.25]) groups experienced a greater hazard of probable MetS over 10 years relative to women with no trauma exposure. Estimates attenuated but remained elevated after adjusting for diet, physical activity, smoking, adulthood SES, and antidepressant use (PTSD: aHR = 1.37 [1.22,1.55]; Coping without thriving: aHR = 1.30 [1.16, 1.45]; Resilient: aHR = 1.16 [1.03, 1.31]).

Conclusions. Future research on trauma and MetS should consider varied trauma responses and develop novel interventions to not only reduce psychological distress but also promote PWB to mitigate MetS risk.



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Abstract: 1545

ASSOCIATIONS BETWEEN PERCEIVED NEIGHBORHOOD DISADVANTAGE, PERCEIVED STRESS MANAGEMENT ABILITIES, AND NOREPINEPHRINE AMONG PATIENTS WITH BREAST CANCER IN A PROSPECTIVE COHORT

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Background: Neighborhood disadvantage has been linked to significant health disparities and poorer health outcomes among patients with breast cancer (BC). Chronic exposure to stress can lead to chronic activation of the sympathetic nervous system (e.g., elevated norepinephrine), which in turn can contribute to worse disease outcomes. The current study sought to investigate how perceptions of neighborhood disadvantage and perceived stress management abilities relate to sympathetic nervous system activity in a cohort of women with BC.

Methods: Women (≥18 years) with stages 0 – IV BC enrolled in prospective cohort study in the pre-surgical period as part of the Miami Breast Cancer Disparities Study. At baseline, participants completed self-report measures of perceived neighborhood disadvantage (Neighborhood Social Environment Adversity Survey, Safety and Violence composites) and perceived stress management abilities (Management of Current Stress) and provided blood samples. Multiple regressions covarying for age and cancer stage were used to examine associations between perceived neighborhood disadvantage, perceived stress management abilities, and norepinephrine. Serum norepinephrine levels were log 10 transformed.

Results: Sixty-eight women (*M*=58.3, *SD*=11.5 years of age) with majority stages I or II BC (93%) were included in this secondary analysis. Worse perceived neighborhood safety (*b*=.034, *SE*=.016, *p*=.039) and violence (*b*=.023, *SE*=.011, *p*=.044) were associated with higher levels of norepinephrine. Overall greater perceived stress management abilities (*b*=-.014, *SE*=.005, *p*=.007) and perceived self-efficacy in assertiveness skills were associated with lower levels of norepinephrine (*b*=-.043, *SE*=.013, *p*=.002).

Conclusions: Findings suggest that perceiving one's neighborhood as unsafe and high in violence is associated with greater sympathetic nervous system activity. In contrast, stronger perceived stress management abilities relate to lower sympathetic nervous system activity. Results highlight potential modifiable areas for intervention, such as bolstering stress management skills to help manage neighborhood-level stress to ultimately reduce physiological arousal and improve health outcomes among women with BC.

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Abstract: 1543

A MODERATED MEDIATION MODEL: SOCIAL CAPITAL, ANXIETY SYMPTOMS, AND ACADEMIC STRESS ACROSS EDUCATION CONTEXTS

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Social capital – community networks and resources – has been theorized as a strength that students of color bring with them into higher education (Yosso, 2005). Existing literature has demonstrated that social capital is beneficial to academic performance in Latinx high school students, and to other capitals for Latinx first-generation college students (FGCS) attending Hispanic Serving Institutions (HSI) (Liou et al., 2009; Cononelos, 2025). A separate line of research has highlighted associations between social support, anxiety and academic stress (Zhang et al., 2022; Yang et al., 2025). However, these studies have not considered social capital as a construct. Our study intends to fill these gaps in literature by investigating the intertwined associations of social capital, anxiety, and academic stress across educational contexts in a Latinx FGCS population. We hypothesized that 1) higher levels of social capital will be associated with lower anxiety symptoms, 2) lower levels of anxiety symptoms will predict lower academic stress, 3) anxiety symptoms will fully mediate the relationship between social capital and academic stress, and 4) the indirect effect of social capital on academic stress through anxiety will be moderated by educational context. Latinx FGCS (N = 395; Mage= 18.1) at two HSIs (1 teaching-centered, 1 research-centered) completed an online survey in their first term of university. A moderated mediation analysis was conducted using Hayes PROCESS v5.0 Model 7 and controlled for cohort, sex, and SES. Results confirmed our hypotheses. H1: higher levels of social capital were predictive of lower levels of anxiety symptoms (b = -.27, SE = .05, p < .001). H2: lower levels of anxiety symptoms predicted low levels of academic stress (b = .52, SE = .05, p < .001). H3: anxiety symptoms fully mediated the relationship between social capital and academic stress (b = -.13, 95% Cl [-.19, -. 08]), confirming that the relationship between social capital and academic stress among Latinx FGCS is positively explained by low levels of anxiety. Lastly, H4: educational context (teaching-centered, research-centered) fully moderated the indirect effect of social capital on academic stress through anxiety symptoms. Both educational contexts were statistically significant; however, the effects at the teaching-centered HSI were stronger (b = -.19, 95% Cl [-.27, -.12]) than the research-centered HSI (b = -.08, 95% Cl [-.15, -.01]). Together, these findings highlight the role of anxiety in the association between social capital and academic stress among Latinx FGCS, and point to the importance of institutional context in shaping students' stress experiences. Institutional implications will be discussed.

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Abstract: 1533

COMMUNITY CULTURAL WEALTH AS A SOURCE OF STRENGTH: A MODEL LINKING RESILIENCE, HEALTH AND ACADEMIC OUTCOMES AMONG LATINX FIRST-GENERATION COLLEGE STUDENTS

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Community Cultural Wealth (CCW) – unique strengths students inherit from their family and community (aspirational, familial, navigational, social capital) – has been theorized as a protective factor for historically marginalized students (Yosso, 2005). Although CCW has been examined through qualitative inquiry, its quantitative associations with health and academic outcomes remain underexplored. To address this gap, this study proposes a novel, quantitative, empirical model linking CCW to positive health and academic outcomes among Latinx first-generation college students (FGCS). We also incorporate *resilience* – "ability to cope with adversity" (Connor & Davidson, 2003) as it has not been explicitly incorporated into CCW literature, even though the theory implies resilience through students' capacity to persist in institutions not designed for them. We proposed the following hypotheses: (H1): CCW will be associated with positive mental (greater happiness; low anxiety, depression, stress), physical (greater perceived physical health, sleep quality; low physical complaints) and academic (greater academic fit, low academic problems, academic stress) health, as well as greater likelihood of completing one's degree. (H2): Resilience will be associated with positive mental, physical, and academic health, as well as greater likelihood degree completion. Integrated into one model, (H3a): CCW will be associated with higher levels of resilience. (H3b): Higher levels of resilience will, in turn, be associated with positive mental health. (H3c): Positive mental health will be associated with positive physical health. (H3d): Positive mental and physical health will be related to better academic health. (H3e): Greater academic health will predict an increased likelihood of degree completion. Finally, (H4): There will be significant indirect effects linking CCW and positive mental, physical and academic health, as well as greater likelihood of degree completion via the paths of the intervening variables, demonstrating mediation. Latinx FGCS (*N* = 395; M*age* = 18.1) completed an online survey during their first term at two Hispanic Serving Institutions. Pearson correlations were conducted to test H1-H2, and path analyses was used to test H3-H4, controlling for context, sex, cohort. H1 and H2 (*p*s = .004 – .001) were confirmed. H3 and H4 were confirmed for all four types of CCW (aspirational, familial, navigational, social); models fit the data well (see fit indices in Table 1). Together, these findings support a model in which CCW is linked with higher resilience and in turn, to more positive mental, physical and academic outcomes among Latinx FGCS, highlighting the value of considering CCW in institutional programming.

Table 1. Summary of Fit Indices for Community Cultural Wealth (CCW) Models

	Primary Indices of Model Fit			Informational	
Model	CFI	RMSEA	SRMR	Chi-square(*df*)	p value
Aspirational	0.99 (Excellent)	0.04 (Excellent)	0.03 (Excellent)	21.72 (13)	.059
Familial	0.94 (Acceptable)	0.09 (Poor)	0.05 (Acceptable)	54.43 (13)	<.001
Social	0.94 (Acceptable)	0.09 (Poor)	0.05 (Acceptable)	54.45 (13)	<.001
Navigational	0.99 (Excellent)	0.04 (Excellent)	0.030 (Excellent)	23.23 (14)	.056

Note: A good model fit is present when at least two of three fit indices are acceptable or excellent. Primary fit indices used to assess model fit were: CFI = Comparative Fit Index, RMSEA = Root Mean Square Approximation, and SRMR = Standardized Root Mean Residual. An informational fit index (Chi-square) was included for information purposes only and was not used to determine model fit.

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Abstract: 1553

DISTRESS AFTER CARDIAC ARREST: ASSOCIATIONS WITH EARLY COGNITIVE FUNCTION BEYOND THE SEVERITY OF NEUROLOGICAL IMPAIRMENT

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Background. Psychological distress is common after cardiac arrest (CA) and may contribute to broad cognitive deficits even with good neurological outcomes. Specifically, posttraumatic stress symptoms (PTSS) and depressive symptoms (DS) can mimic neurocognitive decline (i.e., "pseudodementia"), complicating assessment. We hypothesized that PTSS and DS would each be associated with poorer cognitive function at discharge beyond deficits explained by medical severity.

Method. The PACE Study enrolled 120 CA survivors admitted to two large urban hospitals. At discharge and 1 month later, cognitive function was measured via the Modified Telephone Interview for Cognitive Status (TICS-M), cardiac event-induced PTSS via the PTSD Checklist for DSM-5, DS via the 8-item Patient Health Questionnaire, medical comorbidities via the Charlson Comorbidity Index, and neurological risk via the MIRACLE2 score. Separate models with PTSS or DS as predictors tested cross-sectional associations with TICS-M scores. Parallel models further tested whether distress changes from discharge to 1 month later predicted cognitive changes across the same time frame. Partially adjusted models included demographic covariates (age, sex); fully adjusted models added the medical indices in order to examine whether the distress-related associations remained beyond cognitive decline due to medical causes.

Results. For PTSS, the partially and fully adjusted models were significant (*p*s < .01), but with medical factors in aggregate not explaining additional variance, $F_{change}(2, 114) = .75$, $p = .47$. For DS, the partially and fully adjusted models were again significant (*p*s < .01), again with medical factors not explaining additional variance, $p = .37$. In final models, both PTSS ($\beta = -.17$, $p = .06$) and DS ($\beta = -.20$, $p = .02$) were negatively associated with discharge TICS-M scores, but significantly for DS only. Contrary to predictions, distress changes from discharge to 1 month were unrelated to cognitive change, all *p*s ≥ .67. Notably, neurological risk and medical comorbidities did not explain additional variance in the cross-sectional models, F_{change} *p*'s >.05.

Conclusion. Worse DS showed a small association with poorer cognitive function at discharge, independent of medical factors, with similar but non-significant effects for PTSS. Neither PTSS nor DS changes over time predicted concurrent cognitive change. Future research should assess premorbid distress, conduct longer-term follow-up to determine the durability of these associations, and test whether intervening on early distress may improve global cognition as patients leave the hospital.

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Abstract: 1511

DREAMS DISRUPTED: EXPLORING PHYSICAL ACTIVITY AS A MODERATOR IN THE RELATIONSHIP BETWEEN EVERYDAY DISCRIMINATION AND SLEEP QUALITY IN YOUNG ADULTS

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Abstract Body

Amid the dynamic demands of young adulthood, sleep often becomes fragmented and deprioritized. Everyday discrimination, which are experiences of subtle unfair treatment or degrading behavior in day-to-day interactions, has been shown to contribute to disrupted sleep. The consideration of behaviors that may buffer the association between discrimination and sleep remains understudied in this field. Physical activity has

shown to promote healthier sleep patterns and reduce the physiological effects of stress. This study aims to examine the association between everyday discrimination and sleep quality in young adults living in Los Angeles, while also assessing whether physical activity moderates this relationship.

This secondary, cross-sectional study will use data derived from an ongoing longitudinal study, the Allostatic Load in Los Angeles Youth, composed of individuals between the ages of 18 and 24 who live within the greater Los Angeles area. Data collection began on July 1, 2023, and will continue through January 31, 2026. We currently have a sample size of 284 participants with a target sample size of 300. Participants self-reported their sociodemographic information. Participants also completed the 10-item Everyday Discrimination Scale (EDS; α= 0.86), the 8-item Pittsburgh Sleep Quality Index (PSQI; α= 0.72), and one question from the International Physical Activity Questionnaire (IPAQ).

Using SPSS v29.0.2.0., linear regressions will be used to a) assess the relationship between everyday discrimination and sleep quality, and b) examine the moderating role of physical activity in the association between everyday discrimination and sleep while adjusting for age, race/ethnicity, and gender in all models.

These results will emphasize the role of everyday discrimination experiences on sleep quality among young adults, as well as the possible moderating role of physical activity in this relationship. The findings of this study could provide insights for public health prevention programs that address social stressors such as daily discrimination. It may also inform intervention programs in integrating wellness-promoting behaviors, such as healthier sleep patterns, and supporting physical activity among young adults.

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Abstract: 1506

LONGITUDINAL EFFECTS OF EARLY LOW-THRESHOLD PSYCHOTHERAPEUTIC INTERVENTION AT WORK: A RANDOMIZED CONTROLLED TRIAL

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Abstract Body

Common mental disorders impair work ability and often remain undertreated. The workplace offers an opportunity for early, low-threshold, rapid intervention. Beyond this individual-level approach, an organization's psychosocial safety climate (PSC) may shape working conditions and impact employee mental health. The German multicenter randomized controlled trial "friaa" investigates the effectiveness of early psychotherapeutic intervention at work (PT-A). This study examines long-term trajectories of clinical outcomes up to 24 months, comparing PT-A with care as usual. Participants were recruited via social media and from companies of different sizes. Eligibility required a common mental disorder (ICD-10) or reduced functioning (GAF). Core elements of PT-A include low-threshold contact, individual counseling across all mental health phases, workplace relevance, and cooperation with co-treaters. Outcomes include clinical indicators such as depression (PHQ-9), anxiety (GAD-2) and somatic symptoms (SSS-8) measured at 9 (T1), 15 (T2), and 24 months (T3) after enrollment, with a 9-month intervention phase. Data collection for all study phases has been completed. Analyses follow the intention-to-treat principle and use linear mixed models, with PSC tested as a potential moderator of intervention effects on mental health. 60 companies participated, and approximately 55,000 people were reached via social media. 549 participants (55% female; mean age=46, SD=11) were randomized to intervention (IG) or control group (CG). In the IG, 257 participants received at least four psychotherapeutic sessions (mean=8, SD=3.5). The primary analysis at 15 months (T2) showed substantial improvements in clinical outcomes in the IG compared to the CG, e.g., for depression (p=.006), anxiety (p=.006) and somatic symptoms (p=.028). PSC did not substantially alter the magnitude of these changes. Follow-up analyses now examine the long-term trajectories of clinical symptoms up to 24 months. Previous analyses indicated a significant symptom reduction 15 months after enrollment with 8 sessions on average but showed that PSC did not affect the extent of symptom improvement. The extended 24-month observation window will allow for a more robust

assessment of the stability of intervention effects. The findings are expected to clarify whether early psychotherapeutic intervention at the workplace can produce lasting benefits for employees' mental health and ability to work.

Poster Session 4

March 14th, 2026

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Abstract: 1297

COMT GENOTYPE MODERATES THE EFFECTS OF A BRIEF GRATITUDE WRITING INTERVENTION ON SALIVARY ALPHA-AMYLASE ACTIVITY FOLLOWING A COLD PRESSOR TEST

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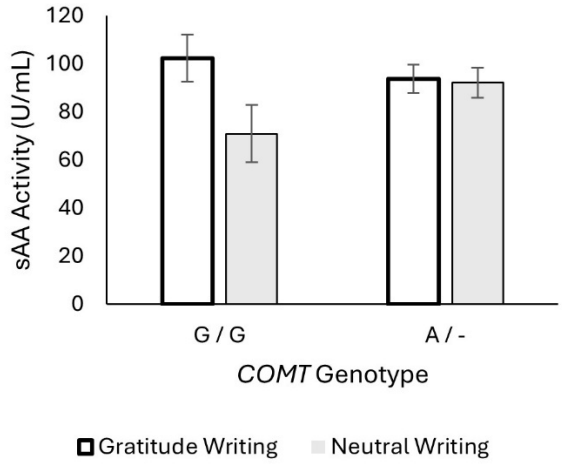
Although research has linked gratitude to better chronic pain outcomes, less is known about how gratitude impacts subjective and physiological responses to acute pain. Studies also suggest that the link between psychological factors and pain can be moderated by genetic variations. Therefore, the purpose of the current study was to examine the effects of a brief gratitude writing intervention on responses to acute pain and identify whether these effects were moderated by genetic variations in the *COMT* gene. One hundred forty-four pain free adults (M_{age}=22.63, *SD*=.24) completed a series of baseline surveys and then provided a saliva sample. Participants were then randomly assigned to a gratitude or neutral writing task. Participants then provided another saliva sample before completing a cold pressor test (CPT) for up to 90 seconds. Two additional saliva samples were taken 2 and 10 minutes after completion of the CPT. DNA samples were collected at the end of the experiment and were genotyped on rs4680 (G/G vs. A/-). All saliva samples were collected via passive drool and salivary alpha-amylase (sAA) activity was assessed. No main or interactive effects of writing condition or genotype were observed for pain onset or tolerance (all *p*'s > .38). However, writing condition was marginally associated with initial subjective pain ratings at 15 seconds ($F(1,126) = 3.31$, $p = .07$) such that individuals in the gratitude condition reported greater pain ($M = 3.79$, $SE = .28$) than those in the neutral condition ($M = 2.96$, $SE = .36$). Marginal effects were also found for writing condition on sAA activity 10 minutes post-CPT ($F(1,114) = 3.58$, $p = .06$) with participants in the gratitude condition showing marginally higher levels of sAA activity 10-minutes post-CPT ($M = 97.93$, $SE = 5.65$) than individuals in the neutral condition ($M = 81.45$, $SE = 6.66$). However, as shown in Figure 1, this effect was qualified by a marginal interaction between writing condition and genotype ($F(1,114) = 2.86$, $p = .09$), such that these differences were observed only for individuals homozygous for the G allele ($p < .05$). Our results indicate that our gratitude intervention was associated with elevated initial pain ratings. sAA activity 10 minutes post-CPT was also higher for individuals in the gratitude condition although this effect was observed only for individuals homozygous for the G allele. Our results suggest that while gratitude is linked to acute pain responses, these associations may be influenced by genetic factors. Supported in part by an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences of the National Institutes of Health (P20GM103443).

Figure 1.

sAA Activity 10 Minutes Post-CPT



4

Abstract: 1046

MEASUREMENT OF SUBJECTIVE COGNITIVE DECLINE AND PREDICTION OF LONGITUDINAL CLINICAL OUTCOMES IN OLDER ADULTS: A SYSTEMATIC REVIEW

Cristina Pinheiro; Justin Karr, PhD, University of Kentucky

Subjective cognitive decline (SCD) is considered a preclinical stage of Alzheimer's disease and represents one of the earliest clinical indicators of underlying neurodegeneration. Prevalence estimates are variable but suggest between 20 and 30 percent of cognitively unimpaired older adults report some form of subjective decline (Rohr et al., 2020), and 90% of people aged 70-90 will self-report at least one cognitive complaint (Slavin et al., 2010). Longitudinal studies indicate that individuals with SCD are at approximately twice the risk of progressing to mild cognitive impairment (MCI) or dementia compared to those without complaints. While not every older adult reporting decline will progress, early recognition allows for timely intervention and risk stratification for clinical trials of dementia prevention. However, SCD measurement is highly inconsistent which complicates comparisons across studies and weakens the ability to draw generalizable conclusions about its predictive validity. The current systematic review aimed to identify and emphasize the variability in operational definitions of SCD and then evaluate the

evidence for progression to MCI and dementia. A systematic review following PRISMA guidelines examined longitudinal studies of adults ≥60 to assess the heterogeneity in operational definitions of SCD and risk of incident MCI or dementia. Among the 26 studies reviewed, 24 distinct definitions of SCD were used, highlighting the need for standardized measurement to improve comparability and generalizability. Of the studies reporting hazard ratios, all nine found that SCD was associated with a significantly higher risk of incident MCI or dementia compared to cognitively healthy older adults not reporting SCD, except for vascular dementia, where no significant association was observed. The consistent association between SCD and risk of MCI and dementia in these studies strengthens the evidence that suggests SCD is not just a benign complaint of aging or psychiatric conditions, but a meaningful clinical signal of early underlying neurodegenerative changes. These findings highlight the need for standardization in measurement tools and definitions to refine this pre-MCI construct.

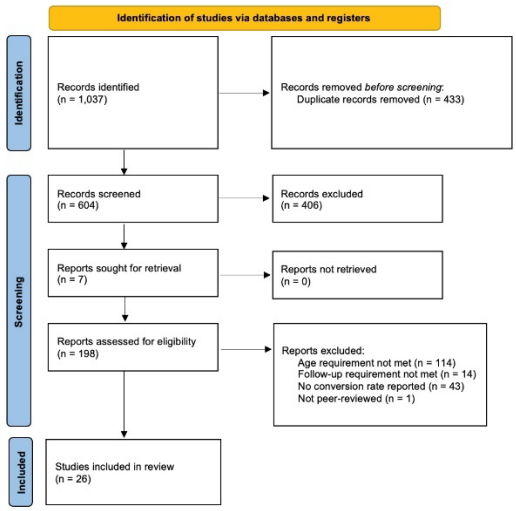


Figure 1. PRISMA flowchart of studies included in this review. PRISMA = preferred reporting items for systematic reviews and meta-analyses.

5

Abstract: 1013

THE ASSOCIATION OF MATERNAL EDUCATIONAL ATTAINMENT AND PRETERM BIRTH AMONG A DIVERSE SAMPLE OF HISPANIC/LATINA WOMEN IN THE HISPANIC COMMUNITY HEALTH STUDY/STUDY OF LATINOS (HCHS/SOL)

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Objective: Preterm birth (PTB) is a significant public health concern and is associated with neonatal mortality and morbidity. This study examined the association between maternal education and subsequent PTB (defined as birth before 37 weeks) in a diverse sample of Hispanic/Latina women.

Methods: A total of 489 mothers and their first singleton birth occurring between visits 1-2 of the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) were included. Associations between low (10.84%, <high school) and medium (56.85%, high school or some college) educational attainment at visit 1, compared to high education (32.31%, Bachelor's degree or higher) and PTB occurring <1-9 years after visit 1 were estimated using multivariate logistic regression models, which included covariates such as sociodemographics, pre-pregnancy smoking, obesity, health insurance, and pregnancy complications. A final exploratory model also included perceived ethnic discrimination and socioeconomic status ladder (SES).

Results: Total PTB prevalence was 11.3%, with 38.2% not having pregnancy complications or C-section. Medium educational attainment was significantly associated with decreased odds of PTB as compared to high attainment (OR=0.46,CI=[0.22, 0.97]). The effect of low education, as compared to high education, was not significant on PTB (OR=0.92,CI=[0.26, 2.98]). When also accounting for perceived ethnic discrimination (sometimes, often/always; versus never) and SES (low and middle tertiles; versus high tertile), we observed that the medium education effect was attenuated and was no longer significant (OR_{medium}=0.49,CI=[0.23, 1.05]). After accounting for perceived ethnic discrimination and SES, the low education effect was still non-significant (OR_{low}=0.84,[0.24, 2.75]).

Conclusion: Our findings highlight the complexity of education and disease risk, which may in part be due to perceived psychosocial stressors or other barriers to obtaining higher education in the U.S. Future studies should explore within-group heterogeneity of this population and explore ways to summarize how bio-psychosocial stressors may impact PTB in Hispanic/Latina women. Our observed protective association of medium education vs. high education on PTB risk warrants further investigation to elucidate how this population, or certain subgroups, may diverge in terms of their PTB risk factors and burden.

6

Abstract: 1389

FINDINGS FROM THE CHILD HEALTH DEVELOPMENT STUDY: THE ASSOCIATIONS BETWEEN DISCRIMINATION AND EPIGENETIC AGING

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Psychological and social factors, such as experiences of discrimination, may put greater demands and 'wear and tear' on

biological systems, resulting in accelerated decline of physiological functioning and aging over time. With the understanding that biological aging can be a biomarker for later disease, exploring associations between exposure to discrimination across the lifecourse and epigenetic aging may give us more information on underlying mechanisms through which social exposures shape health. We hypothesized that higher reports of experiences of discrimination (major, everyday, and anticipatory) would be associated with greater epigenetic aging (measured using DNA methylation), and that this association would be strongest among Black participants. The sample used in the analysis is a subset of the Child Health and Development Studies (CHDS) Disparities Study (DISPAR) comprised of 325 participants (46% female, 37.8% Black/African-American) with complete epigenetic, demographic, and self-reported discrimination data. We used multiple linear regression to examine associations between everyday, major, and anticipatory discrimination in relation to epigenetic age (using GrimAge, PhenoAge, DunedinPACE clocks to assess DNA methylation) adjusting for sex, race, education, age, smoking status, and cell type proportion. Overall, there was no statistically significant association between discrimination of any type and biological age for any clock. We noted statistically significant interactions between race and discrimination, and stratified our analyses by race. Among Black participants there were no significant relationships between any measure of discrimination and biological age. Black participants who had higher scores for discrimination showed 0.50 (-1.38, 0.37) lower Grim Age, those who experienced more frequent discrimination were found to have a 1.69 (-4.42, 1.04) higher Pheno Age than those who experienced less frequent discrimination. Those who experienced more frequent major discrimination were found to have a 0.03 (-0.03, 0.09) faster DunedinPace of aging. However, among white participants, there was a 0.79 (0.09, 1.48) increase in Grim Age for daily discrimination and there was a 0.03 (0.004, 0.05) increase in DunedinPace pace of aging with major discrimination. These findings provide further evidence that experiences of discrimination may contribute to epigenetic aging, though research is needed to better understand how this differentially shapes health and disease of different population sub-groups over the lifecourse.

7

Abstract: 1247

MULTIDIMENSIONAL SLEEP HEALTH AND RESTING BLOOD PRESSURE IN YOUNG ADULTS: THE ROLE OF NEGATIVE AFFECT

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Poor sleep is associated with increased risk for cardiovascular disease, and identifying pathways by which poor sleep contributes to cardiovascular risk earlier in the life course is critical. One candidate pathway is increased blood pressure (BP). While individual sleep dimensions have been linked to higher BP in adolescent and young adult samples, no studies have examined a composite measure of sleep health in relation to BP in this age group. Here, we examine the association between a sleep health composite index and resting BP in a sample of young adults without sleep disorders and explore how indicators of negative affect influence this relationship. Participants included 129 young adults (mean age = 19.2 years) who wore a wrist actigraph for five nights and completed measures of sleep quality and negative affect (depressive symptoms, anxiety symptoms, and hostility). A sleep health variable composed of Regularity, Satisfaction, Alertness, Timing, Efficiency, and Duration was calculated using a combination of actigraphy and self-report metrics. Systolic and diastolic BP were assessed as the average of two resting measurements. After adjusting for age, sex, race, ethnicity, body mass index, and attitudes toward sleep, there was no association between sleep health and systolic (B = -1.00, SE = .61, p = .10) or diastolic BP (B = -.21, SE = .45, p = .65). However, the association between better sleep health and lower systolic BP reached statistical significance after adjusting for negative affect (B = -1.46, SE = .65, p = .03). Moreover, hostility moderated the effect of sleep health on systolic (B = .27, SE = .11, p = .02) and diastolic BP (B = .17, SE = .08, p = .04), such that the inverse link between sleep health and BP was stronger among those lower in hostility . These findings underscore the relevance of multidimensional sleep health for cardiovascular risk profiles in emerging adults and point to the importance of considering psychosocial context when evaluating sleep–BP associations.

8

Abstract: 1301

GREATER SNAPCHAT USE IS ASSOCIATED WITH LONGITUDINAL INCREASES IN THE INTESTINAL PERMEABILITY MARKER, LIPOPOLYSACCHARIDE BINDING PROTEIN, WHICH IS MEDIATED BY GREATER FEAR OF MISSING OUT AND PROBLEMATIC SOCIAL MEDIA USE

Jijeong Jeong, The Ohio State University; Tao Jiang, PhD, Stanford University; David Lee, PhD, University at Buffalo; Baldwin Way, PhD, The Ohio State University

While the stressful effects of social media platforms on young adults' mental health are widely studied, their potential physiological impacts remain underexplored. We investigated how platforms like Snapchat, TikTok, and Instagram might affect a marker of intestinal permeability, Lipopolysaccharide Binding Protein (LBP).

We investigated the relationship between social media use (SMU) and LBP, focusing on platform-specific associations and the psychological mechanisms for the relationship, namely problematic social media use (PSMU) and fear of missing out (FOMO). Based on prior experimental findings linking social distress to increased LBP, we hypothesized that social media

platforms that particularly elicit FOMO would lead to PSMU, resulting in higher levels of LBP.

Data were collected from 68 college student participants (M_age = 19.13, SD_age = 2.67) between September, 2021 and May, 2022. Participants provided blood samples at two time points separated by 5 weeks. Between these time points, weekly records of five social media platforms based on iOS Screentime data were obtained. FOMO and PSMU were reported at time point 2. Facebook and Twitter were excluded from analyses due to a median usage time of 0.

More Snapchat use predicted higher LBP ($b = 0.10$, $p < 0.05$), Instagram marginally did ($b = 0.12$, $p = 0.05$), and TikTok did not ($b = -0.02$, $p = 0.64$). In a mediation model with two consecutive mediators, Snapchat use between phases predicted FOMO ($B = 0.34$, 95% CI [0.03, 0.59]), which predicted PSMU ($B = 0.29$, 95% CI [0.00, 0.58]). PSMU in turn predicted a higher LBP level ($B = 0.20$, 95% CI [0.04, 0.34]). The indirect effect was significant (indirect effect = 0.02, 95% CI [0.00, 0.08]), after controlling for multiple confounding variables including baseline LBP. Alternative models were tested and rejected: 1) FOMO did not directly predict LBP ($b = -0.03$, 95% CI [-0.12, 0.05]), 2) the indirect effect with only PSMU as a single mediator was insignificant ($B = 0.13$, 95% CI [-0.14, 0.45]), and 3) the indirect effect was insignificant when mediator order was reversed (indirect effect = -0.01, 95% CI [-0.05, 0.01]).

The same mediation model was also tested for other platforms. Instagram showed a marginal association with LBP ($b = 0.12$, $p = 0.05$) but its mediation model was not significant. Similarly, while TikTok was the only platform that showed a significant correlation with PSMU in zero-order correlation ($r = 0.38$, $p < 0.001$), its mediation model was also not significant.

Our results suggest a candidate pathway by which any social media platform that triggers FOMO could lead young adults to engage in PSMU, potentially resulting in increased intestinal permeability. This study provides a foundation for future research on the psychological and physical health effects of platform-specific SMU.

9

Abstract: 1127

WHEN RESEARCH FEELS RELEVANT: INTRODUCING PERCEIVED RESEARCH APPLICABILITY AND ITS RELATION TO HEALTH BEHAVIOR INTENTIONS

Amy Wang; Elsie Wong, B.S.; Antonio Freitas, PhD, Stony Brook University

Introduction: Minoritized populations are often understudied in health research, leading scholars to question whether research results can generalize to broader populations. However, no research to date has studied whether lay populations consider whether research results generalize to themselves. Understanding this may help explain why minoritized populations tend to engage less in healthy behaviors. We developed a novel construct called "perceived research applicability" (PRA), defined as how people perceive research results as applying to themselves personally. We developed and validated a scale to measure PRA across three studies. We hypothesized that higher PRA would relate to higher behavior intentions, and that PRA would be associated with race (Studies 1 and 3) and socioeconomic status (Studies 2 and 3). Additionally, we predicted that higher PRA would relate to higher trust in science (Studies 2 and 3).

Method: We sampled both undergraduate students (Studies 1 and 2) and a socioeconomically stratified online sample (Study 3). Participants were presented with several research-based health recommendations aimed at preventing cardiovascular disease or anxiety. For each health recommendation, we asked participants to rate their baseline frequency of doing a behavior, intentions to follow the recommended behavior, and PRA. Afterward, participants answered a trust in science questionnaire.

Results: Using exploratory factor analysis, we found that the PRA scale best fit a two-factor structure, consisting of the subscales "applicability" and "transferability." Next, we used multilevel modeling and found that higher PRA was associated with higher intention both within- and between-persons. We also found that higher socioeconomic status related to higher PRA, whereas we did not find strong evidence for a relationship between race and PRA. Lastly, we found that higher PRA related to higher trust in science.

Discussion: Overall, the PRA measure appears to be a promising new method to study predictors of health behavior intentions and may relate to certain identity characteristics. Studying PRA may help illuminate how lay audiences interpret research information, which can have important implications for science communication. Further research should examine how different types of science messages might be used to experimentally manipulate PRA.

10

Abstract: 1177

WORRIED SICK ABOUT GETTING OLDER: AGING ANXIETY AS A PATHWAY TO ALLOSTATIC LOAD AMONG MIDLIFE WOMEN

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Background: Aging anxiety, a psychosocial stressor characterized by concerns about age-related changes, may have profound implications for women's physiological health. The relationship between aging-related anxieties and cumulative physiological burden remains understudied. We examined whether aging anxiety is associated with allostatic load, a comprehensive measure of physiological dysregulation.

Methods: Data were drawn from 1,163 women in the Midlife in the United States Study. Aging anxiety was assessed across three

domains: declining attractiveness, declining health, and reproductive aging. Allostatic load was calculated using eight biomarkers across cardiovascular, metabolic, and inflammatory systems. Negative binomial regression models quantified the relationship of allostatic load with each aging anxiety domain and a cumulative aging anxiety score, adjusting sequentially for sociodemographic factors, medication use, and health behaviors. Exploratory analyses stratified models by menopausal status.

Results: Increased allostatic load was significantly associated with higher health decline anxiety (aIRR: 1.07, 95% CI: 1.02-1.11), reproductive aging anxiety (aIRR: 1.05, 95% CI: 1.01-1.10), and cumulative aging anxiety (aIRR: 1.06, 95% CI: 1.02-1.11). Declining attractiveness anxiety was not significantly associated with allostatic load (aIRR: 1.02, 95% CI: 0.97-1.06). Stratified analyses revealed stronger association magnitudes among premenopausal women across the following domains: declining health anxiety (aIRR: 1.09, 95% CI: 1.04-1.15), reproductive aging anxiety (aIRR: 1.08, 95% CI: 1.03-1.13), and cumulative aging anxiety (aIRR: 1.10, 95% CI: 1.05-1.16).

Conclusion: Psychological distress related to anticipated health decline and reproductive aging may contribute to accelerated physiological wear and tear. Longitudinal studies are needed to assess causal relationships between aging anxiety and allostatic load trajectories among women.

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Abstract: 1314

BASELINE PROFILES OF PATIENTS REFERRED TO INTEGRATED CARDIAC PSYCHOLOGY AT INDIANA UNIVERSITY HEALTH: A FOCUS ON BEHAVIORAL, MENTAL HEALTH, AND SOCIAL RISK FACTORS

JiHee Yoon; Christopher Crawford, MS; Kitzel Padilla, MPH, Department of Psychology, Indiana University Indianapolis; Yelena Chernyak, PhD; Kendra Hinton-Froese, PhD; Victoria Powers, PhD, Department of Psychiatry, Indiana University School of Medicine ; Richard Kovacs, MD, Division of Cardiovascular Medicine, Indiana University School of Medicine; Jesse Stewart, PhD, Department of Psychology, Indiana University Indianapolis

Behavioral risk factors, mental health conditions, and adverse social determinants of health are highly prevalent among individuals with or at risk for cardiovascular disease (CVD) and are major drivers of CVD burden. Despite evidence that addressing these factors improves health outcomes, behavioral health care is rarely integrated into cardiology practices. To fill this gap, we launched the Integrated Cardiac Psychology (ICP) service line – a co-located, whole-person care program that embeds cardiac psychologists within cardiology care teams to address patient behavioral and psychosocial needs. Since its launch in January 2025, patients have been entering the ICP program through two pipelines: (1) inpatient (all patients recently discharged from a larger inpatient cardiology unit at Indiana University Health [IUH]) and outpatient referrals (established outpatients from a large cardiology clinic at IUH). Each referred patient completes an intake assessment and receives individualized follow-up visits as clinically indicated. The intake assessment includes a battery of self-report questionnaires assessing behavioral, mental health, and social risk factors as well as health-related quality of life (Table 1). To characterize baseline profiles of ICP patients, descriptive statistics were computed, including percentages above clinical cut points. To date, 74 patients have attended initial assessments, with 115 completed follow-up visits. Of those, 37 (50%) patients completed the intake questionnaire battery (M_{age} = 57 years, 78% women, 23% Black, 18% with a high school education or less, 24% with income <$10,000/year). For behavioral risk factors, 32% reported no weekly physical activity, 29% identified as current smokers, and 71% reported poor medication adherence. Regarding mental health risk factors, 32%, 30%, 39%, and 36% of patients reported clinically elevated depressive, anxiety, insomnia, and posttraumatic stress disorder symptoms, respectively, and 80% endorsed high perceived stress. Concerning social risk factors, 61% reported a high degree of loneliness. Financial strain (39%) and unemployment (28%) were the most common social needs, followed by housing instability (22%) and food insecurity (19%). The present findings highlight the considerable behavioral and psychosocial needs of ICP patients, underscoring the importance of behavioral health integration in cardiology practices. The ICP model offers a feasible and acceptable framework for addressing these needs and informs broader efforts to integrate behavioral health into specialty care settings. Ongoing longitudinal assessments will clarify the impact of ICP on patient-reported, clinical, and health economic outcomes, with initial results expected by the end of 2025.

Table 1. Baseline Sociodemographic Characteristics and Patient-Reported Outcomes of Patients Seen by the ICP Service Line ($N = 37$)

Sociodemographic Factors	
Age, years, *M* (*SD*)	37.3 (13.4)
Female, *n* (%)	18 (54.5)
Race, *n* (%)	
White	21 (70.0)
Black	7 (23.3)
More than Two Races	2 (6.7)
Hispanic or Latino/a/x, *n* (%)	3 (9.7)
Education, *n* (%)	
<High School	2 (6.1)
High School or Equivalent	4 (12.1)
Some College or Associate's Degree	13 (39.4)
Bachelor's Degree or Higher	14 (42.4)
Annual Household income, *n* (%)	
<$10,000	8 (24.2)
$15,000-$24,999	2 (6.1)
$25,000-$39,999	2 (6.1)
$40,000-$59,999	8 (24.2)
≥$60,000	13 (39.4)
Behavioral Risk Factors	
≥30-min of Moderate Physical Activity, *n* (%)	
0 days/week	12 (32.4)
≥1 days/week	25 (67.6)
Current Smoker, *n* (%)	10 (28.6)
Medication Adherence – ARMS-7	
Total Score (Possible Range: 7-28), *M* (*SD*)	10.0 (1.7)
≥10 (Poor), *n* (%)	25 (71.4)
Mental Health Risk Factors	
Depressive Symptoms – PHQ-8	
Total Score (Possible Range: 0-24), *M* (*SD*)	8.3 (5.8)
≥10 (Moderate-to-Severe), *n* (%)	11 (32.4)
Anxiety Symptoms – GAD-7	
Total Score (Possible Range: 0-21), *M* (*SD*)	8.0 (6.2)
≥10 (Moderate-to-Severe), *n* (%)	10 (30.3)
Insomnia Symptoms – ISI	
Total Score (Possible Range: 0-28), *M* (*SD*)	11.8 (6.3)
8-14 (Subthreshold), *n* (%)	11 (33.3)
≥15 (Clinical), *n* (%)	13 (39.4)
PTSD Symptoms – PCL-5	
Total Score (Possible Range: 0-80), *M* (*SD*)	23.9 (18.0)
≥31 (Moderate-to-Severe), *n* (%)	8 (36.4)
Perceived Stress – PSS-4	
Total Score (Possible Range: 0-16), *M* (*SD*)	7.6 (3.1)
≥6 (High), *n* (%)	28 (80.0)
Social Risk Factors	
Loneliness – ULS-3	
Total Score (Possible Range: 3-9), *M* (*SD*)	5.1 (2.0)
≥5 (High), *n* (%)	20 (60.6)
Social Determinants of Health –	
AAFP Social Needs Screening Tool, *n* (% yes)	
Housing Instability	7 (31.8)
Food Insecurity	8 (36.4)
Transportation	2 (9.1)
Utilities	2 (9.1)
Unemployment	11 (50.0)
Education	1 (4.5)
Financial Strain	15 (68.2)
Personal Safety	2 (9.1)
Health-Related Quality of Life	
SF-20 Subscale Scores (Possible Range: 0-100), *M* (*SD*)	
Physical Functioning	52.8 (32.3)
Role Functioning	42.4 (41.7)
Social Functioning	63.8 (35.4)
Mental Health	59.0 (22.9)
Health Perceptions	32.3 (25.3)
Pain	53.3 (29.0)

Note. ARMS-7 = 7-item Adherence to Refills and Medications Scale; PHQ-8 = Patient Health Questionnaire-8; GAD-7 = Generalized Anxiety Disorder-7; ISI = Insomnia Severity Index; PTSD = Posttraumatic Stress Disorder; PCL-5 = Posttraumatic Stress Disorder Checklist for DSM-5; PSS-4 = Perceived Stress Scale-4; ULS-3 = 3-item UCLA Loneliness Scale; AAFP = Academy of Family Physicians; SF-20 = 20-Item Short Form Health Survey.

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Abstract: 1395

VAGUS-STIMULATING BREATHING AND STUDY PARTICIPATION IMPROVES QUALITY-ADJUSTED LIFE YEARS (QALY) IN PATIENTS WITH POST-COVID-19 SYMPTOMS

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Patients with post-COVID-19 symptoms suffer from various psychosomatic symptoms such as chronic fatigue, pain, depression or difficulty concentrating, which leads to reduced quality of life (QoL). In an experimental study, we investigated if low-cost interventions such as vagus-stimulating breathing or open-label placebos can - besides symptoms - improve QoL and have health economic impacts such as on quality-adjusted life years (QALY).

Seventy-six patients (49 ± 12 years, 62% female) with post-COVID-19 symptoms were randomized to four groups: an open-label placebo intervention (OLP), a paced breathing training (PBT), both (OLP+PBT), or a waitlist control group (WL). The OLP groups take two placebos/day and receive the information that placebos can significantly improve symptoms, e.g. via the activation of "self-healing powers". The PBT groups receive a standardized training to breath at 6 breaths/min two times per day for 6 min. Besides symptoms, QoL was rated on a 0-100 numerical rating scale (NRS) and costs of concomitant treatments were assessed at inclusion (T0) and after four weeks (T1).

ANOVAs (2 times x 4 groups) showed significant improvements of somatic and mental symptoms (PHQ15, PHQ9, GAD7) without group differences, but not on heart rate variability (HRV). Furthermore, QoL significantly improved over time and differed between groups with significant improvements for PBT, OLP+PBT and WL. To calculate the QALY, the estimated remaining lifetime was taken from the German Federal Statistical Office, and QALY significantly improved for PBT and WL only.

Low-cost, short-term interventions such as vagus-stimulating breathing techniques can improve QoL. Furthermore, the knowledge of receiving a treatment with this breathing technique in the future (waitlist group) improves QoL, too. Taking part in studies may improve symptoms through expectation (placebo) effects. Analyses of costs of concomitant treatments will be presented at the conference.

13

Abstract: 1385

ASSOCIATION BETWEEN INFLAMMATORY MARKERS AND SLEEP IN SPOUSAL BEREAVEMENT

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Objectives: The loss of a spouse is a major life stressor that has been linked to increased mortality, particularly due to cardiovascular disease. Evidence suggests that sleep disturbances and heightened inflammation may serve as pathways through which bereavement contributes to this elevated mortality risk. Understanding these mechanisms is crucial for identifying targets to mitigate the health outcomes associated with bereavement. Therefore, in this study, we examined the association between inflammation and subjective and objective sleep among spousal bereaved adults.

Methods: The sample consisted of 86 bereaved spouses (59.50% female, mean 68.20 years old [SD = 9.62]) who were recruited approximately three months after their loss for two bereavement studies with harmonized measures. Sleep quality was assessed subjectively using the Insomnia Severity Index (ISI) and Pittsburgh Sleep Quality Index (PSQI). Objective sleep markers were assessed using 7-day actigraphy. Derived variables included Total Sleep Time (TST) and Sleep Efficiency (SE). A composite inflammatory variable was created by averaging z-

scores for circulating inflammatory cytokines (tumor necrosis factor alpha [TNF-a], interleukin-6 [IL-6], IL-8, and IL-10). Multiple linear regression was used to examine the associations between sleep variables and the composite inflammatory marker. All models were adjusted for age, sex, education, BMI, and the study of origin.

Results: Mean scores on the ISI and the PSQI were 9.79 (5.24) and 8.61 (3.20), respectively. The mean value for TST was 6.66 (1.00) hours and the mean value for SE was 63.88% (5.65%). For subjective sleep outcomes, ISI (b=-0.113; p=0.394) and PSQI scores (b=-0.218; p=0.100) were not significantly associated with the inflammatory composite. Similarly, objective sleep markers, TST (b=-0.055; p=0.678) and SE (b=-0.040; p=0.763), were not significantly associated with inflammation.

Conclusion: There were no associations between subjective or objective sleep factors and circulating inflammatory cytokines in recently bereaved adults. Future research should examine sleep more comprehensively across the first year of bereavement and in larger samples to determine whether chronic sleep disturbances contribute to elevated inflammation.

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Abstract: 1359

PERCEIVED RACIAL DISCRIMINATION, PREVALENCE OF STRESSORS, AND INFLAMMATION LEVELS IN COLLEGE-AGED WOMEN FROM MINORITY ETHNIC GROUPS

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Perceived Racial Discrimination, Prevalence of Stressors, and Inflammation Levels in College-Aged Women from Minority Ethnic Groups

Social environments characterized by persistent hostility and denigration contribute to chronically elevated levels of inflammation (Cole et al., 2014). Social adversity, including perceived threat or mistreatment, triggers increased production of pro-inflammatory cytokines as the body prepares for possible injury or attack. This phenomenon is especially relevant for ethnic minorities, who may experience heightened and uncertainty regarding how they will be perceived and treated in certain social contexts. Women, in particular, consistently show higher levels of C-Reactive Protein (CRP) - a marker of inflammation – compared to men, regardless of age (Casimir et al., 2010). The preset study examines the relationship between ethnicity-related perceived discrimination and inflammation among college aged women. This study, which began in January 2025, includes 40 participants from a small liberal arts university in the Midwest. Those with cold and flu symptoms within the seven days prior to participation and anyone that did not identify as a woman were excluded from participation. Participants completed a demographics questionnaire and measures of ethnicity-related threat and ethnic identity, including the Perceived Ethnic Discrimination Questionnaire (PEDQ), the Stereotype Confirmation Concern Scale (SCCS), the Own-Group Conformity Pressure Scale (OGCPS), and the Group Membership Questionnaire (GMQ) (Contrada et al., 2001). Dried Blood Spot samples were collected and will be assayed for CRP as a biomarker of broad inflammation. Data will be analyzed using a factorial ANOVA. We expect that women who identify as ethnic minorities will exhibit higher CRP levels, reflecting the cumulative effects of racial discrimination and perceived threat. In contrast, women who identify with majority ethnic groups are expected to show lower CRP levels, due to fewer or no experiences with racial discrimination. Preliminary results of the measures of ethnicity-related threat and ethnic identity show that group membership may moderate the relationship between perceived ethnic discrimination and inflammation. This research may have broader implications for understanding the role of social stress, ethnic discrimination, and inflammation in health disparities, particularly regarding the development of chronic illnesses linked to elevated inflammatory markers.

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Abstract: 1290

PERCEIVED DISCRIMINATION, EMOTIONAL ACCEPTANCE, AND SUICIDALITY: A PSYCHOSOCIAL PERSPECTIVE

Justin White; Melissa Hagan, PhD, San Francisco State University

Suicide rates have risen disproportionately among individuals with minoritized ethnoracial identities in the post-pandemic period, reflecting the interplay of biological vulnerability, psychosocial stressors, and systemic inequities. Perceived discrimination represents a pervasive social determinant of mental health and a robust risk factor for suicidality. At the psychological level, emotional acceptance can serve as a protective factor by fostering adaptive regulation of distress. This study examined whether emotional acceptance moderates the relationship between perceived discrimination and suicidality in an ethnically diverse sample of young adults (n = 1,083; 86% ethnoracial minority; 77% female). Regression analyses showed that greater perceived discrimination predicted higher suicidality (b = .62, t = 5.53, p < .001), while higher acceptance predicted lower suicidality (b = –.94, t = 10.54, p < .001). No interaction was observed (p > .50), indicating that acceptance exerted beneficial effects across varying levels of perceived discrimination. Findings underscore the biopsychosocial nature of suicidality and highlight emotional acceptance as a protective psychological process with clinical and public health relevance for diverse populations facing climates of symbolic annihilation.

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**************************************************************************
Model  : 1
    Y  : SBQTOT
    X  : DISCAVG
    W  : Noaccpt

Covariates:
 Latine

Sample
Size:  1081

**************************************************************************
OUTCOME VARIABLE:
 SBQTOT

Model Summary
        R       R-sq        MSE          F        df1        df2          p
      .394       .155     10.219     49.323      4.000   1076.000       .000

Model
              coeff         se          t          p       LLCI       ULCI
constant      6.528       .123     53.022       .000      6.286      6.769
DISCAVG        .618       .112      5.525       .000       .398       .837
Noaccpt        .936       .089     10.538       .000       .761      1.110
Int_1         -.039       .096      -.403       .687      -.226       .149
Latine        -.796       .204     -3.902       .000     -1.196      -.396

Product terms key:
 Int_1    :        DISCAVG  x        Noaccpt

Covariance matrix of regression parameter estimates:
              constant    DISCAVG    Noaccpt      Int_1      Latine
constant          .015       .001      -.001      -.002       -.015
DISCAVG           .001       .013      -.002      -.001       -.001
Noaccpt          -.001      -.002       .008       .000        .002
Int_1            -.002      -.001       .000       .009        .000
Latine           -.015      -.001       .002       .000        .042
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Abstract: 1175

CONTENT, DIVERGENT, AND CONVERGENT VALIDITY OF A MEASURE OF MENTAL WELLBEING AMONG A DIVERSE COHORT OF PREGNANT WOMEN.

Kaitlyn Stanhope; Simone Anderson, MPH; Rebecca Lipshutz, PhD; Britney Howard, MA; Marisa R Young, MD PhD; Jade Stafford, MD, Emory University

Background: Maternal mental health, including emotional, psychological, and social wellbeing, is associated with improved maternal and infant health – yet no standard metrics of maternal mental health have been validated among pregnant women.

Objective: To calculate factor structure, construct validity, divergent, and convergent validity of the Mental Health Short Form (MH-SF) among pregnant women.

Methods: We recruited 443 women during pregnancy (20-34 weeks, median age 32, 34.8% non-Hispanic white, 41.5% non-Hispanic Black, 9.6%% Asian, 8.0% Hispanic, 10.2% other) to complete a web-based survey including the MH-SF (range: 0-70), general anxiety disorder-7 scale (GAD-7), financial wellbeing scale, Medical Outcomes Study social support scale, and primary care posttraumatic stress screener-5 (PC-PTSD-5). We calculated Cronbach's alpha and conducted confirmatory factor analysis using four potential theory-based structures (single factor, two factor, three factor, bifactor). We assessed model fit using X^2/degrees of freedom, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Error of the Residual, Comparative Fit Index, and the Tucker-Lewis Index. We calculated correlation between the MH-SF and similar constructs (social support, financial wellbeing) and divergent constructs (GAD-7, PC-PTSD-5) to examine convergent and divergent validity.

Results: The median MH-SF score was 51 (IQR: 41, 59). The full scale had a Cronbach's alpha of 0.94 (~0.9 for social, psychologic, and emotional wellbeing subscales). The bifactor model demonstrated the best fit according to 3 out of the 5 fit measures we examined. We found the bifactor model to have a standardized root mean square of the residual of 0.03. Both the Tucker-Lewis Index and Comparative Fit Index had high values of 0.95 and 0.96, respectively. For X^2/df, we found a value of 3.23, and for RMSEA we found a value of 0.07. The total score was positively correlated with social support (0.8) and financial wellbeing (0.7) and only weakly negatively correlated with anxiety (-0.1) and PTSD symptoms (-0.1)

Conclusions: Measurement of mental health using the MH-SF is feasible and valid in a diverse sample of pregnant women, demonstrating divergent validity from measures of mental illness and convergence with specific aspects of wellbeing.

Table 1. Responses to Mental Health-Short form individual items about past month wellbeing, total score, and fit statistics, 443 pregnant women in Atlanta, Georgia, 2023-2025

	Median (IQR)	Never % (n)	Once or twice a month % (n)	About once a week % (n)	Two or three times a week % (n)	Almost every day % (n)	Every day % (n)
Emotional wellbeing[a]							
Happy	4 (3,5)	0.45 (2)	3.39 (15)	3.61 (16)	18.74 (83)	43.79 (194)	28.67(124)
Interested in life	4 (4,5)	0.68 (3)	2.26 (10)	4.97 (22)	14.67 (65)	33.86 (150)	42.66 (189)
Satisfied	4 (3,5)	2.93 (13)	2.93 (13)	7.00 (31)	20.77 (94)	33.86 (150)	31.38 (139)
Social wellbeing[b]							
That you had something important to contribute to society	4 (2,5)	4.97 (22)	8.13 (36)	11.74 (52)	16.70 (74)	25.96 (115)	29.35 (130)
That you belonged to a community (like a social group, your neighborhood, your city)	4 (1,5)	12.19 (54)	13.32 (59)	8.58 (38)	12.19 (54)	24.60 (109)	25.96 (115)
That our society is becoming a better place for people	2 (0,3)	25.96 (115)	21.22 (94)	12.19 (54)	14.90 (66)	12.64 (56)	8.58 (38)
That people are basically good	3 (3,4)	6.55 (29)	11.74 (52)	15.35 (68)	24.60 (109)	23.70 (105)	14.45 (64)
That the way our society works makes sense to you	2 (1,3)	21.90 (97)	18.74 (83)	14.45 (64)	16.93 (75)	15.35 (68)	8.13 (36)
Psychological wellbeing							
That you liked most parts of your personality	4 (3,5)	1.81 (8)	4.51 (20)	6.09 (27)	16.03 (71)	33.63 (149)	35.89 (159)
That you were good at managing the responsibilities of your daily life	4 (3,5)	2.03 (9)	4.74 (21)	7.45 (33)	21.90 (97)	30.93 (137)	31.60 (140)
That you had warm and trusting relationships with others	4 (3,5)	1.81 (8)	5.19 (23)	4.06 (18)	13.77 (61)	29.35 (130)	44.47 (197)
That you have experiences that challenge you to grow and become a better person	4 (3,5)	2.03 (9)	4.74 (21)	7.90 (35)	15.12 (67)	30.93 (137)	37.92 (168)
Confident to think or express your own ideas and opinions	4 (4,5)	1.58 (7)	3.39 (15)	4.29 (19)	14.90 (66)	30.25 (134)	43.57 (193)
That your life has a sense of direction or meaning to it	4 (3,5)	3.61 (16)	4.29 (19)	7.22 (32)	12.64 (56)	27.54 (122)	42.89 (190)
Delight or joy, even for a moment[d]	4 (4,5)	0.90 (4)	4.06 (18)	3.61 (16)	14.90 (66)	26.41 (117)	48.53 (215)

[a] Subscale Cronbach's alpha = 0.89
[b] Subscale Cronbach's alpha = 0.87
[c] Subscale Cronbach's alpha = 0.89
[d] Excluded from total scale, added based on community feedback

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Abstract: 1114

THE RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM, STRESS, PSYCHOPATHOLOGY, AND RISK FOR CARDIOVASCULAR DISEASE: UPDATES AND FUTURE DIRECTIONS

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The renin-angiotensin-aldosterone system (RAAS) is widely recognized for its role in maintaining blood volume, electrolyte balance, and blood pressure, as well as its involvement in the pathogenesis of certain forms of cardiovascular disease (CVD). Moreover, recent research suggests that the RAAS may also play a role in the response to psychological and social stressors. By extension, the activity of the RAAS may serve as a biological mechanism linking psychological or social stress exposure to CVD. The present review gathers and critically analyzes the relevant literature that has been published on the associations between psychosocial stress and alterations in the RAAS system over the past 15 years. We performed a literature search using the PubMed database, which identified 3, 733 articles. Article titles and abstracts were further screened for relevance, and 38 articles met our inclusion criteria. These articles covered several topic areas including the associations between RAAS hormones and depression, post-traumatic stress disorder, acute laboratory

stress, and other stress exposures (e.g. living alone). After review of methods, findings, rigor and consistency, we conclude that acute psychological stress elicits short term elevations in multiple components of the RAAS in men, while evidence of this effect in women remains scarce. Additionally, preliminary evidence suggests that heightened acute RAAS reactivity to stress is associated with CVD risk. Evidence supporting an association between chronic psychosocial stressors or stress related psychopathology and RAAS activity is limited and mixed. A key implication of this literature is that physiological reactivity to psychosocial stress, in addition to previously characterized vasoconstrictive and cardiac-output related processes, may include altered blood volume and potassium transport and balance. These understudied pathways and mechanisms mediated by the RAAS represent a rich opportunity to advance understanding of the effects of exposure to psychological and social stressors on cardiovascular health. In this presentation, we will review these recent findings, and identify promising questions for future research. This project was supported by a grant from the Heart Lung and Blood Insititute No. T32HL07560.

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Abstract: 1143

THE ROLE OF AFFECT REGULATION IN CHRONIC DISEASE INCIDENCE AND MORTALITY: A SCOPING REVIEW

Clara Morin; Arianne Côté, BA, Université du Québec à Trois-Rivières; Lewina O. Lee, PhD, Boston University Chobanian & Avedisian School of Medicine; Rebecca G. Reed, PhD, University of Pittsburgh; Claudia Trudel-Fitzgerald, PhD, Université du Québec à Trois-Rivières

Background: Evidence suggests that coping and emotion regulation (ER) strategies are related to physical health outcomes among initially healthy adults. To date, physical health reviews have either embraced a coping or an ER framework. Yet, growing evidence highlights their conceptual and measurement overlap, encouraging research to consider coping and ER jointly under the affect regulation framework. To our knowledge, no review has synthesized the literature on affect regulation strategies with the incidence of many cardiometabolic diseases (CMD) and cancer, as well as mortality risk, among initially healthy adults. Besides, variability in the use of these strategies, possibly reflecting regulatory flexibility, is increasingly studied with health outcomes but has yet to be reviewed.

Method: An exhaustive search was performed throughout 2024 across APA PsycINFO, ÉRUDIT, and Medline, adhering to PRISMA guidelines for scoping reviews. To be included, articles had to be prospective and longitudinal (i.e., affect regulation strategies or variability measured at baseline and selected outcomes measured over the follow-up). Participants had to be ≥18 years and recruited from the general population. Thirty-seven articles met the inclusion criteria. Results adjusted for sociodemographics are summarized to maximize comparability across studies.

Results: Sixteen studies examined coping, and 21 investigated ER in relation to CMD and cancer incidence or mortality risk. Overall, adaptive affect regulation strategies (e.g., planning) were linked to lower CMD incidence, whereas maladaptive affect regulation strategies (e.g., anger suppression) were generally unrelated with CMD onset. Yet, both adaptive and maladaptive strategies (e.g., anger suppression) were related to CMD mortality risk. Adaptive and maladaptive strategies were mostly unrelated to cancer incidence. For cancer mortality, some adaptive strategies (e.g., positive reappraisal) were linked to lower mortality risk, while certain maladaptive strategies (e.g., anger expression) were related to higher mortality risk. Affect regulation strategies were generally unrelated to all-cause mortality. Lastly, affect regulation variability was unrelated to CMD or cancer incidence, and mortality, although studies are scarce.

Conclusion: This review suggests that adaptive affect regulation strategies are generally linked to lower disease and mortality outcomes, while maladaptive ones are linked to higher risk, although inconsistencies remain. However, because strategies are not inherently (mal)adaptive, future research should focus on the role of affect regulation variability in long-term health outcomes to possibly reconcile prior mixed findings.

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Abstract: 1160

A PIECE OF THE ADVERSITY PUZZLE: HOW TRAIT RESPONSES TO EMOTION AND EARLY LIFE ADVERSITY INFLUENCE RESILIENCY AND PSYCHOLOGICAL OUTCOMES

Anita Adams, University of Arizona; Suzanne Segerstrom, PhD, MPH, Oregon State University; Gregory Smith, PhD, University of Kentucky

Trait responses to emotion (TRE) are personality traits that develop over time from consistent coping strategies, like alexithymia, urgency, and emotion expression tendencies. Adverse childhood experiences (ACEs) may impact personality trait development; however, the relationship between TREs and ACEs is relatively understudied. The present preregistered systematic review utilized narrative synthesis to determine the relationship between TREs and ACEs, whether TREs account for aspects of resiliency against ACEs, and whether TREs account for some of ACEs negative effects. Literature searches with predetermined search terms within three databases (e.g., Web of Science, PsycInfo, and Google Scholar) yielded a final sample of 143 articles. Across studies, there was a significant relationship between ACEs and TREs, and TREs were significant mediators between ACEs and many outcomes, such as substance abuse, intimate partner violence, and psychopathology. Additionally, TREs, parental emotion socialization practices, and peer support significantly contributed to resiliency against ACEs negative effects. Determining the relationship between TREs and ACEs elucidates factors that contribute to personality trait development and highlights the potential of personality-based

interventions to increase resiliency and prevent maladaptive outcomes.

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Abstract: 1217

"I TRY TO PUT ONE FOOT IN FRONT OF THE OTHER ONE DAY AT A TIME" QUALITATIVE PERSPECTIVES ON COPING AND LINKS TO CARDIOVASCULAR HEALTH

Jennifer Boylan, PhD, University of Colorado - Denver; Julia Boehm, PhD, Chapman University

Background: Coping with life's stressors and challenges is an important aspect of healthy functioning and a critical component of well-being. In this work we first qualitatively analyze text responses to the question "What do you do to make your life go well?" to gain insights on how midlife and older adults write about coping and its relation to their well-being. Second, we quantitatively examine sociodemographic differences in the endorsement of various coping themes and test associations between coping themes and an index of cardiovascular health.

Methods: Data came from 2,118 adults in the Midlife in the United States (MIDUS) study who provided biomarker data at wave 2 or the Refresher wave. 55% of the sample were women, 54% had some college or less as the highest level of education completed, and 19% were Black or African American. Qualitative responses were coded via directed content analysis to identify themes related to coping (e.g., being adaptable and flexible; balancing demands; letting go and accepting; minimizing stress and worry). Pre-registered analyses examined age, gender, education, and race differences in endorsement of coping themes and links between coping themes and cardiovascular health. Cardiovascular health was assessed with the American Heart Association's Life Essential 8 composite measure, which combines health behaviors (i.e., sleep, physical activity, smoking, diet) and biological factors (i.e., BMI, glucose, blood pressure, cholesterol) into an overall score ranging from 0-100.

Results: Over 30% of adults mentioned themes of coping in their responses. Those writing about themes of balancing demands and minimizing stress and worry were younger than those who did not mention these themes, respectively. There were no education, race, or gender differences in the endorsement of coping themes. Independent samples t-tests showed that those who mentioned minimizing stress and worry had better concurrent cardiovascular health (M = 71.70) than those who did not mention this theme (M = 68.39), $t(2,045) = -3.00$, $p = .003$. Cardiovascular health did not differ by endorsement of other coping themes.

Discussion: Coping was a frequently mentioned practice that adults say mattered for their well-being. Further, recognizing coping as important for well-being may be related to physical health benefits as well.

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Abstract: 1332

PREDICTING PAIN INTERFERENCE ABOVE AND BEYOND PAIN INTENSITY: THE ROLE OF STRESS AND PERSEVERATIVE COGNITION

Hosanna An, The Ohio State University; Martin Sliwinski, Ph.D., Pennsylvania State University; Joshua Smyth, Ph.D., The Ohio State University

Background: Individuals with similar pain intensity can experience different levels of pain interference – the extent to which pain disrupts daily functioning. Pain intensity explains much of this variability, but not all of it, requiring identification of other factors. Psychological processes such as perceived stress and perseverative cognition (PC; e.g., rumination) have each been linked to worse pain outcomes, although it is unclear if these correlated constructs uniquely predict pain interference, act synergistically, or vary by contextual factors. This study tested if stress and PC predicted pain interference beyond intensity, their interaction (stress×PC), and explored whether these associations with pain interference were moderated by age, sex, race (White vs. Black), or self-efficacy.

Method: A diverse community sample of adults (N = 314; age 19-83, M = 49.7; 51% female; 53% non-Hispanic White, 38% Black) completed measures of perceived stress, PC (a composite), pain interference, pain intensity, and self-efficacy. Regression analyses were used to examine associations.

Results: As expected, pain intensity was the primary predictor of pain interference ($\beta = .80$, $p < .001$). Both stress ($\beta = .35$, $p < .001$) and PC ($\beta = .30$, $p < .001$) predicted pain interference when tested individually. When examined alongside pain intensity, stress no longer predicted interference. PC contributed a small unique effect ($\beta = .07$, $p = .048$) above pain intensity. Stress and PC were correlated ($r = .62$); when examining stress and PC together, neither uniquely predicted pain interference beyond pain intensity ($ps > .18$), and the stress×PC interaction was not significant. Moderation analyses revealed stronger stress–pain interference links among older adults and women, and a stronger PC–pain interference link among older adults. Race or self-efficacy did not moderate these associations.

Conclusion: Although pain intensity was the dominant predictor of pain interference, PC contributed a small unique effect, suggesting it may amplify how disruptive pain feels. Stress did not add beyond pain intensity, and no synergistic effects between stress and PC emerged. Moderation by age and sex highlights the importance of considering how sociodemographic context may influence psychological processes in pain experiences.

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Abstract: 1356

LOVE ME, LOVE ME NOT: LONGITUDINAL ASSOCIATIONS BETWEEN MARITAL DISTRESS, PERCEIVED PARTNER RESPONSIVENESS, AND DEPRESSIVE SYMPTOMS IN DEMENTIA SPOUSAL CAREGIVERS

Vincent Lai, B.A. ; Daniel Argueta, B.A.; Kelly Brice, Ph.D.; Bryan Denny, Ph.D., Rice University; Charles Green, Ph.D., McGovern Medical School; Luis Medina, Ph.D., University of Houston; Jensine Paoletti-Hatcher, Ph.D., Portland State University; Paul Schulz, M.D., McGovern Medical School; Jennifer Stinson, Ph.D., Cambridge Health Alliance; E. Lydia Wu-Chung, Ph.D., University of Pittsburgh; Cobi Heijnen, Ph.D.; Christopher Fagundes, Ph.D., Rice University

Caregivers for spouses with Alzheimer's disease and related dementias (AD/ADRD) are at risk for poor mental health. Among caregivers, experiencing marital distress may contribute to depressive symptoms. However, perceived partner responsiveness, or feeling cared for, understood, and appreciated by one's partner, may help buffer the detrimental effects of marital distress. In this study, we investigated the between-person and within-person associations between marital distress, perceived partner responsiveness, and depressive symptoms in AD/ADRD spousal caregivers. Participants (N = 325, mean age = 71.3 years; 70.4% female; 85.2% White) self-reported demographic information at baseline and completed measures of marital distress, perceived partner responsiveness, and depressive symptoms at baseline, 6 months after baseline, and 15 months after baseline. Multilevel models revealed that, consistent with previous findings, greater between-person marital distress was associated with more depressive symptoms, and this association was weaker at higher levels of between-person perceived partner responsiveness compared to lower levels (b = -0.09, p = .030). However, unexpectedly, the association between greater between-person marital distress and more depressive symptoms was *stronger* at higher levels of within-person perceived partner responsiveness, compared to lower levels (b = 0.18, p = .002). Further, within-person increases in marital distress were associated with less depressive symptoms, and this association was stronger at higher levels of within-person perceived partner responsiveness, compared to lower levels (b = -0.35, p = .008). Our findings suggest that marital distress may function as a long-term vulnerability factor in AD/ADRD spousal caregiving. However, momentary increases in marital distress may prompt caregivers to seek closeness with care partners. By exploring the potential role of perceived partner responsiveness as both a long-term and a dynamic factor, this work provides insight into when and for whom it may be beneficial or detrimental and may inform interventions tailored towards spousal caregiving relationships.

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Abstract: 1196

MEASURING SOCIAL EVALUATION AND REJECTION (SEAR) AND EVALUATING ITS RELATIONSHIPS WITH SHAME AND LONELINESS AMONG UNIVERSITY STUDENTS

Daniel Robinson; Cinnamon Stetler, PhD, Furman University

The acute emotional, behavioral, and physiological effects of social evaluative threat and rejection (SEAR) have been established by lab-based paradigms (e.g. TSST, cyberball) described in hundreds of studies. However, we know much less about the extent to which these effects persist over time, particularly in a way that could promote disease risk. This gap may be partially due to the fact that the field lacks a valid measure of chronic exposure to SEAR, separate from general stressful events or stigmatized conditions. We developed a checklist measure of SEAR-related events. Participants reported whether each of 78 events occurred in the past six months and if so, how frequently they happened (rarely to very often). The current study examined whether the self-reported frequency of SEAR events in the past six months was linked to shame or loneliness among 138 college students (55.9% female, 41.9% male, 2.2% nonbinary; 2.3% Black, 10.6% Asian, 6.1% Hispanic, 79.5% white, 0.8% other, 0.8% no answer). The average student experienced 47 SEAR events (SD = 13, range 10 to 76) in the past six months. Greater SEAR frequency was associated with greater shame (r(134) = 0.48, p < .001) and loneliness (r(133) = 0.17, p <.02). Not all SEAR events were the same. Events involving social conflict were linked to greater shame and loneliness (r's > 0.19, p < .02). Experiencing ostracism/rejection was also associated with greater shame and loneliness (r's > 0.39, p < .001). Performance-related events were associated with shame (r(134) = 0.23, p =.003) but not loneliness (r(135) = 0.04). As expected, lower social participation was associated with greater loneliness (r(135) = -0.22, p < .01) but not with greater shame (r(134) = 0.13, p = .07). These results support the convergent and discriminant validity of our chronic SEAR measure. Chronic exposure to situations involving negative social evaluation and/or rejection, especially social conflict or ostracism, may increase shame and loneliness. Over time this may alter behavior and dysregulate physiology, promoting worse mental and physical well-being.

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Abstract: 1345

PREDICTIVE GENETIC SCREENING AND ANXIETY IN ADULTS WITH HIGH RISK OF SUDDEN CARDIAC DEATH: THE ROLE OF PERCEIVED SOCIAL SUPPORT AND TYPE D PERSONALITY

Frederique Hafkamp, PhD; Nina Kupper, PhD, Tilburg University; Dominic Theuns, PhD, Erasmus Medical Center; Susanne Pedersen, PhD, University of Southern Denmark

Background: Predictive genetic screening identifies patients at risk of sudden cardiac death, but may also have psychological consequences. This study examined whether genetic test result, Type D personality, and perceived social support influence anxiety over a one-year follow-up.

Methods: Of 177 patients approached, 117 with baseline data were analyzed. Anxiety was measured with the GAD-7, Type D personality with the DS-14, and social support with the MSPSS-12. Missing data were addressed using multiple imputation. Linear Mixed-Effects models assessed the impact of genetic test result, Type D personality, and social support on anxiety over four

time points, controlling for age and sex. Interaction effects and potential mediation of social support were also examined.

Results: At baseline, 14% of patients had generalized anxiety, decreasing to 10% after one year. Higher perceived social support was linked to lower anxiety ($F(1,418) = 4.46$, $p = .04$) and partially mediated ($b = -1.07$, $p < .001$) the relationship between Type D personality and anxiety ($b = -0.92$, $p < .001$).

Conclusion: Anxiety following predictive genetic screening is determined more by personality and social support than by the test result. Type D patients with low social support are at highest risk, underscoring the need to consider psychological traits and social support in genetic testing.

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Abstract: 1334

DAILY RISKS IN HOW YOU SEE YOURSELF AND HOW YOU BELIEVE OTHERS SEE YOU AFTER STRESSORS: IMPLICATIONS FOR AFFECT, PHYSICAL HEALTH, AND SLEEP AS A MODERATOR

Eunjin Tracy; Eunjung Kim, M.S., University of Missouri

Stressful experiences often lead people to feel worse about themselves and to worry about how others see them. These perceptions can undermine emotional well-being and physical health, but little is known about how they operate in everyday life or whether sleep can help protect against their effects. This study examined two distinct perceptions that arise from stress: (1) risk in how you view yourself, and (2) risk in how you believe others view you. We tested whether each type of perception uniquely predicted daily emotional well-being (positive and negative affect) and physical health (number and severity of physical symptoms), and whether overall sleep quality moderated these associations. Data came from 1,011 adults (M age = 55.34, range = 34–84) in the Midlife in the United States (MIDUS) Daily Stress Project. Over eight days, participants reported both kinds of perceptions, their daily affect, and physical symptoms. Global sleep quality was measured with the Pittsburgh Sleep Quality Index (PSQI), a validated self-report questionnaire. Multilevel models examined the unique effects of self- and other-related perceptions at both the daily (within-person) and average (between-person) levels by including both constructs in the same model. Sleep was then included as a moderator, testing cross-level interactions (Level 1 perceptions × Level 2 sleep) and between-person interactions (Level 2 perceptions × Level 2 sleep). Covariates include age, gender, and day. Results showed that on days when people reported greater risk in each perception than usual, they also reported more negative affect (within-person effect). At the between-person level, greater risk in each perception was associated with more negative affect. Only risk in self-perceptions predicted lower positive affect at both levels and was linked to more frequent and severe physical symptoms at the between-person level. Importantly, sleep quality buffered the effects of negative self-perceptions on negative affect at both levels, with weaker associations among individuals with better sleep. By simultaneously examining self- and other-related perceptions in daily life and testing sleep as a moderator, this study provides novel insights into how these perceptions distinctly shape emotional well-being and physical health under stress. Importantly, good sleep emerged as a protective factor, buffering the emotional toll of these stressful perceptions.

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Abstract: 1407

SOCIOECONOMIC DISPARITIES IN MIDLIFE WIDOWHOOD

Ryan Brown, Texas Tech University; Elana Gloger, PhD, University of Pittsburgh

The disruption of spousal dyads due to widowhood has well-documented mental and physical health implications. Unfortunately, more proximal, complex pathways through which socioeconomic status (SES) shapes the widowhood transition are poorly understood due to scarcity of data including pre-widowhood context. Here, we leveraged 10 years of midlife aging data (Midlife in the United States (MIDUS 2 and 3) Core and Milwaukee (African-American)) to examine pre-widowhood context. Participants were a subsample of MIDUS participants who reported a widowhood transition (i.e., married at MIDUS 2, widowed at MIDUS 3; N=199, M_{age}=64.50, SD=9.7) across 10 years of data collection (widowed for 4.22 years on average at MIDUS 3). Self-reported health outcomes included number of chronic conditions, self-rated mental and physical health, activities of daily living, and life satisfaction. The Brief Test of Adult Cognition (BTACT) assessed cognition, including executive function (EF) and episodic memory (EM). Covariates included age, gender, race, education, years widowed, first wave health/cognition. The focal predictor was pre-widowhood SES (i.e., composite at MIDUS 2 of: household-adjusted income to poverty ratio, current financial situation, availability of money to meet basic needs, and difficulty level paying bills). Linear regression tested associations between SES and each outcome separately, with exploratory analyses of (a) demographic moderators (age, gender) and (b) social moderators (social integration, social contribution) entered as interaction terms. Higher SES was associated with fewer chronic conditions (b=-0.22, *p*=.021), higher self-rated physical health (b=0.08, *p*=.002), higher life satisfaction (b=0.10, *p*=.023), and better EF (b=0.03, *p*=.049) post-widowhood (MIDUS 3). Gender moderated associations between SES and chronic conditions (b=-0.53, *p*=.018), self-rated mental (b=-0.18, *p*=.007), and physical health (b=-0.16, *p*=.010). Pre-widowhood social context moderated the association between SES and self-rated mental health post-widowhood (b=0.16, *p*=.028). At high SES, greater social contribution was associated with better post-widowhood mental health (Contrast=0.66, *p*=.004). Further, greater social contribution pre-widowhood associated with higher self-rated mental health post-widowhood at high SES compared to low SES (Contrast=0.85, *p*<.001). In summary, higher pre-widowhood SES supported better physical health, life satisfaction, and EF post-

widowhood. Additionally, associations between SES and post-widowhood health depended on gender and pre-widowhood social contribution. Future research should continue to explore how SES shapes post-widowhood health, behaviors, and social context to impact widow(er)s' vulnerability in aging.

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Abstract: 1095

ASSOCIATIONS BETWEEN SYMPTOMS OF ANXIETY AND CARDIOVASCULAR REACTIVITY TO ACUTE STRESS

Eve Larkin, University of Limerick ; Tracey Keogh, PhD; Siobhán Griffin, PhD; Stephen Gallagher , PhD , University of Limerick

Background: The cardiovascular reactivity (CVR) hypothesis is a rigorous paradigm used to explain the influence of psychological stressors on cardiovascular health. As such, the present study aimed to investigate associations between symptoms of anxiety using the hospital anxiety and depression scale. Further, it also extended on previous research in this area and tested whether any observed effects were mediated by task stress appraisals.

Methods: We adopted a within-subjects observational design, enrolling 280 healthy young adults who underwent a standardized stress testing protocol while their cardiovascular responses (systolic and diastolic blood pressure, heart rate) were monitored throughout. Participants completed psychometric assessments of anxiety and depression and task ratings of stressfulness before and immediately after.

Results: After controlling for potential covariates (gender, smoking, body mass index, and depression) hierarchical linear regression models revealed non-significant associations between anxiety CVR (SBP: b= -.12, p = .59; DBP: b= -.08, p = .54; HR: b= .02, p = .9). However, mediation analysis revelated indirect associations between anxiety with both pre and post task stress ratings such that those scoring higher on anxiety, and higher on post-task stress rating displayed exaggerated CVR. In contrast, those high on anxiety and who reported a higher pretask stress rating exhibited a more blunted CVR response.

Conclusions: Previous work in the area of anxiety and CVR has yielded mixed findings, the present study sheds some light on this by showing that task stress appraisals are potential interactive pathway behind these observations.

Keywords: Anxiety, cardiovascular reactivity, depression, stress

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Abstract: 1072

PATCHING UP THE PIPELINE: A META-ANALYSIS ON HOW INTERVENTIONS KEEP WOMEN ENGAGED IN STEM FIELDS

Alexandra Anthonioz, Stony Brook University

Women continue to leave STEM fields at disproportionately high rates, both in academia and the workforce, due to a combination of systemic biases, psychological challenges, and hostile environments. This phenomenon, often referred to as the "leaky pipeline," is a critical issue that impacts diversity, innovation, and inclusion in STEM. This meta-analysis examines the effectiveness of interventions aimed at retaining female undergraduate students in STEM disciplines, focusing on psychosocial factors such as self-efficacy, sense of belonging, and impostor syndrome. Thirteen studies (N = 2,575) met inclusion criteria, encompassing both female-only (n = 1,048) and mixed-gender (n = 1,527) samples. Using standardized mean difference effect sizes (Hedge's g), the meta-analysis found a significant moderate aggregate effect (g = 0.55, p < .001), indicating overall improvement in positive outcomes for intervention groups. Moderator analyses revealed that growth mindset and skills-based interventions produced the strongest effects, while role model-based programs yielded smaller, though still positive, outcomes. Interestingly, mixed-gender interventions were associated with larger effect sizes than female-only interventions, though this may be influenced by differences in sample sizes and study variability. These findings underscore the importance of targeted, gender-sensitive interventions in addressing barriers to STEM retention. Programs emphasizing mentorship, peer support, and role models not only mitigate stereotype threat but also foster a stronger STEM identity among female students. These results highlight the need for further research into scalable and long-term interventions, as well as efforts to address systemic biases within academic and professional STEM environments.

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Abstract: 1015

"PLEASE STEP ON THE SCALE": THE EXPERIENCE OF BEING WEIGHED INCREASES SYSTOLIC BLOOD PRESSURE

Angela Incollingo Rodriguez, Worcester Polytechnic Institute; Lorena Nunes , MS; Mira Kirschner, MS

Background: Healthcare settings are longstanding perpetrators of weight stigma, which is characterized by negative attitudes, stereotypes, and/or discrimination based on weight. Stigmatizing healthcare experiences and policies are, in turn, associated with impaired quality of care and healthcare avoidance. Weight stigma is also broadly related to increased stress reactivity, poor health behaviors, and multiple adverse health endpoints. Despite this established link, weight stigma can manifest across a range of experiences, and boundary conditions are not clearly delineated. Given high weight-centricity in healthcare and the social-evaluative aspects of weight, the present study hypothesized that merely being weighed in a healthcare setting may be weight stigmatizing and promote downstream stress reactivity. **Method**: We conducted a randomized experiment

employing a mixed, repeated measures design to test the effect of being weighed on stress physiology (blood pressure and cortisol) and perceived stress. Participants (*N* = 190) experienced a mock healthcare visit where they were weighed either using a standard procedure (i.e., study staff weighed the participant and recorded the weight), through self-weighing (the participant weight themselves and self-reported their weight into an electronic record), or not at all. **Results**: Both types of weighing promoted elevated systolic blood pressure but did not produce changes in diastolic blood pressure or cortisol. Perceived stress was marginally significantly higher in participants who were weighed compared to those who were not. **Conclusion**: These findings suggest that being weighed can indeed elevate autonomic stress responding. This work has implications for healthcare, especially as blood pressure is a primary health assessment tool. In line with these results, this central health metric may be artificially inflated if collected immediately after weighing, as is the norm in most healthcare settings. We conclude with a discussion of potential modifications to standard healthcare practice to avoid this artifact, augment quality care, and ultimately circumvent the biopsychosocial impact of this weight-stigmatizing aspect of healthcare, which likely has broad-reaching implications given the ubiquity of weighing in healthcare practice.

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Abstract: 1266

EXAMINING THE LINK BETWEEN REJECTION SENSITIVITY AND SLEEP IN COLLEGE STUDENTS

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Background: Healthy sleep is necessary for the proper functioning of multiple physiological systems and overall health. Conversely, insufficient sleep (quality and quantity) can heighten disease risk. Research indicates that experiencing stressors, including interpersonal stress and social rejection, has been linked to sleep impairments. Individuals high in rejection sensitivity (RS)—the tendency to anxiously expect and overreact to rejection—may be especially vulnerable due to heightened stress and arousal. While RS has been associated with various psychosocial outcomes, research directly examining its relationship with sleep is limited. Understanding this link is important, as psychological traits that increase stress reactivity may disrupt sleep and exacerbate health risks. This study examined whether higher RS is associated with poorer retrospective and daily sleep outcomes.

Method: Participants were 124 undergraduate students (56% female; *M*age = 20.0, *SD* = 2.07). At baseline, participants completed the Rejection Sensitivity Questionnaire (RSQ) and the Pittsburgh Sleep Quality Index (PSQI), which yields a global score and component scores. Participants also completed a 5-day ecological momentary assessment (EMA) protocol, reporting their prior night's subjective sleep quality each morning.

Results: Higher RS was significantly associated with worse global sleep quality ($r = .25$, $p < .01$). Component-level analyses revealed that RS was positively correlated with poorer subjective sleep quality ($r = .22$, $p = .01$), shorter sleep duration ($r = –.19$, $p = .03$), and greater daytime dysfunction ($r = .28$, $p < .01$). RS was not significantly related to EMA-reported nightly sleep quality.

Conclusion: High RS is linked to poorer global sleep quality, shorter sleep duration, and greater daytime impairment, suggesting that heightened interpersonal threat sensitivity can disrupt restorative sleep and daily functioning. In contrast, nightly EMA sleep ratings were not associated with RS, likely reflecting day-to-day variability and the limited range of single-item nightly assessments. Overall, these findings highlight the role of RS in chronic sleep disruption and suggest that interventions targeting interpersonal stress and coping may help improve sleep quality and daily functioning.

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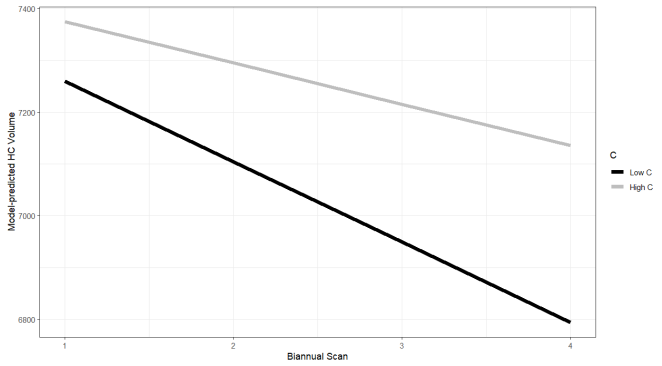
Abstract: 1446

HIGHER CONSCIENTIOUSNESS PROSPECTIVELY PREDICTED LESS VOLUMETRIC LOSS IN AREAS ASSOCIATED WITH AGING AND RISK FOR DEMENTIA

Ava Barnes, HS, Oregon State University; Jonathan Hakun, PhD, Penn State; Cristina Pinheiro, MA; Brian Gold, PhD, University of Kentucky; Suzanne Segerstrom, Oregon State University

The personality trait of conscientiousness (reliable, self-disciplined) is associated with lower risk for Alzheimer's Disease, potentially through changes in the brain including loss of volume in critical regions for memory. The present preregistered study (https://osf.io/ep827) sought to examine the effect of conscientiousness on rates of decline in brain structures linked to Alzheimer's Disease and dementia: hippocampus volume, and frontal, entorhinal, and temporal cortical volumes. Nonsmoking older adults (N = 80, Mage = 74.1, 68% women, 97% white) completed the NEO-Five Factor Inventory for measurement of conscientiousness at study entry. Participants had MRI T1-weighted anatomic imaging every other year up to 4 times (Nn = 180 scans). Multilevel models had time points nested within people and adjusted for intracranial volume. Effect estimates (gamma) are similar to unstandardized beta weights. Higher conscientiousness was associated with higher overall frontal (g = 5355, $p = .016$), and temporal (g = 4704, $p = .002$) cortical volumes but not hippocampal or entorhinal. All regions except the entorhinal cortex had significant loss of volume over time ($ps < .003$). Higher conscientiousness was associated with less volumetric loss over time in the hippocampus (g = 76, $p = .026$) and entorhinal (g = 116, $p = .031$) and temporal (g = 1305, $p = .002$) cortices but not in the frontal cortex. The Figure shows model-predicted slopes of hippocampal volume for people high (+1 SD) and low (-1 SD) in conscientiousness. The present study is the first to our knowledge to relate conscientiousness to volumetric change in healthy older adults. Effects of conscientiousness on the aging brain may be due to its

broad, beneficial effects on well-being and health behaviors such as physical activity.



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Abstract: 1465

PROFILES OF PTSD SYMPTOMS IN MALTREATED AND COMPARISON YOUTH DURING EARLY ADOLESCENCE

Anna Zhen, M.A, M.S.; Sonya Negriff, Ph.D.; Elana Gordis, Ph.D.; Melissa Peckins, Ph.D.;

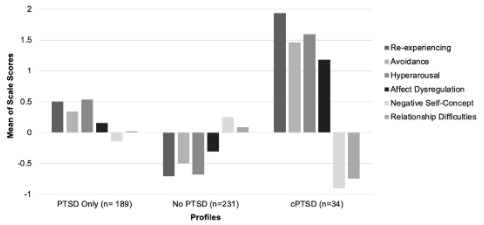
Background: Child maltreatment, particularly sexual abuse, is a significant risk for posttraumatic stress disorder (PTSD) in adolescents (Messman-Moore & Bhuptani, 2017). However, diagnostic criteria for PTSD differs between the Diagnostic Statistical Manual of Mental Disorders (DSM-5) and the International Classification of Diseases (ICD-11). The DSM-5 includes a single PTSD diagnosis (re-experiencing, avoidance, hyperarousal, negative thoughts and feelings) (APA, 2013). The ICD-11 differentiates between PTSD and complex PTSD (cPTSD), with cPTSD including disturbances in self-organization (affect dysregulation, negative self-concept, relationship difficulties). It is unclear whether the cPTSD diagnosis captures a stand-alone group with different risk factors. The present study tested for subgroups of PTSD and cPTSD symptoms in maltreated and comparison youth, and whether subgroups differed by maltreatment type.

Methods: Adolescents (N=454; n=212 girls) were followed over four waves (mean age wave 1=10.9) and identified as 39.0% Latino, 37.7 % Black, 12.3% mixed or Biracial, and 11.0% White. Maltreatment exposure was assessed via child welfare case records at wave 1 and self-report at wave 4. A hierarchical coding of maltreatment classified youth into one maltreatment type based on their primary experience of sexual abuse (n=82), physical abuse (n=140), emotional abuse (n=82), neglect (n=42), or no reported maltreatment (n=108). The three PTSD symptoms were assessed with the Youth Symptom Survey Checklist and the three Disturbances in self-organization were assessed with the Youth Self Report and the What I Am Like questionnaire at wave 1. The six PTSD symptoms were z-scored and Latent Profile Analysis was performed. Multinominal logistic regression tested whether sexually abused youth were more likely than other maltreated and comparison youth to belong to profiles indicative of cPTSD vs. PTSD and no PTSD.

Results: Three profiles emerged, representing 1) no PTSD, 2) PTSD only, and 3) cPTSD. Sexually abused youth were more likely than comparison youth, but not more likely than other maltreatment types, to belong to the cPTSD profile than the PTSD only profile. No other comparisons were significant.

Discussion: Results are consistent with the ICD-11 and suggest that there are three distinct profiles of PTSD that capture youth with elevated PTSD symptoms, cPTSD symptoms (PTSD symptoms and disturbances in self-organization), and low PTSD symptoms. Findings suggest sexually abused youth are more likely to develop cPTSD than PTSD symptoms but only compared to youth with no reported maltreatment. The distinction between PTSD and cPTSD highlights the challenges, treatment needs, and vulnerabilities in youth exposed to sexual abuse.

Figure 1. PTSD Symptoms and Disturbances in Self- Organization Mean Scale Scores for the Three Profile Solution



Note. Latent Profile Analysis was performed using three PTSD symptom clusters (re-experiencing, avoidance, hyperarousal) and three disturbances in self-organization (affect dysregulation, negative self-concept, relationship difficulties). PTSD symptom clusters were assessed at wave 1 with the Youth Symptom Survey Checklist. Disturbances in self-organization were assessed at wave 1 with the Youth Self Report and What I Am Like questionnaire. To calculate each scale, items were summed and transformed into z-scores. The Latent Profile Analysis was performed in Mplus (version 8.10) with maximum likelihood estimation with robust standard errors (Muthén & Muthén, 1998-2017) and yielded a three-profile solution.

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Abstract: 1509

WHEN LOW SES HURTS: COGNITIVE LOAD AND METABOLIC STRAIN IN SOCIOECONOMIC DISPARITIES IN PAIN

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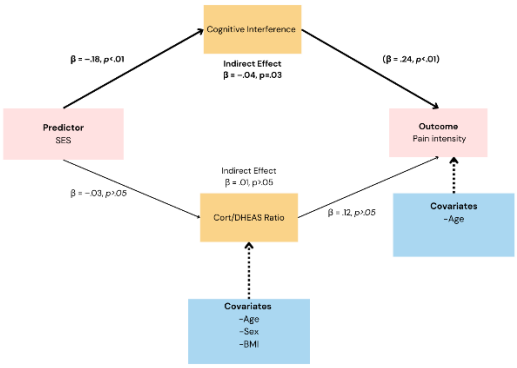
Pain disproportionately affects individuals of lower socioeconomic status (SES). Although some factors linking SES and pain seem clear (e.g., increased illness), pathways related to cognitive and metabolic load may account for key variance linking SES and pain that remains understudied. Lower SES may signal an unsafe/unpredictable environment, heightening vigilance to manage potential threats. This load can manifest as cognitive interference (CI)—intrusive thoughts and attentional disruption, which can tax self-regulatory capacity and may help explain how social threat exacerbates pain. Predictive allostasis further suggests that perceived lack of safety/control can elevate anticipatory metabolic expenditure; when sustained, the anabolic–catabolic balance, often indexed by the cortisol/DHEAS ratio, may shift toward the catabolic dominance implicated in pain. We examined these pathways using structural equation modeling using full data from SES-diverse adults in the first burst of the ESCAPE study (N = 250 ; M_{age}= 45 years; Race/Ethnicity: 69% Black, 31% Other; Sex: 65% F) who completed self-report measures of SES (education, income), CI (White Bear Suppression Inventory-15), and pain intensity (PROMIS-3), and

provided a morning blood sample for cortisol and DHEAS. A model testing CI and cortisol/DHEAS ratio pathways to pain, adjusting for age, sex, and BMI on ratio paths and age on pain paths, demonstrated excellent fit overall (CFI = 1.00, TLI = 1.00, RMSEA = 0.00, SRMR = 0.02). Higher SES significantly predicted lower pain (β = –.15, p<.01) and lower CI (β = –.18, p<.01). CI was directly associated with greater pain severity (β = .24, p<.01) and was a significant indirect path between SES and pain (β = –.04, p=.03). The cortisol/DHEA ratio did not directly or indirectly predict pain; in a sensitivity analysis using DHEAS alone, the indirect effect remained non-significant, but DHEAS showed a direct association with pain (β = –.19, p<.01). Overall, the pattern suggests that SES pain disparities may be linked with heightened cognitive load. The null ratio findings may reflect the cross-sectional design and non-clinical sample. It will be valuable for future research to incorporate longitudinal or experimental designs to clarify temporal ordering and test whether cognitive and metabolic regulatory processes jointly shape socioeconomic disparities in pain.



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Abstract: 1440

LONGITUDINAL ASSOCIATIONS BETWEEN CLASSISM, HEALTH BEHAVIORS, AND HAIR CORTISOL

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Research has shown that classism, or discrimination based on social class, is associated with poorer health behaviors and elevated biomarkers of stress. However, prior work has relied on cross-sectional data, and it remains unclear how these associations unfold over time. In this study, we analyzed data from a longitudinal study (N = 347) that assessed classism, alcohol use, disordered eating, sleep disturbances, and physical activity over a one-year period. Hair cortisol was also assessed as a measure of HPA-axis activity. Missing data were handled using a Bayesian multiple imputation approach. Analyses controlled for demographics, socioeconomic status, and baseline measures of health behaviors and hair cortisol. Results indicated that higher levels of classism reported at baseline were associated with higher sleep disturbances one year later, even after accounting for sociodemographic and baseline sleep disturbances. Classism at baseline was not associated with alcohol use, physical activity, disordered eating, or hair cortisol one year later. These findings provide novel longitudinal evidence linking classism to sleep disturbances one year later, supporting theoretical models that posit that discrimination operates as a stressor with downstream consequences for sleep.

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Abstract: 1444

EARLY LIFE ADVERSITY BLUNTS THE RELATION BETWEEN PARASYMPATHETIC ACTIVITY AND SALIVARY CORTISOL IN ADOLESCENTS

Dylan Hoell, Claremont McKenna College; Anna Lau, PhD, University of California, Los Angeles; Joey Fung, PhD, Fuller Theological Seminary; Farzana Adjah, PhD, Stanford University; Stacey Doan, PhD, Claremont McKenna College

Hypothalamic-pituitary-adrenal (HPA) axis activity and autonomic nervous function are closely coordinated such that increased HPA activity corresponds with increased sympathetic nervous system and decreased parasympathetic nervous system (PNS) activity (Porges, 2001). Early-life adversity (ELA) has been shown to shape these systems separately, yet results are mixed (Gruhn et al., 2024; Kessler et al., 2021). Further, few studies have examined coordination between these systems. Herein, we investigate 1) autonomic-HPA coordination (e.g., Ali & Pruessner, 2012) and 2) the moderating role of ELA in PNS-HPA relationships. We hypothesized a negative relation between PNS activity and overall HPA function, and that ELA blunts this relation. Participants were academically high-achieving racial or ethnic minority high school students from low-income families enrolled in a larger trial (N = 422, 61.7% female, 58.6% Hispanic or Latine, 32.9% Asian, $Mage$ = 16.1 years). This population may endure disproportionately high chronic physiologic stress (Doan et al., 2022), and is therefore uniquely suited for the study of maladaptations to stress response systems. Baseline data were used for the present study. PNS activity was assessed via respiratory sinus arrhythmia (RSA) calculated from a 5-minute heart rate recording taken at rest. For HPA activity, salivary cortisol was calculated as area under the curve with respect to ground (AUCg) and increase (AUCi) from three samples taken across two mild stress tasks. Linear regression models tested main and interactive effects of RSA and self-reported ELA severity on cortisol. All models covaried for age, sex, BMI, caffeine intake, race/ethnicity, and parental education. RSA was negatively related to cortisol AUCg (β = -.21, p < .001) and positively related to cortisol AUCi (β = .17, p = .001). Next, an interaction term between ELA and RSA was added, which significantly predicted cortisol AUCg (β = .10, p = .022). Simple slope analysis showed that the relation between RSA and cortisol AUCg was blunted by ELA: Higher RSA was associated with lower cortisol AUCg among participants with low ELA (b = -35.92, SEb = 8.45, p < .001), but the relation was not significant for those with high ELA (b = -13.44, SEb = 7.25, p = .064). The interaction effect on cortisol AUCi approached significance (β = -.09, p = .081), and simple

slopes suggested a similar blunting pattern. These results indicate that ELA disrupts HPA-PNS coordination, highlighting the importance of multi-system approaches to characterizing physiological impacts of ELA.

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Abstract: 1471

THE CARDIOVASCULAR CONUNDRUM IN LGB INDIVIDUALS: HEMODYNAMIC EFFECTS OF MINORITY STRESS AND EMOTION SUPPRESSION

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The “Cardiovascular Conundrum” describes an unexpected autonomic configuration—elevated vagally mediated heart rate variability (HRV) co-occurring with increased total peripheral resistance (TPR)—alongside a predominantly vascular, and thus more dysfunctional, hemodynamic profile. This pattern has been previously reported in African American (AA) individuals and interpreted either as genetically influenced or as the result of repeated exposure to discrimination and habitual emotional suppression. To examine whether similar mechanisms emerge in another minoritized group, we recruited 44 LGB adults and 46 heterosexual controls, matched for age and sex, and assessed their physiological responses at rest and while recalling a stressful discriminatory experience. At baseline, LGB participants showed the same paradoxical autonomic signature documented in AA individuals, exhibiting higher HRV (d = .31), higher TPR (d = .36), and a more vascular hemodynamic profile characterized by greater TPR and lower cardiac output (CO) (d = .40), than heterosexual participants. Participants were subsequently assigned to either a free-coping control condition or to an emotional suppression condition, in which they were instructed to inhibit negative emotional expressions during a 10-minute recovery phase. Across both conditions, heterosexual participants displayed a myocardial response pattern, marked by higher CO ($F = 4.59$; $\eta^2 = .05$). In contrast, during free recovery LGB individuals showed a more vascular profile, with significantly higher TPR (d = .73). However, when instructed to suppress their emotions, the group difference was no longer present: heterosexual participants also shifted toward a vascular response, mirroring the pattern observed in the LGB group. These findings indicate that emotion-regulation processes—particularly suppression—play a central role in the elicitation of the Cardiovascular Conundrum. Replicating this autonomic configuration in another marginalized group further supports the hypothesis that minority stress becomes biologically embedded. The results underscore the need for health policies and interventions aimed at mitigating the physiological impact of discrimination.

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Abstract: 1470

TOUCHY TOPICS: LINGUISTIC AND BEHAVIORAL CHARACTERISTICS OF COUPLE CONVERSATIONS ABOUT CANCER AND LINKS TO ECOLOGICAL MOMENTARY-DERIVED REPORTS OF RELATIONSHIP QUALITY

Shelby Langer; Aanika Dhawan, BS in progress; Valeria Labuda, BSN in progress; Risha Bhoite, BS in progress; Andrea Lares, BS in progress; Natalie Levin, BS in progress; Hannah Tucker, BS in progress, Arizona State University; Laura Porter, PhD, Duke University

How couples communicate in the face of a significant stressor such as cancer plays a key role in their adjustment to the illness and to their relationship. Research in this area has generally relied on global self-reports of communication and relationship quality. We sought to examine objective indicators of couple conversations about cancer and momentary reports of relationship quality over the subsequent two weeks, as a function of conversation topic. Persons diagnosed with cancer and their spouses/partners participated in a multi-method investigation of couple communication including a laboratory visit and a 14-day ecological momentary assessment (EMA). In the lab, couples selected a cancer-related topic from a list and discussed it for 15 minutes. Audio-recordings of the conversations were transcribed and characterized using linguistic software. The EMA included twice-daily reports of relationship closeness and happiness. We focus here on the subgroup of 57 couples (114 individuals) who chose to discuss fears or worries about disease progression or death (n=42 couples), the most frequently selected topic, or financial concerns (n=15 couples), another sensitive topic but more pragmatic in nature. Sample characteristics were mean age = 54, 61% female patients and 40% female partners, 4% Hispanic, and 82% white. The linguistic profile of the two types of conversations differed in multiple respects. Couples who talked about fears of disease progression or death used more first-person singular pronouns ("I" words) and fewer first-person plural pronouns ("we" words) as compared to those who talked about money, p values < .05. Those conversing about disease progression or death also uttered a greater percentage of anxiety words (p=.008) and words indicative of insight (p = .021). Further, the linguistic tone of their conversations was more negative (p =.028). With respect to EMA reports across the two weeks to follow, patients and partners who had conversed about disease progression or death reported greater relationship closeness and happiness relative to those who had discussed financial concerns, p values < .05. Findings suggest a self-focus and negative affect while conversing about fears of disease progression but also cognitive processing and short-term relational benefit, highlighting the potential utility of addressing this difficult issue.

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Abstract: 1481

THE IMPACT OF CHILDHOOD TRAUMA EXPOSURE AND POSITIVE CHILDHOOD EXPERIENCES ON CHRONIC PAIN IN ADULT BLACKFEET AMERICAN INDIANS

Kendra Harris , Montana State University ; Betty Henderson-Matthews , M.A., Blackfeet Community College ; Linying Ji, Ph.D.; Neha John-Henderson , Ph.D., Montana State University

Chronic pain (lasting ≥3 months) is a debilitating condition that affects 20.9% of adults in the United States. Native Americans experience higher rates of chronic pain (29.8%) than any other racial/ethnic groups. A strong body of evidence supports the association between childhood trauma exposure (CTE) and the prevalence of chronic pain in adulthood. There is limited work examining this relationship in Native Americans. Positive childhood experiences (PCE) refer to the positive experiences and protective factors that contribute to well-being and healthy development during childhood. Increasingly, PCE have been shown to mitigate the negative impacts of CTE. To date, no studies have examined the ability of PCE to moderate the relationship between CTE and chronic pain.

The aim is to investigate the impact of CTE on chronic pain and the ability of PCE to mitigate the relationship between CTE and chronic pain in adult Blackfeet American Indians.

The data is from the Aa Koo Moo Waap study which is part of a long-standing research partnership between Montana State University and the Blackfeet Community. The sample consisted of 224 Blackfeet adults (64.3% female, 19-77 years old) living in the Blackfeet Nation in Northwest Montana. Participants completed surveys and physiological measures at 3 time-points across a 2-year period. CTE was measured using the Childhood Traumatic Events Scale which asks participants to indicate whether they experienced six traumatic events prior to the age of 17. PCE was measured using the Benevolent Childhood Experience Scale (BCE) which asks participants if they experienced 10 positive childhood experiences prior to the age of 18. Chronic pain was assessed using the Chronic Pain Grade Scale Questionnaire, which classifies chronic pain into five severity grades (0-IV) based on level of pain and disability present in the past 6 months. Grade IV is classified as highly disabling, severely limiting pain.

Multinominal regression analysis showed that CTE was associated with a higher chance of Grade IV pain compared to Grade 0 (b=0.31, p=0.04). This result was consistent with logistic regression analysis results, where more CTE was associated with higher odds of experiencing Grade IV pain than the rest of the pain levels (b=0.32, p = 0.02). In addition, multinomial regression analysis indicated that more BCE was only associated with a significantly lower chance of experiencing grade I pain.

The present findings demonstrate that CTE is a significant predictor of the most severe and disabling level of chronic pain. Future research should examine other factors that could mediate the relationship between CTE and chronic pain in Blackfeet American Indians such as social and cultural connectedness, and spirituality.

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Abstract: 1489

ASSOCIATIONS BETWEEN COPING STRATEGY VARIABILITY AND CARDIAC AUTONOMIC ACTIVITY

Daniel Biancamano; Kristen Stopfer, B.S., Texas Tech University; Mark Scudder, Ph.D.; Peter Gianaros, Ph.D., University of Pittsburgh

Abstract Body

A substantial body of research has investigated links between affect regulation, autonomic activity, and health. Coping, a form of affect regulation, can be defined as the way in which an individual manages or responds to stressors through their thoughts and behaviors. Coping is commonly measured using inventories that assess the extent to which several individual coping strategies are used; however, focusing on individual strategies incompletely captures the ability to tailor strategy use to the demands of different contexts. Coping strategy variability addresses this issue by assessing the extent to which individuals employ diverse strategies across situations, with greater strategy variability being proposed to indicate self-regulatory flexibility and ability to adapt to stressors. In this regard, greater variability in affect regulation strategies is associated with cardiovascular health, reduced mortality, less allostatic load, and lower levels of inflammatory markers; however, the relationship between coping strategy variability and autonomic activity is less established. Accordingly, this study will analyze coping strategy variability, as measured by applying the Between-Strategy Index to the Brief Cope (B-COPE), and measures of cardiac autonomic activity, including high-frequency heart rate variability (HF-HRV) and the pre-ejection period (PEP). This study will also examine composite measures of HF-HRV and PEP, specifically cardiac autonomic balance (CAB) and regulation (CAR), which are thought to reflect autonomic reciprocity and coactivation, respectively. This study will analyze 366 healthy midlife adults (aged 28 to 56, 232 female) who were recruited between 2019 and 2021. Multiple regression models will use HF-HRV, PEP, CAB, and CAR as outcomes (Ys) and coping strategy variability as the predictor (X). Covariates will include age, sex at birth, adiposity, resting systolic blood pressure, smoking status, and education owing to their possible influence on cardiovascular variables. We hypothesize that lower strategy variability will be associated with decreased HF-HRV, PEP, CAB, and CAR. These results will advance our understanding of the role that autonomic activity plays in the relationship between affect regulation and health.

51

Abstract: 1502

QUALITY OF SOCIAL RELATIONSHIPS AND LONGITUDINAL CHANGES IN HEALTH IN A JAPANESE PROBABILITY SAMPLE OF ADULTS

Mark Whisman, PhD; Pia Sellery, MA; ShaeAnne Miner, ., University of Colorado Boulder;

Greater social connection, typically studied in terms of its structure, function, or quality, is associated with better health and a reduced risk of early death. In studying quality of social connection, researchers often use global measures that are not linked to specific relationships or examine quality in only one type of relationship (e.g., relationship with spouse). In addition, much of the research has been conducted in Western societies (e.g., North America, Europe). This study was conducted to build on prior research on quality of social connection and health by (a) evaluating components of relationship quality in distinct social relationships, and (b) evaluating the association between relationship quality and health in an Eastern society. Specifically, the study was conducted to examine the longitudinal association between measures of positive and negative relationship quality (i.e., support, strain) for relationships with family, friends, and spouse and two indices of general health (i.e., self-rated health, frequency of health symptoms) in a probability sample of Japanese adults who were 30-79 years old and who participated in baseline and 4-year follow-up assessments (Survey of Midlife in Japan; *N* = 452). Adjusting for baseline levels of the corresponding measure of health, (a) support from family and friends at baseline was positively associated with self-rated health at follow-up , and (b) strain in relationships with family, friends, and spouse at baseline was positively associated with frequency of health symptoms at follow-up. Associations between quality of relationships with family and spouse and changes in health outcomes remained statistically significant when controlling for demographics and Big-5 personality traits, indicating that the quality of these relationships was significantly associated with health over and above these confounds. Results support the perspective that quality of social connection is associated with physical health over time and build on prior research by finding that different aspects of relationship quality in specific relationships are associated with distinct aspects of health; results also support the cross-national importance of quality of social connection for physical health. Findings suggest that improving the quality of social connections, particularly those with family and spouse or partner, may improve health in adults.

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Abstract: 1475

HIGHER SUBJECTIVE SOCIOECONOMIC STATUS WAS ASSOCIATED WITH LOWER DEPRESSIVE SYMPTOMS AND LOWER PERCEIVED STRESS FOR EMPLOYED INFORMAL DEMENTIA CAREGIVERS

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Informal dementia caregiving is a chronic stressor that can increase the risk of clinical depression, among other adverse biopsychosocial outcomes. Over half of informal caregivers also work for pay in addition to unpaid caregiving duties. Recent evidence suggests that employed informal caregivers had low proinflammatory cytokine production than retired informal caregivers (Paoletti-Hatcher et al., 2025). Our goal was to examine a mechanism from work to caregiver well-being (i.e., subjective socioeconomic status; SES). We examined the effect of subjective SES and employment status on depressive symptoms and perceived stress cross-sectionally in 149 informal dementia caregivers (89 retirees and 69 employees; *M* = 64.37 years, *SD* = 13.14; 76.51% women; 70.47% bachelor's degree or higher). Participants reported demographics, subjective SES (SDQ; Adler et al, 2000), care recipient needs (DSRS; Clark & Ewbank, 1996), sleep quality (PSQI; Buysse et al., 1989), perceived stress (PSS; Cohen et al., 1983), and depressive symptoms (CESD; Radloff, 1977). An a priori power analysis indicated that we have over 80% power to detect a medium effect size. Subjective SES ranged from 1-10; mean levels (*M* = 6.78, *SD* = 1.77) were not different for employees and retirees (p = .20). We found two significant interactions. For employees, higher subjective SES was associated with lower depressive symptoms (B = -2.99, SE = 0.67, $p < .001$) and lower perceived stress (B = -1.78, SE = 0.47, $p < .001$). For retirees, higher subjective SES was unrelated to depressive symptoms and perceived stress. For employees, subjective SES may indicate who is working by choice versus necessity. However, subjective SES goes beyond income or financial status; it indicates feelings of respect and authority. Perhaps when employees feel respected and authoritative at work, the feelings spillover from work to home, buffering the stress of dementia caregiving at home. Alternatively, low subjective SES at work might have synergistic adverse effects with caregiving stress. The present research is ongoing; we are collecting data on psychosocial spillover from work to home. Prior to SBSM, we will conduct assays and test the present interaction effect on inflammatory markers (e.g., IL-6). Informal dementia caregivers play a crucial role in their families, often while also working. Identifying psychosocial stress buffers might inform intervention development.

Table 1
Informal caregivers' subjective socioeconomic status and employment status on depressive symptoms and perceived stress

	Depressive Symptoms		Perceived Stress	
Predictors	*B (SE B)*	*B (SE B)*	*B (SE B)*	*B (SE B)*
(Intercept)	18.80* (8.68)	10.94 (8.90)	22.39*** (6.11)	15.91* (6.19)
Age	-0.05 (0.11)	-0.02 (0.10)	-0.13 (0.07)	-0.10 (0.07)
Sex[1]	2.15 (1.81)	1.97 (1.76)	2.27 (1.27)	2.13 (1.23)
Education	-0.39 (0.60)	-0.64 (0.59)	-0.25 (0.42)	-0.45 (0.41)
Sample type[2]	2.94 (3.03)	1.98 (2.98)	-0.20 (2.13)	-1.00 (2.07)
Sleep quality[3]	0.86*** (0.19)	0.93*** (0.19)	0.69*** (0.14)	0.75*** (0.13)
Dementia severity rating scale	0.03 (0.05)	0.03 (0.05)	-0.01 (0.04)	-0.02 (0.04)
Subjective SES	-1.44*** (0.42)	-0.58 (0.50)	-0.50 (0.29)	0.21 (0.35)
Employment status[4]	-0.96 (2.20)	16.36* (6.39)	-0.68 (1.55)	13.59*** (4.45)
Subjective SES: employment	–	-2.41** (0.84)	–	-1.98*** (0.58)
Observations	149	149	149	149
R^2	.32	.36	.32	.37
Adjusted R^2	.28	.32	.28	.33

Note. SES = socioeconomic status. [1]Sex is coded so 0 = male and 1 = female. [2] Sample type is coded to identify whether the data was collected as from one of two informal caregiver projects: 0 = project started in 2021 and 1 = project started 2025. [3]Higher sleep quality scores are associated with poorer sleep quality. [4] Employment status is coded so that 0 = retired and 1 = employed full-time or part-time. *$p = 0.05$; **$p < .01$;***$p < .001$

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Abstract: 1515

SOCIAL NETWORK INTEGRATION DOES NOT MITIGATE 12-MONTH TRAJECTORIES OF BORDER-RELATED STRESS AMONG MEXICAN ADULTS RESIDING IN THE US-MEXICO BORDER REGION

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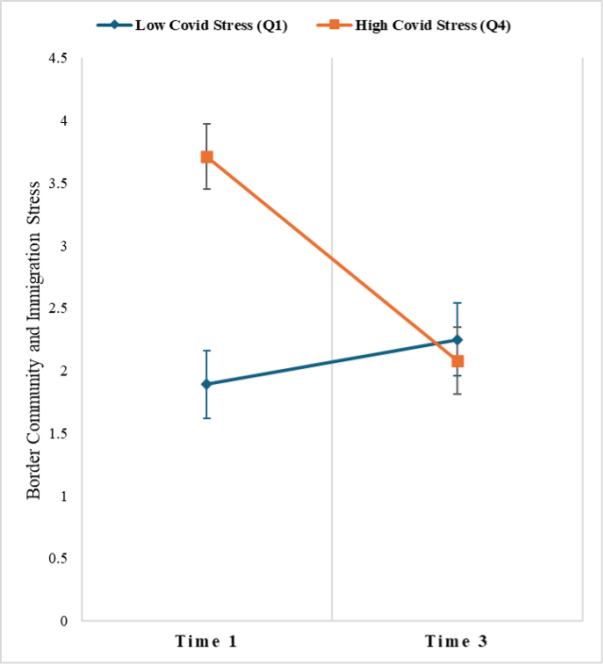
Background: Adults of Mexican origin experience higher rates of many chronic diseases compared to U.S. non-Hispanic Whites. Moreover, border-residing Mexicans face additional stressors that may amplify these disparities. Prior research has identified socio-cultural resources as probable protective factors among Latinos with differing effects across gender however, Latino border populations remain underrepresented in this literature. This analysis (1) examined border-specific stress across three time points spanning 12 months, (2) assessed the association between social network integration and border-specific stress, and (3) explored whether gender moderates this association among adults of Mexican descent living along the U.S.-Mexico border.

Methods: In collaboration with Campesinos Sin Fronteras**,** utilizing a community-based participatory research approach, this mixed-methods year-long cohort study recruited 282 Mexican-origin adults from San Luis, Arizona. Border-specific stressors were evaluated using the 21-item Border Community and Immigration Stress Scale; three additional items were included to assess COVID-related stress, as the onset of the study coincided unexpectedly with the pandemic. Social network integration (SNI) was measured using the 11-item Berkman Syme Social Network Inventory. All measures were collected at baseline, 6 months, and 12 months.

Results: Participants were 282 adults (M age = 53.5, SD = 14.9); 25.2% were male, 10.3% were married, and 24.5% had a high school education or less. The average border-specific stress rating was (M = 2.57, SD = 1.67; range 1-6). Nearly half of the sample was isolated (n = 135, 47.9%), others were moderately isolated (n = 85, 30.1%) or moderately integrated (n = 55, 19.5%), while a small portion was socially integrated (n = 7, 2.5%). Border-specific stress decreased significantly across 12 months (b = -0.37, 95% CI [−0.51, −0.24], p<.001). Both mixed-effects and linear regression models indicated that SNI was not related to stress, even after adjusting for time effects, age, education, birth country, and COVID-related stress. Gender did not moderate these associations. Exploratory analyses revealed that border-specific stress changed as a function of COVID-related stress at baseline (F(1, 442) = 85.26, p < 0.0001; see Figure 1).

Conclusion: While the findings indicated that social network integration did not affect border-specific stress across time in this sample, they emphasize the need to explore additional potential protective factors that may influence stress among Mexican border-residing communities.



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Abstract: 1520

PARALLELS IN PRECARITY FOR ECONOMIC HARDSHIPS OF THE 2020 PANDEMIC AND 2008 GREAT RECESSION

Julie Kirsch, University of Wisconsin, Madison

The 2008 Great Recession and the COVID-19 pandemic represent two major societal disasters in the United States that revealed enduring failings of social and health policies and inequities by race, socioeconomic status, gender, age/cohort, and health status. Documenting similarities and differences in precarity to these disasters is critical for tailoring policies and interventions. Yet, empirical longitudinal research on how individuals were

economically impacted by these two events is limited. This study leveraged newly released longitudinal data from the Midlife in the United States Study (MIDUS) to test cumulative risk for economic hardships from both the 2008 Great Recession and the 2020 COVID-19 Pandemic (N = 2481). The first wave was conducted in 2011-2013 and the second wave was conducted in 2022-2024. Negative binomial regressions tested race, education, age, gender, marital status, working status and pre-pandemic depression diagnosis and self-rated health status in association with a count measure of recession and pandemic hardships that spanned job loss, financial strain, housing and food insecurity. Table 1 reports the incident rate ratio estimates and 95% confidence intervals for all variables. A value of greater than one indicates a positive association whereas below one indicates a negative association. Multivariate analyses found that lacking a college education vs. holding a 4-year degree, identifying as a minoritized racial group vs. identifying as white, being younger, identifying as female vs. male, being unmarried vs. married, being in the work force vs. not, and poorer self-rated health and a positive depression diagnosis vs. none were statistically significantly associated with more hardships during both the 2008 Recession and the COVID-19 Pandemic. The strength of the associations was similar for both societal disasters. Mediation models also found that recession hardships partially mediated educational and racial inequities in pandemic hardships. The robust bootstrap estimate of the indirect effect of education on pandemic hardships via recession hardships was: high school or lower vs. 4-year degree c' = 0.11, 95% CI [0.02, 0.20]; some college vs. 4-year degree c' =0.19, 95%CI [0.11, 0.27]. The indirect effect of racial status was: Black racial status vs. White c' = 0.37, 95% CI [0.22, 0.52]; Other racial status vs. White c' =0.10, 95% CI [-.003, 0.20]. The results support models of cumulative dis(advantage) where economic precarity during disasters consistently disproportionately affects historically vulnerable groups, contributing to widening inequalities. Identifying mechanisms that contribute to these disparate experiences and downstream health outcomes is needed in future research.

Table 1. Multivariate Negative Binomial Regression Models of Associations of MIDUS Sociodemographic and Health Variables with Great Recession and Pandemic Hardships

	Total 2008 Great Recession Hardships		Total 2020 COVID-19 Pandemic Hardships	
Predictor	IRR [95% CI]	*p*	IRR [95% CI]	*p*
Intercept	1.61 [1.45, 1.78]	<.001	1.17 [1.04, 1.31]	.011
Education-highest degree (vs. 4-year degree)				
High school or lower	1.23 [1.13, 1.36]	<.001	1.34 [1.20, 1.50]	<.001
Some college	1.29 [1.19, 1.40]	<.001	1.48 [1.34, 1.63]	<.001
Racial Status (vs. NH White)				
NH Black	1.42 [1.29, 1.55]	<.001	1.61 [1.45, 1.79]	<.001
Other race/ethnicity	1.23 [1.11, 1.37]	<.001	1.32 [1.17, 1.50]	<.001
Baseline Age (25-75/10)	0.85 [0.83, 0.88]	<.001	0.81 [0.78, 0.84]	<.001
Female (vs. male)	1.10 [1.03, 1.18]	.009	1.11 [1.02, 1.21]	.017
Married/cohabitating (vs. not)	1.22 [1.13, 1.32]	<.001	1.20 [1.10, 1.32]	<.001
Currently working (vs. not in workforce)	1.19 [1.09, 1.29]	<.001	1.21 [1.09, 1.34]	<.001
Self-rated health (1-5)	0.87 [0.84, 0.90]	<.001	0.88 [0.84, 0.92]	<.001
Depression diagnosis (vs. none)	1.40 [1.27, 1.55]	<.001	1.32 [1.17, 1.49]	<.001

Note. Models included all predictors listed. All categorical variables were dummy coded and all continuous variables were centered. Baseline age was divided by 10 to represent a change in the outcome per decade. IRR = Incident Rate Ratio. NH = Non-Hispanic.

Abstract: 1530

DAILY SOCIAL INTERACTIONS AND RESTING BLOOD PRESSURE IN OLDER AFRICAN AMERICAN ADULTS: HIGHLIGHTING POTENTIAL HEALTH BENEFITS OF POSITIVE SUPPORT-GIVING EXPERIENCES

Alexis Pinela, BA; Samuele Zilioli, PhD, Wayne State University

Objective. Previous work as established that more frequent social support interactions can be protective for cardiovascular health especially in old age. However, the quality of these social experiences strongly determines whether such interactions are protective against or perpetuate poor health outcomes. In this way, positively appraised social support, both support-giving and support-receiving, is associated with better cardiovascular health outcomes such as resting blood pressure. The present study uses daily ecological momentary assessment technology (EMA) to investigate how age moderates the relationships between social experiences and resting blood pressure. We further explore how positive appraisal of support-giving and support-receiving experiences predict resting blood pressure.

Methods. The analytic sample consists of 291 African American participants from The Heart of Detroit Study (M_{age} = 65.68 yrs, *SD* = 5.59, range = 55 –75, 71% Female) who provided daily EMA responses four times a day, along with in-office resting blood pressure at the end of the week. For each EMA response, participants described their current social environment, affective feelings, and social support experience.

Results. A significant interaction effect demonstrated more frequent social experiences throughout the week significantly predicted lower systolic resting blood pressure for participants aged 60 and younger. This effect was not found for resting diastolic blood pressure. Further, more pleasant support-giving experiences significantly predicted lower diastolic blood pressure. Interestingly this effect was not moderated by age and was not evident for systolic blood pressure. Lastly, more pleasant support-receiving experiences did not significantly predict either systolic or diastolic blood pressure and there were no significant interactions with age.

Conclusion. These preliminary results support existing literature demonstrating positive social experiences play a protective role in healthier aging. Importantly, pleasant support-giving experiences opposed to pleasant support-receiving experiences may strongly predict effects of lower blood pressure for older adults. Present results warrant expanded investigation of daily blood pressure variation as predicted by both social support behaviors and affective appraisal.

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Abstract: 1531

DEFINING DIGITAL MINDFULNESS: A SYSTEMATIC REVIEW OF DIGITAL MINDFULNESS INTERVENTIONS FOR CHILDREN AND ADOLESCENTS

Joanna Guan; Nicolas Barbieri-Low, B.A.--in progress; Rachel Fruchtmann, B.A.--in progress; Philippe Goldin, Ph.D., University of California, Davis; Camelia Hostinar, Ph.D.

Mindfulness has garnered immense interest across diverse areas, including mainstream media, educational programs, and psychological science, and has also adapted different theories to explain the mechanism of change of such mindfulness programs (Bishop et al., 2004; Kabat-Zinn, 2003; Lindsay & Creswell, 2017). Mindfulness interventions may also have different foci, including self-compassion (Germer & Neff, 2019) and loving-kindness (Salzberg, 2011). Despite challenges in comparing various conceptualizations of mindfulness interventions, a parallel body of literature in digital mindfulness interventions is also rapidly growing. In 2020, a review on mindfulness-based apps identified 1933 (Nunes, Castro, & Limpo, 2020), and emerging areas also include immersive and virtual reality mindfulness practice (Liu et al., 2025). Critically, most digital mindfulness programs have been designed for adults, with few empirical studies supporting effectiveness in children (Nunes, Castro, & Limpo, 2020) despite their dissemination to children and adolescents. This systematic review aims to review studies on digital mindfulness for children and adolescents to address questions such as: How have researchers defined mindfulness interventions for children and adolescents? What types of meditation practices are these applications engaging children and adolescents in? What mental health, stress, and/or well-being outcomes are these mindfulness-based digital interventions targeting?

In a pre-registered systematic review (https://osf.io/p84fa/overview), we searched across PubMed, PsycInfo, and Scopus with query strings developed in collaboration with our librarian. Two trained research assistant coders will screen titles and abstracts in the first phase of screening and review the full text in the second phase. A systematic extraction process will retrieve the following information: definitions of mindfulness reported in studies, mindfulness intervention characteristics (e.g., type of practice) originally developed for children/adolescents (Y/N), outcomes measured, overall effectiveness of intervention on primary outcome, and effect size (if provided). We will analyze whether the intervention was effective with respect to its primary outcome (yes/no) and, if provided in the studies, the effect size for the primary outcome converted to a standardized metric (e.g., Cohen's *d*).

As of December 3, 2025, this systematic review is in progress, and we anticipate completion in early 2026. This systematic review will identify consistencies (and lack thereof) in key elements of these programs and outcomes for children and adolescents, suggesting important implications for the dissemination of these interventions.

Abstract: 1541

ASSOCIATIONS BETWEEN CORTISOL AWAKENING RESPONSE AND METABOLIC SYNDROME RISK FACTORS AMONG YOUNG ADULTS FROM THE ALLY STUDY

Joshua Vazquez; Dhnzl Dreyl Ocampo, High School Diploma; Kimberly Felix, MPH; Evelyn Sarsar, PhD; Claudia Toledo-Corral, PhD, CSU Northridge

Abstract Body

The hypothalamic-pituitary-adrenal (HPA) axis is a complex neuroendocrine survival mechanism that modulates cellular metabolism and drives physiological responses (increased heart rate, alertness) to stressors. Cortisol, a glucocorticoid hormone, secreted from the adrenal glands, follows a circadian pattern with a specialized morning response that prepares the body for the day's demands, which is known as the cortisol awakening response (CAR). Extant literature in middle to elder populations shows that a blunted responsivity to awakening is associated with various cardiometabolic dysfunction and disease; however, this relationship is less studied in younger populations. The aim of this study is to examine the relationship of the CAR and metabolic syndrome (Met-S) risk factors in young adults ages 18-24 years of age.

The data used for this secondary, cross-sectional study is part of the ongoing, longitudinal Allostatic Load in Los Angeles Youth (ALLY) Study, composed of participants who are between 18-24 years of age, identify as Hispanic/Latino or non-Hispanic White, and reside within Los Angeles County. Exclusion criteria included relevant health conditions and medication use. Participants' height, waist circumference (WC) and seated blood pressure (BP) were each measured in triplicate using a stadiometer, Gulick tape measurer, and an automated blood pressure monitor, respectively. Lipid concentrations (low-density lipoprotein cholesterol, LDL-c and high-density lipoprotein cholesterol, HDL-c) were reported using a Fujifilm Wako diagnostics lipid assay kit from a fasting blood sample. Three saliva samples using salivette swabs were collected each day at waketime, 30-, and 45-minutes post-waketime for two days. Salivary cortisol was determined by ELISA method from Salimetrics. Three separate measures of CAR were obtained: 1) the peak change, which is the difference between the awakening and 45-minute time points, 2) the Area Under the Curve (AUC) relative to ground, and 3) the incremental AUC.

This secondary study began July 1, 2024 and will conclude January 31, 2026. Our target sample size is 111 participants. We plan to run 12 separate linear regressions to examine the relationship between the three CAR variables and several risk factors for Met-S including WC, LDL-c, HDL-c, and BP. Met-S affects 1 in 3 adults in the United States and is becoming increasingly prevalent in Hispanics/Latinos; therefore, our study composed of predominantly young Latinos attempts to discover relationships between biological stress and risk factors for Met-S in this young Latino adult population.

Abstract: 1548

ASSOCIATIONS BETWEEN CHANGE IN DAILY ACCEPTANCE AND SYSTEMIC INFLAMMATION FOLLOWING PSYCHOSOCIAL INTERVENTION AMONG YOUNG ADULTS EXPOSED TO CHILDHOOD TRAUMA

Angelina Franqueiro; Emily Lindsay, PhD, University of Pittsburgh

Background: Childhood trauma is common and predicts disease risk in adulthood, possibly through inflammatory pathways. Mindfulness interventions, which train nonjudgmental acceptance toward present-moment experience, have been shown to improve mental health outcomes among trauma-exposed adults, but whether these effects extend to physical health pathways is unclear. Potentially, increased experiential acceptance is a common mechanism across psychosocial interventions that underlies improvements on markers of health. This study examined associations between changes in daily life acceptance and changes in inflammation after brief mindfulness or coping interventions.

Methods: N=81 young adults exposed to childhood trauma were randomized to a 2-week remote mindfulness or coping intervention. Participants completed diary and laboratory assessments at pre-intervention (T1), post-intervention (T2), and 1-month follow-up (T3) to assess daily acceptance (average of a 2-item measure assessed each evening for 1 week) and systemic inflammation (indexed by a composite score of normalized log CRP, IL-6, IL-10, TNFα, and uPAR). First, mixed linear models tested for main effects of time across condition on acceptance and inflammatory composites (N=80). Second, linear regression models tested associations of change in daily acceptance with change in the inflammatory composite and individual markers from T1-T2 (N=69) and T1-T3 (N=71). Age, sex, BMI, condition, and T1 acceptance and inflammation were included in covariate-adjusted models.

Results: Daily acceptance increased over time across conditions ($p<.005$), while the inflammatory index did not change ($p=.155$). Across interventions, increases in acceptance from T1-T2 associated with decreases in the inflammatory composite in unadjusted ($b=-.17$, $p=.005$) and covariate-adjusted models ($b=-.17$, $p=.022$), which was replicated for few individual markers (CRP unadjusted $b=-.35$, $p=.031$; adjusted $b=-.32$, $p=.111$; IL-10 unadjusted $b=-.03$, $p=.096$; adjusted $b=-.05$, $p=.006$; all other $ps>.05$). Although effects from T1-T3 followed the expected direction, changes in acceptance did not associate with changes in overall inflammation (unadjusted $b=-.05$, $p=.30$; adjusted $b=.04$, $p=.49$) or with changes in single inflammatory markers (uPAR unadjusted $b=-.05$, $p=.070$; adjusted $b=-.05$, $p=.178$; all other markers: $p>.05$).

Conclusion: Acceptance may be a common mechanism for reductions in inflammation across psychosocial interventions among trauma-exposed adults, but replication in a larger sample is needed. Understanding whether psychosocial factors (e.g., acceptance) influence pathways to physical disease and are common across interventions may inform efforts to offset health risk among trauma-exposed adults.

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Abstract: 1554

WHEN POSITIVITY MATTERS MOST: COWORKER RELATIONSHIPS MODERATE THE LINK BETWEEN EMPLOYMENT DURATION AND HEALTH

Jazlyn H. Luu; DeWayne P. Williams, PhD; Julian F. Thayer, PhD, UC Irvine

For decades, research has illuminated the impact of social relationships on health. Positive relationships are typically associated with better health outcomes, while negative relationships are linked with poorer health outcomes. This includes in the workplace, as positive and/or negative relationships with coworkers have been linked with wellbeing (e.g., Arakelian & Rudolfsson, 2023). The purpose of this investigation was to examine if positive and negative relationships among coworkers impacted the link between the length of time employed in a stressful work environment and self-reported health. A total of 823 healthy employees (89 women, MAge = 40 years old, SDAge = 12 years) that participated in a voluntary on-site health assessment were available for cross-sectional analyses. Participants self-reported on the length of time they have been an employee (i.e., employment-duration), positive and negative relationships among coworkers, and their perceived health. Adjusting for covariates including smoking status, age, gender, and household income, results showed that higher employment-duration is linked with poorer self-reported health ($r = -.100$, $p =.004$). When examining positive and negative relationships as moderators, there was a significant 3-way interaction ($B = -0.01$, $SE = .001$, $p = .04$). Specifically, the effect between employment duration and self-reported health was similar across positive and negative coworker relationships. However, only among those who report being higher in negative relationships with coworkers, higher coworker positivity attenuated the employment-duration and self-reported health link ($B = -0.003$, $SE = .04$, $p = .93$). A preliminary subgroup analysis showed that these results were consistent when considering resting blood pressure in place of self-reported health (findings to be disseminated). In sum, higher positivity among coworkers may best buffer the link between a stressful work environment and potential health outcomes when negative relationships among coworkers exist. Future directions and further implications will be discussed.

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Abstract: 1429

UNDERSTANDING DISRUPTIONS TO SLEEP IN A PROGRESSIVE CARE UNIT

Alicia Van Duyn; Michael Tagler, Ph.D., Ball State University

Abstract Body

Prior studies have shown that sleep is a critical component of recovery and overall health in hospital settings, and that sleep disturbances are linked to adverse outcomes such as elevated morning blood pressure, prolonged recovery times, poorer patient experiences, and an increased risk of additional health complications (Tan et al., 2019; Grossman et al., 2017). Additionally, research indicates that several factors may contribute to sleep disruption, including patients' preexisting conditions (e.g., sleep disorders, anxiety), hospital routines (e.g., medication administration and vital sign checks), and environmental aspects of the hospital room (Grossman et al., 2017; Macfarlane et al., 2019; Blackwell et al., 2024). However, most existing research has focused on intensive care, medical, or psychiatric units, with little to no research specifically targeting Progressive Care Units (PCUs), which may pose their own unique sleep challenges. This study aims to gain a deeper understanding of sleep duration and common sleep disruptions among PCU patients, and to investigate how self-reported sleep disruptions predict both self-reported sleep duration and objective actigraphy-measured sleep duration.

This project will use a multimethod approach to collect data from 50 patients on the PCU at a local hospital. Data collected will include patient-reported sleep questionnaires and daily sleep diaries, actigraphy for objective sleep duration, and survey data about perceptions of disruptions from PCU staff. The purpose of this project is to explore how strongly patient-reported sleep disruptions predict their self-reported sleep duration and actigraphy-measured sleep duration. It is hypothesized that higher total disruption scores will predict shorter sleep duration on both self-report measures and actigraphy. To measure this, a multiple linear regression test will be conducted using the sleep disruption score as a predictor variable and sleep duration reported by patient diaries and actigraphy as outcome variables. Additional descriptive statistics will be reported as well.

Generally, these findings have the potential to clarify PCU-specific sleep disruption patterns and inform interventions aimed at promoting sleep, which may improve recovery and patient experience. However, at the local level, results from this project will be presented to hospital staff on the unit studied to help inform future practices to encourage sleep and minimize disruptions.

March 12th, 2026

SYMPOSIUM

INFLAMMATION-ASSOCIATED PSYCHOSOCIAL HEALTH: ARE WE READY FOR TRANSLATION?

Karina Van Bogart; Iris Ka-Yi Chat, PhD, UCLA

Research linking inflammation and psychosocial health outcomes has surged over the last several decades. Inflammation and related biological systems are increasingly investigated as treatment targets for psychopathology, and there are growing calls to recognize immune-related subtypes or specifiers in future diagnostic systems. The critical question is whether our understanding of inflammation-associated psychosocial health has advanced enough to enable meaningful translation into clinical practice. To explore this question, this symposium brings together experts in psychoneuroimmunology spanning the fields of clinical health psychology, clinical neuroscience, and neuropharmacology. Presentations will showcase insights into complex associations between inflammation-related factors and psychosocial health, emphasizing the importance of context and system-level factors. The first speaker presents evidence from two adolescent samples showing early life adversity amplifies the crosstalk between circulating inflammatory proteins and reward-related brain function, pathways implicated in psychopathology risk. These findings underscore nuanced neuroimmune connections based on developmental timing of stress exposure. The second presentation focuses on how anti-inflammatory dietary interventions, particularly fatty acids, shape social behaviors implicated in psychopathology (social isolation and loneliness), highlighting the potential of nutrition-based strategies to mitigate inflammation-related psychosocial vulnerabilities. The final speaker examines immune–metabolic factors (appetite changes and monocyte metabolism) as predictors of fatigue and motivation, with clinical implications for anti-inflammatory and metabolic treatments for energy-related depressive symptoms. A moderated discussion will integrate insights from the speakers' research and the broader literature to assess the field's readiness to translate knowledge of inflammation-related health concerns into clinical practice, while also outlining key conceptual and methodological directions for future work. By leveraging perspectives from multiple disciplines, this symposium synthesizes empirical findings and conceptual frameworks to advance understanding of inflammation-associated psychosocial health outcomes and guide development of more precise and effective treatments.

INDIVIDUAL ABSTRACT: 1322

EARLY-LIFE ADVERSITY STRENGTHENS THE ASSOCIATION BETWEEN REWARD-RELATED BRAIN ACTIVITY AND PERIPHERAL INFLAMMATION

Robin Nusslock, PhD; Gregory E. Miller, PhD, Northwestern University; Felicia Petterway, MA, Temple University ; Iris Ka-Yi Chat, PhD, University of California, Los Angeles; Katherine S. Young, PhD, King's College London; Richard E. Zinbarg, PhD, Northwestern University; Michelle G. Craske, PhD, University of California, Los Angeles; Lauren B. Alloy, PhD, Temple University

Background: Reward-immune models propose that disrupted signaling between reward-related brain activity and peripheral inflammation increases risk for several psychiatric disorders, including depression, bipolar disorder, substance problems, and schizophrenia. Furthermore, reward responsiveness, peripheral inflammation, and psychiatric risk are influenced by exposure to childhood adversity. This presentation discusses a pair of studies that test the hypothesis that childhood stressors strengthen the association between reward-related brain activity and peripheral inflammation amongst adolescents at elevated risk for internalizing disorder (depression and anxiety).

Methods: Study 1 involved 180 adolescents (mean age 19.1 years) who completed a functional MRI task to measure reward-related brain activity and a blood draw to measure five inflammatory biomarkers (c-reactive protein, tumor necrosis factor-a, interleukins-6, -8, and -10) which were averaged to form a composite score. Study 2 involved 113 adolescents (13-16 years) who completed the same procedures. Participants in both studies completed measures of childhood adversity.

Results: In Study 1, among participants who experienced a major stressor in the first decade of life, higher inflammatory activity was associated with lower reward-related brain activity in both the orbitofrontal cortex (OFC) and the ventral striatum. This relationship was specific to participants who experienced major stress in early childhood, implying a sensitive period. In Study 2, heightened inflammation significantly interacted with greater childhood adversity to predict lower reward-related brain activity in the OFC.

Conclusions: Findings across these two studies support the hypothesis that childhood adversity strengthens the association between reward-related brain activity and peripheral inflammation in a manner that might increase risk for mental health problems.

INDIVIDUAL ABSTRACT: 1325

THE IMPACT OF DIETARY FATTY ACIDS ON SOCIAL FEELINGS AND BEHAVIOR

Annelise Madison, PhD, The University of Michigan; Tatum Jolink, PhD, University of Michigan; Rebecca Andridge, PhD; Stephanie J. Wilson, PhD, University of Alabama at Birmingham; Rosie Shrout, PhD, University of British Columbia ; Lisa Jaremka, PhD, University of Delaware; Christopher Fagundes, Ph.D., Rice University; Martha A. Belury, PhD; William B. Malarkey, MD; Janice K. Kiecolt-Glaser, PhD

Background: Acute inflammatory challenges (e.g., endotoxin) induce social withdraw and feelings of social disconnection, but it is unclear whether dietary fatty acids, which directly impact inflammation, impact social feelings and behavior. This presentation reports two randomized trials testing fatty acids with pro- and anti-inflammatory potential on social outcomes.

Method: Study 1: 68 healthy medical students were randomized to 2.5 g/day of omega-3 supplementation or placebo for 12 weeks. At baseline and end, they had their blood drawn to assess PBMC omega-3 percentage (which tracks with anti-inflammatory potential) and completed the Trier Inventory of Chronic Stressors and the UCLA

loneliness scale. Study 2: 43 mixed-sex couples (N=86) ate either a high saturated fat or a high oleic sunflower oil meal in a random sequence at two visits. Three hours later, they had a 20-minute marital conflict. Participant ratings of the conflict, objective behavioral coding, and language analysis provided outcome data.

Results: Study 1: Omega-3 supplementation group did not predict social isolation or loneliness (ps>0.36). Sex interacted with supplementation group and visit to predict social isolation (p=0.031) but not loneliness (p=.44). Specifically, omega-3 supplementation marginally reduced social isolation among females (p=0.056) but not males (p=0.55). Similarly, the residualized change in relative abundance of PBMC omega-3 had a marginal sex-dependent effect on social isolation (p=0.063) but not loneliness (p=0.48). Study 2: Fatty acids' effect on behavior, language use, and post-conflict ratings did not depend on sex (ps>.06). After eating the high oleic sunflower oil meal, participants engaged in more constructive problem solving (p=.021), swore less (p =.012), blamed less (p=.043), had greater affiliative language (p=.004), and reported feeling marginally more in control (p=.058) compared to after they ate the high saturated fat meal.

Conclusion: Dietary fatty-acid composition—from long-term intake to single high-fat meals—may shape social feelings and behavior, potentially via inflammatory pathways. These findings open a new area for inquiry: nutritional modulation of social perception via inflammatory pathways.

INDIVIDUAL ABSTRACT: 1327

APPETITE CHANGES AND IMMUNE CELL HYPERMETABOLISM AS CONVERGING MARKERS OF ENERGY-RELATED DEPRESSIVE SYMPTOMS

Mandakh Bekhbat, PhD; Evanthia C. Wommack, BS, Emory University; Jessica A. Cooper, PhD; Jessica A. Alvarez, PhD; Andrew H. Miller, MD; Jennifer C. Felger, PhD; Ebrahim Haroon, MD

Energy-related depressive symptoms—fatigue, anhedonia, and appetite changes—undermine functioning and treatment response. Inflammation and metabolic dysregulation, including immune cell metabolic reprogramming, may redirect energy from behavioral priorities toward inflammatory demands. Although the anti-inflammatory biologic infliximab benefits depressed patients with elevated inflammation, symptoms such as fatigue have not been examined, and no biomarker currently guides treatment selection. We tested whether baseline appetite change—a readily observable marker of immunometabolic dysfunction—predicts fatigue response to infliximab. In parallel, we assessed shifts in monocyte metabolism—thought to fuel inflammation while limiting energy availability—in association with energy-related symptoms.

In a randomized trial of 60 adults with treatment-resistant depression, patients received infliximab or placebo over 12 weeks. Baseline appetite status (increase vs decrease) was assessed with the IDS-SR, and fatigue trajectories measured with the MFI. In a separate sample of 35 depressed patients, monocyte bioenergetics were quantified using Seahorse glycolysis and mitochondrial stress tests.

Appetite stratified treatment response: patients with increased appetite receiving infliximab showed improvements in physical (p=0.03, d=-0.73), mental (p=0.015, d=0.9), and general fatigue (p=0.018, d=1.36), while those with decreased appetite benefited more from placebo. At the cellular level, inflammation shifted monocytes toward glycolytic metabolism (b=1.1, p=0.006), in association with anhedonia (p=0.014). Very high inflammation (CRP>15) or severe obesity (BMI>37) promoted hypermetabolism via oxidative phosphorylation (b=1.3, p=0.008), which was more prominent in patients with increased appetite (p=0.004).

Our data suggest that behavioral (appetite) and biological (monocyte hypermetabolism) pathways converge to contribute to energy-related symptoms in depression. Interpreted functionally, appetite-driven changes in immunometabolic milieu may fuel immune cell hypermetabolism and greater energy usage by the immune system at the expense of behavioral symptoms such as fatigue. These findings highlight immunometabolism as a mechanistic bridge between inflammation and behavior and support appetite as an actionable marker for precision treatment of energy-related depressive symptoms.

SYMPOSIUM

THE UNEVEN STORM: STRUCTURAL AND PSYCHOSOCIAL MODIFIERS OF PERINATAL BEHAVIORAL HEALTH AND OUTCOMES

Marquis Hawkins, University of Pittsburgh; Phoebe Lam, PhD, Carnegie Mellon University; Michele Levine, PhD, University of Pittsburgh, Department of Psychiatry; Ashley Hill, DrPH, University of Illinois Chicago; Guido Urizar, PhD, California State University, Long Beach

Pregnancy and the postpartum period are marked by heightened vulnerability to behavioral health challenges and adverse outcomes, particularly among populations facing structural disadvantage. This symposium highlights how intersecting behavioral, social/environmental, and psychosocial stressors, including racism, discrimination, food insecurity, and chronic stress, shape perinatal health through biological, behavioral, and community pathways.

The first presentation will describe community-engaged research that evaluates stress management interventions in underserved populations, highlighting biological mechanisms such as cortisol regulation and their links to maternal and infant outcomes. The second presentation will focus on the impact of structural racism and discrimination on sexual and reproductive health, illustrating frameworks that can be applied to study these processes and inform interventions. The third presentation will examine perinatal food insecurity, characterizing its prevalence across pregnancy and postpartum and associations with maternal mental and physical health outcomes. The fourth presentation will present novel data on sleep reactivity to discrimination during the perinatal period, discussing how these dynamics contribute to postpartum weight retention and racial disparities in cardiometabolic risk.

Together, these presentations underscore the critical importance of addressing structural and psychosocial modifiers of perinatal health, bridging biological, behavioral, and social levels of analysis. The symposium will conclude with an integrative discussion on advancing multilevel approaches to reduce disparities and promote equitable perinatal outcomes.

INDIVIDUAL ABSTRACT: 1274

COLLABORATING WITH COMMUNITY PARTNERS TO ADDRESS HEALTH DISPARITIES AND PROMOTE BIOPSYCHOSOCIAL HEALTH OUTCOMES AMONG UNDERSERVED FAMILIES: THE PRO-HEALTH RESEARCH PROGRAM

Guido Urizar, PhD, California State University, Long Beach

Chronic stress during pregnancy contributes to maternal and infant health disparities, with low-income and ethnic minority families at greatest risk. This presentation will describe a program of research that integrates community partnerships to evaluate biopsychosocial mechanisms linking prenatal stress to adverse outcomes. Findings from a mixed-methods study of 100 low-income pregnant women revealed that mothers who reported higher stress and greater reliance on maladaptive coping strategies engaged in fewer stress management behaviors. Moreover, African American mothers demonstrated more blunted diurnal cortisol patterns and experienced a higher incidence of birth complications. Importantly, infants of mothers with blunted cortisol rhythms exhibited similar dysregulation postpartum. A follow-up randomized trial tested the effects of an eight-week prenatal cognitive behavioral stress management intervention. At three months postpartum, mothers receiving the intervention reported lower perceived stress, fewer birth complications, and more regulated cortisol levels compared to controls. Their infants also showed healthier cortisol regulation. Mediation analyses indicated that continued use of stress management skills contributed to sustained improvements in maternal stress outcomes. Qualitative findings further contextualized mothers' lived experiences with the intervention and highlighted the importance of culturally tailored approaches. This presentation will emphasize how community-based collaborations can reduce health disparities by addressing prenatal stress and its biological, psychological, and social correlates.

INDIVIDUAL ABSTRACT: 1280

RACE, DISCRIMINATION, AND SLEEP REACTIVITY IN THE PERINATAL PERIOD

Phoebe Lam, PhD, Carnegie Mellon University

Postpartum weight retention, a risk factor for cardiometabolic disease, shows racial disparities: Black birthing people are more likely than White counterparts to retain excess weight postpartum (Avorgbedor et al., 2022; Endres et al., 2015), highlighting the importance of identifying modifiable mechanisms. Sleep and discrimination have been proposed as such mechanisms, as they both show race disparities (Christian et al., 2019; Méndez et al., 2024) and have been linked to postpartum weight retention (Méndez et al., 2024; Xiao et al., 2014). However, most studies have focused on *average levels*, linking more frequent discrimination and average sleep duration to postpartum weight retention (Xiao et al., 2014). Such focus on averages may obscure meaningful individual differences in sleep reactivity to discrimination: some individuals may experience shorter or disrupted sleep on days when discrimination occurs, whereas others show little to no change. To date, no studies have characterized sleep reactivity among birthing individuals or tested whether it varies by race and predicts postpartum weight retention. This talk addresses these gaps using data from the Postpartum Mothers Mobile Study (Mendez et al., 2019), which included 157 White and 63 Black birthing individuals who completed ecological momentary assessments of discrimination as well as daily reports sleep duration for up to 15 months, spanning the third trimester through nearly one year postpartum. Findings will be discussed in the context of racial health disparities and opportunities to refine theories and inform interventions.

INDIVIDUAL ABSTRACT: 1281

HOW RACISM AND DISCRIMINATION IMPACT SEXUAL HEALTH AND PREGNANCY

Ashley Hill, DrPH, University of Illinois Chicago

Structural racism and discrimination among Black girls and women may increase adverse sexual and reproductive health (SRH) behaviors, such as younger age at sexual debut, more lifetime sexual partners, and inconsistent condom use. Additionally, social and societal stressors before and during pregnancy may impact immune response and increase inflammation leading to adverse pregnancy outcomes such as preeclampsia and preterm birth. However, the influence of racism and discrimination on sexual health factors and appropriate applications of frameworks to evaluate structural racism in pregnancy are uncommon. This presentation will review social and structural contributors and describe data from studies examining the impact of racism and discrimination on sexual health and pregnancy outcomes of Black girls and women.

INDIVIDUAL ABSTRACT: 1283

THE DUAL BURDEN OF FOOD INSECURITY: PHYSICAL AND MENTAL HEALTH CHALLENGES IN THE PERINATAL PERIOD

Michele Levine, PhD, University of Pittsburgh

Food insecurity, defined as limited or uncertain access to adequate nutrition, represents a critical yet underexplored determinant of perinatal health. Rates of food insecurity increase during pregnancy and persist into the postpartum period, disproportionately affecting women of color and low-income families. This presentation will draw on data from several clinical research projects to document prevalence and patterns of perinatal food insecurity and to examine its impact on maternal health. Findings indicate that food insecurity during pregnancy and postpartum is linked not only to adverse physical outcomes, including gestational complications and poorer postpartum recovery, but also to heightened risk of depression, anxiety, and other mental health challenges. The dual burden of physical and psychological morbidity associated with perinatal food insecurity underscores its role in perpetuating intergenerational

health disparities. The presentation will highlight the importance of screening for food insecurity in perinatal care, describe pathways linking nutritional uncertainty to maternal and child outcomes, and identify opportunities for intervention. Understanding these associations is essential for the development of multilevel strategies that integrate clinical, behavioral, and policy approaches to promote maternal health equity.

SYMPOSIUM

COMMUNITY INVOLVEMENT IN RESEARCH: INSIGHTS FROM POPULATION-RESPONSIVE AND COMMUNITY-PARTNERED APPROACHES

Nancy Sin, PhD, University of British Columbia; Ryan Brown, PhD, Texas Tech University

In this symposium, three esteemed panelists—Drs. Tené Lewis, Dante Anthony Tolentino, and Luz Garcini—will discuss community-involved research that spans a continuum of engagement. Each panelist will give an overview of their approaches and activities involving underserved populations and community partners in their research. The session will then open up to Q&A with the audience to discuss various nuances of this work, including how to establish community relationships and build trust; how to collect various data modalities; how to give back to communities through research findings; and how to develop sustainable impact.

Dr. Tené Lewis conducts decolonial research that centers on biopsychosocial factors underlying cardiovascular health in Black women. Dr. Lewis will discuss a population-responsive approach to research, which centers the population under study and is responsive to their needs. This population-responsive approach is exemplified in Dr. Lewis and colleagues' recent work, bringing to light the disproportionate impacts of structural weight bias on exclusion from clinical cardiovascular disease research among Black women (Lewis, Martin, & Parker, 2025).

Dr. Dante Anthony Tolentino takes a community-partnered approach in research on diabetes self-management education among Asian Americans. He will share the process of co-developing a research project with a community organization that represents Filipino American nurses, with the goals of aligning the work with community priorities, capacity building, promoting knowledge exchange, and reaffirming a commitment to the community.

Dr. Luz Garcini's research, advocacy, and policy work focuses on identifying, understanding, and addressing the health needs of historically marginalized communities from a biobehavioral and sociocultural perspective. Her community-engaged framework emphasizes collaboration, shared decision-making, and the co-creation of knowledge with communities, ensuring that research is grounded in local values, priorities and resources readily available to the community within existing infrastructures. This community-engaged approach is exemplified in the Maternal Immigrant Needs and Disparities Project, which involves research practice partnerships with over 20 organizations and utilizes community advisory boards to identify and address the specific and immediate needs of immigrant mothers in underserved neighborhoods across the pregnancy and post-partum spectrum.

Together, the panelists' perspectives and experiences will offer insights to guide scholars who are interested in taking community-involved approaches in biopsychosocial research.

INDIVIDUAL ABSTRACT: 1249

CHALLENGING THE STATUS QUO TO ADVANCE IMMIGRANT MATERNAL HEALTH: THE ROLE OF RESEARCH PRACTICE PARTNERSHIPS

Luz Garcini, PhD., MPH, Rice University

Immigrant maternal mental health is a critical yet often overlooked issue, with significant disparities and knowledge gaps contributing to poor health outcomes for immigrant mothers and their families. Traditional research methods have been insufficient in addressing the needs of immigrant populations, often failing to incorporate and contextualize the lived experiences of marginalized communities. Eurocentric research approaches have historically excluded the perspectives of people of color, reinforcing power imbalances and perpetuating inequities.

To challenge these limitations, community-engaged research—grounded in decolonial and liberatory principles—offers a more ethical, equitable, inclusive, and valid approach. This framework emphasizes collaboration, shared decision-making, and the co-creation of knowledge with communities, ensuring that research is grounded in local values, priorities and resources readily available to the community within existing infrastructures. A promising solution is the use of Research Practice Partnerships (RPPs), which foster collaboration between interdisciplinary researchers, community organizations, local authorities and stakeholders such as service providers and policymakers. RPPs ensure that research is contextually informed, relevant, and actionable. A central component of RPPs is the use of Community Advisory Boards (CABs), which serve as bridges between researchers and communities, ensuring that research addresses community needs and experiences in a timely and realistic manner.

Our current work, the Maternal Immigrant Needs and Disparities (MIND) Project in one of the largest and most diverse immigrant U.S. cities, exemplifies this approach. The project involves over 20 organizations and utilizes a CAB to identify and address the specific and immediate needs of immigrant mothers in underserved neighborhoods across the pregnancy and post-partum spectrum. By focusing on community-driven research, the MIND project ensures that findings are rooted in the lived experiences of mothers, informing the development of immediate interventions and

advocacy. We will present findings from key informants and community stakeholders participating in the MIND project to outline actionable solutions grounded in the community to promote immigrant maternal mental health in urban regions. Improving immigrant maternal mental health requires a shift in research methodologies to promote inclusivity, cultural and contextual competence, and to address immediacy of need. Building alliances among community organizations to work together to implement evidence-based solutions is crucial to engage in rapid or immediate change while promoting systemic change to protect the health and wellbeing of immigrant mothers and their families.

INDIVIDUAL ABSTRACT: 1250

COMMUNITY-PARTNERED RESEARCH AS A CONTINUUM OF ENGAGEMENT

Dante Anthony Tolentino, PhD, RN, UCLA Joe C. Wen School of Nursing

Our approach to community-partnered research is a continuum of engagement, where investigators and community partners collaborate at varying levels of intensity across the research process. Our approach recognizes multiple entry points for partnership. This could be from consultation to co-leadership, emphasizing co-design, shared decision-making, and reciprocal benefit. Building and sustaining community partnerships requires intentional investment in trust, long-term relationship building, and a commitment to addressing structural inequities that underlie historical and ongoing mistrust in research. A recent study exemplifies this approach through a collaboration with a national professional organization serving Asian American communities. The study, supported by a P50 center grant, explored diabetes self-management education (DSME) engagement among Asian Americans. The research team invited an organization representing Filipino American nurses to co-design the project, including their input on research questions, methods, recruitment, and dissemination strategies. The community partner provided critical feedback throughout the study, helped align the work with community priorities, and committed to supporting recruitment and dissemination. The collaboration extended beyond data collection, with joint presentations and led knowledge translation activities. The research team is committed to ongoing engagement by acting as a research resource for the organization beyond the grant period. This reciprocal model fosters capacity building, promotes knowledge exchange, and reaffirms a commitment to the community. This work contributes to growing evidence that co-design, relationship-building, and sustained reciprocity are essential to effective community-partnered research, particularly when addressing chronic conditions such as diabetes in historically marginalized populations.

INDIVIDUAL ABSTRACT: 1251

POPULATION-RESPONSIVE RESEARCH IN AFRICAN AMERICAN WOMEN

Tené Lewis, PhD, Emory University, Rollins School of Public Health

Dr. Tené Lewis will speak about factors to consider regarding community-partnered research in work that involves biomedical outcomes. Dr. Lewis will discuss a population-responsive approach to research, which centers the population under study and is responsive to their needs. This population-responsive approach is exemplified in Dr. Lewis and colleagues' recent work, bringing to light the disproportionate impacts of structural weight bias on exclusion from clinical cardiovascular disease research among Black women (Lewis, Martin, & Parker, 2025).

SYMPOSIUM

RESILIENCE FACTORS MODULATE BIOLOGICAL AND PHENOTYPIC INDICATORS OF ACCELERATED AGING IN CANCER SURVIVORS

Judith E. Carroll, Ph.D., UCLA Cousins Center for PNI; Kelly E. Rentscher, Ph.D., Medical College of Wisconsin

Cancer and its treatments are thought to be drivers of aging, leading to accelerated declines in physical and cognitive health and increases in comorbidities and deficit accumulation (a composite measure that captures aging-related declines in function). Biological aging has been proposed as the underlying process driving these outcomes. However, not all cancer survivors experience declines that mimic aging, suggesting that biobehavioral factors may also contribute to outcomes and serve as novel intervention targets for cancer-related accelerated aging. Given that cancer diagnosis and treatment are stressful experiences for many survivors, identifying factors that promote resilience in this context are important and may help prevent or ameliorate the biological cost of stress and treatment on aging outcomes. Our symposium showcases new and innovative research on the role of psychological, social, and behavioral resilience factors in modifying aging in diverse populations of cancer survivors. The first presentation uses data from three cohorts, each uniquely representing Hispanic, Black, or White breast cancer survivors, to examine socioenvironmental factors that foster resilience from deficit accumulation. The second presentation examines associations between hope and favorable tumor gene expression profiles in ovarian cancer survivors. The third presentation investigates the effects of an in-person, supportive lifestyle intervention on allostatic load, insulin resistance, and adipokine regulation among African American breast cancer survivors. The fourth presentation examines associations between different coping styles and markers of cellular senescence and cognitive function among women with high intrusive thoughts following a new diagnosis of breast cancer. The discussant, a leader in the field of cancer and aging, will share her expert reflections and discuss future directions in this emerging area of research. Together, these exciting findings and discussion by early-, mid-, and late-career scientists will highlight modifiable resilience factors that may modulate accelerated aging as well as potential differences by socially defined groups of survivors.

INDIVIDUAL ABSTRACT: 1022

DIFFERENTIAL PATTERNS OF DEFICIT ACCUMULATION AMONG INVASIVE BREAST CANCER SURVIVORS INDICATE ACCELERATED

AGING AMONG BLACK AND HISPANIC VS. WHITE WOMEN: THE INVESTIGATION OF CONNECTIONS BETWEEN CANCER AND AGING (I-CONNECT) PROJECT

Patricia I. Moreno, PhD, University of Miami; Jamaica R.M. Robinson, Ph.D., Wayne State University; Xingtao Zhou, M.S., Georgetown University; Julie Ruterbusch, MPH, Wayne State University; Chen-Pin Wang, Ph.D., University of Texas Health Science Center at San Antonio; Lucille Adams-Campbell, Ph.D.; Jaeil Ahn, Ph.D., Georgetown University; Michael H. Antoni, Ph.D., Dept of Psychology / Univ of Miami; Iwalola Awoyinka, Ph.D., Medical College of Wisconsin; Traci N. Bethea, Ph.D., Georgetown University; Judith E. Carroll, Ph.D., UCLA Cousins Center for PNI; Eunji Choi, Ph.D., Cornell University; Steven Cole, Ph.D., UCLA Cousins Center for PNI; Edgar Munoz, Ph.D., University of Texas Health Science Center at San Antonio; Akina Natori, M.D.; Frank J. Penedo, Ph.D., University of Miami; Amelia G. Ramirez, Dr.PH, MPH, University of Texas Health Science Center at San Antonio; Ann G. Schwartz, Ph.D., Wayne State University; Brent Small, Ph.D., University of North Carolina; Ying Wang, Ph.D.; Jeanne S. Mandelblatt, Ph.D., Georgetown University

Purpose: Deficit accumulation indices measure aging-related disease and function. Cancer treatment can exacerbate deficit accumulation. However, there is population heterogeneity in deficits occurring at the same ages. We examined deficit accumulation among different racial/ethnic groups of breast cancer survivors and tested factors that may buffer deficit accumulation.

Methods: We pooled individual-level deidentified data from 1,834 female survivors enrolled in 3 cohorts, each uniquely representing Hispanic, Black, or White survivors. Survivors were ages 28-93 years, had primary stage 1-3 breast cancer and were ≥12 to 60-months (median 24 months) post-diagnosis. Deficit accumulation scores were computed using items spanning 8 domains (e.g., physical, emotional and social function, comorbidities, nutrition, polypharmacy). Scores range from 0-1, reflecting a continuum from robust to frail; 0.02 is a small and 0.06 a large clinically meaningful difference between groups. Multivariable stepwise linear regression models tested variability in deficits accumulation explained by sets of factors: racial/ethnic group; age; clinical factors (time from diagnosis and chemotherapy receipt); insurance; education; and social support. Deficits accumulation scores were plotted by racial/ethnic group across ages based on the final adjusted model. We also assessed interactions of racial/ethnic group with other covariates.

Results: There were large clinically meaningful differences in adjusted deficit accumulation scores at any given age: compared to White survivors, Black and Hispanic survivors had 0.13 and 0.05 higher deficit scores (p<.001). Other significant independent predictors of higher vs. lower deficit accumulation included older age, chemotherapy receipt, lower education, not being fully insured, and lower social support (all p-values <0.001). The final model explained 36.8% of the variance in deficit accumulation; racial/ethnic group explained 60.1% of this variance. There were also unique effects of these predictors by racial/ethnic groups: being fully insured had a significantly larger impact on reducing deficits among Black vs. White survivors (β -0.74 [SE 0.018], p <0.001) and the greatest protective effect of higher social support was seen for Hispanic vs. White survivors (β -0.020 [SE0.01] per 10-points on 0-100 scale, p=0.008).

Conclusions: Black and Hispanic survivors had greater deficit accumulation than White survivors at any given age, suggesting accelerated aging. Social support and adequate insurance were protective against deficit accumulation, pointing to modifiable targets that might promote resilience. Future analyses will assess biological aging and other factors that may further explain differences in aging.

INDIVIDUAL ABSTRACT: 1023

HOPE IS LINKED WITH MORE FAVORABLE TUMOR MOLECULAR SIGNATURES IN SEROUS OVARIAN CANCER

Susan K. Lutgendorf, Ph.D., University of Iowa; Benjamin W. Corn, M.D., Ph.D., Hebrew University; Premal H. Thaker, M.D., Washington University, St. Louis; Michael J. Goodheart, Ph.D., University of Iowa; Jesusa M.G. Arevalo, M.S., UCLA Cousins Center for PNI; Frank J. Penedo, Ph.D., University of Miami; Anil Sood, M.D., M.D. Anderson Cancer Ctr; Steven Cole, Ph.D., UCLA Cousins Center for PNI

Introduction: Hope, a key component of resilience, has been associated with enhanced quality of life and lower mortality among cancer patients, but associated biological mechanisms are poorly characterized. We previously reported that prior to initial treatment of women with ovarian cancer, hope was associated with less inflammation and more normalized diurnal cortisol profiles. We have also reported associations of socio-environmental factors with pro-metastatic processes such as the epithelial-mesenchymal transition (EMT), a hallmark of tumor invasiveness. Here we used genome-wide transcriptional profiling to quantify associations between hope and tumor molecular signatures reflecting tumor invasiveness and inflammation as well as cellular immunity.

Method: Participants were 74 women with serous ovarian cancer who completed demographic information and surveys prior to initial surgery. Hope was assessed using a face-valid item from the Center for Epidemiological Studies Depression Scale (CESD), and depression was assessed using the full CESD without the hope item. Primary tumor RNA samples were assayed by Illumina HT12 microarrays, and data analysis quantified associations between hope and tumor gene expression after adjusting for depression, age, BMI, grade, and stage. This study was IRB approved.

Results: Over and above the effects of depressive symptoms, demographic, and tumor pathological covariates, hope was associated with multiple favorable differences in RNA expression, including lower levels of mesenchymal differentiation (p=.002) and pro-inflammatory gene regulation (NF-kB: p<.001; IRF1: p=.024; STAT: p=.018), elevated epithelial differentiation (p=.011) and elevated IRF7 transcription factor activity which promotes cellular immunity (p=.016).

Conclusions: These data suggest that among women with ovarian cancer, adjusting for depression and covariates, hope appears to be associated with a tumor gene expression profile reflective of

reduced EMT polarization and inflammatory activity, along with increased activity of a transcription factor promoting cellular immunity. These findings highlight the potential biological implications of a resilience factor such as hope but need replication with more diverse samples and validated assessments of hope.

INDIVIDUAL ABSTRACT: 1024

ALLOSTATIC LOAD AND BIOMARKER CHANGES FOLLOWING A LIFESTYLE INTERVENTION FOR AFRICAN AMERICAN BREAST CANCER SURVIVORS

Iwalola Awoyinka, Ph.D., Medical College of Wisconsin; Patricia Sheean, Ph.D., R.D.N., L.D.N, Loyola University Chicago; Alexis Vistocky, MS; Anjishnu Banerjee, PhD, Medical College of Wisconsin; Lisa Sharp, PhD, University of Illinois at Chicago; Jennifer Knight, M.D.; Melinda Stolley, Ph.D., Medical College of Wisconsin

Background: African American (AA) women with breast cancer (AABC) experience significant disparities in outcomes, including higher mortality and worse quality of life. Obesity is also common and contributes to breast cancer progression and numerous chronic conditions. Stress, which disproportionately impacts AA women, can drive harmful physiological changes and increase risk for poorer outcomes. Lifestyle factors including physical activity, diet, and social support may buffer these effects. This study examines the impact of Moving Forward (MF), a lifestyle intervention for AABC, on biomarkers of physiological stress and stress-linked biological pathways of survivorship.

Methods: 246 AABCS were randomized to a 6-month interventionist-guided (IG) or self-guided (SG) program. The IG program, offered in 8 predominantly AA neighborhoods, included 2x-weekly classes on diet, activity, and weight loss. SG was provided the same content without in-person support. Allostatic load (AL), a product of cumulative stress, was calculated using 11 criteria reflective of multiple biological systems, with each criterion scored 0 or 1 (1 = high-risk), with a maximum score of 11. Criterion were selected based on existing literature and study availability and included: systolic and diastolic blood pressure, resting heart rate, total cholesterol, high-density lipoproteins, triglycerides, hemoglobin A1c, body mass index, waist circumference, C-reactive protein, and medication use to control hypertension, diabetes, or cholesterol. Biomarkers of survivorship included C-peptide (insulin resistance), adiponectin and leptin (adipokine dysregulation), and C-reactive protein (inflammation). Data were collected at baseline, 6, and 12 months, and analyzed using descriptive statistics and linear mixed models.

Results: At 6-months AL was significantly lower in IG than SG (p=0.027), with IG reflecting a 5.6% reduction from baseline to 6-mos (p=0.034). SG showed no significant changes. By 12 months, between- or within-group differences in AL were no longer observed. IG participants significantly improved in leptin and C-peptide at 6 months, with additional improvements in adiponectin and C-peptide at 12 months; no significant changes were seen in SG. No significant between or within group differences in CRP were detected.

Conclusions: These findings suggest that a culturally tailored, group-based lifestyle intervention can improve multisystem stress regulation and biomarkers linked to cancer and metabolic health in AABC. Future work will explore mechanisms linking lifestyle changes to biological and psychosocial outcomes and identify strategies to sustain these benefits.

INDIVIDUAL ABSTRACT: 1025

COPING, CELLULAR SENESCENCE, AND COGNITIVE IMPAIRMENT IN MIDDLE-TO-OLDER AGED BREAST CANCER PATIENTS WITH INTRUSIVE THOUGHTS DURING THE POST-SURGICAL PERIOD

Jenna L. Hansen, B.S.; Daniela Frasca, Ph.D.; Sarah N. Webster, B.A.; Rachel Plotke, M.S.; Paula J. Popok, M.S., University of Miami; Emily A. Walsh, Ph.D., Harvard Medical School; Millan R. Kanaya, B.S., University of Miami; Molly Ream, Ph.D., Dana-Farber Cancer Institute, University of Miami; Mason J. Krueger, M.S.; Dolores Perdoma, Ph.D.; Maria G. Romero, M.S.; Bonnie B. Blomberg, Ph.D.; Michael H. Antoni, Ph.D., University of Miami

Background. Breast cancer (BC) patients are at risk for accelerated biological and phenotypical aging, driven by BC and its treatments and plausibly stress. Certain coping styles may protect from biological aging, such as cellular senescence (CS), through altering biological stress response pathways, which may further alter phenotypic aging associated with BC treatment, such as cognitive impairment. We aimed to examine the relationship between coping styles, CS, and cognitive impairment in distressed, middle-to-older BC patients in the post-surgical period but prior to adjuvant treatment.

Methods. Women (*M*=61 years of age; *N*=89) with Stage 0-III BC and high intrusive thoughts (Impact of Event Scale- Intrusion Score>14) were enrolled prior to adjuvant treatment, but following surgery, in a stress management trial. At baseline (pre-intervention), women completed questionnaires to assess 14 different coping styles (Brief COPE) and cognitive impairment (FACT-Cog) and provided blood samples. B-Cells were isolated from peripheral blood cells using magnetic microbeads. Cellular senescence markers (p16 and p21) were quantified from B-Cell mRNA using qPCR. Analyses were conducted using multiple regression models that covaried for age, stage, surgery type, and body mass index.

Results. Elevated expression of both p21 and p16 was significantly associated with worse perceived cognitive abilities (*β*=-0.36, *p*=.04; *β*=-0.36, *p*=.02) and worse perceived cognitive impairments (*β*=-0.30, *p*=.09; *β*=-0.33, *p*=.04). Of the 14 coping styles, only coping with humor was associated with lower levels of p21 (*β*=-0.38, *p*=.03), while coping using religion was marginally associated with lower p16 (*β*=-0.35, *p*=.058). Self-blame was associated with greater perceived cognitive impairments (*β*=-0.43, *p*<.001), while greater denial and behavioral disengagement were associated with worse perceived cognitive abilities (*β*=-0.25, *p*=.02; *β*=-0.26, *p*=.02) Greater use of emotional and instrumental support was related to better perceived cognitive abilities (*β*=0.32, *p*=.01; *β*=0.25, *p*=.03). All the other coping styles

were not significantly related to senescence markers or cognitive function.

Conclusions. Among women with a new diagnosis of breast cancer and high intrusive thoughts, those with more adaptive coping, including the use of humor and religion had lower markers of cellular senescence. Less adaptive coping such as self-blame, denial, and behavioral disengagement was related to poorer cognitive function, an indicator of accelerated phenotypic aging. Interventions that promote more adaptive coping styles may help to improve clinical and aging-related survivorship outcomes in mid-to-older aged BC patients in the post-surgical period.

SYMPOSIUM

WEATHERING IN PLACE: MAPPING HEALTH, SPACE, AND SOCIAL LIVES ACROSS THE LIFESPAN

Melissa Flores, PhD; Riley M. O'Neill, MA, The University of Arizona; Jane Leer, PhD, San Diego State University ; Juan Del Toro, PhD, University of Minnesota-Twin Cities; Elizabeth Brondolo, PhD, St. John's University

The social exposome encompasses neighborhood and broader structural environments that shape biological weathering, aging, physical and mental health outcomes, and cognitive functioning across the lifespan. Extant literature often relies on cross-sectional designs and places limited emphasis on interventions or on resilience and adaptive factors that may mitigate adverse effects. This symposium brings together four studies that address these gaps by leveraging largescale, multi-method national datasets to examine longitudinal associations between the social exposome, stress biology, health, cognition, and social resilience from childhood through late life.

The first presentation investigates linkages between accelerated biological aging and socio-cognitive adaptation to structural/cultural racism in Black adolescents, underscoring developmental sensitivity to structural inequities. The second applies causal-inference methodologies to assess the impact of the federal Housing Choice Voucher (HCV) Program on Hispanic/Latino children's mental health and allostatic load profile, highlighting how policy-driven changes in residential environments influence biological stress responses. The third explores allostatic load as a mediator between the social vulnerability index (SVI; mapped to participant census tracts) and cognitive outcomes across a ten-year period in older adults. The final presentation disentangles complex ethnic density effects by mapping Latino population concentration in neighborhoods and examining its association with social resilience (neighborhood cohesion, social networks), health behaviors, and metabolic health endpoints in a national sample of older adults, both cross-sectionally and over ten years across racial and ethnic groups.

By integrating diverse populations, developmental stages, and methodological approaches, this symposium demonstrates how social environments from neighborhood conditions to structural racism, become biologically embedded to influence health across the life course. The discussant, a scientific leader with expertise in social drivers of health, will synthesize these presentations by sharing her insights and highlighting future directions on critical pathways through which equity-oriented approaches, interventions, and policy may buffer the health consequences of structural vulnerability.

INDIVIDUAL ABSTRACT: 1316

GROWING UP FAST, THINKING FASTER: STRUCTURAL/CULTURAL RACISM, PUBERTAL TIMING, AND EXECUTIVE FUNCTION IN BLACK EARLY ADOLESCENTS

Juan Del Toro, PhD, University of Minnesota-Twin Cities; Dana Miller-Cotto, PhD, University of California, Berkeley; Karlye Phillips, MHS, Johns Hopkins Bloomberg School of Public Health; Qi Huang, PhD; Mohammad Hashim, MA, University of Minnesota-Twin Cities; Kyla Burfoot, BS candidate, University of California, Berkeley

Introduction: Black early adolescents' accelerated biological age may confer short-term adaptations against structural/cultural racism, potentially via executive function (EF, or a set of higher-order cognitive processes). Racism-related stress can compromise EF, and this association may vary by pubertal timing. Precocious puberty signals accelerated biological aging and may assign youth with more adult-like responsibilities requiring regulation and problem-solving. Neural changes following pubertal onset, including prefrontal development, are tied to growth in EF, suggesting accelerated pubertal timing may enhance Black adolescents' socio-cognitive adaptation to structural/cultural racism. We examined whether (1) structural/cultural racism was associated with Black adolescents' EF, and (2) pubertal timing moderated this association.

Methods: Data included 1,493 Black early adolescents from the Adolescent Brain Cognitive Development study (52% females, 48% males; ages 9-10). At baseline, adolescents completed three EF tasks: The Flanker task (i.e., an index of cognitive control and attention), the List Sorting Working Memory Test (i.e., an indicator of working memory), and the Dimensional Change Card Sort (i.e., suggestive of flexible thinking and concept formation). Adolescents self-reported their physical pubertal maturation and provided salivary pubertal indicators (i.e., DHEAS and testosterone). Structural/cultural racism was assessed by obtaining state-aggregate data from Project Implicit, the General Social Survey, and the American National Election Survey, capturing prejudice and stereotype endorsement against Black Americans. Each construct (EF, pubertal timing, structural racism) was modeled as a latent factor to account for measurement error. Covariates included youth's age, sex, indicators of socioeconomic status (i.e., parental education, income, and marital status), and census-tract measures of socioeconomic status and racial/ethnic diversity. Multilevel structural equation models were estimated in *Mplus v. 8.11*, with TYPE=COMPLEX to account for nesting within 17 states.

Results: Neither structural/cultural racism nor pubertal timing was directly related to EF. However, structural/cultural racism interacted with pubertal timing: over and above age in years, structural/cultural racism was associated with lower EF among youth 0.30 *SD* below the

mean on pubertal timing, but higher EF in youth 1.35 *SD* above the mean.

Discussion: Black adolescents' accelerated biological age may align with experiential and neural factors that can enhance EF and buffer against racism. This study highlights pubertal timing as a normative developmental factor that may be adaptive for EF in specific contexts.

INDIVIDUAL ABSTRACT: 1321

CAN RENTAL ASSISTANCE REDUCE CHILDREN'S HEALTH DISPARITIES? HOUSING VOUCHERS AND HEALTH IN THE HISPANIC COMMUNITY HEALTH STUDY/ STUDY OF LATINO YOUTH

Jane Leer, PhD; Amanda C. McClain, PhD; Linda Gallo, PhD, San Diego State University ; Krista M. Perreira, PhD, University of North Carolina School of Medicine; Cheney Crowe, BS candidate; Scott Roesch, PhD, San Diego State University

Lack of access to high-quality, affordable housing contributes to socioeconomic and racial health disparities in the United States. Interventions that aim to improve access to housing, such as the federal Housing Choice Voucher (HCV) Program, may have positive downstream effects on health. We examined whether receipt of rental assistance via the HCV was associated with lower household economic stress, fewer neighborhood problems, and better mental (depression and anxiety symptoms) and physical health (allostatic load scores) among children. We focused on Hispanic/Latino children, who may benefit from a range of familial, cultural, and health strengths, while also being disproportionately affected by the housing crisis and underrepresented in federal housing assistance programs. Children were participants of the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Youth ("SOL Youth"; 2012-2014), drawn from the multi-site probability sample of HCS/SOL adults recruited from four US cities (Chicago, IL; Miami, FL; Bronx, NY, and San Diego, CA). Youth (full sample *N*=1,466 aged 8-16 yrs; 50% female) completed the Child Depression Inventory and Multi-Dimensional Anxiety Scale and underwent a physical exam with a fasting blood draw to derive a 5-item allostatic load composite score, while their parents (*N*=1,020, 86% female) reported household economic stress and neighborhood problems. Analyses focused on HCS/SOL youth participants from households that were eligible for HCV based on income (e.g., with incomes lower than 80% of their city's area median income; *n*=830). We compared outcomes between children in households receiving HCV (*n*=195) with a comparison group (*n*=635) of income-eligible households not receiving vouchers, using matching techniques (inverse probability weighted regression adjustments) to address selection bias. Preliminary analyses showed that voucher receipt was associated with lower economic stress, with decreased odds of falling behind on rent (OR = 0.37, 95% CI [0.20 - 0.67], $p < .01$) or being evicted (OR = 0.13, 95% CI [0.04 - 0.47], $p < .01$) in the past 12 months. However, there was no evidence that HCV receipt related to children's health or parent-reported neighborhood conditions ($ps > .05$). Implications for theory and policy interventions grounded in social determinants of health will be discussed.

INDIVIDUAL ABSTRACT: 1319

AGING IN CONTEXT: DOES ALLOSTATIC LOAD MEDIATE ASSOCIATIONS BETWEEN NEIGHBORHOOD SOCIOECONOMIC CONDITIONS AND COGNITIVE OUTCOMES IN OLDER ADULTS?

Riley M. O'Neill, MA; Ashely Huggins, PhD; Victoria Rueda, BS; Rebeca A. Jimenez, MA; Patrick Wightman, PhD; John M. Ruiz, PhD; Melissa Flores, PhD, The University of Arizona

Background: Under-resourced neighborhood socioeconomic conditions (SEC) detrimentally influence cognitive outcomes among older adults. Poorer neighborhood SEC is related to higher allostatic load, which reflects the cumulative burden of biological wear-and-tear. Higher allostatic load is also associated with worse cognitive outcomes with age. Despite robust support for these direct relationships, no prior research has utilized longitudinal data to investigate whether allostatic load mediates relationships between poorer neighborhood SEC and worse cognitive outcomes among older adults.

Methods: To address this gap, we leveraged data from waves 1 – 3 of the *National Social Health and Aging Project* collected from U.S.-dwelling adults ages 57 – 85 at baseline (n = 897; M_{age} = 66.4 ± 6.5; 52.1% female; 74.3% non-Hispanic (NH) White, 8.8% Hispanic/Latino, 15.6% NH Black/African American). Neighborhood SEC was captured by linking census-derived Social Vulnerability Index (SVI) scores to geocoded residential addresses at wave 1. A composite allostatic load index score was derived from biological data at wave 2: blood pressure, heart rate, body mass index, inflammation (C-reactive protein), blood glucose (HbA1c), and adrenal functioning (DHEA). Cognitive functioning was assessed by the Chicago Cognitive Functioning Measure total score at wave 3. We fitted a 2-1-1 multilevel mediation model using the "sem" function in the lavaan package for R to estimate direct and indirect associations between neighborhood SEC, allostatic load, and cognitive functioning, with clustering at the state-level (n=25) and controlling for individual-level factors.

Results: Individuals' residential SVI scores were not directly associated with allostatic load ($B = 0.21$, SE = 0.37, $p = .569$, 95% CI: -0.512, 0.930). Furthermore, allostatic load was not directly associated with cognitive outcomes ($B = -0.43$, SE = 0.23, $p = .065$, 95% CI: -0.891, 0.027). In line with our hypothesis, however, higher residential SVI scores were directly associated with poorer cognitive outcomes ten years later ($B = -2.37$, SE = 0.63, $p < .001$, 95% CI: -3.597, -1.143). Allostatic load did not appear to mediate any effect of SVI on cognitive outcomes ($B = -0.090$, SE = 0.14, $p = .520$, 95% CI: -0.366, 0.185).

Discussion: Results demonstrated further support that poorer neighborhood SEC is prospectively related to worse cognitive outcomes among older adults, but the role of cumulative biological mechanisms in that relationship remains unclear. To better contextualize these findings, we will also present sensitivity analyses with disaggregated biological mediators and attempts to supplement data missingness.

INDIVIDUAL ABSTRACT: 1324

DISENTANGLING HISPANIC ETHNIC DENSITY EFFECTS: SOCIAL, MENTAL, AND CARDIOVASCULAR HEALTH IMPACTS ACROSS 10 YEARS IN DIVERSE OLDER ADULTS

Melissa Flores, PhD; Riley M. O'Neill, MA; Rebeca A. Jimenez, MA; Victoria Rueda, BS; Melanie Garcia, BA, The University of Arizona; Kelly N. B. Palmer, PhD, University of Alabama at Birmingham; Patrick Wightman, PhD, The University of Arizona; Elizabeth Brondolo, PhD, St. John's University

Background: The Hispanic Ethnic Density (HED) effect, or demonstrably better health among Hispanic/Latinos (H/Ls) in neighborhoods with higher proportions of co-ethnics, is often attributed to social cohesion and community resources that bolster resilience amidst structural risk for H/Ls and other groups. However, some evidence suggests HED may increase cardiovascular risk, and links between resilience factors and outcomes remain unclear. Thus, we examined how HED relates to long-term cardiovascular and mental health by exploring potential social drivers and variations across racial-ethnic groups.

Methods: Data from Waves 1–3 (W1–W3) of the National Social Life, Health, and Aging Project (N = 2,312; *Mage* = 68.2 ± 7.5 years) were analyzed (non-Hispanic (NH) White (NHW) = 1,675; NH Black/African American (NHB) = 384; H/L = 253). HED (*M* = 13% ± 21%, *Range* = 0%-98%) was derived by linking participant addresses to Census-derived data. Outcomes were social resilience (networks, neighborhood features), health behaviors (substance use, physical activity), healthcare access, and cardiovascular metrics (BMI, blood pressure [BP], inflammation). Random-effects linear models estimated associations between W1 HED and outcomes across waves, adjusting for individual and neighborhood variables, baseline outcomes, and clustering in 80 counties.

Results: As hypothesized, HED was negatively associated with 5- and 10-year systolic BP (*b*s > -0.37, 95% CIs [-0.79, -0.02], *p*s < .05) and 5-year diastolic BP (*b* = -0.26, 95% CI [-0.48 -0.05], *p* = .017) for all groups. HED was also associated with lower W3 depressive symptoms (*b* = -0.08, 95% CI [-0.16 -0.00], *p* = .049) for all groups. As for social drivers, race-ethnicity moderated associations between HED and network characteristics at W1. As HED increased, W1 network density (network interconnectedness) was higher for NHBs and H/Ls but lower for NHWs, while H/Ls reported a smaller network size than NHWs. Race-ethnicity also moderated HED's association with physical activity: it increased for H/Ls and NHBs but declined for NHWs at high HED. At later waves, HED was associated with more social cohesion and less unsafety for NHBs (W2) and with less unsafety for H/Ls (W3). Lastly, HED was associated with greater difficulty finding a doctor at W3, OR = 1.14, 95% CI (1.04, 1.25), *p* = .005 for all groups.

Conclusion: HED was associated with lower BP and depressive symptoms over 10 years for all groups. However, associations with social resilience varied across groups and waves, suggesting complex mechanisms underlying long-term HED benefits. Lastly, HED made it more difficult for all groups to see a doctor. Moderation results will be interpreted through the lens of cultural resilience.

SYMPOSIUM

FROM DAYS TO YEARS: MULTI-LEVEL FINDINGS LINKING STRESS, MOOD DISORDERS, AND BIOLOGICAL AGING

Rachel E. Koffer, Arizona State University; Stephanie J. Wilson, PhD, University of Alabama at Birmingham

The geroscience framework and stress-health theories suggest (Epel, 2020; Kennedy et al., 2015) toxic stressors accelerate the cascade of biological aging to functional decline through mechanisms like depression and exaggerated reactivity to stressors. Test these mechanisms requires research that considers multiple timescales of stress processes and the psychosocial contexts that shape biological and functional aging. In this symposium, three studies of midlife and older adults highlight the importance of examining stress and mood across multiple levels of analysis to tease out their associations with state-of-the-art measures of the biological and functional aging cascade.

Focusing on the context of everyday stressors, like arguments and work stressors, the first study examines associations between daily stress and gene expression hallmarks of biological aging. Daily stress processes include individuals' affective reactivity to stressors, frequency of stressor exposure, and diversity of stressor types. This work highlights that the association between increased reactivity to stressors and biological aging may be dependent on the diversity of stressors experienced.

The second study examines daily stress as a mechanism through which financial hardship may accelerate epigenetic aging. Daily stress processes included affective reactivity to stressors, exposure to stressors, and negative affect in daily life. Indeed, higher financial hardship relates to daily stressor exposure and daily average negative affect, and negative affect is subsequently associated with multiple measures of epigenetic aging.

Offering a longitudinal examination of the aging cascade, the third study examines pathways from mood disorders to biological and functional aging. Accounting for mood disorder history, the prospective onset of a mood disorder episode predicted increased inflammation over two years. Further, only among those with a mood disorder episode did a range of biological aging dimensions translate to accelerated functional decline.

Together, the studies present considerations for targeting psychosocial experiences that promote toxic stress and accelerate the aging cascade. Our discussant will place these findings in the context of the latest geroscience research and discuss implications for future work examining the pathways from stressors to biological and functional aging.

INDIVIDUAL ABSTRACT: 1390

TOXIC OR NOT? EVERYDAY STRESSORS AND BIOLOGICAL AGING

Rachel E. Koffer, PhD; Erin Clancy, B.S., Arizona State University; Stephanie J. Wilson, PhD, University of Alabama at Birmingham

Recent geroscience frameworks for toxic stressors have called on researchers to examine contexts in which stressors rejuvenate or accelerate biological aging (Epel, 2020; Polsky et al., 2022). Although more severe stressors appear to hasten aging and later health problems, early evidence suggests that some exposure to daily stressors may have an inoculating effect (Reed et al., 2021). Moreover, one study has documented ties between major life stressors and transcription patterns consistent with the senescence-associated secretory phenotype (SASP) and DNA damage response (DDR; Hansen et al., 2025). Tying these threads together, the current study examined how daily stress processes interact in their associations with gene expression of SASP, DDR, and cellular senescence marker p16INK4a (CDKN2A).

Data from the third wave and refresher biomarker and daily diary samples of the Midlife in the United States study were used to examine the associations between daily stress processes and biological aging outcomes. The final sample included 414 adults (ages 25-89, 79% white, 57% female) who completed the 8-day daily diary, including assessment of stressors and negative affect, before a separate lab visit in which whole blood samples were taken. PBMC samples were assayed for 1) the 30-gene DDR composite; 2) expression of p16INK4a (CDKN2A), and 3) the 57-gene set characterizing SASP. Stressor reactivity slopes were output from multilevel models predicting change in negative affect between days without and with a stressor. Separate multiple linear regression models then examined unique and joint effects of stressor reactivity, stressor exposure frequency, and diversity of stressor types on biological aging outcomes, controlling for age, sex, education, race, BMI, and comorbidities. Significant interactions between stressor reactivity and stressor diversity were associated with DDR (B = 7.33, p = .037) and SASP (B = 4.83, p = .003). The interactions were such that higher reactivity to stress was associated with increased biological aging in the context of individuals who experience diverse stressors but decreased biological aging in the context of more concentrated stressor types. These findings are discussed as evidence for daily contexts in which stressors and individuals' affective response to stressors serve as toxic versus rejuvenating for biological aging.

INDIVIDUAL ABSTRACT: 1392

FINANCIAL HARDSHIP, DAILY STRESS PROCESS, AND EPIGENETIC AGING AMONG MIDDLE-AGED AND OLDER AMERICAN ADULTS

Agus Surachman, Ph.D., Drexel University; David Almeida, PhD, The Pennsylvania State University

We examined the association between financial hardship, daily stress process, and epigenetic aging acceleration. Data were from 671 participants (*M* age = 53; 58% male) in the Midlife in the United States (MIDUS) study who completed the 8-day daily diary survey (*N* diary days = 4951), the biomarker protocols, and consented to genetic analysis. Financial hardship was based on material (income-to-poverty line ratio, health insurance coverage, and governmental assistance) and psychological (perception of availability of money to meet needs and difficulty levels paying bills) domains of household financial challenges. Daily stress process includes daily stress exposure, daily negative affect, and changes in negative affect in response to stressors (i.e., affect reactivity). Three epigenetic aging measures that were trained to predict morbidity and mortality included: epigenetic age acceleration (EAA; based on the residual from regressing epigenetic clock on chronological age) PhenoAge and GrimAge, as well as DunedinPACE pace of aging. Hypotheses were tested using a multilevel structural equation modeling (MSEM) framework with a Bayesian estimation method to deal with nested data structure (days nested within person). Analysis was adjusted for age, sex, BMI, and smoking status. In the between-person level, higher financial hardship was associated with more latent person-specific (referred to as between-person/BP) daily stressor exposure (b = 0.04, posterior SD [SD_{post}] = 0.02) and higher BP negative affect (b = 0.09, SD_{post} = 0.02). In turn, higher BP stressor exposure was associated with greater BP negative affect (b = 0.64, SD_{post} = 0.07). More financial hardship was also associated with higher latent affect reactivity (b = 0.04, SD_{post} = 0.02). Higher BP negative affect, but not latent affect reactivity, was associated with epigenetic aging, especially EAA GrimAge (b = 0.11, SD_{post} = 0.05) and DunedinPACE pace of aging (b = 0.10, SD_{post} = 0.05). The direct paths between financial hardship and epigenetic aging, especially EAA GrimAge (b = 1.60, SD_{post} = 0.37) and DunedinPACE pace of aging (b = 0.04, SD_{post} = 0.01), were significant. More exposure to minor day-to-day stressors may lead to greater experience of negative affect. These psychological factors are an important pathway that can contribute to socioeconomic disparities in accelerated aging.

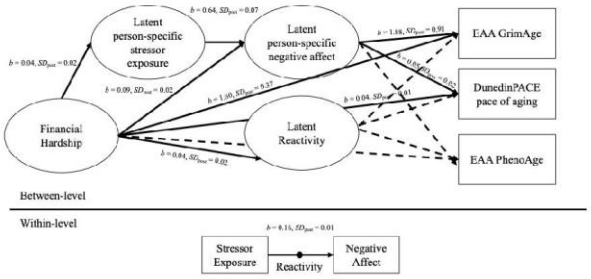


Figure 1. Summary from the MSEM analysis on the association between financial hardship, daily stress process, and epigenetic aging. Greater financial hardship was associated with more stressor exposure, which in turn contributes to higher negative affect. Both greater financial hardship and negative affect were associated with accelerated epigenetic aging, especially EAA GrimAge and DunedinPACE pace of aging.

INDIVIDUAL ABSTRACT: 1394

THE ONSET OF MOOD DISORDER AND ITS PROSPECTIVE LINKS TO BIOLOGICAL AND FUNCTIONAL AGING

Stephanie J. Wilson, PhD, University of Alabama at Birmingham; Megan Renna, The Graduate Center, City University of New York; Annelise Madison, PhD, The University of Michigan; Rosie Shrout, University of British Columbia ; Rebecca Andridge, PhD; Juan Peng, M.S.; Juan Peng, M.S., Ohio State University; Janice K. Kiecolt-Glaser, PhD, OH State Univ College of Medicine

Mood disorders such as depression increase risks for chronic disease, functional decline, and early mortality. According to the hierarchical

metrics of aging framework (Ferrucci, 2018), these risks may arise through accelerated biological aging, which eventually translates to subclinical development of the aging phenotype, e.g., loss of grip strength and gait speed. In turn, these changes ultimately result in functional decline and premature mortality. Cross-sectional studies report differences in biological and functional aging between depressed individuals and non-depressed controls, but little to no work has documented how these processes unfold over time. To examine whether the prospective onset of a mood disorder predicts biological aging and exacerbates the links between biological aging and functional outcomes, in the current study, 192 adults ages 40-87 completed a diagnostic interview at a baseline study visit and repeated the interview two years later. At both visits, participants completed assessments of grip strength and gait speed, reported their functional limitations and subjective age, and provided data on inflammatory markers interleukin (IL)-6 and tumor necrosis alpha (TNF-a), epigenetic aging (PhenoAgeEAA, GrimAgeEAA, and DunedinPACE), and cellular senescence marker $p16^{INK4a}$ via blood samples.

Controlling for sex, comorbidities, education, age, body mass index, and previous history of mood disorder, the occurrence of a mood disorder episode in the two years between visits predicted increased IL-6 (B=0.221, SE=0.108, p = .042) and a nonsignificant upward trend in $p16^{INK4a}$ (B=0.365, SE=0.195, p=.066). In turn, only among those with the onset of a mood disorder, elevated IL-6 translated to slowed gait speed over the two years (B=0.761, SE=0.243, p=.003). Similarly, only among those who experienced a mood disorder episode, advanced PACE of aging foreshadowed increased functional limitations (B=5.67, SE=2.79, p=.044) and feeling older (B=51.1, SE=21.6, p=.019).

In sum, findings shed new light on the longitudinal associations between mood disorders and aging. Results show that a mood disorder episode relates to some dimensions of biological aging and increases risks for functional decline following accelerated biological aging, thus spurring the aging cascade.

SYMPOSIUM

PSYCHOLOGICAL STRESS AND CARDIOVASCULAR HEALTH: ACROSS THE CONTINUUM OF DISEASE RISK

Sharon Y. Lee, Ph.D., Brown University, Warren Alpert Medical School; Kenneth E. Freedland, Ph.D., Washington University in St. Louis, School of Medicine

Stress is a persistent factor influencing psychological adaptation and clinical prognosis throughout the progression of cardiovascular disease. This symposium centers the impact of psychosocial stress across the continuum of cardiovascular health risk, from subclinical disease to chronic disease to physical recovery after acute cardiac events. Each of the four presentations examines how certain aspects of psychosocial stress (e.g., early life stress, posttraumatic stress, depression, anxiety) affect cardiovascular disease onset and progression, including risk of disease development and recovery from and recurrence of cardiac events.

The **first** presentation reviews individual-level psychosocial factors (e.g., social support, optimism, personality) that foster positive cardiometabolic health in the face of early life socioeconomic and social stress, either by directly facilitating cardiometabolic health (promotive pathway) or by buffering the harmful effects of early life stress on cardiometabolic disease risk (protective pathway).

The **second** presentation describes a study of how cardiac event-induced posttraumatic stress symptoms and depressive symptoms each predict different aspects of physical recovery in a sample of 79 cardiac arrest survivors 1 month after hospital discharge. The findings demonstrate the differential effects of two distinct facets of psychological distress on patient-centered physical recovery outcomes in the initial weeks post-hospitalization.

The **third** presentation describes a study that employed ecological momentary assessment and ambulatory heart rate monitoring in myocardial infarction patients to characterize the effects of psychological distress (depressive and posttraumatic stress symptoms) on cardiovascular health within the 3-month recovery period. The results highlight the importance of ecologically assessing psychophysiological responses to stress following a cardiac event.

The **fourth** presentation provides an overview of empirical evidence on the bidirectional relations between psychological distress and acute coronary syndrome (ACS) onset, progression, and outcomes. Particular attention is given to sex differences in risk, treatment, and recovery, highlighting the disproportionate burden of psychological distress among women and the importance of addressing sex-based disparities in ACS care and outcomes.

To conclude, our discussant, a distinguished scientist with expertise on the effects and treatment of psychological distress in cardiac patients, will synthesize findings from the presentations and share insights for advancing research on psychosocial factors implicated in the progression of cardiovascular risk.

INDIVIDUAL ABSTRACT: 1034

DO INDIVIDUAL-LEVEL PSYCHOSOCIAL FACTORS PROMOTE POSITIVE CARDIOMETABOLIC OUTCOMES IN THE FACE OF EARLY LIFE STRESS? A SYSTEMATIC REVIEW

Kristina D. Dickman, Ph.D., VA Boston Healthcare System; Angela N. Wilson, B.S., University of Pittsburgh, Department of Psychology; Thomas Kamarck, Ph.D., University of Pittsburgh, Department of Psychology, Department of Psychiatry

Introduction: Exposure to social and financial stress early in life doubles risk for cardiometabolic disease across the lifespan. Yet, up to half of individuals exposed to childhood stress remain healthy into adulthood. The factors contributing to this cardiometabolic "resilience" remain unclear. Psychosocial characteristics such as optimism or social support may foster resilience either by directly facilitating cardiometabolic health (promotive pathway) or by buffering the harmful effects of early life stress on cardiometabolic disease risk (protective pathway). This study conducted a qualitative systematic review examining the promotive and protective roles of individual-level factors in enhancing cardiometabolic health.

Methods: A systematic review was conducted using PRISMA guidelines and pre-registered with PROSPERO. Searches were conducted in PubMed, PsycInfo, and Web of Science in December 2021 (August 2025 update pending). Eligible studies included: (1) an objectively assessed cardiometabolic outcome in adolescence or adulthood, (2) a measure of childhood SES or adversity, (3) a measure of an individual-level psychosocial factor, and (4) calculation of a cross-sectional or prospective association between the factor and the cardiometabolic outcome accounting for early life stress (i.e., moderation or main effect).

Results: In total, 98 studies met inclusion criteria. 43 examined protective effects of individual-level psychosocial factors on the early life stress-cardiometabolic health link, and 71 examined promotive roles. Across studies, there was substantial heterogeneity in the psychosocial factors and cardiometabolic outcomes assessed, with evidence for 23 unique psychosocial factors. Both protective and promotive effects were observed. Results differed by type of early life stress: with social adversity, social support and cognitive reappraisal were most consistently linked to positive outcomes; with financial stress, shift-and-persist, self-control, optimism, and positive personality traits were strongest correlates of cardiometabolic health.

Conclusion: As the first systematic review of psychosocial factors and cardiometabolic health in the context of early life stress, this study provides evidence that psychosocial factors may play promotive or protective roles. The literature remains limited by heterogeneity of measurement and poor study quality.

INDIVIDUAL ABSTRACT: 1291

CARDIAC EVENT-INDUCED PTSD AND DEPRESSIVE SYMPTOMS PREDICT DIFFERENT ASPECTS OF PHYSICAL HEALTH-RELATED QUALITY OF LIFE IN CARDIAC ARREST SURVIVORS

Jeffrey L. Birk, Ph.D.; Camila I. Domínguez-Imbert Nieto, B.A.; Maia ten Brink, Ph.D.; Gaspar J. Cruz, M.H.A.; Guixiao Ding, M.S., Columbia University Irving Medical Center, Center for Behavioral Cardiovascular Health; Nicholas J. Pek, M.A.; Sachin Agarwal, M.D., Columbia University Irving Medical Center, Department of Neurology

Background. Psychological distress is common among the relatively rare but growing population of patients who survive sudden cardiac arrest (CA). Depressive symptoms have long been associated with elevated secondary cardiovascular risk. Recent research reveals that post-traumatic stress disorder (PTSD) symptoms linked to CA are also prevalent manifestations of poor mental health and associated with subsequent health risks. Little is known about how PTSD may relate to patient-centered outcomes in physical recovery after CA. Cardiac event-induced PTSD may have unique associations, distinct from depressive symptoms, with different dimensions of physical health-related quality of life (HRQoL) central to patients' recovery.

Method. Seventy-nine CA survivors (M_{age} = 56.2 years) from a larger longitudinal recovery study (n = 190 enrolled in interim dataset) had complete data for all variables in the prospective analysis. Patients completed bedside assessments of mental health factors, sociodemographic information, and medical characteristics at hospital discharge. HRQoL outcomes were assessed 1 month post-discharge via phone interviews or online Qualtrics surveys. For the 1-month outcomes of overall physical HRQoL component score and its four subscales (general health, physical functioning, physical role limitations, and bodily pain), a partially adjusted model was run with baseline factors of depressive symptoms, PTSD symptoms, age, physical self-maintenance score, Charlson medical comorbidity score, MIRACLE2 neurological risk score. A fully adjusted model included baseline depressive symptoms to test for unique variance in the mental health factors.

Results. In partially adjusted models, higher PTSD was associated with worse physical HRQoL component score, poorer general health, lower physical functioning, and greater physical role limitations, all $ps \leq .02$, but not bodily pain, $p = .68$. In fully adjusted models, higher PTSD was uniquely associated only with poorer general health, $\beta = -0.28$, $SE = 0.11$, $p = .01$; for other outcomes, all $ps \geq .29$. Depressive symptoms were uniquely associated only with lower physical functioning, $\beta = -0.23$, $SE = 0.11$, $p = .05$; for other outcomes, all $ps \geq .06$.

Conclusion. Beyond key factors that explain variance in HRQoL, such as older age, lower baseline physical self-maintenance ability, and CA-related neurological risk, two facets of psychological distress were prospectively linked to different aspects of physical recovery in the first month post-hospitalization. Whereas depressive symptoms may hinder physical recovery after CA, PTSD may worsen general health. Future research should test whether interventions targeting different dimensions of psychological distress benefit distinct facets of physical recovery.

INDIVIDUAL ABSTRACT: 1295

PSYCHOLOGICAL DISTRESS AND AMBULATORY HEART RATE IN RECENT MYOCARDIAL INFARCTION PATIENTS

Sharon Y. Lee, Ph.D.; Sydney M. Hardy, M.A., Brown University, Warren Alpert Medical School

Background: Approximately 1 in 3 patients experience psychological distress, including symptoms of depression and posttraumatic stress disorder (PTSD), following myocardial infarction. In particular, the first 3 months after a heart attack is a critical period for recovery, during which the risk for another cardiac event is highest. While psychological distress is generally known to elevate heart rate, no studies have examined how psychological distress affects ambulatory heart rate, a stronger predictor of all-cause mortality and cardiovascular events compared to clinic-based heart rate, among myocardial infarction patients during this acute recovery period. We hypothesized that higher depressive symptoms and PTSD symptoms would be associated with greater changes in ambulatory heart rate.

Methods: Patients with recent myocardial infarction (< 3 months) were enrolled in the longitudinal parent study. Present analyses were conducted with initial study participants from whom ecological momentary survey and ambulatory heart rate data were collected for 7 days (n = 7; 57% female, 100% non-Hispanic White). At the baseline study visit, depressive symptoms were assessed via the Patient Health Questionnaire 9. Participants completed EMA surveys

about PTSD symptoms in relation to their myocardial infarction, which were assessed using the PTSD Checklist 5. Ambulatory heart rate was continuously recorded via Garmin vivosmart 5 fitness tracker. Linear mixed-effects models with restricted maximum likelihood were conducted in R to test whether depressive and PTSD symptoms predicted changes in heart rate trajectories over time. Models were adequately powered with 19,549 observations.

Results: In the model testing depressive symptoms, there were no main effects of time or depressive symptoms in predicting average heart rate across the 7-day period. The interaction between time and depressive symptoms was also not significant in predicting change in heart rate over time. In the model testing PTSD symptoms, there was a main effect of time on heart rate (B = -1.00, SE = 0.37, $p < .01$). PTSD symptoms did not significantly predict average heart rate across the 7-day period ($p = 0.35$). The interaction between time and PTSD symptoms was significant in predicting change in heart rate over time (B = -0.89, SE = 0.34, $p < .05$). Specifically, individuals with higher baseline PTSD symptoms showed higher heart rate and greater changes in heart rate over the 7-day period compared to those with lower PTSD symptoms.

Discussion: Findings underscore the importance of screening multiple dimensions of psychological distress in the immediate recovery period following a myocardial infarction due to their differential effect on cardiovascular risk.

INDIVIDUAL ABSTRACT: 1296

SEX DIFFERENCES IN THE BIDIRECTIONAL ASSOCIATIONS OF PSYCHOLOGICAL DISTRESS AND ACUTE CORONARY SYNDROME

Zachary Magin, M.S., VA Connecticut; Kristie Walenczyk, Ph.D.; Allison E. Gaffey, Ph.D., VA Connecticut Healthcare System; Yale School of Medicine, Department of Internal Medicine (Cardiovascular Medicine) & Department of Psychiatry

There are often distinct differences between men and women in risk factors, identification, treatment, and outcomes of cardiovascular disease (CVD). Acute coronary syndrome (ACS) — a cluster of conditions including unstable angina, non-ST-segment elevation myocardial infarction (MI), and ST-segment MI—is a leading contributor to death due to CVD. Understanding the factors that contribute to ACS risk and adverse outcomes in men and women with a history of ACS is critical. Although researchers have documented sex differences in the broader associations between CVD and psychological health, the literature specifically examining sex differences in the relations between ACS and psychological distress remains unreviewed. This presentation will provide an overview of empirical evidence on the associations between psychological distress and ACS onset, progression, and outcomes, with a particular focus on sex differences.

Three themes will be emphasized: First, psychological distress is a risk factor for ACS onset. Prospective studies have shown that individuals diagnosed with PTSD as well as those who report higher levels of depression, anxiety, anger, and perceived stress have an increased risk for MI. Second, psychological distress can emerge as a consequence of ACS. MI is often experienced as a traumatic event, potentially leading to subsequent PTSD, depression, or anxiety. These conditions are, in turn, associated with greater risks of rehospitalization, one-year mortality, and additional major adverse cardiac events. Third, sex differences are notable across associations between psychological distress and ACS outcomes. Women experience a disproportionate burden of psychological distress both pre-and-post ACS. Women also tend to experience longer delays in treatment, receive fewer invasive interventions, and have higher in-hospital and 30-day mortality rates compared to men.

Together, these findings highlight the importance of considering sex differences in the context of psychological distress and ACS. Implications include the potential value of systematic screening for psychological distress in post-AMI patients —particularly women — and the need for interventions aimed at reducing sex-based disparities in outcomes.

SYMPOSIUM

COPING WITH CASCADING CLIMATE TRAUMA: RESILIENCE RISK AND PROTECTIVE FACTORS

Alison Holman, University of California; Karl Maier, PhD, Salisbury University; Dana Garfin, PhD; Soheil Shapouri, PhD, UC Los Angeles School of Public Health; Kayley Estes, PhD; Tiffany Tao , MA; Roxane Silver, PhD, UC Irvine Dept. of Psychology

In this session presenters will share research on coping with the cascading collective stress of climate change-fueled wildfires and hurricanes, and a transdisciplinary conceptual model of resilience for guiding research addressing the health consequences of climate change. The clinical health implications of this work will be discussed. The first presentation shares findings from a probability-based sample of over 800 residents living in Lake County, California where 60% of the land has been charred by recurring wildfires since 2015. Despite this, residents' attachments to the environment help them cope with these disasters. The second study presented examines how subjective climate-related mental health indices are associated with objective FEMA-identified markers of exposure to climate-related threats (e.g., tornados, wildfires) and individual-level risk and resilience factors in a representative sample of over 2000 Gulf Coast residents. Climate-related mental health outcomes were more closely related to individual-level factors (e.g., demographics, prior climate-related exposures, perceived risk) than the objective risk factors (e.g., FEMA exposure data). The third speaker will present a comprehensive conceptual framework to support climate change-related research and practice. Findings presented in this symposium will be contextualized within this final presentation, along with concepts, literature, and examples that attendees can apply to their scholarship to advance climate-related research and better address how cascading climate-driven disasters are affecting human health and adaptation. Finally, the discussant will consider how findings from this body of scholarship translate into the clinical setting for psychologists and other health professionals working with patients coping with the mental and physical health consequences of cascading climate-related disasters.

INDIVIDUAL ABSTRACT: 1372

PERCEIVING THE POSITIVES AFTER WILDFIRE EXPERIENCES: A SURVEY OF RESIDENTS IN A HIGH-RISK CALIFORNIA COUNTY

Tiffany Tao, MA; Kayley Estes, PhD; Roxane Silver, PhD, UC Irvine Dept. of Psychology; Alison Holman, PhD, UC Irvine

Annual wildfires in California often bring about devastating consequences. Because natural disasters are place-based phenomena, their occurrence can also impact the emotional bonds between affected individuals and the place. The current study included residents of Lake County, a high-risk California county prone to cascading climate related disasters, including wildfires, landslides, and floods. The study investigated how the residents perceive the positive features of their living environment. Residents (N=813, average age 55.71 years, 59.92% female) were recruited through address-based sampling to complete an online survey at the start of the 2023 wildfire season (6/27/23–8/11/23). They provided open-ended responses about their positive views about living in Lake County, which were then coded into 25 categories through thematic analysis, supplemented by language processing techniques. They also reported prior exposure to wildfires and related disasters, preparedness for the upcoming wildfire season, and psychological well-being. Respondents reported an average of 2.41 (SD=1.68) different themes, with the top six mentions being nature (53.01%), rural living (48.95%), community (26.20%), affordability (22.39%), cleanliness (21.65%), and recreation (14.27%). The total number of positive themes was associated with having been in an evacuation zone, higher evacuation intention in the upcoming wildfire season, and better psychological well-being (lower depression/anxiety symptoms, higher life satisfaction). Although Lake County experienced extensive scarring due to cascading climate related disasters with 60% of its land burning since 2015, its residents were still able to maintain a positive bond with their county. People with prior disaster exposure, compared to those without, appeared to focus on a larger number of positive features of their living environment. This could be how they manage to cope with living in a high-risk area, which may also be behaviorally and psychologically adaptive.

INDIVIDUAL ABSTRACT: 1403

OBJECTIVE AND PERCEIVED EXPOSURE TO HURRICANES AND CLIMATE CHANGE-RELATED ANXIETY

Dana Garfin, PhD, UC Los Angeles School of Public Health; Kayley Estes, PhD, UC Irvine Dept. of Psychology; Soheil Shapouri, PhD, UC Los Angeles School of Public Health; Roxane Silver, PhD, UC Irvine Dept. of Psychology; Alison Holman, PhD, UC Irvine

Prior research suggests climate change anxiety is a mental health threat. Yet most work has relied on self-report disaster and personally perceived vulnerability and experience. We explored the association between objective exposure to climate change-related threats – catastrophic hurricanes and heat waves – and climate change anxiety. From 4/30/2025 and 5/19/2025, in advance of the 2025 Gulf Coast hurricane season, we fielded a survey to a representative, probability-based sample of N=2,135 Gulf Coast residents (77% participation rate), living in Florida, Texas, Mississippi, Louisiana, and Alabama. All participants were drawn from the Ipsos Public Affairs KnowledgePanel, a probability-based web panel. The KnowledgePanel is recruited by invitation only, thus including households from rural communities or those with older adults or other underrepresented groups included in the sampling frame. Objective exposure to climate related threats was obtained from the FEMA National Risk Index and merged with survey data. Results showed that over 70% of the sample self-reported prior exposure to a catastrophic (Category 3 or higher) hurricane. About half (n=1,029) had a bachelor's degree or higher, and over a quarter were non-white. Climate change anxiety correlated with demographic indicators including having a bachelor's degree compared to less education (b=.08, p<.001) and identifying as Black, non-Hispanic (b=.15, p<.001), other or mixed race (b=.13, p=.02), or Hispanic (b=.12, p<.001) compared to white, non-Hispanic. Prior hurricane experiences (b=.06, p<.001), and suffering emotional and physical health impacts from the 2024 summer heat waves (b=.27, p<.001) were also associated with climate change anxiety. While objective exposure to hurricanes was significantly correlated with the perceived experience of climate change subscale (r=.05, p<.05), it was not associated with climate change anxiety overall (p=.31). Results suggest perceived negative personal experiences with extreme weather are more potent predictors of climate change anxiety than community-level objective indices. Implications for climate change communications and mental health interventions will be discussed.

INDIVIDUAL ABSTRACT: 1388

A COMPREHENSIVE HEALTH FRAMEWORK TO SUPPORT RESILIENCE WITHIN A CHANGING CLIMATE

Karl Maier, PhD; Walter Rodriguez, None, Salisbury University

Traditional person- and variable-focused models in resilience research identify a constellation of risk and protective factors that reflect a range of coping processes and health outcomes related to many types of adversity. Earth's changing climate is perhaps the most pervasive adversity that humans have collectively faced, with myriad effects on human health through impacts on all biological and physical human-Earth systems. This breadth of factors requires a framework to optimally organize current thinking and knowledge, and to guide the future of transdisciplinary climate-related research and practice addressing the human health dimensions of adaptation. The Comprehensive Health (CH) framework will be used to conceptualize determinants and processes of resilience, as well as a range of health-related outcomes. Based on the biopsychosocial ecological model as applied to the intersection of climate and health (Persad-Clem et al., 2022), the CH framework provides an ontology of human and environmental factors related to health, from wellness to disease. It identifies four levels of analysis that integrate across biophysical, psychological, and social domains: Distal (e.g., natural environment; awareness and attitudes; culture, national/global policy, economics); Intermediate (e.g., built environments and infrastructure; individual and community behavior patterns; education, policies and practices); Proximal (e.g., individual-level factors of biology; cognition and emotion; relationships); Micro/nano

(e.g., cellular, molecular and genetic factors). These domains and scales are further represented at individual/local, regional, and global scopes. The CH framework thus provides an encompassing organizing structure to facilitate resilience research and practice through identifying key concepts, mechanisms and processes related to climate change. The CH structure can also help identify transdisciplinary research opportunities and reveal gaps and priorities for climate-related policy and research. Findings shared in this symposium will be discussed in this presentation within the CH framework, along with select mechanisms and examples that can support researchers and clinicians in bringing climate-related resilience into their work. Literature presented will be shared via Zotero cloud library corresponding to key areas of the CH framework.

March 13th, 2026

SYMPOSIUM

PRENATAL PSYCHOSOCIAL INTERVENTIONS AND OFFSPRING OUTCOMES

LillyBelle Deer; Guido Urizar, PhD, California State University, Long Beach; Elysia Poggi Davis, PhD, University of Denver; Erin Todd, B.A., University of Utah

Pregnancy is a key period of risk and resilience for two generations. It is a developmental period with high promise for intervention, as development is rapid and individuals are particularly sensitive to psychosocial and other environmental influences. However, existing human research has been limited by its reliance on correlational evidence. Experimental control through intervention is needed. The objective of this symposium is to highlight prenatal psychosocial interventions that might have intergenerational benefits for two generations. The interventions described in this symposium are brief, accessible, low-cost, and acceptable to families. They also demonstrate evidence of multigenerational benefit and may be impactful in helping to instill resilience in a time of heightened distress in the world Our, our first talk describes the state of the literature on prenatal psychosocial intervention and offspring outcomes, including birth outcomes, physical growth, socioemotional development, cognitive development, and stress physiology. This talk also discusses important unanswered questions for the field. The next three talks discuss interventions that fill some of these key gaps and unanswered questions. The second study examined a prenatal cognitive behavioral stress management intervention, its impacts on maternal stress, and both maternal and child cortisol profiles in the early postpartum period. A third study describes an efficacious prenatal depression intervention and tests whether the intervention has impacts on offspring brain development and behavior. The fourth and final study in the symposium examines the utility of successful prenatal depression intervention in preventing shortened gestation and further examines placental corticotropin-releasing hormone as a mechanism. On the whole, the symposium describes intervention work that empowers families to weather the storm and probes mechanisms through which this might occur.

INDIVIDUAL ABSTRACT: 1282

INTERGENERATIONAL TRANSMISSION OF DEVELOPMENTAL OUTCOMES: A SYSTEMATIC REVIEW OF RANDOMIZED CLINICAL TRIALS TO REDUCE PRENATAL MATERNAL DEPRESSION AND BENEFIT OFFSPRING HEALTH

Erin Todd, B.A., University of Utah; Catherine H. Demers, PhD, University of Colorado Anschutz Medical Campus; LillyBelle Deer, PhD, University of Utah; Melissa Nevarez-Brewster, M.A., University of Denver

Maternal depression during pregnancy is one of the most common obstetric complications. Longitudinal observational studies illustrate that fetal exposure to maternal depressive symptoms predicts multiple risk mechanisms that contribute to offspring health across the lifespan. These mechanisms span many aspects of development, including alterations to prenatal development, stress physiology, physical health, as well as cognitive and socioemotional development. Disruptions to these systems may have developmental consequences that last long after the perinatal period and thus assessing the effects of reducing prenatal maternal depression is crucial. However, this research has been limited by its reliance on correlational designs. The current presentation discusses a systematic review of randomized clinical trials testing whether reducing depressive symptoms through prenatal psychosocial intervention affects offspring development. A total of 2,359 articles were identified across five databases. Eligible studies included pregnant individuals with elevated depression who received a prenatal psychosocial intervention and included an offspring outcome. The review was pre-registered on PROSPERO (CRD42024572529). Eleven studies met inclusion criteria and were included in the review. Of these, eight showed a significant reduction in maternal depression. Offspring outcomes included: birth outcome (k=3), stress physiology (k=1), physical growth (k=7), socioemotional development (k=3), and cognitive development (k=3). Among studies that demonstrated a significant depression reduction following intervention, there is evidence that depression reduction can improve birth outcomes, socioemotional development, and alter stress physiology. This review also elucidates key questions that still remain in the field. First, not all of the interventions identified reduced depression, and some of the mixed evidence in offspring outcomes may be due to this. Second, many interventions began later in pregnancy, potentially meaning that sensitive periods of development were missed. Third, very few of the studies evaluated the response to the intervention during pregnancy. These limitations constrict the conclusions that can be drawn, and a need for studies that isolate depression reduction during the prenatal period is evident. This talk will highlight these gaps in the literature and describe future directions for the field, including more precise intervention timing and evaluation, as well as longitudinal assessment of child outcomes.

INDIVIDUAL ABSTRACT: 1279

IDENTIFYING MECHANISMS OF PRENATAL COGNITIVE BEHAVIORAL STRESS MANAGEMENT EFFECTS ON MATERNAL & INFANT STRESS OUTCOMES

Guido Urizar, PhD; Ruby Barragan, B.A., California State University, Long Beach

Recent studies have investigated the effectiveness of prenatal cognitive behavioral stress management interventions (CBSM) in regulating altered stress patterns to help improve maternal and infant health outcomes. Yet, it is unclear what CBSM factors (e.g., self-efficacy, treatment fidelity) account for observed intervention effects. The current randomized trial (SMART Moms Program) examined whether mothers randomized to an 8-week, prenatal CBSM group intervention (*n*=55) demonstrated improved confidence in using learned CBSM skills (coping and relaxation strategies) to manage their stress (MOCS) and whether this led to more regulated postnatal maternal and infant stress outcomes [i.e., perceived stress (PSS), diurnal salivary cortisol], compared to a control group (*n*=45). Our sample of 100 low-income mothers (75% annual income<$19K; 71% Latina) completed assessments at baseline (1st trimester; <16 weeks of gestation), during their third trimester of pregnancy, and at three months postpartum (mothers and infants). As part of their group intervention, mothers in the CBSM group also completed self-report assessments on treatment fidelity factors (e.g., course clarity, practice of CBSM skills) to determine if these were associated with changes in their confidence in using learned CBSM skills and subsequent stress outcomes. Multilevel growth curve analyses indicated that mothers in CBSM showed greater confidence in using learned CBSM skills to manage their stress from baseline to post-intervention [F(2, 83) = 7.90, p = 0.006], compared to mothers in the control group, resulting in lower maternal perceived stress (β=-1.755, *SE*=0.799, $CI_{95\%}$=-3.496, -0.411) and more regulated maternal (β=0.007, *SE*=0.004, $CI_{95\%}$=0.001, 0.164) and infant cortisol patterns (i.e., steeper decline in cortisol across the day; β=0.622, *SE*=0.336, $CI_{95\%}$=0.044, 1.344) at post-partum. Among mothers in the CBSM group, better understanding of class concepts and practicing CBSM skills at home were associated with greater confidence in using these skills and more regulated postnatal maternal (β=-3.442, *SE*=1.818, $CI_{95\%}$=-7.913, -0.753) and infant stress outcomes (β=-0.135, *SE*=0.097, $CI_{95\%}$=-0.378, -0.010). These findings demonstrate the impact that prenatal CBSM interventions can have in improving maternal and infant health and identify potential mechanisms driving these intervention effects in underserved communities.

INDIVIDUAL ABSTRACT: 1285

PRENATAL MATERNAL DEPRESSION REDUCTION IMPACTS OFFSPRING DEVELOPMENT: A RANDOMIZED CLINICAL TRIAL

Elysia Poggi Davis, PhD, University of Denver; Catherine H. Demers, PhD, University of Colorado Anschutz Medical Campus; Robert J. Gallop, PhD, West Chester University; Martin Styner, PhD, University of North Carolina; Nancy Grote, PhD, University of Washington; M. Camille Hoffman, MD, University of Colorado Anschutz Medical Campus; Benjamin L. Hankin, PhD, University of Illinois - Urbana Champaign

Background: Depression is one of the most common perinatal complications with far-reaching implications for both mother and offspring. Despite this clear public health problem, there is a dearth of evidence based efficacious prenatal interventions designed to reach underserved populations. The Care Project implements a randomized clinical trial (RCT) to test a culturally sensitive psychotherapy intervention (brief interpersonal therapy; IPT) (MomCare) developed to address many of the barriers to care experienced by pregnant individuals and to benefit maternal and child health. In this presentation we will address the following aims using an RCT design: Aim 1) Identify the effect of implementing brief IPT during pregnancy on maternal depression and Aim 2) Determine the impact of maternal prenatal depression treatment on offspring brain and behavior.

Methods: This RCT included 234 pregnant participants [119 enhanced usual care (EUC) and 115 IPT treatment, (MomCare)]. Depression diagnosis (MDD, SCID-5) and symptoms (Symptom Checklist; SCL-20) were evaluated at baseline and longitudinally throughout gestation to characterize depression trajectories. Magnetic resonance imaging (MRI) was performed with newborns to characterize brain development. Infant Negative emotionality was assessed with a standardized laboratory measure at 6 months.

Results: Aim 1: Individuals receiving the prenatal MomCare intervention showed a significantly steeper decrease in depression symptoms over pregnancy relative to the EUC groups (medium effect size D=0.50, 95%CI 0.16-0.84). Aim 2: Offspring of mothers randomized to the prenatal treatment group had smaller hippocampal volume in the neonatal period (*p*=.002, *d*=0.62). Notably, smaller neonatal volume predicted subsequent lower negative emotionality at 6 months of age (r=.19, p=.045).

Discussion: Findings from this RCT reveal that providing effective mental health support not only reduces prenatal depression but also exerts intergenerational impacts on the offspring. Specifically, randomization to the active treatment (MomCare) group has implications for offspring hippocampal volume and negative emotionality relative to the control (EUC) group. Use of an RCT design provides experimental evidence that manipulating the prenatal environment has consequences for offspring development. Implications for clinical practice including an ongoing implementation trial (LaLuz) with 900 pregnant people will be discussed.

INDIVIDUAL ABSTRACT: 1287

PSYCHOSOCIAL INTERVENTION THROUGH RANDOMIZED CONTROL TRIAL ALTERS PRENATAL STRESS RESPONSIVE HORMONES AND GESTATIONAL LENGTH

LillyBelle K. Deer, PhD, University of Utah; Catherine H. Demers, PhD, University of Colorado Anschutz Medical Campus; Özlü Aran, PhD, Northeastern University; Robert J. Gallop, PhD, West Chester University; Benjamin L. Hankin, PhD, University of Illinois - Urbana Champaign; Jenalee Doom, PhD, University of Denver; M. Camille

Hoffman, MD, University of Colorado Anschutz Medical Campus; Elysia Poggi Davis, PhD, University of Denver

Background: Preterm birth is a major public health concern that severely affects the health of mothers and their offspring. Despite the known long-term public health consequences of shortened gestation, modifying the timing of birth has proven to be challenging. Stress-related processes are one aspect of the prenatal environment known to impact preterm birth. We test here the effect of a prenatal intervention on two stress-related processes that regulate preterm birth. First, correlational research demonstrates that prenatal maternal depression robustly predicts preterm birth, indicating that intervening to reduce depression during pregnancy might result in lengthened gestation. Second, stress physiology, primarily placental corticotropin-releasing hormone (CRH), a key hypothalamic-pituitary-adrenal (HPA) axis hormone, regulates the timing of birth and is associated with prenatal depression. In this presentation, we will examine the following aims in the context of an efficacious randomized control trial to reduce depression: Aim 1) examine whether reducing prenatal depression alters the length of gestation (preterm birth); Aim 2) determine whether an efficacious prenatal depression intervention can alter placental CRH production; and Aim 3) test whether intervention effects on gestational length can be explained through alterations to the trajectory of placental CRH over pregnancy.

Methods: Pregnant individuals with elevated depressive symptoms were randomized to receive brief interpersonal therapy (IPT; treatment group; n=110) or enhanced usual care (control group; n=116). Depression was evaluated at baseline and longitudinally throughout gestation to characterize depression trajectories. Blood samples were collected and assayed for placental CRH. Gestational age at birth was obtained from medical records.

Results: Aim 1: In causal mediation analyses, participants assigned to IPT experienced greater reductions in depression symptom trajectories (z=3.33, p<.001), which mediated the association between intervention assignment and longer gestation (z=2.07, p=.039). Aim 2: Participants randomized to the treatment group had flatter trajectories of placental CRH in comparison to the control group ($F(1,138) = 6.29$, $p = .013$). Aim 3: Flatter placental CRH increases were associated with longer gestation (b=-.25, SE=.004, p=.003). Aim 3: Causal mediation testing this mechanism did not meet the typical statistical significance (p=.059).

Conclusion: Intervening to reduce prenatal depression in the context of an RCT increases the likelihood of full-term birth based on current ACOG guidelines and alters the physiological regulation of the timing of birth.

SYMPOSIUM

NAVIGATING THE FUNDING LANDSCAPE: REIMAGINING FUNDING

Stephen Ramos, PhD, California State University, San Bernardino; Danielle Krobath , PhD, University of South Carolina ; Meanne Chan, PhD, City St. George's, University of London

With fewer federal awards and changing agency funding rules, biopsychosocial scientists require a comprehensive understanding of funding strategies. This symposium brings together early-career researchers and others outside of academia to encourage dialogue on ways to diversify and navigate the new funding landscape. Additionally, partnerships with foundations, corporations, and philanthropic programs have become essential supplements to federal support. The primary objective of this symposium is to intentionally include voices that are often overlooked, such as early-career investigators as well as those from outside academia. This will provide attendees with insights into alternative funding options and partnership models to successfully adapt to the ever-changing funding environment.

INDIVIDUAL ABSTRACT: 1350

REIMAGINING FUNDING IN EARLY CAREER

Stephen Ramos, PhD, California State University, San Bernardino

As an early career panelist, this speaker will discuss their experience with the current challenges that they face as biopsychosocial scientists in obtaining funding within an evolving landscape. They will share personal stories of both success and disappointment, aiming to illustrate how it is possible to recover from setbacks. Additionally, they will discuss their thought processes regarding the exploration of alternative funding sources to sustain their biopsychosocial science and medicine programs in times of adversity.

INDIVIDUAL ABSTRACT: 1353

REIMAGINING FUNDING OUTSIDE OF ACADEMIA

Kiffer Card, PhD, Simon Fraser University ; Kevin Snyder, Undergraduate, University of Chicago

As the non-academia panelist, this speaker will explore ways in which biopsychosocial scientists can seek funding outside traditional academic settings. They will share their journey to their non-academic role and discuss how to identify and conceptualize funding streams beyond conventional academic spaces. The aim is to provide biopsychosocial scientists with a new perspective for diversifying their research funding sources.

INDIVIDUAL ABSTRACT: 1354

REIMAGINING FUNDING TROUGH FOUNDATIONS/CORPORATIONS

Meanne Chan, PhD, Lingnan University Hong Kong

As the foundations/corporation panelist, this speaker will focus on the types of funding available from foundations/corporations, including their experiences with this type of funding, and how biopsychosocial scientists can collaborate with

foundations/corporations to support their research programs. They will begin by explaining how funding operates for foundations/corporations, including examples of past research that they have had funded. They will also discuss strategies for biopsychosocial scientists to approach foundations when seeking alternative sources of funding for their research initiatives.

SYMPOSIUM

SOCIOCOGNITIVE PROCESSES AND BIOLOGICAL STRESS AMONG BLACK WOMEN: THE ROLE OF SCHEMAS, AFFECT, AND HEALTH OUTCOMES

Amber Johnson, California State University, Long Beach; Kennedy Blevins, PhD, University of California, San Francisco; Julia Birenbaum, MA, University of California, Irvine

Sociocognitive processes are the mental processes by which cognitive development and adaptation occur within social contexts. These processes shape how individuals create thoughts about themselves and the world around them, influencing perception and comprehension of social situations. Sociocognitive processes undergird appraisal of stressful situations, suggesting potential implications for biological stress responses. This symposium will report research investigating aspects of sociocognitive processes and stress biomarkers across three studies focusing on Black women. Specifically, these studies will focus on schemas, stereotypes, affect, depression, and stress-related outcomes (acute stress reactivity, cellular aging, and cumulative biological burden).

Study 1 explores the endorsement of the Strong Black Woman (SBW) stereotype, depression, and acute physiological stress responses in 33 Black women who completed the Trier Social Stress Test. Results showed that depression, but not SBW, moderated diastolic blood pressure responses to stress. This study continues to implicate the role of depression in heightening cardiovascular vulnerability to stress, while SBW may emerge more strongly later in life.

Study 2 examined whether positive and negative affect moderated the relationship between the Superwoman Schema (SWS) and telomere length (TL) in 73 Black women. Results showed that SWS was linked to longer TL only when women reported higher levels of positive affect. Findings suggest that while SWS alone does not directly predict biological aging, it may serve as a protective factor when combined with positive psychological resources.

Study 3 investigated whether early maladaptive schemas (EMS) were linked to allostatic load (AL) and individual AL components (e.g., interleukin-6 [IL-6], telomere length, blood pressure) in 92 Black women. Higher overall EMS and specific schemas (vulnerability to harm/illness, pessimism, self-punitiveness) were associated with *lower* AL. Additionally, greater self-control/discipline predicted longer telomere length. This study reflects the need to clarify how maladaptive schemas and protective coping strategies shape biological stress in Black women.

INDIVIDUAL ABSTRACT: 1421

STRONG BLACK WOMAN STEREOTYPE AND DEPRESSION: INTERACTIVE EFFECTS ON PHYSIOLOGICAL STRESS RESPONSES IN YOUNG BLACK WOMEN

Julia Birenbaum, MA, University of California, Irvine; Kennedy Blevins, PhD, University of California, San Francisco; Amber Johnson, PhD, MPH, California State University, Long Beach

Background: Black women face increased burden of stress-related disease (e.g., cardiovascular, inflammatory diseases). The Strong Black Woman (SBW) role—Black women's need to be strong and resilient—shapes Black women's experience of psychosocial stress. Previous research shows increased Strong Black Woman role endorsement exacerbates the link between self-reported stress and worse mental health (e.g., depression). However, no study has addressed whether these associations translate to dysregulation across the physiological stress response system. Examining how SBW role endorsement and worse mental health relate to physiological stress response is crucial for understanding how unique sociocultural role of the SBW relates to disease risks. We assessed whether greater SBW role endorsement was linked to greater cortisol, CRP, and blood pressure response to a lab psychosocial stressor, and whether depressive symptoms tempered these associations.

Methods: Thirty-three Black women completed SBW and CES-D scales before undergoing the Trier Social Stress Test. Cortisol, C-reactive protein, and blood pressure were measured at baseline, post-TSST, and across a 60-minute recovery period (15-, 30-, 45-, 60-minutes). General linear modeling examined SBW (median split low/high) and depression (median split low/high) group effects across TSST timepoints, controlling for BMI.

Results: Systolic and diastolic blood pressure (SBP; DBP) showed significant linear increases over 60 minutes ([$F(1, 25) = 4.90$, $p = .04$, $\eta_p^2 = .164$]; [$F(1, 25) = 5.37$, $p = .03$, $\eta_p^2 = .177$]). A significant Time × Depression interaction emerged for DBP ($F(1, 25) = 3.02$, $p = .01$, $\eta_p^2 = .108$), indicating cardiovascular responses varied by depression status. Higher BMI was associated with elevated DBP ($p = 0.035$). No significant effects were found for cortisol or CRP.

Conclusion: SBP and DBP exhibited sustained elevation, confirming cardiovascular activation. While SBW grouping didn't differentially influence responses, depression moderated DBP reactivity over time. This reinforces that DBP demonstrates sensitivity to stressors in younger demographics. Several factors may have influenced these findings: small sample size, the sample's high depression levels, and the possibility that SBW influence may be greater in older versus younger Black women who may still be emerging into this role.

INDIVIDUAL ABSTRACT: 1422

DOES TRAIT POSITIVITY MODIFY THE LINK BETWEEN SUPERWOMAN SCHEMA AND TELOMERE LENGTH?

Kennedy Blevins, PhD, University of California, San Francisco; Julia Birenbaum, MA, University of California, Irvine; Sarah Pressman, PhD, Psychological Science; Amber Johnson, PhD, MPH, California State University, Long Beach

Background: Black women show excess biological aging for their chronological age relative to White women. This excess health deterioration may be attributed to their increased stress and socioeconomic burden experienced at the intersection of their ethnic/racial and gender identities. The Superwoman Schema (SWS) framework – which posits Black women as naturally strong and resilient – may address how culture-specific stress responses relate to biological aging. Yet, evidence shows that SWS is not always negative for health, especially in the presence of other positive psychological resources. Thus, we investigated whether trait positive and negative affect tempered the link between SWS and TL.

Methods: 73 Black women from Southern California completed baseline assessments of superwoman schema (M = 2.80, SD = .49), positive (M = 3.58, SD = .69) and negative (M = 1.97, SD = .69) affect. To measure telomere length (TL), DNA was extracted via saliva using the Oragene DNA collection kit. The quantity of telomere sequence (T) to single copy gene (S) was used to create a ratio of repeat to single-gene telomere products (T/S), with higher scores reflecting longer TL (M = 1.67, SD = .36). Linear regression models examined the main and interactive associations between SWS and positive and negative affect, respectively, on TL, adjusting for age, waist-to-hip ratio, education, and income.

Results: PA tempered the link between SWS and TL such that a 1 unit increase in SWS was linked with a .26 longer relative TL when PA was average, [β = .26, $t(63)$ = 2.19, p = .03] and a .44 longer relative TL when PA was high [β = .44, $t(63)$ = 2.12, p = .04]. For participants low in PA increasing levels of SWS were not linked with longer TL. There was no main effect of SWS on telomere length and no interaction between SWS, NA, and TL.

Conclusion: We found that PA moderated the association between SWS and TL, such that higher SWS was linked with longer relative TL when PA was high. These results suggest that the health implications of SWS depend on co-occurring psychological resources. Given the limited research on positive factors in Black Americans, these findings highlight the potential for cultural schemas like SWS to serve as adaptive assets when embedded in broader psychological strengths

INDIVIDUAL ABSTRACT: 1423

EARLY MALADAPTIVE SCHEMAS AND BIOLOGICAL BURDEN AMONG BLACK WOMEN

Amber Johnson, PhD, MPH, California State University, Long Beach; Kennedy Blevins, PhD, University of California, San Francisco; Julia Birenbaum, MA, University of California, Irvine

Background

Cumulative biological burden among Black women has been associated with poor health outcomes. Biological burden may be shaped by mental schemas that modulate biological stress over the lifetime. Black women are disproportionately exposed to early life adversities that could lead to early maladaptive schemas (EMS), representing cognitive patterns that reflect self-defeating themes in adulthood. To current knowledge, no study has examined the associations between EMS and biological stress among Black women. This study hypothesized greater EMS would be associated with greater allostatic load (AL) and AL components among a sample of Black women.

Method

92 Black women (M_{age} = 31.94 years) completed the 90-item Young Schema Questionnaire assessing 5 maladaptive schema domains and 18 schemas. These domains include ***Disconnection and Rejection*** (emotional deprivation, abandonment, mistrust, defectiveness, social isolation), ***Impaired autonomy and performance*** (dependence, vulnerability to harm/illness, enmeshment, failure), **Impaired Limits** (entitlement, insufficient self-control), ***Other Directedness*** (subjugation, self-sacrifice, approval seeking), and ***Over-vigilance and Inhibition*** (pessimism, emotional inhibition, unrelenting standards, punitiveness). Allostatic Load (AL) components included blood pressure, pulse, waist-to-hip ratio, and salivary cortisol, interleukin-6, alpha-amylase, and telomere length. Linear regression analysis examined associations among each EMS, AL component, and total AL score, controlling for age, stress, income, education, and birth control.

Results

AL was negatively associated with overall EMS (β = -.27, t(87) = -2.03, p= .04), vulnerability to harm/illness (β = -.29, t(87) = -2.63, p=.01), pessimism (β = -.27, t(87) = -2.41, p=.01) and self-punitiveness (β = -.24, t(87) = -2.37, p = .02). Self-Control/discipline was also positively associated with telomere length (β = .33, t (79) = 2.66, p = .01). Individual EMS were also associated with AL components.

Conclusion

Although EMS was associated with biological stress outcomes, the findings contradicted the study hypothesis. Subsequent analysis revealed positive associations between stress and EM, although stress was not associated with AL or AL indicators. These findings warrant additional examination of schemas, biological stress, and the potentially protective nature of coping styles on maladaptive schemas.

SYMPOSIUM

APPLYING GEORGE ENGEL'S BIOPSYCHOSOCIAL MODEL AT ITS BIRTHPLACE: ADVANCING EDUCATION, RESEARCH, AND CLINICAL CARE AT THE UNIVERSITY OF ROCHESTER

Christopher Celano, Massachusetts General Hospital

The biopsychosocial model, rooted in systems theory, conceptualizes health and illness as the result of interacting factors across hierarchical levels—from cellular and organ systems to the individual and society. In collaboration with John Romano, George Engel established the Department of Psychiatry at the University of Rochester (URMC) in 1947, an experience that laid the foundation

for his landmark articulation of the biopsychosocial model in 1977. Since then, the model has served as the organizing principle guiding the department's educational, research, and clinical missions. This symposium highlights contemporary applications of the biopsychosocial model at its birthplace through three innovative programs: the URMC Communication Coaching & Leadership Program (educational), the Wynne Center for Family Research (research), and the Collaborative Care and Wellness Division (clinical). The URMC Communication Coaching & Leadership Program performs evaluations and provides feedback to clinicians to optimize their communications with patients and colleagues using a biopsychosocial framework, given evidence that more effective communication increases patient satisfaction and clinical outcomes. The Wynne Center for Family Research takes a similar biopsychosocial approach to answer questions about the effects of prenatal stressors on neurodevelopment and cardiometabolic health in children. Finally, the Collaborative Care and Wellness Division integrates medical and psychiatric care to address the needs of complex patients. These presentations will be followed by a discussion that explores how these programs embody Engel's vision, while also examining barriers to implementation and opportunities for advancing the model in the future.

INDIVIDUAL ABSTRACT: 1268

BIOPSYCHOSOCIAL COACHING: AN APPROACH TO EDUCATION THAT OPTIMIZES THE PATIENT-CLINICIAN RELATIONSHIP

Lauren DeCaporale, Ph.D., University of Rochester Medical Center

In 2011, the University of Rochester Medical Center (URMC) initiated an institution-wide coaching program based on biopsychosocial model. Early evaluation of the program demonstrated a significant relationship between communication behaviors, patient satisfaction and clinical outcomes. The program quickly expanded and today includes 15 coaches and 5 in training. We support one-to-one and team-based initiatives in undergraduate medical education and 13 residency programs, and coach faculty clinicians in inpatient, outpatient, and perioperative settings. Our most senior leaders, including our dean, chief medical officer, and chairs have been coached directly demonstrating the value that the Institution places in providing a relationally-centered approach to patient care and team science.

We will highlight how the URMC Communication Coaching & Leadership Program emphasizes the biopsychosocial framework in a hands-on way that provides practical tools to clinicians. Our approach focuses on communication, professionalism, and team and personal well-being. Coaches observe interactions utilizing an expanded Cambridge-Calgary patient-centered communication checklist. Physicians then receive an individualized report that highlights their strengths and opportunities for improvement in providing care that aligns with the biopsychosocial framework. Through the report and verbal feedback process, coaches support physicians in their continuing education and professional development; we explore physicians' personal patterns, the barriers to optimizing their work, and their well-being. In doing so, we work with them to be more self-aware and reflective, recognizing the parts of themselves that they bring into patient interactions and how they might thrive in their work. We are creating a culture that emphasizes a biopsychosocial approach to patients and physicians alike at URMC.

INDIVIDUAL ABSTRACT: 1269

THE BIOPSYCHOSOCIAL MODEL IN RESEARCH ON DEVELOPMENTAL ORIGINS OF HEALTH AND DISEASE (DOHAD)

Thomas O'Connor, Ph.D., University of Rochester Medical Center

The biopsychosocial (BPS) model promotes transdisciplinary clinical research on assessment, treatment, and etiology. This presentation will demonstrate a BPS model of research "in action" as applied to questions with significant clinical and public health application: how early (including prenatal) exposures shape neurodevelopment and cardio-metabolic health in children, with potential long-term impact. Data are based on one program of research based on the NIH ECHO study in the Wynne Center for Family Research at the University of Rochester that focuses on how psychological and social and physical environments shape maternal-fetal-placenta biology.

In a series of successive pregnancy cohort studies, we have recruited pregnant individuals early in pregnancy and have collected clinical data on psychological well-being and health behaviors; biological samples (e.g., blood, urine, microbiome) for assays of key biomarkers of health and disease and potential environmental toxicants; medical record data to assess health care specifics and quality; and data from public datasets and sample monitors to assess key features of the physical environment (e.g., pollution).

Biopsychosocial methods and data from these pregnancy cohort studies will illustrate how: a) psychological stress and affective symptoms in pregnancy alter glucocorticoid-mediated pathways in the mother and fetus and placenta; b) how psychological stress and affective symptoms shape the types and qualities of received health care in the perinatal period; c) how the early psychological environment (e.g., caregiving quality) modifies prenatal risk for behavioral and neurodevelopmental health in the child. Broader lessons from BPS-derived research highlight the value in mechanism- rather than discipline-focused research and, in the current context, a pathway for identifying intergenerational transmission of risk.

INDIVIDUAL ABSTRACT: 1270

INTEGRATION OF PSYCHIATRY AND MEDICINE AT UNIVERSITY OF ROCHESTER: HISTORICAL ROOTS AND CONTEMPORARY INNOVATIONS OF BIOPSYCHOSOCIAL MODEL

Hochang Lee, M.D., University of Rochester Medical Center

When George Engel and John Romano founded the Department of Psychiatry at the University of Rochester Medical Center (URMC) in 1942, they introduced an innovative vision for the role of psychiatry in academic medicine. Engel established one of the nation's first medical-psychiatric liaison services, designed to address the

psychological and social dimensions of illness in the hospital setting. At the same time, Romano, as Chair of Psychiatry, pursued his vision of a "Department of permeable boundaries," fostering collaboration between psychiatry and every corner of the medical center. Their shared commitment and experience in integrating psychiatry and medicine provided the foundation for Engel's landmark articulation of the biopsychosocial (BPS) model in 1977, a framework that has since shaped clinical practice and medical education worldwide.

Today, the biopsychosocial model remains the organizing principle at Department of Psychiatry in URMC, guiding multidisciplinary services that cross traditional boundaries of specialties and departments. Its influence can be seen in embedded, collaborative, and integrated approaches to both inpatient and ambulatory patient care, exemplified by faculty clinicians of the Division of Collaborative Care and Wellness, which works across medical and surgical settings to address the full spectrum of patients' needs at URMC.

This presentation will trace the historical roots of the BPS model, highlight contemporary innovations in applying it across hospital-based care, and explore its future potential to advance holistic, patient-centered medicine.

March 14th, 2026

SYMPOSIUM

APPLYING CAUSAL INFERENCE METHODOLOGIES THE STUDY OF SOCIAL RELATIONSHIPS AND HEALTH

Kyle Bourassa, Durham VA Health Care System; David Sbarra, Ph.D., University of Arizona; Stephanie J. Wilson, PhD, University of Alabama at Birmingham; Mark Whisman, PhD, University of Colorado Boulder; Molly Gonenne, BA, University of Southern California

Individuals who have better social relationships also tend to have better health. Studies supporting this broad conclusion have included wide ranging measures of health, including physiological functioning and clinical endpoints. For example, people who experience the loss of a marital relationship (e.g., divorce or widowhood) have increased risk for cardiovascular disease and premature mortality. Although there are high quality correlational studies underlying this literature, there remains a need to leverage causal inference methodologies to better characterize why and how social relationships impact health. Such efforts can help bridge the gap between observational studies and experimental designs (e.g., randomized controlled trials) to support public health effort to address increasing levels of loneliness and social disconnection. In this symposium, the presenters use several different causal inference methodologies to better understand the extent to which social relationships are associated with health, including a contrast with results of purely observational findings. The first presenter will explore the association between relationship distress and poor mental and physical health using propensity score matching to account for the characteristics of individuals with differing levels of relationship distress. The second presenter will examine links between social support and suicide outcomes in the Million Veteran Program, including preregistered analyses that adjust for polygenic risk scores and apply sibling fixed-effect models. The third presenter will examine whether divorce is associated with increased risk for premature mortality in a large sample of twins, showing how the divorce and mortality association from a case-control approach is partially attenuated when accounting for shared genetics. The fourth presenter will address whether altering social connection leads to meaningful changes in health using a preregistered systematic mapping review of randomized controlled trials (RCTs) and laboratory-based experiments. Our symposium will conclude with a discussant synthesizing the implications from the presentations, including how the methods illustrated in the four presentations can inform the current and future study of social relationships and health.

INDIVIDUAL ABSTRACT: 1106

ALTERING SOCIAL CONNECTIONS TO IMPROVE HEALTH? A PREREGISTERED SYSTEMATIC MAPPING OF EXPERIMENTAL EVIDENCE

David Sbarra, Ph.D., University of Arizona; Anoushka Chowdhary, BA; Allison Farrell, PhD; Emma Marshall, PhD, Deakin University; Katrina Nixon, BS; Sarah Stanton, PhD; Elizabeth Necka, PhD; Jason Folmsbee, MA; Erika Rosenberger, MS; Pia Sellery, MA; Charlotte Sudduth, MS; Mark Whisman, PhD

OBJECTIVE: Social connection is widely recognized as a robust predictor of health outcomes across the lifespan, yet most evidence remains correlational. In response to recent public health calls to reduce social disconnection as a pathway to improved health, we examined the extent to which experimental evidence supports this causal claim. Specifically, we conducted a preregistered systematic mapping review of randomized controlled trials (RCTs) and laboratory-based experiments to evaluate whether altering aspects of social connection leads to meaningful changes in physical health behaviors, biomarkers, or clinical outcomes in adult populations. **METHODS:** We conducted a systematic mapping review to characterize the scope of experimental evidence on social connection interventions and health outcomes. Eligible studies included randomized controlled trials or laboratory-based experiments that: (1) involved adult human participants, (2) experimentally manipulated one or more dimensions of social connectedness (structural, functional, or relational quality), and (3) assessed at least one physical health outcome, including behaviors, biomarkers, or clinical endpoints. We excluded studies focusing solely on mental health, preclinical models, parent/family interventions, non-randomized designs, and target engagement trials that did not test health outcomes directly. To identify relevant studies, we conducted comprehensive searches across eight major databases (e.g., PubMed, PsycINFO, Cochrane Central) and ProQuest for dissertations, using Boolean combinations of the core search terms. **RESULTS:** The initial search strategy identified over 45,000 possible studies, and we engaged in a three-phase iterative

screening process, yielding 663 unique papers that were screened positive. Two final reviewers then evaluated these papers and identified 479 studies that met the search criteria. Presently, we are in the final stages of extracting data on intervention type, social connection target, health outcome domain, sample characteristics, and evidence for intervention effectiveness, and this information will be included as part of the SBSM conference presentation. **CONCLUSIONS:** Although considerable experimental evidence reveals that interventions targeting social connection can yield positive results in some domains (with the most prominent work being on couple-level interventions for substance use and dyadic or family health-behavior approaches for weight management or metabolic disease), almost no evidence indicates that you can alter a health-related biomarker by reducing loneliness or improving social isolation. These preliminary conclusions inform public health and policy discussions about intervention development centered on social connectedness.

INDIVIDUAL ABSTRACT: 1107

LEVERAGING LARGE COHORT STUDIES AND BIOREPOSITORIES TO SUPPORT CAUSAL INFERENCE METHODS: SOCIAL CONNECTION AND SUICIDE

Kyle Bourassa, Durham VA Health Care System; Peter Barr, PhD, SUNY Downstate Health Sciences University; Paul Dennis, PhD; Xue Qin, PhD; Mallory Stephenson, PhD; Pujan Patel, MS; Christos Chatzinkos, PhD; Tim Bigdeli, PhD; Elizabeth Hauser, PhD; Allison Ashley-Koch, PhD; Jean Beckham, PhD; David Sbarra, Ph.D., University of Arizona; Nathan Kimbrel, PhD

There are a number of important research topics that are difficult to study using traditional experimental methodologies that require random assignment, including traumatic stress, social connection, and suicide. These areas of study would benefit from studies that attempt to bridge the gap between observational studies and studies using experimental designs. In this presentation, I outline how large cohort studies and biorepositories—in this case the Million Veteran Program (MVP) cohort—can be leveraged to support causal inference methods, focused on investigating the associations between social support and suicide. Greater social connection has shown robust associations with reduced risk for suicidal thoughts and behaviors for over a century of study. However, fewer studies have examined these associations using causal inference methods that account for shared genetic variance that might explain the observed effects. To do so, I will first present results from a published observational study (N = 264,626 veterans) examining social connection and suicide in the MVP that showed veterans with less social connection were at increased risk for suicidal thoughts and behaviors (STBs). More specifically, our team found that each *SD* increase in perceived social support was associated with a 33% decreased risk of suicidal thoughts and behaviors (OR = 0.67, $p < .001$). I will next present results from a series of preregistered analyses using a larger sample of veterans from the MVP with available genetic data (N = 658,320) to account for shared genetic variance that might explain the observed effects. First, we will model the main effect between social support and STBs while controlling for polygenic scores (PGS) for depression. We will also examine the interaction of the depression PGS with social support. Next, we will model the main effect between social support and STBs while accounting for shared genetics using sibling fixed-effect models in a subset of identified full siblings in the MVP (estimated N = 13,000 individuals). The results from these analyses will provide empirical data suggesting the extent to which genetic risk accounts for the association between social connection and STBs. I will end by illustrating how these approaches might be useful to other areas of research that are challenging to study using experimental approaches.

INDIVIDUAL ABSTRACT: 1229

INTIMATE RELATIONSHIP DISTRESS AND HEALTH PROBLEMS IN A U.S. PROBABILITY SAMPLE: A PROPENSITY SCORE MATCHING ANALYSIS

Mark Whisman, PhD, University of Colorado - Boulder; Pia Sellery, MS; Savannah Boyd, The University of Arizona ; David Sbarra, Ph.D., University of Arizona

Research has shown that poor intimate relationship quality is prospectively associated with a variety of physical and mental health problems. However, confounding variables predicting poor relationship quality and poor health (e.g., neuroticism) may explain the associations between these variables over time. To address this issue, researchers have included potential confounding variables in their analyses to demonstrate that poor relationship quality predicts poor health, over and above their shared variance with these confounding (i.e., “third”) variables. Propensity score matching (PSM) analyses, which statistically equates people in the exposure sample (e.g., people in distressed relationships) with a comparison sample (e.g., people in nondistressed relationships) based on their propensity for the exposure (i.e., experiencing relationship distress), provides a complementary means to traditional covariate analyses for addressing confounding processes in observational research, thereby enhancing the ability to evaluate potential causal associations.

To date, however, there are no published papers that have used PSM to examine the prospective association between intimate relationship distress and poor health outcomes. We conducted a PSM analysis using a probability sample of married adults in the United States aged 50 years and older who participated in the 2014/2016 or 2016/2018 waves of the Health and Retirement Study and who did not meet the criteria for the poor health outcome and who were continuously married at baseline and 2-year follow-up. PSM was conducted using demographic characteristics and individual difference variables shown in prior research to be predictive of both intimate relationship distress and poor health outcomes (e.g., Big-5 personality traits, optimism). Results indicated that (a) compared to people in propensity-matched nondistressed relationships, those in distressed relationships were more likely to report poor physical (e.g., incidence of poor self-rated health) and mental (e.g., incidence of major depressive episode) health outcomes; and (b) effect sizes obtained using PSM analyses were generally smaller than those obtained for traditional covariate analyses, suggesting that PSM provides a more conservative estimate of the longitudinal association between intimate

relationship distress and poor health by better accounting for observed cofounders.

INDIVIDUAL ABSTRACT: 1230

A CO-TWIN CONTROL STUDY OF DIVORCE AND EARLY DEATH

Molly Goenne, BA, University of Southern California; Paul Lichtenstein, PhD; Robert Emery, PhD; David Sbarra, Ph.D., University of Arizona; Eric Turkheimer, PhD; Christopher Beam, PhD

Although previous literature has established the correlation between marital dissolution and mortality risk, questions remain regarding whether the association is causal or the result of selection. Conclusive causal inference about the effects of marital status on mortality risk are impeded by the inability to randomly assign individuals to different marital statuses. As such, we leveraged a large sample of twins (*N* = 23,440 individuals from 11,720 complete pairs of twins) from the Swedish Twin Registry who were either married (or in a marriage-like relationship) or ever divorced to test the hypothesis that marital dissolution predicts mortality risk past the age of 50 years of age while controlling for the genetic and shared environmental correlation between them. In this presentation, we first present results from a proportional hazards survival analysis (Cox regression) for a case-control study (*N* = 5,462) in which divorced individuals are matched to three unrelated married individuals based on biological sex and birth year. We then present a cotwin-control design testing whether divorced twins had higher mortality risk compared to their still-married co-twins as a way to control for their shared genetic and environmental backgrounds. Cox regression results from the case-control analysis replicated prior findings such that marital dissolution was associated with a 109% increased risk of mortality (OR = 2.09, .95CI: 1.94, 2.25), statistically adjusting for effects of biological sex, education, smoking status, body mass index, heart condition, cohort (birth year), and age in the study. Results from the co-twin control analysis were consistent with the hypothesis that dissolution is causally related to mortality, as divorced twins' risk of death was 20% higher than their married co-twins (OR: 1.20, .95CI: 1.01, 1.43), statistically adjusting for shared genetic and environmental confounds. The attenuated effect of divorce on mortality in the co-twin control analysis suggests that some combination of genetic and environmental selection also accounts for their association. These findings suggest divorce may engender obstacles (e.g., socioeconomic barriers), lifestyles, or habits that increase mortality risk. We discuss avenues for future research that identify factors that may help explain how divorce is causally related to mortality risk.

SYMPOSIUM

AUTONOMIC, ENDOCRINE, AND IMMUNE SYSTEM ACTIVITY IN DEPRESSION, ANHEDONIA, AND MALADAPTIVE EMOTION REGULATION: FROM LABORATORY TO REAL WORLD

Annie Ginty, Ph.D., Baylor University; Alexandra T. Tyra, Ph.D., Department of Psychology and Neuroscience, Baylor University, Waco, TX, USA; Aoife Whiston, Ph.D. , University of Limerick ; Nathan Stuart, M.S., Ohio University ; Thomas Ritz, Ph.D., Southern Methodist University

Depressive symptoms, anhedonia, and maladaptive emotion regulation are associated with a dysregulation in physiological responses to stress and increased risk for poor health outcomes. However, the mechanisms underlying the relationship between these states and stress physiology are poorly understood. The aim of the present symposium is to present emerging research that integrates emotional and physiological processes to better understand the biopsychosocial mechanisms underlying affect dysregulation and its impact on health. The symposium includes four presentations that utilize diverse methodologies, including meta-analysis, network modelling, dyadic longitudinal designs, and clinical intervention trials. The first presentation will report the results of a systematic review and meta-analysis of 127 studies examining physiological responses to acute stress and depressive symptomology. The second presentation will use three independent studies to examine whether anhedonia, a core symptom of depression, is associated with physiological responses to stress. The third presentation will report the association between self-disclosure across a week in friendship dyads with emotion regulation strategies (reappraisal, co-rumination, suppression) and diurnal cortisol across a week. The final presentation will present results of a clinical trial examining the effects of positive and negative affect treatment on overall mood and inflammatory symptoms. Together, these studies span mechanistic laboratory research to clinical interventions to advance our understanding of how mental health and emotional processing are associated with activity and reactivity of autonomic, endocrine, and immune systems.

INDIVIDUAL ABSTRACT: 1063

PHYSIOLOGICAL RESPONSES TO ACUTE PSYCHOLOGICAL STRESS AS A BIOMARKER FOR DEPRESSION: A SYSTEMATIC REVIEW AND META-ANALYSIS

Alexandra T. Tyra, Ph.D., Department of Psychology and Neuroscience, Baylor University, Waco, TX, USA; Siobhan M. Griffin, Ph.D. , University of Limerick; Sarah-Beth Garner, B.A., Baylor University ; Orla T. Muldoon , Ph.D. , Queen's University Belfast; Ryan C. Brindle, Ph.D., Washington & Lee University; Sarah E. Williams, Ph.D. , University of Birmingham ; Thomas A. Fergus , Ph.D.; Annie T. Ginty, Ph.D., Baylor University

Background: Exposure to psychological stress, as well as individual differences in stress responses, has consistently been implicated in the onset and prognosis of depression. Although stress and depression are closely linked, their underlying physiological mechanisms remain unclear. Given the heterogeneity of depressive symptoms, identifying physiological biomarkers may improve diagnosis and treatment. Prior reviews and meta-analyses suggest a connection between depression and physiological stress reactivity, but inconsistent findings across depression measures and physiological outcomes have limited comprehensive understanding. **Aim:** As such, the purpose of the present meta-analysis was to extend prior work investigating the relationship between depression and physiological responses (both the

autonomic nervous system & hypothalamic-pituitary-adrenal axis) to standardized acute psychological stress tasks. **Methods:** A total of 127 studies were identified through PubMed, Embase, PsychINFO, and ProQuest. Included studies examined either clinically diagnosed depression (vs. healthy controls) or depressive symptomology (e.g., continuous scores, high vs. low depression). **Results:** Depression was associated with blunted overall physiological responses to active mental stress (H_g = -0.08, 95% CI [-0.15, -0.02]) driven primarily by cardiac (H_g = -0.16, 95% CI [-0.25, -0.07]) and hemodynamic (H_g = -0.09, 95% CI [-0.16, -0.03]) parameters. No statistically significant associations were found for heart rate variability or neuroendocrine reactivity. Depression was not associated with physiological reactivity to the cold pressor task. There was no significant association between remitted depression and physiological stress reactivity. **Conclusions:** These findings suggest that blunted cardiac and hemodynamic reactivity to active mental stress may serve as a potential biomarker for identifying depressive states.

INDIVIDUAL ABSTRACT: 1064

ANHEDONIA AND CARDIOVASCULAR REACTIONS TO ACUTE PSYCHOLOGICAL STRESS: A REPLICATION ACROSS THREE STUDIES, TWO LABORATORIES

Aoife Whiston, Ph.D. , University of Limerick ; Alexandra T. Tyra, Ph.D., Department of Psychology and Neuroscience, Baylor University, Waco, TX, USA; Ryan C. Brindle, Ph.D., Washington & Lee University; Siobhan Howard, Ph.D. , University of Limerick ; Annie T. Ginty, Ph.D., Baylor University; Stephen Gallagher, Ph.D. , University of Limerick

Blunted cardiovascular reactions in response to acute psychological stress are predictive of future health risk. A large body of research has identified depression as an influential factor associated with blunted cardiovascular reactivity. Separately, there has been a resurgence in focus on anhedonia as a key feature of depression, responsible for poor treatment responses to non-improvement in cardiac event–free survival. In three studies using previously published data examining depression and cardiovascular reactions to stress, we used cross-sectional network models to examine if anhedonia symptoms were key drivers of the association between depression and blunted cardiovascular reactions to stress. In Study 1 (N = 180) and Study 2 (N = 202), healthy young adults completed measures of depression symptoms (Hospital Anxiety and Depression Scale (HADS) and had their blood pressure and heart rate monitored throughout a standardized stress testing protocol. In Study 3, 287 healthy participants completed the Beck Depression Inventory and underwent standardized stress testing protocol. Using network analysis, a Walktrap algorithm identified two clusters of depressive symptoms: anhedonia and non-anhedonia. These anhedonia symptoms of depression, but not the non-anhedonia symptoms, were associated with more blunted SBP and HR reactivity, such that those scoring higher items capturing anhedonia displayed more blunted cardiovascular response profiles. Moreover, these findings were robust to adjustment for several covariates. These studies add greater clarity on the depression-cardiovascular reactivity to stress association by demonstrating that anhedonia may be a key driver of this observation.

INDIVIDUAL ABSTRACT: 1158

SOCIAL SHARING OF EMOTIONS: LINKS BETWEEN EMOTION REGULATION STRATEGIES AND DIURNAL CORTISOL

Nathan Stuart, M.S. , Ohio University ; Peggy Zoccola, PhD, Ohio University; Brett Peters , Ph.D. , Ohio University

Background: Daily social sharing of emotions during self-disclosure with close others is a key context for understanding social emotion regulation. Cortisol, the end product of the hypothalamic-pituitary-adrenal (HPA) axis, is closely linked to social stress and emotion regulation processes. This study examined the associations between diurnal cortisol and self-reported emotion regulation strategies (reappraisal, co-rumination, suppression) during in-person self-disclosure with close others in daily life. **Methods:** We analyzed data from a larger study of 153 friendship dyads (M_{age} = 20.13, *SD* = 2.82) who provided daily self-reports and collected morning and bedtime saliva samples for one week. **Results:** Using dyadic longitudinal growth models, we found that those who reported higher average co-rumination (*b* = -.17, *SE* = .08, *p* = .026) and suppression (*b* = -.13, *SE* = .06, *p* = .035) during self-disclosure across the week displayed lower average night cortisol. Moreover, those who reported higher average suppression displayed lower average next-morning cortisol (*b* = -.22, *SE* = .07, *p* = .002). No significant associations were found between any emotion regulation strategy and same-day morning cortisol or diurnal cortisol slope. All results were robust after controlling for sex and other relevant covariates. **Conclusion:** These results provide greater insight into the processes linking emotion regulation and diurnal cortisol during self-disclosure with close others in daily life.

INDIVIDUAL ABSTRACT: 1159

REDUCTIONS IN SYSTEMIC INFLAMMATION BY POSITIVE AFFECT TREATMENT FOR ANHEDONIA

Thomas Ritz, Ph.D.; David Rosenfield; Windsor G. Hall, B.S., Southern Methodist University; Christina Hough, Ph.D. , UCLA ; Michelle G. Craske , Ph.D. , University of California Los Angeles; Alicia E. Meuret, Ph.D. , Southern Methodist University

Background: Low-grade systemic inflammation has been shown to promote anhedonia, a transdiagnostic feature of several psychological disorders, including depression. While traditional cognitive-behavioral treatment for depression has been shown to reduce interleukin-6, it is still unknown to what extent psychotherapy for anhedonia or low positive affect reduces this key feature of systemic inflammation. It is also unclear whether changes in IL-6 drive clinical outcomes from therapy.

Methods: We therefore studied changes in salivary IL-6 during Positive Affect Treatment (PAT), which targets reward systems by engagement in and savoring of pleasurable activities, exercises in attending to and imagining positive stimuli, and cultivating joy. Patients with severely low positive affect, moderate-to-severe depression or anxiety, and functional impairment were randomly

assigned to 15-session PAT or Negative Affect Treatment (NAT), which targets threat system functions by exposure to distressing and avoided stimuli, cognitive restructuring, and respiratory training (NCT03439748). Clinical status was assessed using the Positive Affect Negative Affect Schedule (PANAS), the Depression Anxiety and Stress Scales (DASS), and blinded, clinical interviews for anhedonia. Saliva samples were collected in *N*=73 patients four times across the enrollment period (baseline, week 5, week 10, posttreatment) and IL-6 was analyzed by colorimetric ELISA-based assay.

Results: Mixed effects models, controlling for sex, age, and BMI, showed that salivary IL-6 levels declined significantly in PAT (*p*=.014, *d*=.58) but not NAT (*p*=.463) in patients with average initial IL-6 levels (Group x Time interaction *p*=.026, *d*=.52). Patients with higher baseline IL-6 levels showed steeper declines (*p*=.002, *d*=.73), which did not differ between treatments. IL-6 changes were not significantly related to clinical improvements concurrently or prospectively.

Conclusion: Reduction of low-grade systemic inflammation is achieved by transdiagnostic psychological therapy for our patients (who were selected for low positive affect) and through targeting positive affect specifically, although the rate of decrease depends on initial IL-6.

SYMPOSIUM

BEYOND SYMPTOM CHECKLISTS: COMPREHENSIVE ECOLOGICAL ASSESSMENT OF PATIENT EXPERIENCES IN DAILY LIFE

Marta Walentynowicz, University of Southern California; Maaike Van Den Houte, PhD, University of Leuven; Livia Guadagnoli, PhD, Northwestern University Feinberg School of Medicine

This symposium highlights recent advances in ecological momentary assessment (EMA) methods that move beyond traditional symptom checklists to capture the multidimensional, dynamic experience of patients in daily life. EMA provides a powerful framework for assessing biopsychosocial processes in real time and natural contexts, offering insights into mechanisms of burden, resilience, and disease impact.

The first presentation will introduce a large-scale dataset collected in patients with chronic pain, showcasing a novel method - Comprehensive Ecological Momentary Assessment of Pain - that encompasses not only pain intensity but also emotional and social aspects of pain experience. This presentation will emphasize how EMA enables integration of multiple domains of the pain experience, revealing nuanced patterns of burden that are not captured in tradition self-report assessment.

The second presentation draws on EMA data from patients with chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME), combining self-reported physical activity with concurrent and lagged ratings of physical fatigue. This approach enables daily-life quantification of increased fatigability and post-exertional malaise (PEM), a pivotal, yet understudied and poorly understood symptom contributing to functional limitations in CFS/ME. The talk will focus on methods to capture PEM in daily life and present first case-control comparisons.

The third presentation will present an application of EMA in gastroenterology, combining patient-reported button presses indicating esophageal symptoms (e.g., heartburn, regurgitation) with simultaneous esophageal pH monitoring to validate real-world symptom reports. This integration of self-report and physiological monitoring highlights EMA's potential to link subjective experiences with objective biomarkers, advancing mechanistic understanding.

A discussant will synthesize themes across presentations, highlighting how comprehensive EMA methods contribute to biopsychosocial science by improving symptom assessment, clarifying mechanisms of disease burden, and informing interventions. Taken together, this symposium demonstrates the potential of EMA to capture complex patient experiences in ways that are precise, ecologically valid, and clinically actionable.

INDIVIDUAL ABSTRACT: 1307

EVERYDAY EXPERIENCES OF THOSE WITH HIGH-IMPACT CHRONIC PAIN COMPARED WITH OTHERS WITH CHRONIC PAIN - INSIGHTS FROM THE COMPREHENSIVE ECOLOGICAL MOMENTARY ASSESSMENT OF PAIN

Marta Walentynowicz, PhD; Doerte Junghaenel, PhD, University of Southern California; Sean Mackey, MD, PhD, Stanford University School of Medicine; Arthur Stone, PhD, University of Southern California

Background
High-impact chronic pain (HICP), defined as pain lasting three months or more with substantial interference in daily life or work, affects millions of adults and poses major public health challenges. Prior research has characterized HICP patients as having more pain locations, greater fear of movement, and poorer mental health compared other chronic pain patients, but most evidence relies on retrospective reports which are vulnerable to recall bias. Ecological momentary assessment (EMA) captures experiences repeatedly in real-time and in patients' natural contexts. This study applied the Comprehensive Ecological Momentary Assessment of Pain (cEMAp), a novel tool designed to assess near real-time multidimensional aspects of pain, to determine if established correlates of HICP emerge in daily life. Additionally, it examined other possibly pertinent characteristics such as pain quality descriptors and coping strategy use.

Methods
A total of 240 patients with chronic pain completed the cEMAp four times daily for one week as part of a large HICP study at Stanford University. The analytic sample included those with ≥50% completed prompts (n = 200; mean age = 56.5; 73% women). Participants were classified into no pain (n = 29), mild (n = 52), bothersome (n = 41), and HICP (n = 66) groups using the Graded Chronic Pain Scale–Revised. To capture the breadth of daily experiences, we analyzed both frequency and intensity/scope across seven types of outcomes: pain severity, interference, emotional impact, coping strategies, pain location, pain quality, and mood.

Results

In daily life, HICP participants reported significantly higher interference, more pain locations, a broader range of pain descriptors, and endorsed more coping strategies per assessment than all other groups (*ps* ≤ .001). The most common interferences attributable to pain in HICP were avoiding movement (median 34% of beeps) and doing less than desired (median 26%). Average pain intensity, emotional impact, and mood ratings did not differ between HICP and bothersome groups (all *ps* > .45). Substantial within-group variability emerged, with some individuals classified as HICP reporting relatively low pain or interference while some participants with bothersome pain reported frequent interference.

Conclusions

cEMAp findings largely aligned with established correlates of HICP from retrospective studies, while also revealing notable differences. By documenting not only average levels but also variability, coping, and qualitative features of pain, cEMAp provides a richer understanding of lived experiences of patients with chronic pain. These results highlight the potential of EMA to contribute to HICP assessment, reveal within-group heterogeneity, and support more tailored interventions.

INDIVIDUAL ABSTRACT: 1309

DYNAMIC ACTIVITY – FATIGUE RELATIONSHIPS IN DAILY LIFE IN CFS/ME: INSIGHTS FROM ECOLOGICAL MOMENTARY ASSESSMENT

Maaike Van Den Houte, PhD; Ynse Dooms, MSc; Iris Coppieters, PhD, University of Leuven; Elfi Vergaelen, PhD; Stephan Claes, PhD, University Psychiatric Center KU Leuven; Katleen Bogaerts, PhD, Hasselt University; Lukas Van Oudenhove, PhD, University of Leuven

Background: Chronic fatigue syndrome / myalgic encephalomyelitis (CFS/ME) is a debilitating condition characterized by persistent fatigue and post-exertional malaise (PEM), in which even minimal exertion can lead to a worsening of symptoms. Fatigue levels in CFS/ME are highly variable and fluctuate unpredictably in daily life. However, studies investigating symptom fluctuations in real-time remain scarce. The goal of this study was to examine inter-individual differences in the relationship between daily activities and fatigue in individuals with CFS/ME using ecological momentary assessment (EMA).

Methods: One hundred nine individuals with CFS/ME and 55 healthy controls (HC) completed a seven-days experience sampling protocol, receiving eight semi-random prompts per day. At each prompt, participants reported momentary physical fatigue levels, whether they had just engaged in physical activity (yes/no), and how much they enjoyed their current activity. Random-intercept, random-slope linear mixed models were used to compare concurrent and lagged (i.e. 2 prompts or 3-4h later) activity-fatigue relationships between groups, and to derive individual slopes as indices of activity-triggered fatigue. In CFS/ME, we examined correlations between individual activity-fatigue slopes and a lab-based measure of PEM (4h recovery after cycling task).

Results: In all models, individuals with CFS/ME had higher levels of self-reported momentary fatigue than HC (p < 0.001), despite no case-control differences in the proportion of "active" prompts (HC: 47.0%; CFS/ME: 44.2%, p = 0.43). Overall, active prompts were associated with higher concurrent (p < 0.001) and lagged (p = 0.006) fatigue levels, but this was the case for both CFS/ME and HC (activity x group interactions: p = 0.25, 0.35 resp.). However, activity enjoyment was significantly negatively associated with concurrent fatigue severity in CFS/ME but positively associated in HC (enjoyment x group interaction: p < 0.001; Figure 1). Within the CFS/ME group, lab-based PEM was unrelated to EMA-based individual activity-fatigue slopes (concurrent: p = 0.12, lagged: p = 0.95).

Conclusion: Individuals with CFS/ME patients reported elevated fatigue even in the absence of activity, while activity-triggered increases were comparable to HC. Enjoyment of activities uniquely buffered fatigue in CFS/ME, highlighting the importance of considering contextual factors. Individual slopes derived from EMA (Figure 2) are a promising measure of PEM in daily life, although sensitivity was limited by assessing only whether participants were active immediately before the prompt, leading to zero-inflation and preventing investigation of how activity *intensity* relates to fatigue in CFS/ME.

Figure 2

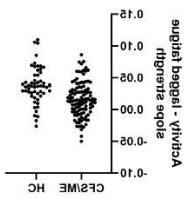
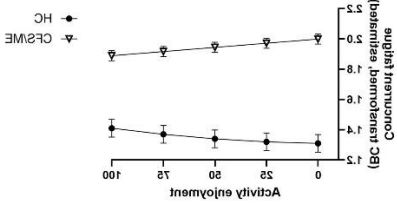


Figure 1



INDIVIDUAL ABSTRACT: 1308

PSYCHOLOGICAL AND PHYSIOLOGICAL CONTRIBUTIONS TO REFLUX SYMPTOM PERCEPTION DURING AMBULATORY MONITORING

Livia Guadagnoli, PhD; Dustin Carlson, MD, MSCI; Wenjun Kou, PhD; John Pandolfino, MD, MSCI, Northwestern University Feinberg School of Medicine

Introduction:

Reflux symptoms, which include heartburn, regurgitation, and chest pain, are influenced by both physiological factors, such as esophagogastric junction (EGJ) function, and psychological factors, including esophageal hypervigilance. Most research into reflux severity uses retrospective questionnaires. Examining these factors in the context of real-time symptoms may help explain variability in symptom reporting and their temporal association with reflux events.

Methods:

We examined whether baseline psychological (esophageal hypervigilance; Esophageal Hypervigilance and Anxiety Scale [EHAS] - Hypervigilance Subscale), physiological (basal EGJ pressure, integrated relaxation pressure [IRP]), and clinical (reflux symptom severity; GERDQ total score) factors predicted symptom reporting during 24-hour ambulatory pH-impedance monitoring, a test that measures both acid and non-acid reflux events in real time while

participants record symptoms. Symptom frequency was measured via button presses within 2 minutes of experiencing a symptom. Symptom Index (SI) indicates whether ≥50% of reported symptoms are temporally linked to reflux and was analyzed as a binary outcome (positive vs. negative). Symptom counts were analyzed using negative binomial regression to account for overdispersion, and SI was analyzed using logistic regression.

Results:
Among 628 patients (Mean age = 51.9±16.3; 62.3% female), negative binomial regression revealed that higher baseline esophageal hypervigilance predicted increased total symptom events (p = 0.002; Table 1), whereas GERDQ, basal EGJ pressure, and median IRP were not significant predictors. Logistic regression indicated that higher GERDQ scores were associated with increased odds of a positive SI (p < 0.001; Table 2), while higher median IRP was associated with lower odds of a positive SI (p = 0.041). Hypervigilance and basal EGJ pressure were not significant predictors of SI.

Conclusions:
These findings highlight a dissociation between factors driving overall symptom reporting versus those influencing the temporal association of symptoms with reflux. Esophageal hypervigilance was associated with total symptom frequency, whereas reflux severity (GERDQ) and EGJ physiology, specifically IRP, predicted whether symptoms were temporally linked to reflux events. These results underscore the combined importance of psychological, clinical, and physiological factors in shaping patient-reported reflux experiences.

Table 1. Predictors of Symptom Frequency (Total Button Presses)

Predictor	Estimate	Std. Error	z value	p-value
Intercept	4.992	0.420	43.522	<0.001
EHAS Hypervigilance	0.052	0.007	3.078	**0.002**
GERDQ Total	0.014	0.014	0.984	0.332
Basal EGJ Pressure	-0.004	0.008	-0.643	0.250
Median IRP	-0.010	0.009	-1.113	0.266

Table 2. Predictors of Positive Symptom Index (SI ≥50%)

Predictor	Estimate	Std. Error	z value	p-value
Intercept	-0.290	0.308	-0.945	0.346
EHAS Hypervigilance	-0.053	0.014	-1.844	0.100
GERDQ Total	0.102	0.030	3.470	**<0.001**
Basal EGJ Pressure	-0.016	0.015	-1.104	0.269
Median IRP	-0.038	0.018	-2.044	**0.041**

EHAS = esophageal hypervigilance and anxiety scale; GERDQ = gastroesophageal reflux disease questionnaire; EGJ = esophagogastric junction; IRP = integrated relaxation pressure

PAPER SESSIONS

March 12th, 2026

Socioeconomic Status and Health Session

1

Abstract: 1157

CROSS-SECTIONAL AND LONGITUDINAL ASSOCIATIONS BETWEEN SOCIOECONOMIC STATUS AND CENTRAL AND PERIPHERAL MARKERS OF BIOLOGICAL AGING IN MID-TO-LATER LIFE

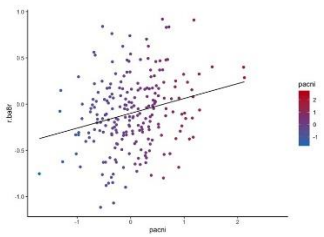
Anna Marsland, PhD, RN; Rebecca Reed, PhD; Mia DeCataldo, BS; Peter Gianaros, PhD, University of Pittsburgh

Socioeconomic disadvantage may accelerate biological aging and consequent risk for chronic disease and early mortality. Most studies supporting these links are cross-sectional and focus on single peripheral markers of biological aging. The current study thus aimed to: (1) replicate an inverse association of socioeconomic status (SES) with a new brain biomarker of aging derived from cross-sectional MRI, the Dunedin Pace of Aging Calculated from Neuroimaging (Dunedin PACNI)**,** and (2) test the association of this brain biomarker with the multiyear change in a multisystem composite of blood-based peripheral biomarkers of aging across a 14-year period from mid-to-later life.

Participants in the Adult Health and Behavior (AHAB) project (N=451, 51.7% female, M age at Wave 1 = 42.6 yr) reported years of education, family income, and subjective SES (USA MacArthur Scale of Subjective Social Status). They also underwent structural MRI (Wave 1 scans were used to calculate DunedinPACNI) and provided blood at Wave 1 and Wave 2, which was assayed for 8 markers of biological aging to compute a single composite informed by Justice and colleagues (Justice et al., 2018): insulin, IGF-1, GDF15, NT-proBNP, cystatin C, IL-6, TNF-α, and CRP.

Results replicated prior findings showing an association of lower SES with accelerated DunedinPACNI after adjusting for chronological age and sex at birth (education r = -0.14, p < .001; family income r = -.12, p < .01; and subjective SES r = -0.19, p < .001). Novel findings show an association of DunedinPACNI with the composite of peripheral markers of aging at Wave 1 (r = 0.13, p < .01) and with residualized change in the composite from Wave 1 to Wave 2, adjusting for age, sex at birth, and time between waves (r = 0.21, p < .001).

These findings further validate the DunedinPACNI as a brain marker of biological aging that predicts longitudinal change in peripheral markers of multisystem aging. They also suggest that socioeconomic disadvantage impacts rate of biological aging in mid-later life, which may be a substrate for health inequalities.



Association of Dunedin-PACNI with Residualized Change in a Composite of 8 Blood-based Biomarkers of Aging

2

Abstract: 1415

SOCIOECONOMIC DISPARITIES IN WIDOWHOOD: EVIDENCE FROM THE HEALTH AND RETIREMENT STUDY

Ryan Brown, Texas Tech University; Michelle A. Chen, PhD, TCU; Yoobin Park, PhD, University of California, San Francisco

Widowhood is a common yet highly stressful life event that has significant consequences for health and well-being. Using longitudinal data from the Health and Retirement Study (HRS), we conducted a comprehensive investigation of the widowhood transition across multiple domains of health and health behavior to examine how these changes varied by individuals' socioeconomic status, indexed by level of education. Participants were a subsample of HRS participants who reported a widowhood transition (i.e., married in one wave, widowed in the next; N = 4130; M_{age}=71.22, SD=10 years) across HRS waves, beginning at wave 3 to capture cognition. Participants were widowed for one year on average at their post-widowhood wave. Self-reported health measures included depressive symptoms (CES-D), number of chronic conditions, self-rated health, activities of daily living, and alcohol consumption. Participants completed multiple cognitive tasks, including immediate recall, delayed recall, serial 7s, backwards count from 20. Overall cognitive functioning was computed in HRS as a summary score based on each cognitive task. Covariates included age, gender, days widowed, length of marriage, and comorbid conditions and depressive symptoms where appropriate (e.g., cognition, drinking behavior). Linear regression tested associations between education and each outcome separately, controlling for pre-widowhood levels of each outcome. Exploratory analyses examined demographic (age, gender) moderators of these associations. Compared to those with less than a high school education, recent widow(er)s who had completed high school/GED, some college, or college or more, had lower depressive symptoms (bs = -0.35 – -0.53, *p*s: < .001), better self-rated health (bs = 0.10 – 0.19, *p*s: < .001 - .002), fewer difficulties (bs = -0.08 – 0.10, *p*s: .008 - .023) and less help received (bs = -0.07 – -0.08, *p*s: .002 - .008) with activities of daily living, and better overall cognition (bs = 1.07 – 1.91, *p*s: < .001) post-widowhood, controlling for pre-widowhood levels. However, compared to those with less than a high school education, recent widow(er)s who had attended some college or college or more, reported drinking more alcohol per day of drinking (bs = 0.07 – 0.10, *p*s: < .001) and drinking more days per week (bs = 0.16 – 0.31, *p*s: < .001 - .011) post-widowhood, controlling for pre-widowhood levels. Taken together, these findings highlight the importance of examining how one's socioeconomic context may shape the transition to widowhood. By identifying the unique vulnerabilities that may emerge for those navigating widowhood, researchers will be better able to identify and support the needs of this population.

3

Abstract: 1203

UNDER (ARTERIAL) PRESSURE: THE MEDIATING ROLE OF VIGILANCE, SLEEP AND C-REACTIVE PROTEIN IN THE LINK BETWEEN PERCEIVED SOCIOECONOMIC RELATED MISTREATMENT AND CARDIOVASCULAR HEALTH

Mikayla Cole; Isabela Ortiz Caso, BS; Allana T. Forde, PhD, MPH, FAHA, National Institute on Minority Health and Health Disparities, National Institutes of Health

Introduction:

Black adults have disproportionately higher rates of hypertension than other racial and/or ethnic groups. Perceived discrimination is a chronic stressor that may trigger psychological, behavioral and biological responses, which may stop being adaptive over time and take a toll on the body, leading to hypertension. Little is known about whether lifetime discrimination attributed to socioeconomic status (SES) is associated with mean arterial pressure (MAP), a stable and valid indicator of hypertension. Furthermore, there is limited research on the directional ordering of the psychological, behavioral and biological mechanisms explaining the longitudinal association between lifetime SES discrimination and MAP.

Objective:

Examine whether perceived lifetime discrimination attributed to SES leads to higher MAP among Black adults through a serial mediation pathway of increased vigilance, poorer sleep habits, and elevated C-reactive protein (CRP).

Methods:

Data were obtained from 1046 Black adults (ages 25-37 years, 60% female at exam 4) who were enrolled in the Coronary Artery Risk Development in Young Adults (CARDIA) study and completed exams 4 (year 7), 6 (year 15), 7 (year 20), 8 (year 25), and 9 (year 30). The estimated indirect effect of SES Discrimination (sum of 6 perceived lifetime experiences) on MAP via vigilance (mean of self-reported guardedness, feeling safe in most places, and worry), latent sleep health (self-reported quality, difficulty, duration, and continuity indicators), and CRP were modeled using the Monte Carlo integration for M*plus* 8.8 and adjusted for age, sex and income.

Results:

Overall, Black adults had a mean of 91.72 mmHg MAP (SD=11.94), with high MAP defined as ≥100 mmHg. Additionally, 48.2% of participants reported at least one experience of SES discrimination. Direct associations were observed for lifetime SES discrimination and vigilance (β= 0.32, 95% CI [0.012,0.053]), vigilance and sleep (β= 0.143, 95% CI [0.074, 0.215]), sleep and CRP (β= 0.168, 95% CI [0.062,0.282]), and CRP and MAP (β= 0.715, 95% CI [0.122,1.31]). Each increase in lifetime SES discrimination was indirectly related to higher MAP (β=0.001, 95% CI [0.000,0.002]), serially mediated through vigilance, sleep, and CRP.

Conclusions:

Findings from this study expand on the literature examining psychological, behavioral, and biological mediators of the discrimination and cardiovascular health link to suggest that lifetime experiences of SES discrimination may be associated with elevated MAP over time through vigilance, sleep behaviors, and CRP in Black adults. This serial mediation pathway highlights opportunities for interventions that focus on healthy coping mechanisms and behaviors in the face of lifetime discrimination experienced by Black adults.

4

Abstract: 1245

NEURAL CORRELATES OF HEALTH MESSAGE PROCESSING: EFFECTS OF MESSAGE FRAMING AND SOCIOECONOMIC STATUS

Megan Cardenas, MA; Samantha Brosso, PhD; Monica Lyons, MA, Dept. of Psychology & Neuroscience, University of North Carolina at Chapel Hill; Allison Lazard, PhD, Hussman School of Journalism and Media, University of North Carolina at Chapel Hill; Paschal Sheeran, PhD; Keely Muscatell, PhD, Dept. of Psychology & Neuroscience, University of North Carolina at Chapel Hill

Motivating health behavior change is challenging, and there is urgent public health need to craft messages that encourage healthy eating, physical activity, and preventative behaviors (e.g., cancer screenings, sunscreen use, vaccines). Research on tobacco quit campaigns shows that neural responses to persuasive messages predict behavior change better than self-reports, suggesting that identifying brain regions engaged by processing health messages could inform more effective messaging campaigns. This project examined neural correlates of processing two types of health behavior change messages: Those emphasizing benefits for the self (e.g., "Exercise regularly so you have more freedom to live the life you want"), and those emphasizing benefits for others (e.g., "Take care of your body now so you can be there for your loved ones later"). We also tested whether SES, operationalized by education, moderated neural responses, given evidence that lower SES populations are more interdependent, prioritize relational goals, and thus may be more impacted by social-focused messages.

Adults from diverse SES backgrounds (n=51) underwent fMRI while viewing 40 social- and 40 self-focused health messages. Each contained either a social-focused image (e.g., family engaging in a healthy behavior together) or self-focused image (e.g., individual engaging in a healthy behavior alone) paired with social- or self-focused text recommending a cancer-prevention behavior.

Viewing social-focused (vs. self-focused) health messages robustly engaged canonical default mode network (DMN) regions, including medial prefrontal cortex, precuneus, posterior cingulate, temporal pole, and bilateral angular gyrus. This pattern aligns with prior work linking the DMN to social reflection, mentalizing, and other-oriented processing, and shows that this extends to viewing social-focused health messages. In contrast, self-focused (vs. social) messages recruited prefrontal control regions, including ventrolateral and medial prefrontal cortex, inferior frontal gyrus, and middle frontal gyrus, consistent with enhanced self-regulation and self-referential processing. SES moderated these effects: participants without a 4-year college degree showed diminished recruitment of prefrontal control regions (inferior and middle frontal gyri) when viewing self- vs. social-focused messages.

These findings demonstrate that social- and self-focused health messages are processed differentially in the brain, and that lower-SES individuals may engage less self-regulation and cognitive control in response to self-focused messages. Such differences highlight the need for culturally tailored health communication strategies to promote positive health behaviors and enhance health equity.

Substance Use Session

1

Abstract: 1112

THE ROLE OF PAIN SENSITIVITY IN THE RISK OF RELAPSE FOR TOBACCO SMOKERS

Claire McQuiston; Claire McQuiston, BS; Olivia Hoff, BA, University of Minnesota Medical School; Ken Kurisu, MD, PhD, Department of Family Medicine and Biobehavioral Health, University of Minnesota Medical School; Tracey Keogh, PhD, Department of Psychology, University of Minnesota; Mustafa al'Absi, PhD, Department of Family Medicine and Biobehavioral Health, University of Minnesota Medial School

Introduction: Tobacco smoking remains a leading cause of preventable morbidity and mortality, yet cessation rates remain low despite high motivation to quit among smokers. Nicotine dependence is influenced not only by psychosocial and structural barriers but also by biological mechanisms that link tobacco use to pain and stress regulation. Acute nicotine exposure exerts transient analgesic effects, whereas chronic use contributes to heightened pain sensitivity and blunted stress responses. These alterations may impact withdrawal symptoms, particularly pain, which is both a consequence of abstinence and a predictor of relapse. This study aims to clarify the pain and tobacco dependence by examining whether pain sensitivity and perception predict nicotine withdrawal severity and relapse risk.

Methods: Smokers interested in cessation (n = 123) and non-smokers (n = 49) completed the cold pressor pain test (CPT) across two sessions (ad libitum and 24-hour withdrawal). Smokers were followed up for four weeks to assess their relapse. Pain ratings were collected 6 times during a 90-second exposure and 6 times during post-CPT recovery. Following the second lab session, smokers were followed up for 4 weeks to assess their smoking habits. Smokers were classified as relapsed (n = 87) or non-relapsed (n = 21) and were compared with non-smokers on the same pain measures.

Results: Smoking withdrawal did not influence pain ratings (no significant change in pain between ad libitum and abstinence day). Smokers demonstrated greater escalation in pain sensitivity during the CPT compared with nonsmokers ($p < 0.01$). Furthermore, smokers also exhibited steeper recovery of pain during the post-CPT observation period ($p < 0.01$). Additionally, smokers who relapsed reported higher pain than smokers who did not relapse ($p < 0.001$), and both groups reported higher pain than non-smokers ($p < 0.001$). In fully adjusted models controlling for age and sex, results remained significant.

Discussion: These findings support evidence that chronic smoking impairs endogenous pain modulation, leading to greater pain perception. Enhanced pain perception among those who were at risk for relapse indicates the possibility that elevated pain may be a barrier to abstinence and a driver of nicotine use. Considering these findings, the absence of withdrawal effects may reflect the need for longer periods of abstinence to detect changes in pain ratings. Understanding these mechanisms and integrating pain management strategies into cessation planning has the potential to guide more effective, personalized interventions.

2

Abstract: 1367

CULTURE-BASED RESILIENCE: IDENTIFYING PROFILES OF RISK AND PROTECTION IN SUBSTANCE USE IN URBAN AMERICAN INDIAN AND ALASKA NATIVE YOUNG ADULTS

Anthony Rodriguez, RAND; Daniel Dickerson, DO, UCLA; Elizabeth D'Amico, PhD, RAND

Background:
American Indian and Alaska Native (AI/AN) individuals experience disproportionately high rates of substance use disorder and chronic pain, shaped in part by historical and ongoing sources of stress and trauma (e.g., forced displacement, healthcare inequities, and systemic poverty). To explore heterogeneity in life experiences and health outcomes—particularly in relation to risk and protective factors—we conducted a latent profile analysis of pain, mental health, and cultural factors in urban AI/AN young adults. Resulting profiles were compared across key substance use outcomes.

Methods:
Data were collected from 541 participants (mean age = 22 years; 17% male) across three domains: Pain (presence, intensity, and interference), mental health (anxiety and depression symptoms), and cultural factors **(**AI/AN cultural belonging, sense of community, and engagement in cultural activities). Substance use outcomes included alcohol and cannabis (AC) use, binge drinking, AC use disorder, and related consequences.

Results:
Latent profile analysis supported a three-profile solution. *Profile 1* (Moderate-to-high burden / lowest cultural identification) was characterized by moderate levels of pain and the highest rates of anxiety and depression; this group reported the lowest cultural identification. *Profile 2* (Highest burden / moderate cultural identification) exhibited the highest pain burden and elevated mental health symptoms, alongside moderate cultural identification. *Profile 3* (Low burden / highest cultural identification) reported the lowest levels of pain, mental health symptoms, and substance use, alongside the highest cultural identification and engagement. Profile 3 demonstrated the most favorable outcomes, including lower rates of cannabis use, binge drinking, AC-related consequences, and AC use disorder, as well as the best self-reported health. Profile 2 showed the poorest outcomes for cannabis use and binge drinking, while Profile 1 reported the highest frequency of alcohol use.

Conclusion:
Stronger cultural identification and engagement were associated with reduced substance use, fewer substance-related consequences, lower pain burden, and better mental health. Cultural connectedness may therefore serve as a protective factor against substance use, mitigating the negative influence of trauma and stress while enhancing resilience. These findings underscore the importance of integrating cultural identity support into prevention efforts and substance use interventions to ultimately improve health outcomes among AI/AN populations at this critical life stage.

3

Abstract: 1092

DAILY, DYNAMIC ASSOCIATIONS BETWEEN PERCEIVED STRESS, PAIN INTENSITY, AND ALCOHOL USE AMONG VETERANS: DOES CHRONIC PAIN SEVERITY MATTER?

Shaddy Saba, NYU Silver School of Social Work; John Prindle, PhD, University of Southern California; Aysha Allahverdiyeva, ScB, New York University; Daniel Leightley, PhD, King's College London; Eric Pedersen, PhD; Carl Castro, PhD, University of Southern California ; Jordan Davis, PhD, RAND

Background: Chronic pain is prevalent among military veterans and commonly presents with behavioral health challenges like perceived stress and alcohol use. Allostatic load models suggest

more severe chronic pain may reflect a state of physiological dysregulation with heightened associations between pain and behavioral health symptoms. Yet surprisingly little is known about the influence of chronic pain severity on daily behavioral health symptom associations.

Purpose: This study examined day-to-day associations between pain intensity, perceived stress, and alcohol use among veterans, and whether associations differ between those with moderate-severe chronic pain and those with less severe pain.

Method: A sample of United States military veterans (n=74) completed smartphone-based daily diary surveys for up to three months, providing 4307 days of data. Multi-group dynamic structural equation modeling examined within-person, day-to-day associations between symptoms, among veterans with moderate-severe chronic pain and those with less severe pain.

Results: Among veterans with moderate-severe chronic pain, bidirectional positive day-to-day associations emerged between pain intensity and perceived stress (b=0.06-0.13), and between perceived stress and alcohol use (b=0.05-0.07). Pain intensity also predicted increased next-day alcohol use (b=0.04). Perceived stress appeared to act as a mechanism linking alcohol use to subsequent pain intensity (b=0.01). For veterans with less severe pain, symptom dynamics differed markedly; higher perceived stress predicted lower next-day pain intensity (b=-0.05).

Conclusions: Chronic pain severity appears to moderate day-to-day symptom associations, with symptoms appearing more entangled among veterans with higher severity levels. Veterans with moderate-severe chronic pain may experience heightened stress reactivity and poorer coping, requiring tailored interventions to monitor and address day-to-day symptom fluctuations.

4

Abstract: 1405

THE IMPACT OF MEDICAID BEHAVIORAL TELEHEALTH POLICIES ON SUBSTANCE USE DISORDER TREATMENT IN HEALTH CARE FOR THE HOMELESS PROGRAMS

Kristina Wharton, PhD; Michael Stanton, California State University, East Bay

Background:
Individuals experiencing homelessness face disproportionately high rates of alcohol and substance use—particularly opioid use—compared to the general population. Access to treatment is often limited by systemic barriers, including housing instability and lack of transportation. Medicaid telehealth expansions offer a potential solution to improve access to alcohol use disorder (AUD) and substance use disorder (SUD) treatment, particularly through remote prescription of medication-assisted treatment (MAT).

Objective:
This study evaluated whether state-level Medicaid policies permitting telehealth delivery of AUD and SUD treatment (2019–2022) were associated with increased service utilization in Health Care for the Homeless (HCH) programs, a federal initiative providing integrated primary and behavioral healthcare to people experiencing homelessness.

Methods:
Medicaid telehealth policy data were obtained from annual Kaiser Family Foundation surveys and merged with HCH program data from the Bureau of Primary Health Care's Uniform Data System. We applied differences-in-differences models to assess changes in service use, measured by the number of visits and unique patients for AUD and SUD care, across states with and without permissive telehealth policies. Models included year fixed effects and patient demographic controls, with negative binomial regression to account for zero-inflated outcomes.

Results:
States that adopted Medicaid telehealth policies for AUD/SUD treatment saw a 57% increase in the number of AUD patients (IRR = 1.57, $p < 0.01$) and a 67% increase in SUD patients (IRR = 1.67, $p < 0.01$) served by HCH programs, compared to states without such policies. SUD visits also increased by 56% (IRR = 1.56, $p < 0.05$), while no significant change was observed in the number of AUD visits.

Conclusions:
Medicaid telehealth expansions were associated with substantial increases in AUD and SUD patient engagement at Health Care for the Homeless programs. These findings highlight telehealth's potential to reduce barriers to care and promote more equitable access to behavioral health services for individuals experiencing homelessness. Policymakers should consider these results in ongoing efforts to reform Medicaid and support vulnerable populations.

Cardiovascular Health Session

1

Abstract: 1261

ASSOCIATION BETWEEN PATTERNS OF IN-SCANNER BRAIN ACTIVATION DURING MENTAL STRESS AND AMBULATORY BLOOD PRESSURE RESPONSES TO STRESS DURING DAILY LIFE

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Exaggerated cardiovascular reactivity (CVR) to mental stress is associated with increased risk for hypertension and atherosclerosis. Using a machine learning approach in a prior sample of adults who completed a standardized fMRI stressor battery, Gianaros et al. (2017) cross-validated a multivariate brain pattern that predicted exaggerated CVR in-scanner. In the current study, we used the same fMRI stressor battery to measure the expression of this brain pattern in a new sample of 279 healthy midlife adults from the Neurobiology of Health (NOAH) study (ages 28-56). In preregistered analyses, we addressed the question of whether this brain pattern could identify those most susceptible to exaggerated ambulatory blood pressure responses during mental stress in daily life.

We used data from 2 sets of procedures to address this question. First, participants completed 4 days of ambulatory blood pressure (ABP) monitoring during which we collected hourly ABPs along with smartphone-based diary assessments measuring daily life "task strain" events (high demand, low control) along with demographic (age, sex, race, education) and time- varying covariates (posture, activity, substance use) (Kamarck et al., 2018). Second, participants completed an fMRI stressor battery from which we extracted a dot product score representing the extent to which participants expressed the

previously validated fMRI brain pattern trained to predict exaggerated CVR in the laboratory (Cardiovascular Reactivity to Stress Pattern expression or CRSP-e score). In multilevel models, we examined whether the magnitude of each person's systolic BP response to task strain events during daily life was moderated by their CRSP-e score, after covariate adjustment.

The effect of task strain on momentary SBP was, indeed, significantly moderated by CRSP-e scores (b for strain by CRSP-e interaction = .39, F (1, 14,000)= 4.0, p =.046). There was a dose-response effect, with the association between task strain and SBP increasing with successively larger CRSP-e scores (For CRSP-e 2 sd below the mean, strain b= .47, p=.7; for -1 sd, strain= 1.03, p= .009; for + 1 sd, strain b = 2.15, p < .0001; for +2 sd, strain b=2.70, p < .0001). There was also significant shared variance between fMRI CRSP-e scores and SBP reactivity to task strain in daily life (r= .35, n= 279, p<.0001). This is the first evidence that individual differences in stress-related brain patterns measured by fMRI generalize to predict ambulatory CVR to mental stress in daily life. Ongoing work is examining this stress-related brain activation pattern as a marker of stress sensitivity and disease risk. This protocol was preregistered in OSF. Supported by P01HL040962.

2

Abstract: 1070

ANGER ALLOSTASIS IN EVERYDAY LIFE: TESTING INERTIA IN MOMENTARY ANGER AND AMBULATORY BLOOD PRESSURE ASSOCIATIONS AS FUNCTION OF TRAIT ANGER

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Background: Having a predisposition to anger is a risk factor for cardiovascular disease and mortality, in part due to the known associations between experiencing anger and elevated blood pressure (BP). Yet, the risk from trait anger may run deeper than just a tendency to experience anger. Drawing from the theory of allostatic load, this paper proposes an anger allostasis model, positing that a core feature of trait anger that poses risk is an unresponsiveness (or inertia) to one's context. **Purpose:** The present study examined concurrent and cross-lagged associations between momentary anger and ambulatory BP, testing if trait anger moderates these associations in a way that suggests allostasis: inertia in moment-to-moment anger and BP patterns, and reduced reactivity and recovery across anger to BP associations. **Method:** The sample comprised 257 participants recruited from the New York City area (53% female; age *M* = 41 years; 56% Black). At baseline, participants completed a measure of trait anger. Following, participants wore a SpaceLabs ambulatory BP monitor for 24 hours that collected readings every 30 minutes during waking hours (~20 assessments per person). Along with each BP reading was an ecological momentary assessment of one's current anger state. A two-level dynamic structural equation model was run to examine possible allostasis: anger and/or ambulatory BP inertia (e.g., anger at time *t*-1 predicting anger at time *t*), anger and ambulatory BP cross-lags (e.g., anger at time *t*-1 predicting BP at time *t*), and anger and ambulatory BP cross associations (i.e., anger and BP at time *t*). Trait anger and age were entered as moderators of these associations. **Results:** Suggesting anger allostasis, as trait anger increased the following combination emerged: participants reported more overall state anger (*b* = .40, *SD* = .20, *p* = .023), reduced time *t* BP reactivity to time *t* anger (cross associations: *b* = -.01, *SD* = .003, *p* = .007); and reduced recovery from time *t*-1 BP to time *t* anger (cross-lagged association: *b* = -.01, *SD* = .01, *p* = .023). **Discussion**: These findings indicate that those high on trait anger reported experiencing more state anger in everyday life, and also a reduced responsiveness to that stress-inducing situation. Future work is needed to uncover the long-term consequences of this inflexibility to environmental demands.

3

Abstract: 1108

DYNAMICAL REGULATION OF BLOOD PRESSURE AND COGNITIVE FUNCTION

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BACKGROUND

Blood pressure (BP) is not steady. It varies over intervals from months to consecutive cardiac cycles and this variation contains meaningful information beyond mean BP. Variability over multiple clinic visits (VVV-BP) and during 24-hour ambulatory monitoring (ABPV) is positively related to risk of stroke and coronary artery disease and negatively associated with cognitive performance. Beat-to-beat BP variation, often quantified as low frequency variability (0.04-0.15 Hz, LF-BPV), is less well-studied. Here, we examine the relationship between LF-BPV and cognitive outcomes in 1953 participants from the Midlife in the US study.

METHODS

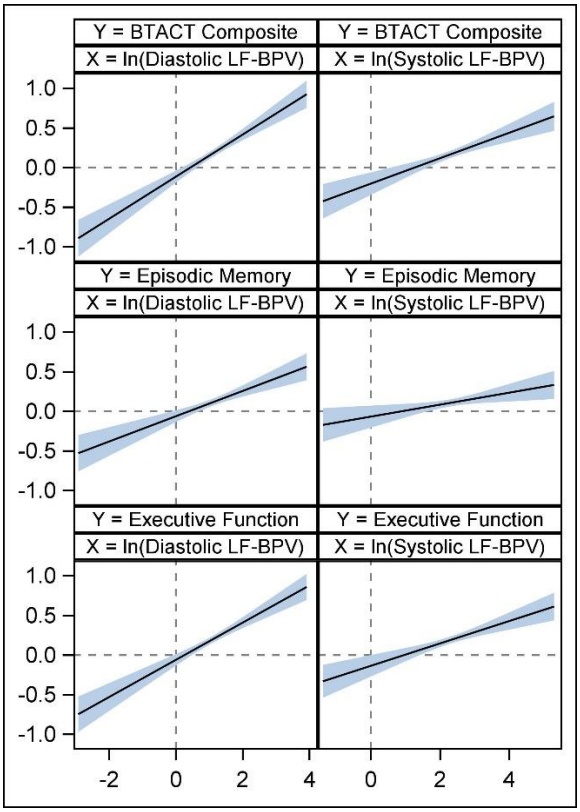
Participants completed the Brief Test of Adult Cognition by Telephone (BTACT) from which we derived episodic memory (EMF) and executive function (EFF) factors and a composite index. With participants in the seated position, the continuous BP signal was recorded non-invasively with a Finometer. The resultant time series was submitted to Fourier-based spectral analysis to compute LF-BPV. Linear regression models estimated the associations with cognitive indices.

RESULTS

Systolic (LF-SBPV) and diastolic (LF-DBPV) were positively associated with EFF (b=0.073 ± 0.033, *p* = 0.02), EMF (b=0.079 ± 0.036, *p* = 0.04), and the composite index (b=0.101 ± 0.035, *p* = 0.004) after adjustment for age, sex, education, and income. Findings were similar for LF-DBPV.

CONCLUSIONS

This positive association is consistent with evidence demonstrating that LF BPV contributes to increased delivery of oxygenated blood to the brain and clearance of metabolic and cellular waste via the brain's glymphatic system and intramural periarterial drainage pathway, both of which contribute to superior cognitive performance.



4

Abstract: 1198

ETHNICITY AND SUBCLINICAL ATHEROSCLEROSIS: DO HISPANICS EXHIBIT ADVANTAGES OR DISPARITIES COMPARED TO NON-HISPANICS IN SUBCLINICAL DISEASE?

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Background. Despite higher risk profiles, Hispanics/Latinos (H/Ls) often experience lower cardiovascular disease (CVD) mortality compared to non-Hispanic Whites (NHWs), an observation consistent with the broader phenomenon known as the Hispanic Health Paradox. It is unclear if these differences are evident throughout the disease process or are only reflected in CVD outcomes. Carotid intima-media thickness (cIMT) is a well-established marker of subclinical atherosclerosis, the leading cause of myocardial infarction and cardiovascular disease (CVD) mortality. The present study examined whether this paradox extends to cIMT in a community sample of adults in northern Texas.

Methods. A sample of 300 participants in the North Texas Heart Study (18.66% H/L, 50% women). cIMT was assessed at baseline and again at a two-year follow-up using B-mode ultrasonography of the left and right carotid arteries. DICOM images were obtained at the common carotid artery (CCA), bifurcation (BIF), and internal carotid artery (ICA). Progression was assessed by subtracting baseline values from Time 2. Linear regression analyses with appropriate baseline covariates (age, sex, and BMI) tested ethnic differences in cIMT at each time point and progression.

Results. H/L participants were slightly younger than NHWs (-0.93 years) and showed a higher proportion of females (65% vs. 47%; $\chi^2(1) = 5.54$, $p = <0.01$). H/Ls had higher baseline BMI than NHWs ($b = 2.05$, $p = <0.05$). Baseline mean cIMT across all participants was 0.77 mm ($SD = 0.13$), with modest two-year progression ($M = 0.008$ mm, $SD = 0.12$). No significant ethnic differences were observed in baseline cIMT at the CCA, BIF, ICA, or combined BIF/ICA measures (all $p > 0.05$), and longitudinal analyses similarly revealed no ethnic differences in cIMT progression.

Discussion. Despite ethnic differences in risk, the current study found no differences in either baseline cIMT or rate of progression. These results may reflect protective factors consistent with the Hispanic Health Paradox. Study limitations, including a relatively small sample of H/L participants and limited follow-up duration, may have contributed to these results. Future research with larger and diverse H/L populations is needed to clarify the role of ethnicity in subclinical CVD risk.

Digital Health Session

1

Abstract: 1219

MOBILE MINDFULNESS MEETS BIOLOGY: EFFECTS OF AN APP-BASED WELLBEING INTERVENTION ON INFLAMMATION IN DEPRESSED INDIVIDUALS

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Background: A growing body of work implicates chronic inflammation in the pathophysiology of depression and as a predictor of long-term health outcomes. Mindfulness-based interventions have shown benefits for both psychological and physiological symptoms, but the impact of digital wellbeing interventions on inflammation remains unknown.

Methods: This three-armed decentralized clinical trial examined the efficacy of the Healthy Minds Program (HMP), a 4wk mobile-app-based wellbeing intervention, in individuals with elevated depressive symptoms (Patient Health Questionnaire-9 score ≥ 5; n = 1,157). Eligible participants were randomized to either the standard HMP app including meditation practices and wellbeing psychoeducation (n = 462); a psychoeducation-only version of the HMP app (n = 463); or a usual care condition (n = 232). Dried blood spot samples were collected to index inflammatory proteins, alongside a comprehensive battery of self-report and behavioral measures. Primary preregistered inflammation-related analyses used linear regression to assess group differences in interleukin-6 (IL-6) and C-reactive protein (CRP) at 3mo follow-up, adjusting for baseline inflammation and infectious symptoms.

Results: At 3mo follow-up, IL-6 was significantly higher relative to baseline in the usual care group compared to the full intervention group (t(780) = 2.73, p = .007, *d* = -0.27). Within the full intervention group, IL-6 showed a non-significant decrease from baseline to 3mo follow-up. There were no significant group

differences for CRP. Sensitivity analyses adjusting for demographic covariates and extreme values were largely consistent.

Conclusion: Results offer preliminary evidence that this brief, scalable wellbeing intervention can modulate inflammatory trajectories in individuals with elevated depressive symptoms. By buffering against increases in IL-6, the HMP intervention may help mitigate effects of inflammation on adverse mental and physical health outcomes.

2

Abstract: 1342

HOW DOES A DIGITAL SELF-MANAGEMENT PROGRAMME LEAD TO IMPROVEMENTS IN QUALITY OF LIFE IN INFLAMMATORY BOWEL DISEASE? MEDIATION ANALYSIS OF COGNITIVE, BEHAVIOURAL AND EMOTIONAL PATHWAYS.

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Introduction
Around 50% of people with inflammatory bowel disease (IBD) continue to experience pain, fatigue, and/or faecal urgency during clinical remission. The IBD-BOOST digital self-management programme, based on a cognitive behavioural model of symptom perpetuation, was designed to target cognitive, behavioural, and emotional factors hypothesized to maintain these symptoms. The IBD-BOOST randomised controlled trial (RCT) showed no significant between-group differences in IBD-related quality of life (QoL) at six months), although IBD-BOOST was cost-effective, and per-protocol analyses suggested benefits for adherent participants. This study tested the theoretical model by examining whether changes in negative illness perceptions, self-efficacy, behavioural responses to symptoms, depression, and IBD-specific anxiety mediated the intervention's effect on QoL.

Methods
Data were from the IBD-BOOST RCT (n=780). Adults with IBD experiencing pain, fatigue, and/or urgency/incontinence were randomized to IBD-BOOST(n=391) or CAU (n=389). Primary outcome was IBD-related QoL (UK-IBDQ) at six months. Single-mediator hierarchical regression models were fitted for cognitive (illness perceptions, self-efficacy), behavioural (all-or-nothing, avoidance/resting), and emotional (depression, IBD-specific anxiety) variables, adjusting for baseline mediator and outcome, demographics, and disease characteristics. Indirect effects were estimated using the product-of-coefficients method with bootstrap 95%CIs.

Results
The intervention had no significant total effect on QoL at six months (β=-0.13, 95%CI -0.22 to 0.01). However, significant indirect effects on QoL were observed via: **Illness perceptions** (β=-0.09, 95%CI -0.14 to -0.04), **Self-efficacy** (β=-0.15, 95%CI -0.21 to -0.09, **All-or-nothing behaviour** (β=-0.04, 95%CI -0.06 to -0.01), **Avoidance/resting behaviour** (β=-0.08, 95%CI -0.12 to -0.04) and **IBD-specific anxiety** (β=-0.15, 95%CI -0.20 to -0.11), but not depression.

Conclusion
Improvements in IBD QoL were explained in part by changes in the IBD-BOOST targeted mechanisms. These findings support the theoretical model underpinning the intervention and highlight the importance of addressing cognitive, behavioural, and emotional processes in symptom-focused self-management for IBD. Future work should explore strategies to optimise engagement and maximise these mediating effects.

3

Abstract: 1277

ALLOSTATIC LOAD AS A MEDIATOR IN THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND MONOCYTE SUBSETS IN A COMMUNITY-BASED COHORT: DATA FROM THE STEP-IT-UP DIGITAL HEALTH, COMMUNITY ENGAGED PHYSICAL ACTIVITY INTERVENTION

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Background: Physical activity (PA) plays a critical role in cardiometabolic disease (CMD). Classical monocytes (CM), intermediate monocytes (IM), and non-classical monocytes influence CMD development. Allostatic load (AL), also known as the "wear and tear" on the body, is linked to adverse CMD risk. The relationship between PA, monocytes, and AL remains understudied. We examined the mediating role of AL in the relationship between PA and monocytes among African American (AA) women with CMD living in resource-limited Washington, D.C., neighborhoods.

Methods: Participants were enrolled in Step It Up, a digital health, community-engaged PA intervention. Baseline PA was measured by daily step count via a Fitbit device for a 2-week run-in period. Monocytes and their subsets were quantified by flow cytometry of fasting blood samples. An AL Score (ALS) was calculated based on various health indicators: systolic blood pressure, diastolic blood pressure, total cholesterol, high-density lipoprotein, C-reactive protein, hemoglobin A1C, waist-to-hip ratio (WHR), albumin, and pulse, where higher scores meant higher AL (range 0–9). Smoking status was measured using

validated scales. Diet was assessed by the Healthy Eating Index (HEI) Score based on a 24-hour dietary recall, with higher scores indicating better diet quality (range 0-100). ALS was examined as a mediator of associations between PA and monocytes, adjusting for age, socioeconomic status, smoking status, hypertension treatment, lipid-lowering treatment, and HEI Score.

Results: This cohort consisted of 184 AA women [mean age=57.39±12.48 years, mean ALS=2.41±1.56, mean WHR=0.89±0.07, mean Atherosclerotic Cardiovascular Disease (ASCVD) Risk Score=9.99±9.45]. Baseline PA was negatively associated with ALS ($\beta=-9.8\times10^{-5}$, p=0.02). ALS was associated with decreased CM (β=-0.66, p=0.01) and increased IM proportions (β=0.57, p<0.01). There were no significant associations between baseline PA and CM ($\beta=-1.6\times10^{-4}$, p=0.26) or baseline PA and IM ($\beta=1.1\times10^{-4}$, p=0.19). However, the indirect effect of ALS on the relationship between PA and IM was significant ($\beta=-5.6\times10^{-5}$, p=0.04). The indirect effect of ALS on the relationship between PA and CM was approaching significance ($\beta=6.4\times10^{-5}$, p=0.08). No other significant relationships were found among the remaining monocyte subsets.

Conclusion: ALS partially mediated the relationship between baseline PA and intermediate monocyte subsets. Our findings suggest potential mechanisms by which PA may limit atherogenesis by reducing AL. Future studies should investigate the impact of chronic stressors on immune cells, such as monocytes, to identify targets for interventions in minoritized groups.

4

Abstract: 1204

PRESIDENTIAL ELECTION 2024 AND THE IMPACT OF AN ONLINE, SELF-GUIDED EMOTION REGULATION SKILLS TRAINING PROGRAM ON THE WELLBEING OF TRANSGENDER AND GENDER DIVERSE ADULTS

Peter Cummings, Northwestern

Introduction:

Transgender and gender diverse (TGD) adults experience significant health disparities in well-being and mental health compared to their cisgender peers. These disparities have worsened since the 2024 U.S. presidential election and the introduction of anti-trans executive orders and policy decisions. This study reflects a secondary data analysis of the impact of a self-guided positive psychological intervention (PPI) on well-being in TGD adults compared to cisgender participants.

Method:

The NPR Resilience Challenge (n=11,409 consented) was an 8-week, virtual, self-guided, evidence-based PPI implemented in the weeks surrounding the 2024 U.S. Presidential election. Data were collected at baseline, post-intervention (8 weeks follow-up), and 1 month after post-intervention. This secondary analysis includes 3,630 (32% of consented) who completed at least one of the two follow-up assessments. We conducted a series of three linear, mixed-effects models observing the change over time across measures of positive affect, anxiety, depression, meaning and purpose, social isolation, sleep disruption, self-efficacy, and life satisfaction. The first model observed the overall change in each well-being outcome over time, the second included the breakout by gender identity comparing TGD to cisgender participants, and the third model included the interaction term of gender identity by timepoint.

Results:

The TGD participants in this secondary data analysis (48, 1%) did not differ significantly at baseline across any of the wellbeing measures compared to those who only completed one assessment. The sample was on average 57 years of age, identified as majority white (87%) and cisgender (99%), and affiliated politically as primarily Democrat (69%). TGD participants were significantly younger than cisgender participants (49 vs 52 years of age, p<0.001). The overall sample improved significantly across every outcome measure at each timepoint. However, compared to TGD participants, cisgender participants improved significantly more on anxiety (p=0.049), depression (p=0.02), social isolation (p=0.003), and meaning and purpose (p=0.03). In the final models including the interaction of gender by timepoint, TGD folks reported significantly higher anxiety scores at the third timepoint compared to their cisgender peers, (interaction Beta -2.05, p=0.047).

Conclusion:

This virtual, self-guided PPI was less effective for TGD adults compared to their cisgender peers, particularly for anxiety. Interventions to improve wellbeing for TGD adults would benefit from thoughtful adaptations to content and delivery method that center their unique cultural experiences of anxiety and stress, particularly in the wake of the implementation of anti-trans policies.

Cancer Session

1

Abstract: 1128

CHANGES IN LIPOPROTEIN PARTICLE PROFILES PREDICT INCREASED CARDIOMETABOLIC RISK IN PATIENTS WITH COLORECTAL CANCER: A TWO-YEAR LONGITUDINAL INVESTIGATION

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Patients with cancer are at an increased risk of cardiometabolic diseases. However, evidence on changes in risk across the cancer trajectory and its psychohehavioral correlates remain limited. Thus, this study aimed to examine factors associated with changes in the cardiometabolic risk markers over two years in patients with colorectal cancer.

Patients with colorectal cancer (n=94, 56.4 years old, 61% female, 54% Hispanic) completed questionnaires and provided blood samples at 4-month (T1), 12-month (T2), and 24-month post-diagnosis (T3). Various psychobehavioral correlates, including sociodemographic, psychological, behavioral, and clinical factors, were self-reported. Cardiometabolic risk biomarkers assessed by lipoprotein particle profiles measured by nuclear magnetic resonance (NMR), which were assayed from blood serum. Particle concentration, concentration of subclasses by size (e.g., large, medium, small), and particle size were measured for all lipoprotein classes (TRL-Ps, LDL-Ps, HDL-Ps). In addition, the inflammatory biomarker glycoprotein acetyls

(GlycA) and the composite metabolic marker Lipoprotein Insulin Resistance Index (LP-IR) were included (Table 1).

Linear mixed model repeated measure analyses revealed that older age was associated with higher total cholesterol and higher TRL-Z (p = .047) across the three time points. Male had lower levels of HDL-C, HDL-P, and Large HDL-P (p = .027) than female longitudinally. Hispanic displayed higher TRLTG levels compared to non-Hispanic (p = .013) across the three time points. Patient with more comorbid conditions reported lower LDL-C (p = .025), Large LDL-P (p = .014), and HDL-P (p = .029) across the three time points. Overweight (vs normal weight) related to higher LP-IR levels (p < .001) longitudinally. Psychological, behavioral, and clinical factors were not significantly related to cardiometabolic markers.

NMR lipoprotein profile may help identify subgroups of cancer patients at elevated cardiometabolic risk in cancer patients. Supportive care programs focusing on lifestyle modification for overweight patients may be particularly valuable. Future studies are needed to clarify the underlying mechanisms driving these associations and moderators of psychological and clinical factors linking to cardiometabolic risks in patients with cancer.

Table 1. Levels of Cardiometabolic Biomarkers in Patients with Colorectal Cancer at Baseline

	Patients with CRC (n=94)		Refence range value[a]	
Variables	Mean (SD)	Range	Mean (SD)	Range
Triglyceride-rich Particles (nmol/L)				
Total TRL-P	163.4 (77.2)	36-524	125.2 (61.6)	42-239
Very Large TRL-P	0.5 (0.7)	0-3	0.4 (1.0)	0-1.6
Large TRL-P	6.1 (8.7)	0-40	2.9 (6.5)	0-12.8
Medium TRL-P	19.1 (18.6)	0-88	17.9 (16.2)	0.3-48.4
Small TRL-P	54.3 (32.4)	0-186	56.6 (37.5)	7.3-124.4
Very Small TRL-P	83.4 (62.0)	0-335	47.5 (46.9)	0-142.3
LDL Particles (nmol/L)				
Total LDL-P	1348.5 (369.6)	695-2234	1454.0 (393.0)	891-2150
Large LDL-P	395.2 (227.0)	0-984	309.0 (223.0)	17-748
Medium LDL-P	164.1 (215.3)	0-944	676.0 (405.0)	0-1377
Small LDL-P	789.3 (374.2)	158-2075	469.0 (431.0)	13-1318
HDL Particles (µmol/L)				
Total HDL-P	20.3 (3.5)	9-28	24.0 (3.0)	19.2-29.3
Large HDL-P	2.7 (1.3)	1-6	2.5 (1.9)	0.2-6.3
Medium HDL-P	5.2 (2.3)	0-13	7.7 (2.7)	3.7-12.6
Small HDL-P	12.4 (3.5)	5-25	13.8 (3.4)	8.1-19.6
Mean Particles Sizes (nm)				
TRL-Z	45.5 (9.3)	31-67	44.0 (8.4)	33.8-60.9
LDL-Z	21.0 (0.5)	19-22	21.0 (0.5)	20.1-21.7
HDL-Z	9.2 (0.3)	8-10	9.0 (0.4)	8.3-9.8
Lipids (mg/dL)				
Total cholesterol	162.6 (105.8)	49-540	193.8 (36.5)	140-256
LDL-C	106.5 (32.0)	55-187	110.5 (30.7)	63-163
HDL-C	49.8 (13.6)	21-90	61.1 (14.4)	41-88
Triglycerides	184.5 (36.4)	127-285	119.3 (89.8)	43-276
Inflammatory Biomarker (µmol/L)				
GlycA	471.3 (85.1)	276-788	402.4 (65.8)	307-524
Composite Metabolomic Marker				
LP-IR	47.5 (23.0)	0-97	36.0 (24.5)	3-83

Note. GlycA, glycoprotein acetylation; HDL-C, high-density lipoprotein cholesterol; HDL-P, high-density lipoprotein particles; HDL-Z, high-density lipoprotein size; LDL-C, low-density lipoprotein cholesterol, LDL-P, low-density lipoprotein particles; LDL-Z, low-density lipoprotein size; LP-IR, lipoprotein insulin resistance index; TRL-C, triglyceride rich lipoprotein cholesterol; TRL-P, triglyceride rich lipoprotein particles; TRL-Z, triglyceride rich lipoprotein size.
[a]Reference range values are from a representative sampling (n=698) of the general population, comprised of apparently healthy men (n=284) and women (n=414) aged 18 to 84 years (mean 39 years).

2

Abstract: 1318

EFFICACY OF A STEPPED CARE COGNITIVE-BEHAVIORAL THERAPY FOR INSOMNIA IN ROUTINE CANCER CARE: RESULTS OF THE IMPACT PROGRAM

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Background: Insomnia is highly prevalent in cancer, affecting 30-60% of patients. Yet, it remains undertreated. More accessible formats of cognitive-behavioral therapy for insomnia (CBT-I), the recognized first-line treatment, are needed. The main goals of the IMPACT (Insomnia in Patients with Cancer – Personalized Treatment) program were to assess the feasibility of implementing a stepped care CBT-I in routine care of four cancer centers in Quebec City and its efficacy. This presentation will focus on efficacy results. **Methods:** The study used a stepped wedge cluster non-randomized design integrating stepped care CBT-I at different time intervals across the cancer centers. Patients with a score ^{3} 4 on the sleep item of the Edmonton System Assessment System-Revised (ESAS-R-sleep) received a leaflet describing the stepped care CBT-I and instructions to access the unguided web-based program called Insomnet (Step 1). Patients with residual insomnia symptoms after completing Step 1 were offered 1-3 booster sessions with a clinical psychologist (Step 2). **Results:** A total of 409 cancer patients registered to Insomnet. Patients were 57.6 years old on average and 55% were treated for breast cancer. Other cancer types included hematological (9.3%), lung (7.6%), prostate (6.9%), gynecological (4.6%) and others (16.6%). The time since the most recent cancer diagnosis was 14.6 months on average. Sleep diary data collected during treatment (N=373) indicated a reduction of sleep-onset latency of 15.5 min and of wake after sleep onset of 20.8 min and an increase of 35.0 min in total sleep time. Sleep efficiency increased from 73.2% to 81.9% (all p-values<.0001). A total of 188 patients completed the Insomnia Severity Index at baseline and after Step 1. Mean scores decreased from 17.5 to 8.8, a difference that is both clinically and statistically significant (p<.0001). Significant reductions of anxiety, depression, fatigue and several somatic symptoms (e.g., pain) were found, as well as a significant improvement of functioning and quality of life. Although the number of participants was insufficient for statistical analyses, descriptive data suggest further improvement in sleep parameters among those who received 2 or 3 booster sessions (Step 2). **Conclusions:** These data reveal that a stepped care CBT-I implemented in routine cancer care, among heterogeneous patients, effectively reduces insomnia, psychological distress, and comorbid symptoms. A stepped care approach, beginning with an unguided self-help intervention, represents a cost-effective alternative to face-to-face CBT-I and has strong potential to increase patients' access to this evidence-based treatment.

3

Abstract: 1178

ENDOCRINE SYNCHRONY DURING ACUTE STRESS IN PATIENT-SPOUSE DYADS FACING CANCER

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Cancer brings substantial turmoil not only to patients but also their family members. The similarity in elevated levels of psychological distress between patients with cancer and their family caregivers has been well documented. However, corresponding evidence at the biological level is still lacking, despite the clinical implications of biological stress regulatory processes for cancer control and prevention. This study aimed to investigate the extent to which patient-caregiver dyads synchronize in their endocrine stress responses.

Patients with colorectal cancer (n=116, 56.8 years old; 32.9% female; 60% Hispanic; 73% with advanced cancer; 7 months post-diagnosis) and their spouses (n=116, 55.48 years old; 67.7% female) participated in a 7-phase stress task: pre-baseline, baseline, scenario-presentation and speech-preparation, caregiver speech, patient speech, recovery-I, and recovery-II.

Saliva samples were collected individually at each phase to assay cortisol and DHEA levels, from which the cortisol-to-DHEA ratio was calculated. Age and gender were included as covariates in the model.

Both patients and spouses exhibited a higher proportion of cortisol across phases. A cross-lagged panel model showed significant concurrent correlations in endocrine ratio markers between patients and their spouses across phases ($.246 \leq b \leq .588$, $p \leq .027$), except during the scenario-preparation ($p = .221$) and patient speech ($p = .177$) phases. Participants' endocrine ratio markers at a given phase were significantly associated with their own markers at the subsequent phase ($b \geq .636$, $p \leq .024$). Furthermore, patients' endocrine ratios at a given phase were significantly associated with their spouses' ratios at the subsequent phase ($b \geq .229$, $p \leq .004$); and spouses' ratios at a given phase associated with their patients' at the subsequent phase ($b \geq .241$, $p \leq .027$).

Findings highlight strong mutual influences in endocrine regulation in response to stress within patient-spouse dyads. Future studies are warranted to investigate affective, behavioral (facial expression), cardiometabolic (HRV, blood pressure) mechanisms through which one's endocrine regulation influences their partner's. Additionally, relationship satisfaction should be examined as a potential moderator, along with the long-term health outcomes of acute endocrine synchronization.

4

Abstract: 1135

THE MODERATING ROLE OF SPIRITUALITY AND HISPANIC ETHNICITY IN THE ASSOCIATIONS OF PERCEIVED CANCER-RELATED STRESS WITH SLEEP AMONG INDIVIDUALS WITH COLORECTAL CANCER

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Sleep disturbances are highly prevalent among people with cancer and are linked to psychological stress. Spirituality often serves as a resource for stress regulation. This study investigated the extent to which cancer-related stress is associated with dysfunctional sleep, and examined the moderating roles of spirituality and Hispanic ethnicity as potential resilience factors.

Patients with colorectal cancer (N = 137, M = 56 years; 36% female; 65% Hispanic; 72% with advanced cancer; 7 months post-diagnosis) completed daily sleep logs and wore an actigraphy watch for 14 consecutive days to assess sleep onset latency (SOL), wake after sleep onset (WASO), and sleep duration (SD). Participants also completed questionnaires assessing ethnicity, cancer-related stress, and spirituality. BMI, gender, and advanced cancer stage were covariates.

Controlling for covariates, Hispanic patients reported longer SOL and greater cancer-specific stress. In turn, greater stress in Hispanic patients was associated with their longer self-reported SOL ($p \leq 0.28$). For actigraph-derived sleep duration, greater cancer-specific stress was associated with shorter sleep duration, but only among patients with lower spirituality ($p = .040$). Regarding actigraph-derived SOL, cancer-specific stress was linked to shorter SOL among non-Hispanic patients with lower spirituality ($p = .002$) and longer SOL among those with higher spirituality ($p = .001$). Conversely, among Hispanic patients, greater cancer-specific stress was related with longer self-reported SOL regardless of their levels of spiritually ($p = .042$).

Findings underscore the nuanced role of resilience in the relation between cancer-related stress and sleep health. Future studies need to investigate biobehavioral (e.g., napping, late-afternoon caffeine intake) and psychosocial (e.g., discrimination, family obligation) factors that may contribute to longer sleep onset latency among Hispanic patients, as well as factors contributing to objectively measured longer sleep latency among highly spiritual Hispanic patients. Culturally informed, meaning-based interventions integrated into cancer care are warranted.

Childhood Trauma Session

1

Abstract: 1313

CHILD MALTREATMENT AND EPIGENOME-WIDE DNA METHYLATION ACROSS ADOLESCENCE: INVESTIGATING MALTREATMENT TYPE AND LONGITUDINAL CHANGE

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Background: Child maltreatment is associated with differential epigenome-wide DNA methylation (DNAm) across a number of CpG sites. However, there is still substantial inconsistency as to which genes are linked with these differences in DNAm as well as whether these epigenetic changes are stable across development. One reason for this inconsistency might be difference is in the type(s) of child maltreatment experiences that are not being captured as well as the age at which epigenetic changes are assessed. The present study tested the effect of maltreatment on differences in DNA across ages 9-23 years. In addition, we examined these differences by maltreatment type (sexual abuse [SA], physical abuse [PA], emotional abuse [EA], and neglect [N]).

Methods: Data were from a 4-wave longitudinal study on child maltreatment and adolescent development (N=454; W1 M_{age}=10.98yrs; W4 M_{age}=18.22yrs; 47% female). Child maltreatment was obtained from child welfare case records. Genomic DNA was extracted from frozen saliva samples collected at each wave and assayed for DNA methlyation using the Illumina EPICv1 (850k) BeadArray. Linear mixed models were used to test for epigenome wide differences in M values of DNAm controlling for relevant covariates. Benjamini-Hochberg (BH) FDR was used to account for multiple testing.

Results: There were 128 CpG sites that were differentially methylated for the maltreated versus comparison groups that reached the BH FDR level of P<0.05. The genes linked with those top CpG sites that met the BH FDR threshold (*NTM* $p=5.68\text{x}10^{-10}$;*SLC6A12* $p=2.16\text{x}10^{-8}$; *BCR* $p=1.32\text{x}10^{-8}$; *THSD7A* $p=8.63\text{x}10^{-8}$) have been implicated in autism, depression, bipolar, and schizophrenia. The CpG sites annotated to these genes had both lower (e.g., *SLC6A12*, *NTM*) and higher (e.g., *BCR*, *THSD7A*) methylation for the maltreated group. There was no significant group*time interaction indicating early group differences in

methylation that remained stable across adolescence. For maltreatment types there were 132 differentially methylated CpGs identified by the BH FDR threshold for physical abuse, 89 for neglect, 79 for emotional abuse, and 56 for sexual abuse. There were some overlapping genes for maltreatment types including *SLC6A12* (EA, PA, SA, N) which has been linked with neurological conditions *FAM134B* implicated in neurogenerative diseases (EA, PA, N), and *NUDT12* (EA, PA, SA) involved in circadian regulation.

Conclusions: Maltreatment appears to be associated with stable DNAm differences across adolescence for genes related to mental health. While there was some overlap in the CpG sites and genes for each maltreatment type, there were also several unique findings that may point to the importance of capturing these nuances in maltreatment experiences.

2

Abstract: 1233

CHILDHOOD THREAT EXPOSURE PREDICTS INFLAMMATORY AND NEURAL REACTIVITY TO SOCIAL EVALUATION

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Childhood adversity (CA) is associated with exaggerated inflammatory response to acute stressors, which may, in turn, increase vulnerability to stress-related diseases (e.g., Kuhlman et al., 2017). CAs characterized by threat (i.e., experiences involving harm or the threat of harm) uniquely impact regions involved in peripheral inflammation, including the salience network and the medial prefrontal cortex (mPFC; Kraynak et al., 2017; McLaughlin et al., 2019). While there is some evidence that greater neural activity in these regions predicts heightened proinflammatory reactivity to social stress (Muscatell et al., 2015), no known studies have directly tested whether this association varies as a function of childhood threat exposure. The present study investigated whether threat-related CA predicted inflammatory and neural responses to a social evaluative stressor. Eighty-nine healthy young adults (Mage = 22.99 years old, SD = 3.08 yrs; 53.93% female, 43.82% male; 71.91% White non-Hispanic) in the Southeastern U.S. completed a social stress paradigm during an fMRI scan (Muscatell et al., 2015). Blood samples taken before and after the scan were assayed for circulating levels of the proinflammatory cytokine, IL-6. Childhood threat exposure was measured using the physical and sexual abuse subscales of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). Contrary to hypotheses, higher levels of threat predicted blunted IL-6 reactivity (β =-0.28, p = 0.03) after adjusting for neglect exposure, subjective social status, age, and sex. After accounting for covariates, whole-brain analyses further revealed that higher levels of threat predicted reduced recruitment of the middle frontal gyrus, a region involved in cognitive control, during negative compared to neutral feedback. However, neural activation in *a priori* regions of the salience network (i.e., dACC, amygdala) and mPFC did not vary as a function of threat exposure. Additionally, neural reactivity in these *a priori* regions did not mediate the relationship between threat-related adversity and IL-6 reactivity. This study is one of the first to investigate whether concurrent neural and inflammatory reactivity to the same stressor varies by CA. Here, we provide novel evidence that the effects of threat on inflammation during acute stress are distinct from those of other adversities. Moreover, our findings suggest that threat-related CA may affect the recruitment of cognitive control mechanisms during social stress.

3

Abstract: 1362

CHILDHOOD TRAUMA AS A MODERATOR OF BRIEF MINDFULNESS TRAINING EFFECTS ON STRESS AND IBS SYMPTOMS: A RANDOMIZED CONTROLLED TRIAL

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Background: Childhood trauma is common and associates with risk for chronic disease in adulthood, in part through biologically embedded alterations in stress response systems. Irritable bowel syndrome (IBS) is a stress-sensitive condition that is more prevalent among adults with a history of childhood trauma. Mindfulness-based interventions (MBIs), which train people to (1) monitor present-moment experience (2) through a lens of acceptance, have shown promise for improving stress processes and IBS symptoms in community samples. Whether (and how) MBIs have potential to improve stress-related disease processes in trauma-exposed adults is unknown.

Methods: N=317 IBS patients were randomly assigned to a 2-week remote intervention: (1) Monitoring + Acceptance mindfulness intervention (MA-MBI), (2) Monitoring Only mindfulness intervention (MO-MBI), or (3) Coping comparison intervention (CC). Participants self-reported on stress and IBS symptoms in daily life for one week at pre-intervention (T1), post-intervention (T2), and 2-month follow-up (T3). 58% of participants recalled low exposure to abuse in childhood (on the Childhood Trauma Questionnaire), 16% recalled moderate abuse, and 26% recalled severe abuse. Mixed linear models (MLMs) were used to estimate treatment effects for repeated measurements over time.

Results: Higher trauma severity associated with higher stress and IBS symptoms at baseline (*p*s=.000-.108) and over time (*p*s=.000-.133). Improvements in stress and IBS symptoms were observed across all conditions (*p*s<.0005). Across conditions, greater improvement in stress and IBS symptoms tended to occur among participants with moderate and severe childhood trauma exposure (*p*s=.000-.061). Interactions between time, condition, and abuse severity were observed for momentary outcomes (*p*s=.000-.029), such that among participants with high trauma exposure, improvements in IBS symptoms tended to be moderate but delayed following MA-MBI (high abuse: T1-T2 *d*s=.01-.12; T1-T3 *d*s=.43-.53; low/moderate abuse: T1-T2 *d*s=.10-.18; T1-T3 *d*s=.26-.39), strongest following MO-MBI (high abuse: T1-T2 *d*s=.12-.30; T1-T3 *d*s=.59-.81; low/moderate abuse: T1-T2 *d*s=.07-.11; T1-T3 *d*s=.20-.27), and small but delayed following CC (high abuse: T1-T2 *d*s=-.02-.01; T1-T3 *d*s=.27-.30; low/moderate abuse: T1-T2 *d*s=-.17--.11; T1-T3 *d*s=.10-.11).

Conclusion: Childhood trauma exposure may moderate effects of brief psychological interventions on symptoms in IBS patients. Trajectories of improvement are complex and may depend on interactions between abuse history, therapeutic mechanisms, and practice time.

4

Abstract: 1146

CHILDHOOD TRAUMA MODERATES LINKS BETWEEN RESTING HRV AND EMOTIONAL HEALTH IN ADRD SPOUSAL CAREGIVERS

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Spousal caregivers for patients with Alzheimer's disease and related dementias (ADRD) provide care in a uniquely stressful context, with caregivers showing differential patterns of stress response and resilience. A large body of literature links early life adversity to dysregulated stress responding later in life. Evidence also suggests that vagal tone, assessed through heart rate variability (HRV), serves as a useful index of parasympathetic stress response. This study explores the potential relationships between heart rate variability and emotional health outcomes (depression, emotional wellbeing) among spousal caregivers (n = 326) using multiple regression. The study also considers whether these relationships may be moderated by childhood trauma exposure. Childhood trauma exposure significantly moderated the relationship between HRV and depressive symptoms, such that higher HRV was protective for caregivers reporting low levels of trauma exposure (B = -2.82, SE = 1.10, p = .01), but the effect reversed for caregivers at high levels of trauma exposure (B = 2.56, SE = 1.10, p = .02). Childhood trauma exposure also significantly moderated the relationship between HRV and emotional wellbeing, such that higher HRV was protective for caregivers reporting low levels of trauma exposure (B = 7.22, SE = 2.07, p < .001). These findings allow for greater consideration of how context and psychological history affect the relationships between HRV, stress response, and emotional health. Results suggest that caregivers without histories of childhood trauma may be expected to experience the protective effects of high HRV, while those with histories of childhood trauma may not experience a protective stress buffering effect, and may even experience a reversal of this effect. For these caregivers with exposure to early life adversity, high HRV may be associated with maladaptive parasympathetic activation and poor regulation. These findings are important for identifying which caregivers may be more vulnerable and at greater risk for compromised emotional health.

Biological Aging Session

1

Abstract: 1109

PSYCHOSOCIAL STRESS IN THE FIRST 25 YEARS OF LIFE AND ACCELERATED BIOLOGICAL AGING IN MIDLIFE: THE ROLE OF INFLAMMATION

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Background: The roots of aging-related diseases extend back into early life and childhood exposure to psychosocial stress can have a profound effect on a person's health, including accelerated aging. Inflammation has long been hypothesized as a key mechanism linking early life stress (ELS) to adverse health outcomes; however, previous studies have examined only a limited number of inflammatory markers and cytokines, yielding mixed results. In this study, we aim to understand the overall contribution of plasma inflammation markers in the link between ELS and accelerated biological aging in midlife.

Methods: Data from 338 participants (mean age, 39.5±3.8; 57.1% females and 56.8% Blacks) were available from two longitudinal data sets, including: (1) quantification of plasma 1034 proteins from Olink Reveal panel, which covers 96% of immune response pathways; (2) genome wide DNA methylation data, from which DunedinPACE, a biomarker of pace of aging, was calculated; and (3) multidimensional measurements of ELS using a wide range of instruments covering individual, family and neighborhood psychosocial stress exposures in the participants' first 25 years of life. The Weighted Quantile Sum (WQS) approach was used to test the joint effect of multiple ELS measurements as well as the joint effect of multiple inflammation markers on biological aging. Age, sex, race, and study were included as covariates in the analyses.

Results: The WQS index of ELS showed a significant positive association with DunedinPACE (β=0.49, p=2.3×10^{-8}), indicating ELS is already associated with accelerate biological aging in midlife. Out of the 1034 proteins, the WQS index of ELS showed significant associations (FDR<0.05) with 21 proteins, with the top 5 being ADM (β=0.28, p=9.1×10^{-8}), SASH3 (β=0.29, p=1.1×10^{-6}), TNFRSF11A (β=0.22, p=4.2×10^{-6}), ISM1 (β=0.24, p=4.2×10^{-6}), and CXCL17 (β=0.30, p=5.0×10^{-6}). The WQS index of the 21 proteins was significantly associated with DunedinPACE (β=0.72, p=6.7×10^{-27}). Mediation analysis showed that 59% of the ELS's impact on biological aging can be explained by the WQS index of the 21 proteins. Further path analysis observed that the ELS's impact on the WQS index of the 21 proteins was through the ELS related at-risk behaviors in midlife including smoking, unhealthy diet, short sleep duration, and physical inactivity, with both the WQS index of the 21 proteins and these at-risk behaviors contributing to accelerated biological aging in midlife.

Conclusion: This study not only identified the plasma inflammation markers mediating the impact of early life stress exposure on midlife biological aging but also suggested that lifestyle intervention should be promoted in stress-exposure populations to enhance healthy lifespan.

2

Abstract: 1257

CURRENT FAMILY FUNCTIONING AND YOUTH BIOLOGICAL AGING IN THE HISPANIC COMMUNITY CHILDREN'S HEALTH STUDY/STUDY OF LATINO YOUTH (SOL YOUTH)

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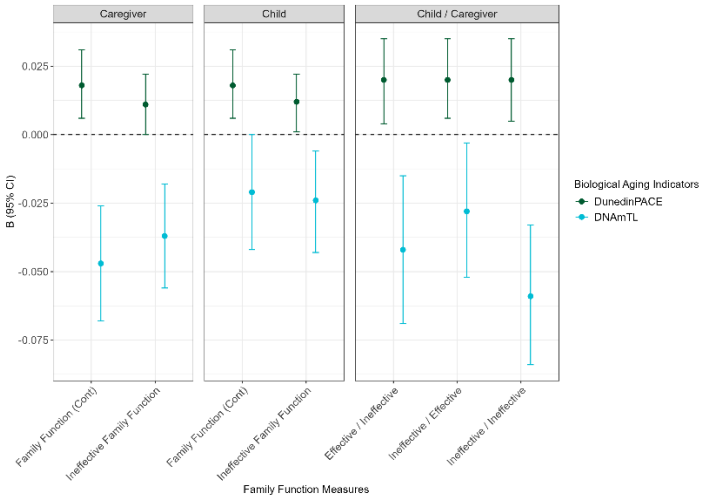
PhD, Albert Einstein College of Medicine; Andrea Baccarelli, MD, PhD, Harvard T.H. Chan School of Public Health; Shakira F Suglia, ScD, Emory University Rollins School of Public Health

Background: Psychosocial stressors (e.g., adversity, discrimination, chronic stress) are linked to accelerated biological aging in adults, predicting morbidity and mortality. Family environments are central to childhood development; however, little is known about the relationship between family functioning and biological aging in childhood —especially among Hispanic/Latino children, who face a disproportionate burden of psychosocial stressors compared to non-Hispanic White children. We examined whether family functioning contributes to biological aging in Hispanic/Latino children in the US.

Methods: Data (N = 972) were drawn from the Hispanic Community Children's Health Study/Study of Latino Youth (SOL Youth) (2012–2014), a population-based cohort of children and adolescents whose parents participated in HCHS/SOL (2008–2011). Family functioning was assessed via child and caregiver reports using the General Functioning Scale of the McMaster Family Assessment Device, analyzed continuously and dichotomously (scores ≥ 2). Concordant/discordant classifications were derived for effective/ineffective family function. Biological aging was estimated from whole-blood DNA methylation (DNAm) using Dunedin Pace of Aging (DunedinPACE) and DNAm telomere length (DNAmTL). Multivariate linear regression models adjusted for caregiver sex, education, and child sex, age, and immigration generation. Sensitivity analyses further included caregiver marital and insurance status and DNAm cell type proportions.

Results: A one-unit increase in family dysfunction was associated with higher DunedinPACE [caregiver β (95% CI): 0.018 (0.006, 0.031); children β (95% CI): 0.014 (0.002, 0.026)] and shorter DNAmTL [caregiver β (95% CI): -0.047 (-0.068, -0.026); children β (95% CI): -0.021 (-0.042, -0.000)], with consistent findings when analyzed dichotomously. Concordant/discordant analyses showed that any report of ineffective family function was associated with higher DunedinPACE [β: 0.020; 95% CI range: 0.004–0.035 across Effective-Child/Ineffective-Caregiver, Ineffective-Child/Effective-Caregiver, and Ineffective-Child/Ineffective-Caregiver groups] and shorter DNAmTL, with the Ineffective-Child/Ineffective-Caregiver group indicating the greatest magnitude in DNAmTL shortening [β (95% CI): -0.059 (-0.084, -0.033)] compared to the Effective-Child/Effective-Caregiver group. Findings were consistent across sensitivity analyses.

Conclusion: Family functioning may impact biological aging in Hispanic/Latino children. Associations across child and caregiver reports, and concordant/discordant classifications, highlight the potential value to family-level interventions targeting children and caregivers.



3

Abstract: 1140

LOSS BURDEN AND NEIGHBORHOOD INCARCERATION PREDICT ACCELERATED AGING IN HEALTH AND RETIREMENT STUDY (HRS)

Michelle Chang, M.A.; Theodore Robles, Ph.D., UCLA Department of Psychology

Our prior work proposed indices to characterize racial disparities in two dimensions of loss burden—losing loved ones "too soon" (prematurely) and "too much" (cumulatively) over the life course. In a U.S. population-based sample, we found that Black American and Native American older adults experienced earlier and more losses over the lifetime than all other racial groups, which in turn predicted worse physical health and earlier mortality. Black Americans who experience the most grief also experience the most incarceration in their areas due to structural racism. As a health risk factor at the ecological level, neighborhood incarceration impacts residents by disrupting social, economic, and political infrastructure. Yet no research considers structurally oppressive conditions that may interact with loss exposure to accelerate aging among already-burdened communities.

We found that loss burden predicted accelerated aging as an adverse health outcome decades later at both biological (i.e., epigenetic clocks estimating a person's biological age relative to their chronological age across DNA methylation sites) and functional and phenotypic (i.e., frailty reflecting multi-system health deterioration) levels. Using the longitudinal Health and Retirement Study of U.S. adults over 50 years old (n = 27,985) spanning 30 years, we linked residential histories to county incarceration rates over 53 years. DNA methylation patterns from venous blood samples (n = 3,568) were used to assess GrimAge and PhenoAge epigenetic clocks.

First, hierarchical linear models accounting for participants nested in households found that higher loss burden at study entry, as measured by our indices, significantly predicted accelerated aging up to 24 years later in 2016. All models controlled for covariates across family size, demographics, and health. Higher loss burden predicted older GrimAge and older PhenoAge years, as well as more frailty symptoms. Second, there was a marginally significant positive interaction, such that higher loss burden significantly predicted older PhenoAge years only for those living on average in counties with incarceration rates above

1,087 to 1,100 per 100,000 residents (median rate in 2016 was 1,112 per 100,000). Main effects were significant for other outcomes; higher residential county incarceration rates related to older GrimAge and more frailty symptoms.

Aim 1: Loss burden and accelerated aging			
	GrimAge	PhenoAge	Frailty
Bereaved-dependent Life Stage (BLS) Index	**0.10**** [0.03, 0.16]	**0.12**† [-0.01, 0.24]	**0.04***** [0.03, 0.04]
Deceased-dependent Life Stage (DLS) Index	**0.61*** [0.03, 0.28]	**0.23*** [0.01, 0.46]	**0.08***** [0.07, 0.10]

Aim 2: Loss burden, county incarceration, and accelerated aging			
	GrimAge	PhenoAge	Frailty
BLS*Incarceration Rate	-0.04 [-0.11, 0.04]	**0.13**† [-0.01, 0.27]	0.00 [-0.00, 0.00]
BLS	**0.10**** [0.03, 0.17]	0.10 [-0.02, 0.22]	**0.004***** [0.003, 0.005]
Incarceration Rate	**0.42**** [0.10, 0.52]	-0.15 [-0.53, 0.23]	**0.002***** [0.001, 0.004]
DLS*Incarceration Rate	-0.06 [-0.20, 0.08]	**0.22**† [-0.04, -0.47]	-0.00 [-0.00, 0.00]
DLS	**0.16*** [0.03, 0.29]	**0.20**† [-0.03, -0.43]	**0.010***** [0.01, 0.01]
Incarceration	**0.29*** [0.09, 0.51]	-0.12 [-0.50, 0.26]	**0.002***** [0.001, 0.004]

†p<.10, *p<.05, **p<.01, ***p<.001
Note: Frailty scores were multiplied by 10 to allow for greater interpretability of coefficients, as the original frailty score was scaled between 0 to 1.

4

Abstract: 1138

CHILDHOOD SOCIOECONOMIC STATUS AND CHANGES IN BIOLOGICAL AGING ACROSS MID-TO-LATER LIFE

Rebecca Reed, PhD; Mia DeCataldo, BS; Stephen Manuck, PhD; Zak Hutchinson, MSFS; Shervin Bazmi, MS; Peter Gianaros, PhD; Anna Marsland, PhD, University of Pittsburgh

Background: Lower childhood socioeconomic status (SES) has been associated with markers of advanced biological aging. Much of this work, however, is cross-sectional or focuses on single markers of biological aging. The current study examined whether childhood SES is associated with change in a multisystem composite of blood-based biomarkers of aging across a 14-year period from mid-to-later life.

Methods: Participants in the longitudinal Adult Health and Behavior (AHAB) project (N=674, 45.4% female, mean age at Wave 1=45.5 years) retrospectively reported at Wave 1 parental education and occupation, which were combined to calculate childhood SES using the Hollingshead Index. They also provided blood at Wave 1 and Wave 2, which was assayed for eight markers of biological aging and combined into a single composite, informed by the work of Justice and colleagues (Justice et al., 2018): insulin, IGF-1, GDF15, NT-proBNP, cystatin C, IL-6, TNF-α, and CRP. Regression models tested the association between childhood SES and residualized change in the biological aging composite, adjusting for Wave 1 age, sex, and time between waves. Sensitivity analyses further tested whether the association of childhood SES with changes in biological aging was independent of adult SES (years of education and net annual household income) and childhood trauma (Childhood Trauma Questionnaire).

Results: Lower childhood SES was associated with a larger increase in the biological aging composite across a 14-year period (β= -.12, p=.002), and in sensitivity analyses, this association remained when further controlling for adult SES (β= -.11, p=.008) and childhood trauma (β= -.11, p=.009).

Conclusion: These findings suggest that relative disadvantage in childhood may accelerate the rate of biological aging in mid-to-later life, providing a possible pathway to increased risk for poorer late life health.

The Brain-Heart Connection Session

1

Abstract: 1351

LONGITUDINAL PATTERNS OF BRAIN AND CARDIOVASCULAR RESPONSES TO PSYCHOLOGICAL STRESS IN REMITTED AND RECURRENT LATE-LIFE DEPRESSION

Thomas Kraynak, PhD; Helmet Karim, PhD; Leigh Pearcy, PhD; Layla Banihashemi, PhD; Meryl Butters, PhD, University of Pittsburgh; Robert Krafty, PhD, Emory University; Olusola Ajilore, MD PhD, University of Illinois at Chicago; Warren Taylor, MD MHSc, Vanderbilt University Medical Center; Carmen Andreescu, MD, University of Pittsburgh

In remitted late-life depression (LLD), recurrence is common and is associated with adverse health outcomes. One risk factor for recurrent LLD may involve dysregulated reactivity to psychological stressors. We previously reported cross-sectionally that remitted LLD show blunted brain and cardiovascular reactivity to stress. What is unclear, however, is whether these initial cross-sectional differences persist over longitudinal follow-up of up to 2 years, and whether they reflect stable vulnerability markers versus fluctuations in depression severity. Participants were recruited through 3 sites and included 145 remitted LLD and 63 age-matched healthy control (HC) adults (60 to 82 years; 65% female; 85% white). Participants completed a modified Multi-Source Interference Task (MSIT) during fMRI with cardiovascular monitoring at baseline testing and at 8, 16, and 24 months. Depression severity and remission status was clinically evaluated at each visit. Linear mixed-effects models tested effects of group, visit, and their interaction on behavioral, affective, cardiovascular, and brain responses to the MSIT, adjusting for age, sex, site, and cardiovascular risk. Participants completed M±SD=2.92±1.12 study visits (608 total). In LLD, 77 (53%) relapsed (REL) during the longitudinal follow-up period, as opposed to maintaining stable remission (REM). There were stable group differences in several outcomes: compared to HC, LLD had slower reaction times (t=-3.36, p=0.019), greater affective shifts (t=3.27, p=0.002), reduced stressor-evoked systolic blood pressure (SBP; t=-2.93, p=0.004) reactivity, and reduced BOLD signal activity in the amygdala (t=-2.92, p=0.004), dorsolateral prefrontal cortex (DLLPFC; t=-2.34, p=0.02), dorsal anterior cingulate (dACC; t=-2.45, p=0.015), and posterior insula (t=-2.83, p=0.005). None of these outcomes showed significant interactions with visit. There was a group-by-visit interaction on heart rate (HR) reactivity (F=3.46, p=0.017), with significant group differences only at baseline (t=-3.06, p=0.003). Comparing HC to relapsers (REL) and stable remitters (REM), there were significant group differences specific to the REL group in reduced SBP (t=-2.85, p=0.013), DLPFC (t=-2.64, p=00.024), dACC (t=-2.78, p=0.02), and posterior insula reactivity (t=-2.86, p=0.01). These longitudinal findings add to our prior cross-sectional report and suggest that features of stress reactivity in LLD may reflect stable characteristics persisting beyond acute episodes and are more pronounced in participants at risk for relapse. Hence, they may represent a neurophysiological vulnerability marker for depression relapse in late life. Future work will examine to what extent patterns of stress reactivity more proximally predict subsequent relapse or sustained remission in LLD.

2

Abstract: 1090

A PREREGISTERED TEST BETWEEN RESPHRV AND DECLINE IN EXECUTIVE FUNCTION IN MID- TO LATE-LIFE ADULTS

Abigail Shell; Mark Scudder, PhD; Anna Marsland, PhD, RN; Colin Vize, PhD; Peter Gianaros, PhD, The University of Pittsburgh

Age-related decline in executive function (EF) is associated with increased risk for dementia and mortality. One biological pathway that may contribute to this decline is a concomitant decrease in cardiac parasympathetic activity that can be measured by Respiratory Heart Rate Variability (RespHRV). Extant literature examining RespHRV-EF links is limited by cross-sectional designs, and perhaps most notable, a failure to consider the role of respiration and prevailing heart rate (HR). Accordingly, the present study examined whether paced (at 11 breaths/min) and un-paced RespHRV predicted a decline in a latent measure of EF over a mean of 14.6 years across mid-to-later life. Secondary aims examined whether prevailing HR contributed to the association of RespHRV and EF. Data were drawn from the Adult Health and Behavior Registry (AHAB, N=706; Preregistration: https://doi.org/10.17605/OSF.IO/6RTVQ). Participants (54.7% female, 85.4% white, mean age 45.5 years at Wave (W)1 and 59.7 years at W2) underwent neuropsychological testing and paced and un-paced ECG to assess RespHRV at both waves. A latent measure of EF was estimated using Stroop, Matrix Reasoning, and Trails B-A scores. A composite measure of RespHRV was created by adding logged values of the following variables: High- and Low-Frequency HRV, standard deviation of normal-to-normal R-R intervals, and Root Mean Square of Successive Differences (RMSSD), calculated for paced and un-paced conditions at both waves. Latent change score models were used to investigate relationships between RespHRV and EF adjusting for sex, age, and time between visits. Models demonstrated adequate fit. Baseline composite RespHRV during both paced (β = -0.14; p=.09) and un-paced (β = -0.14, p = 0.12) breathing conditions did not predict decline in EF. However, change in paced RespHRV was associated with a decline in EF, such that smaller declines in RespHRV were correlated with smaller declines in EF (r = 0.25, p =.04). Change in RespHRV in the unpaced condition was not associated with decline in EF (r = 0.072, p =.55). HR was not related to the decline in EF, nor did it change observed relationships between RespHRV and EF. These results support the possible contribution of age-related declines in cardiac parasympathetic activity to cognitive aging and highlight the importance of considering respiration when examining RespHRV.

3

Abstract: 1191

PROOF OF MECHANISM FOR TRANSCUTANEOUS AURICULAR VAGUS NERVE STIMULATION: INTEROCEPTIVE ENHANCEMENT AND BRAIN NETWORK MODULATION IMMEDIATELY AFTER STIMULATION

Atsushi Sekiguchi, M.D., Ph.D.; Tsunehiko Takamura, PhD; Ruri Katsunuma, MA, Dep Behavioral Medicine, NIMH, NCNP; Mitsuhiko Yamada, M.D., Ph.D., Dep Pathophysiology, Tokyo Kasei Gakuin University

Background:
Transcutaneous auricular vagus nerve stimulation (taVNS) is a promising non-invasive neuromodulation technique that targets the auricular branch of the vagus nerve to influence central and peripheral processes. While numerous studies have explored its potential in depression, anxiety, and pain, the underlying mechanisms remain unclear. Proof of Mechanism (POM) studies are essential for clinical translation. Interoceptive processing has been proposed as a key pathway through which taVNS may exert beneficial effects.

Objective:
This study aimed to examine the immediate effects of taVNS on interoceptive accuracy and brain functional connectivity in healthy adults.

Methods:
Ten healthy male participants (age 30.5 ± 6.5 yrs.) completed a randomized, double-blind, crossover trial comparing taVNS (electrodes on the left cymba conchae) with Sham stimulation (left earlobe). Stimulation was delivered for 20 minutes at 25 Hz, 250 μs pulse width, at individually adjusted intensities above sensory threshold but below discomfort. Outcomes included (a) interoceptive accuracy assessed by the heartbeat counting task (HCT, n=9 due to one exclusion for task performance) and (b) resting-state fMRI acquired before (T1), during (T2), and after stimulation (T3, n=10). Functional connectivity was analyzed using ROI-to-ROI analysis with the anterior insula as the primary seed.

Results:
In the HCT, mean accuracy scores in the taVNS condition were T1 = 0.72 ± 0.18, T2 = 0.73 ± 0.21, T3 = 0.83 ± 0.13, whereas Sham yielded T1 = 0.73 ± 0.14, T2 = 0.84 ± 0.12, T3 = 0.76 ± 0.12. ANOVA revealed a main effect of time [$F(1,8)=5.46$, $p=0.048$, $\eta p^2=0.41$] and a condition × time interaction [$F(1,8)=6.22$, $p=0.037$, $\eta p^2=0.44$]. Post-hoc tests indicated significant improvement in interoceptive accuracy after taVNS (T1 vs T3, $t(8) = -2.72$, $p=0.026$), but not in Sham. fMRI analysis showed increased functional connectivity between the left anterior insula and right temporal regions during taVNS (T2), with no clear persistence after stimulation (T3). No immediate effects were observed using the right anterior insula seed.

Conclusion:
taVNS acutely enhances interoceptive accuracy and modulates insula-centered brain networks. These findings support the POM of taVNS and suggest that interoceptive mechanisms may contribute to its therapeutic potential for stress-related and psychosomatic disorders. Further studies integrating autonomic measures and clinical populations are warranted.

4

Abstract: 1224

DECODING BRAIN-HEART CAUSALITY: TOWARDS TRANSLATIONAL INSIGHTS FROM A MACHINE LEARNING APPROACH TO EFFECTIVE CONNECTIVITY

Maria Di Bello, University of Miami; Roger McIntosh, Professor Associate

Background.
Impaired physiological regulation is a hallmark of neuropsychiatric and somatic disorders.

This may reflect disrupted brain-heart interactions via the central autonomic network's (CAN) role in integrating bottom-up and top-down signals. Aberrant CAN function has been linked to autonomic imbalance and poor outcomes across multiple conditions.
Heart rate variability (HRV), a non-invasive index of central

autonomic control, has been associated with resting-state connectivity of CAN and other brain networks. However, few studies have examined the causal influence, i.e., effective connectivity (EC) on heart-brain dynamics. Furthermore, the contribution of entropy-based complexity metrics remains poorly understood.

Aims.
This study examines how EC predicts HRV (top-down), and how ascending autonomic signals shape brain EC (bottom-up), advancing insights into the heart-brain axis and its relevance for cardio-autonomic regulation in neuropsychiatric disorders.

Methods.
Resting-state fMRI and photoplethysmography were acquired from 232 adults (NKI-RS). Time, frequency, and entropy HRV metrics were extracted, and EC was estimated via regression dynamic causal modeling (rDCM) across 100 brain regions (extended network), including 42 Core-CAN nodes. Predictive modeling used ridge regression with 10-fold cross-validation and feature selection (5 to 20%). Bidirectional interactions were modeled using rDCM with HRV as an exogenous input. Permutation testing and Bonferroni correction assessed significance.

Results.
The extended EC model best predicted entropy metrics (e.g., ApEn: r = 0.22, SampEn: r = 0.21). Core-CAN EC improved predictive performance (SampEn: r = 0.27, ApEn: r = 0.23; VLF: r = 0.16), with modest effects for HF-HRV. Non-CAN EC aligned with extended-model predictions (SampEn: r = 0.17). Models adjusted for age/BMI confirmed robustness of the results. Post-hoc mapping revealed key EC pathways in Core-CAN (e.g., ACC, insula, NAc, PFC) and non-CAN (e.g., visual-associative, temporal, and sensorimotor cortices). Bottom-up HRV input modulated activity in key cortical targets (e.g., ACC, SFG, PreCG) shaping broader EC.

Conclusions.

Our findings show that EC predicts HRV through integrative brain networks beyond canonical autonomic centers. Entropy-based HRV measures, previously linked to neuropsychiatric risk, emerged as sensitive indicators of top-down brain–heart dynamics. Cardioautonomic signals also causally influence key brain regions, highlighting bottom-up brain-heart communication. This bidirectional effect suggests a shared neurobiological substrate for resilience and vulnerability to neuropsychiatric disorders. This axis is under study in mood and substance disorders to guide targeted interventions.

March 13th, 2026

Early Life Adversity Session

1

Abstract: 1113

EARLY LIFE ADVERSITY AND CARDIOVASCULAR RESPONSES TO STRESS DURING TOBACCO AD LIBITUM USE AND WITHDRAWAL

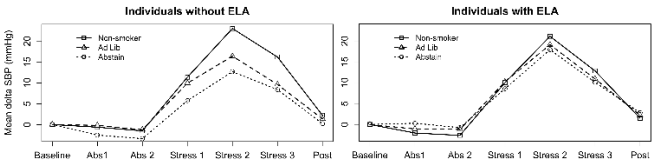
Ken Kurisu; Tracey Keogh, PhD; Mustafa al'Absi, PhD, University of Minnesota Medical School

Background: Early life adversity (ELA) is linked with tobacco use initiation and maintenance. However, the influence of ELA on cardiovascular stress responses among tobacco smokers remains unclear. This study explored the associations between ELA and cardiovascular responses to acute psychological stress among ad libitum smokers and smokers going through withdrawal.

Methods: Smokers were randomly assigned to an ad libitum (n = 70) or 24-hour withdrawal (n = 49) group, and non-smokers (n = 46) were also included. All three groups completed two separate but identical sessions. Each session included speech preparation, speech delivery, and a mental arithmetic task. Systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR) were measured every 2-5 minutes during each session. Linear mixed-effects models were applied to the nested dataset, in which each participant had multiple SBP, DBP, and HR records across two sessions.

Results: In those without ELA, SBP response during the stress task was attenuated in all smokers, and this was pronounced in the abstinent group, compared with non-smokers. In contrast, the group differences appeared smaller among those with high ELA events (**Figure 1**). A linear mixed-effects model, developed using 1,851 SBP records from 163 participants, supported the finding by showing an interaction coefficient for the smoking withdrawal group and ≥ 1 ELA event (3.90; 95% CI = 1.43 to 6.38; p = 0.002), after adjusting for the main effects of group and ELA, as well as the order of sessions. Similar results were observed in the linear mixed-effects model for DBP and HR.

Conclusion: The findings suggest that individuals with a history of ELA demonstrate heightened SBP reactivity to acute stress during nicotine withdrawal, compared with those without ELA. Similar patterns were also observed for DBP and HR reactivity.



2

Abstract: 1045

EARLY LIFE ADVERSITY MODERATES THE ASSOCIATION BETWEEN HAIR CORTISOL AND HEMOGLOBIN A1C IN ADOLESCENTS

Dylan Hoell, Claremont McKenna College; Tuppett Yates, PhD, University of California, Riverside; Stacey Doan, PhD, Claremont McKenna College

This study prospectively investigated the role of early life adversity (ELA) in the neuroendocrine regulation of blood glucose. Dysregulation of the hypothalamic adrenal pituitary (HPA) axis is a key mechanism by which ELA confers risk for health problems, including metabolic syndrome and diabetes (Maniam et al., 2014). A major function of cortisol, an HPA end-product, is to increase blood glucose by stimulating hepatic gluconeogenesis, providing immediate energy during stress. Theory suggests HPA-mediated changes in gluconeogenesis subserve links between ELA and risky alterations in glucose homeostasis, but specific mechanisms are poorly understood (Seal & Turner, 2021). Thus, we investigated the role of ELA in later cortisol-glucose relations during adolescence, using hair

cortisol and blood hemoglobin A1c (HbA1c) as markers of long-term cortisol and glucose levels.

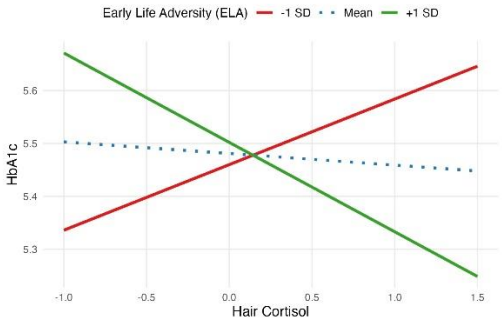
Participants were child-caregiver dyads drawn from an ongoing study of child development (N = 204, 50.5% girls, 45.6% Latine). At age 6, caregivers reported on their child's lifetime adversities through semi-structured interviews. At age 17, adolescents provided hair samples and dried blood spots, assayed for cortisol and HbA1c, respectively. Linear regression models assessed effects of hair cortisol on HbA1c as moderated by ELA. In addition to assigned sex, ethnicity and SES, all models covaried for age 17 perceived stress to isolate ELA effects and body mass index (BMI) given its established link with HbA1c (Lin, 2024).

Neither cortisol (β = -.03, p = .768) nor ELA (β = .10, p = .231) had significant main effects on HbA1c. However, a significant interaction (β = -.25, p = .005) revealed that cortisol was positively associated with HbA1c among participants with low ELA (b = .12, $SE\ b$ = .06, p = .049), but negatively associated with HbA1c among those with high ELA (b = -.17, $SE\ b$ = .06, p = .009), and not significantly related to HbA1c among those with moderate ELA (b = -.02, $SE\ b$ = .04, p = .538).

These results indicate ELA may alter the neuroendocrine regulation of blood glucose during adolescence. We argue that a negative cortisol-HbA1c relation reflects an impaired ability to mobilize energy during stress, which could represent an important mechanism linking ELA to later health problems, including depression (e.g., anhedonia) and metabolic disease (e.g., diabetes, insulin resistance).

Figure 1

Moderating effect of ELA on the relation between hair cortisol and HbA1c



Note. Solid lines indicate significant slopes ($p < .05$). Cortisol values are centered.

R^2 = .158

3

Abstract: 1376

EARLY LIFE ADVERSITY AND ALCOHOL USE IN ADULTS: THE MODERATING ROLE OF CHRONIC PAIN

Olivia Hoff; Olivia Hoff, BA; Claire McQuiston, BS, University of Minnesota Medical School; James Hodges, PhD, Division of Biostatistics and Health Data, University of Minnesota; Tracey Keogh, PhD, Department of Psychology, University of Limerick; Mustafa al'Absi, PhD, Department of Family Medicine and BioBehavioral Health, University of Minnesota Medical School

Background: Alcohol Use Disorder (AUD) has a large impact on public health, contributing to chronic diseases and global mortality rates. The associations between early life adversity (ELA) and substance use, including alcohol use in adulthood, are well established; both factors are associated with chronic pain. However, research examining the impact of chronic pain in this relationship is limited.

Methods: Data were drawn from an online survey of 1476 participants who completed self-report measures on alcohol use, chronic pain, and the adverse childhood experience (ACE) questionnaire to assess ELA. Logistic regression was used to examine whether chronic pain mediated or modified the association between ELA and alcohol use.

Results: While no associations were observed between ELA and binge drinking or heavy drinking, associations were observed between both drinking outcomes and presence of chronic pain and number of painful body locations ($ps < .001$), although in the opposite direction than expected. Mediation analyses provided no evidence that pain explained alcohol use, but moderation analyses showed that the number of painful locations altered the ELA-drinking relationship (significantly for binge: p = 0.01; nearly for heavy: p = 0.051). Specifically, for individuals with no painful locations, higher ELA was associated with lower probability of binge and heavy drinking. As the number of painful locations increased, the association weakened and then reversed direction, so that for many painful locations, higher ELA was associated with greater likelihood of binge and heavy drinking. Sex modified the association between ELA and binge drinking (p = 0.02), with higher ELA linked to increased drinking among women but decreased drinking among men.

Discussion: These findings suggest that chronic pain, measured by the number of painful body locations, moderated the association between ELA and alcohol use, with effects varying by sex. Future research should explore underlying biological and psychological mechanisms, including stress reactivity, emotion regulation, and coping strategies, to inform prevention and treatment approaches for individuals with histories of adversity and co-occurring pain and alcohol use.

4

Abstract: 1358

DIVERGENT ASSOCIATIONS OF CHILDHOOD ADVERSITY DIMENSIONS WITH WHITE MATTER PATHWAYS OF STRESS REGULATION

Layla Banihashemi, University of Pittsburgh, Dept. of Psychiatry; Tales Santini, Ph.D.; Sara A. Sellars, M.A.; Renata Manzano Maria, M.Sc.; Brandon M. Sibbach, B.S.; Daniel Lo, B.S.; Meredith L. Wallace, Ph.D.; Tamer Ibrahim, Ph.D., University of Pittsburgh

Childhood adversity is associated with lower white matter structural integrity across major bundles and dysregulated stress reactivity. However, little is known regarding specific white matter structures connecting subcortical brain regions critical for stress regulation. The stria terminalis (ST) connects the paraventricular nucleus of the hypothalamus (PVN) and bed nucleus of the stria terminalis (BNST), regions with proximal control over neuroendocrine stress responses. Additionally, the medial forebrain bundle (MFB) carries ascending viscerosensory and descending visceromotor pathways between these regions and brainstem autonomic centers. Given its close apposition to the fornix, the ST was difficult to delineate using previous lower-resolution techniques, overcome in the current work with diffusion-weighted imaging (DWI) at ultra-high resolution (7 Tesla). Here, we examined relationships between childhood threat and deprivation and ST and MFB structural integrity in a

transdiagnostic sample of young adults recruited across a continuum of childhood abuse severity.

Participants were 164 young adults (mean age=26; 70% female) who underwent DWI (1.5 mm^3 voxels, 120 directions, bmax=1500 s/mm^2) with the TAC RF coil system. Images were preprocessed (e.g., denoised, motion corrected) and fit into the DTI model. Previously published ST and MFB tracts of interest (Banihashemi HBM 2021) were used to extract fractional anisotropy (FA). Childhood threat was measured using Childhood Trauma Questionnaire (CTQ) abuse scores; deprivation was assessed using reverse-coded parental education level (a proxy for socioeconomic deprivation, SED) and the Neighborhood Deprivation Index (NDI) derived from childhood census tract data. Hierarchical regressions examined threat and deprivation together (CTQ and either SED or NDI in separate models) covarying for age, biological sex, adulthood education, trauma, and negative life events.

Results demonstrated significant relationships between both CTQ (b=0.330, p<0.001) and SED (b=-0.188, p=0.018) with ST FA. The relationship between CTQ (b=0.301, p=0.001) and ST FA was also significant in the NDI model. Lastly, there was a significant relationship between NDI (b=-0.253, p=0.003) and MFB FA.

Findings reveal opposing effects of threat and deprivation on ST integrity and link deprivation to MFB integrity. These findings suggest that distinct dimensions of childhood adversity may shape stress-related white matter differentially based on the frequency and intensity of relevant stimuli. Further, adversity-related differences in these stress-related structures may contribute to dysregulated stress reactivity and vulnerability to psychopathology with implications for physical and mental health trajectories.

Perseverative Cognition and Health Session

1

Abstract: 1152

PERSEVERATIVE COGNITIONS AND PHYSICAL HEALTH IN DAILY LIFE: A MULTILEVEL ANALYSIS

Sarah Albani, The Ohio State University ; Jillian Johnson , Ph.D. , Atrium Health Wake Forest Baptist; Meynard Todledo, Ph.D., University of Southern California; Joshua Smyth, Ph.D., The Ohio State University

Background: Perseverative cognitions, such as rumination or worry, are theorized to contribute to physical health by prolonging negative cognitions and physiological activation, even in the absence of external stressors. Most research, however, examines perseverative cognition at the global or between-person level and is therefore unable to characterize within-person dynamics. The current study repeatedly assessed perseverative cognitions using ecological momentary assessment [EMA] to characterize within-person patterns and examine how ongoing cognitive processes may relate to physical health in everyday life.

Methods: EMA data from an adult community sample (N = 258; 84.5% female, M age = 49.3) were collected six times daily for one week, capturing perseverative cognitions, stress, and subjective health. Mixed-effects models assessed between- (person-mean of EMA) and within-person (EMA moments) relationships between perseverative cognitions and momentary reports of physical health. We also tested if person-mean perseverative cognitions or sex moderated within-person associations between momentary perseverative cognitions and momentary subjective health.

Results: Between-persons, higher average perseverative cognitions were associated with lower overall subjective health ($\beta = -0.42$, $p < .001$). Within-persons, moments of higher than typical perseverative cognitions were associated with lower subjective health ($\beta = -0.15$, $p < .001$). The within-person association between perseverative cognitions and subjective health was not moderated by person-mean perseverative cognition ($\beta = -0.004$, $p = .65$). Sex did not moderate either the within-person ($\beta = -0.02$, $p = .42$) or between-person ($\beta = -0.03$, $p = .46$) associations.

Conclusions: Perseverative cognitions appear to play a meaningful role in how people experience their physical health at both the person and momentary level. Individuals characterized by higher typical perseverative cognition reported worse subjective health. Additionally, in moments when individuals reported higher than typical perseverative cognitions they also reported lower physical health. These patterns were consistent regardless of how much individuals typically engaged in perseverative thinking, and similar across sex. Together, these findings suggest that perseverative cognitions may play a key role in linking daily psychological weathering to physical health.

2

Abstract: 1238

WHEN DOES RUMINATION TURN RECKLESS? EXAMINING THE INTERACTION OF RUMINATION AND DAILY STRESS ON INFLAMMATION AMONG A MULTI-ETHNIC COMMUNITY SAMPLE

Vida Pourmand, University of California, Irvine; Riley M. O'Neill, M.A.; DeWayne P. Williams, PhD; Joshua Smyth, PhD, The Ohio State University; Chul Ahn, PhD; Matthew Allison, MD; Timothy Smith, PhD, University of Utah; Daniel Taylor, PhD; Bert Uchino, PhD, Department of Psychology; John M. Ruiz, PhD, University of Arizona, Dept. of Psychology

Rumination may dysregulate physiological functioning through inflammation such that greater ruminative tendencies are linked with higher levels of inflammation. However, empirical findings have been mixed. One explanation for such inconsistency may be that both rumination and stress can independently elevate inflammation, but their cooccurrence may intensify this effect. The paradoxical health patterns observed among U.S. Hispanic/Latinos, coupled with their underrepresentation in rumination-health research, underscore the importance of exploring this interplay within this ethnic group. This study examined if rumination was associated with inflammation, if daily stress moderates this association, and if these patterns differ between Hispanic/Latinos and non-Hispanic Whites. Utilizing community-derived data (N= 300; 50% female) from a study examining how stress influences cardiovascular disease, we analyzed a subsample restricted to Hispanic/Latino and Non-Hispanic White adults (N= 237; 53% female, $N_{\text{Hispanic/Latino}}$ = 57, $N_{\text{non-Hispanic White}}$= 180). Self-reported trait rumination was assessed at baseline and average daily stress was aggregated from ecological momentary assessment reports randomly sampled within 45-minute blocks across two days. We also obtained contemporaneous measures of inflammation (high-sensitivity C-reactive protein [hs-CRP], tumor necrosis factor-alpha [TNF-α]) via a blood draw. In the analytic sample, rumination was not associated with inflammation (hs-CRP or TNF-α). Additionally, the interaction between rumination and

stress was also not associated with either inflammatory marker, *p*'s > .05. Exploring the role of ethnicity, however, we found a marginally significant three-way interaction between rumination, stress, and ethnicity on TNF-α (R_{adj}^2 = .17, *b = -5.46, SE = 2.97, p = .07)*. Specifically, for Hispanic/Latinos, higher rumination was associated with higher TNF-α at low levels of stress (*b* = 3.76, SE=1.72, *p* =.03), but was not significant at mean or high levels of stress. Conditional effects for non-Hispanic White individuals were not significant, *p*'s >.31. Results suggest that rumination was not reliably associated with inflammation, which aids in clarifying the mixed literature on this link. Rumination may be differentially related to inflammation as a function of stress and ethnicity, suggesting that future investigations should consider the role of psychological and sociocultural variables in examining this association. Sociocultural context and emotional states may influence the degree to which trait rumination is relevant for inflammation.

3

Abstract: 1401

RUMINATION MODERATES THE ASSOCIATION BETWEEN NEGATIVE AFFECT AND INFLAMMATION

Samuel Molli; Stephanie J. Wilson, PhD, University of Alabama at Birmingham

Inflammation is a key process related to both chronic disease and mortality risk. Prior research implicates negative emotionality (e.g., anxiety, sadness, anger) and emotion regulation strategies as predictors of inflammation. According to the biobehavioral model of negative emotionality (Renna, 2021), the physiological impact of negative emotionality may be shaped by emotion regulation strategies. Maladaptive strategies, such as rumination, may amplify inflammation by prolonging physiological activation. This study tested whether rumination moderates the association between negative emotionality and inflammation in a cross-sectional adult sample (n = 412, *Mage* = 61 years, 50% female, 91% non-Hispanic White) drawn from the third wave of the Midlife in the United States (MIDUS) study (Ryff et al., 2019). Inflammatory biomarkers were drawn from the MIDUS 3 Biomarker project and included interleukin-6 (IL-6), tumor necrosis factor-alpha (TNF-α), and C-reactive protein (CRP), assessed via blood assays. Predictors and covariates were drawn from the third wave of the National Study of Daily Experiences (NSDE). Negative emotionality was operationalized as each participant's average negative affect across the 8-day NSDE diary period. Covariates included demographics, BMI, smoking status, exercise, sleep, and number of chronic conditions. We examined main effects and interactions between negative affect and rumination in predicting inflammation. There were no main effects of negative affect on IL-6, TNF-α, or CRP (*p*s > .05). Similarly, negative affect did not interact with rumination to predict IL-6 or CRP (*p*s > .05). However, a significant interaction emerged for TNF-α, *b* = 0.41, *SE* = 0.18, *p* = .03. Probing this interaction revealed a positive association between negative affect and TNF-α among individuals high in rumination, *b* = 0.44, *SE* = 0.18, *p* = .02, but not among those with average or low rumination (ps > .10). This suggests that rumination may augment inflammatory responses to negative emotionality in a midlife/older adult sample, potentially through TNF-α–specific pathways. These findings support theoretical models which emphasize the role of perseverative cognition in stress-related inflammation and highlight rumination as a potential intervention target to reduce inflammation-related disease risk.

References: Renna, M. E. (2021). A review and novel theoretical model of how negative emotions influence inflammation: The critical role of emotion regulation. *Brain, behavior, & immunity-health*, *18*, 100397.

Ryff, Carol, Almeida, David, Ayanian, John, Binkley, Neil, Carr, Deborah S., Coe, Christopher, … Williams, David. Midlife in the United States (MIDUS 3), 2013-2014 . Inter-university Consortium for Political and Social Research [distributor], 2019-04-30.

4

Abstract: 1386

STATE RUMINATION PREDICTS AFFECTIVE REACTIVITY AND RECOVERY TO ACUTE STRESS

Katherine Knauft, PhD; Annie T. Ginty, Ph.D., Baylor University

Introduction: Perseverative cognitions, such as rumination, are thought to disrupt and prolong subjective and physiological responses to acute stressors. Indeed, previous work has shown that rumination is associated with affective reactivity to acute stress, but there is a dearth of literature examining how rumination is associated with affective recovery from acute stress. As lingering negative affect following stress is associated with future health outcomes, the present study examined the link between state rumination and altered affective reactivity to and recovery from acute stress.

Methods: Data were drawn from Pittsburgh Cold Study 3 (N = 213, M_{age} = 30.1 yrs., SD = 10.9 yrs., range 18 – 55 yrs., 42% female). The study was conducted between 2007 and 2011. Participants underwent the Trier Social Stress Test (TSST) and reported their current positive and negative affect at baseline, during the TSST, and during the recovery period. Participants also reported on their experience of rumination after the TSST. All models controlled for participants age, sex, race, and trait depressive symptoms. The effect of rumination on affect reactivity and recovery to the TSST was examined using two-piece multilevel growth models.

Results: Growth models demonstrated significant affective reactivity and recovery to the TSST for both positive and negative affect. Positive affect significantly decreased from baseline to the TSST (*b* = -0.61, *p* < .001) and then increased from the TSST to recovery period (*b* = 0.44, *p* < .001). Negative affect increased from baseline to the TSST (*b* = 0.56, *p* < .001) and then decreased from the TSST to recovery period (*b* = -0.51, *p* < .001). Rumination significantly moderated both reactivity trajectories (Positive affect: -0.03, *p* < .001; Negative affect: *b* = 0.04, *p* < .001) but only moderated the recovery trajectory of negative affect (Positive affect: *b* = 0.01, *p* = .070; Negative affect: *b* = -0.02, *p* = .003).

Conclusions: The results suggest that engagement in rumination is associated with both affective reactivity to and recovery from an acute stressor. Individuals who engaged in more rumination showed a stronger increase in negative affect and decrease in positive affect from baseline to the TSST. Contrary to hypotheses, those who engaged in rumination also showed a faster decline in their negative affect from TSST to the recovery period.

Sleep Session

1

Abstract: 1043

THE ROLE OF CAREGIVERS' PHYSIOLOGICAL RESILIENCE IN DYADIC SLEEP HEALTH AMONG COUPLES COPING WITH CANCER

Youngmee Kim, PhD; Charles Carver, PhD; Armando Mendez, PhD; Thomas Tsai, MS; Emma Bryan, MA, University of Miami; Jamie Zeitzer, PhD, Stanford University; Robert Moulder, PhD, University of Colorado

Adults with cancer and their family caregivers are highly vulnerable to poor sleep and its downstream negative health sequelae. Given that approximately 70% of adults, including many patients with cancer, share a bed with a significant other, and that bedpartners influence each other's sleep, a dyadic approach to study sleep is especially compelling for couples coping with cancer. This study examined the extent to which neuroendocrine responses to acute stress related to bedpartners' mutual influence on their sleep efficiency (SE) in adults with colorectal cancer and their spousal caregivers.

Patients (*n*=125, 57.12 years old; 31.2% female; 60% Hispanic; 72% with advanced cancer; 7 months post-diagnosis) and their caregivers (55.21 years old; 69% female) underwent a standardized stress task involving close relationship- and medical-related stressors. Saliva samples were collected during the task to assay salivary alpha-amylase (sAA), from which stress reactivity and recovery were calculated. Participants also completed daily sleep diaries for 14 consecutive days, from which SE was derived. Continuous time structural equation modeling quantified how SE on one day affected SE on subsequent days at individual and dyadic levels. Gender and BMI were covariates.

Both patients and caregivers displayed significant sAA reactivity and recovery ($p < .003$), except for caregivers' recovery (t=1.05, p=.297). General linear modeling revealed that greater sAA recovery in caregivers was associated with a stronger influence of SE across days. Specifically, caregivers' SE on a given day predicted their influence on patients' SE on subsequent days (t= 2.038) as well as the influence of patients' SE on caregivers' SE on subsequent days (t= 2.014, $ps \leq .046$). The effects of patients' sAA recovery and both parties' sAA reactivity were not significant.

These findings highlight the importance of caregivers' physiological resilience in promoting mutual sleep efficiency within couples facing cancer. Results underscore the need to integrate caregivers into cancer care and tailor biopsychosocial stress management interventions to patient-caregiver dyads. Future studies are warranted to investigate additional physiological and psychosocial mechanisms linking stress responses to sleep health and to examine the moderating role of interpersonal factors in the dyadic and medical context.

2

Abstract: 1271

PERINATAL SUBJECTIVE SLEEP DISTURBANCES AND CIRCULATING CYTOKINE LEVELS: BIDIRECTIONAL EXAMINATIONS

Michele Okun, The University of Colorado Colorado Springs; Rebecca Cox, Ph.D.; Judith Carroll, Ph.D.; Kharah Ross, PhD, Athabasca University; Chris Dunkel Schetter, Ph.D.; Mary Coussons-Read, Ph.D.

Background: Adaptational changes in cytokines across the gestational are essential to a healthy pregnancy. Significant sleep disturbance, such as poor sleep quality or efficiency, is associated with increases in inflammatory cytokines. Hence, sleep disturbances may precipitate chronic inflammatory changes which are considered a risk factor for poor delivery or maternal outcomes. On the other hand, inflammation is noted to impart disturbed sleep as well as adverse outcomes. This preliminary evaluation assessed the bi-directional association between sleep disturbances and circulating cytokine markers across the perinatal period.

Methods: These data were collected as part of the Healthy Babies Before Birth (HB3) study. Perinatal women (N = 172) who had available inflammation and sleep data from 4-times points: 8-16 weeks, 30-36 weeks, 6 months and 1-year postpartum were included. Sleep data were ascertained from the Pittsburgh Sleep Quality Index (PSQI) and cytokines were assayed using a custom V-PLEX human immunoassay plate. Multi-level models using maximum likelihood estimation examined within-subjects and between-subjects effects considering four sleep variables (PSQI total (overall sleep quality), sleep duration, mid-sleep timing, and sleep efficiency (SE)) and the cytokines (INF-g, IL-6, -8, 10, and TNF-α) as well as the IL-6/IL-10 ratio across the 4 timepoints. Multi-level models were also used to test reverse relationships, whether inflammation predicted sleep variables.

Results: Participants were M_{age}=31.3 (5.6) years of age, with M_{educ}=16.0 (3.1) years of education. Over 75% were married and White. There was a small, significant time x subjective sleep duration interaction between-subjects, such that women who reported shorter sleep duration on average exhibited higher IL-8 in late pregnancy ($\beta = -0.24$, $p < 0.05$). There was a medium, significant time x subjective sleep duration interaction between-subjects such that women who reported shorter sleep duration on average exhibited lower IL-10 at 1 year postpartum ($\beta = 0.44$, $p < 0.01$). There was also a medium, significant time x sleep quality interaction within-subjects, such that acute increases in PSQI scores were associated with lower TNF-a at 1 year postpartum ($\beta = -0.35$, $p < 0.01$).

Discussion: Sleep disturbances are associated with greater circulating levels of pro-inflammatory cytokines and a higher ratio of IL-6/IL-10. For the reverse, only one single association emerged. While these data suggest that sleep influences inflammation, more so than the reverse, further exploration of these pathways is needed. The data imply that the behavior of sleep may be an ideal candidate for intervention in order to mitigate adverse pregnancy outcomes.

3

Abstract: 1242

STRUCTURAL DISADVANTAGE AND DAILY PERCEIVED STRESS MEDIATE ASSOCIATIONS BETWEEN AIR POLLUTION AND SLEEP IN HEALTHY U.S. ADULTS

Jillian Silva-Jones; Wendy Berry Mendes, PhD, Yale University; Lauren Whitehurst, PhD

Introduction. Sleep is a prodromal indicator of disease, shaped by environmental and psychosocial factors. Air pollution contributes to sleep disruption, while structural disadvantage, *rooted in social norms and policy*, and psychosocial exposures may drive environmental risk for sleep loss. This study examined how air

pollution interacts with structural disadvantage and perceived stress to influence sleep.

Method. 14,709 participants living in the US (63% males, average age of 46, 24% non-White) completed up to 63 daily self-reports of perceived stress, sleep latency, and duration. Participant zipcodes were linked to geospatial tools to assess air pollution indicators (*SO_2, NO_2, CO, PM_{10})* and to the Structural Racism Effect Index (SREI), which uses census data to quantify neighborhood conditions (0-100, 100=poorer conditions). Parallel mediation models tested whether SREI and perceived stress attenuated the link between air pollutants and sleep, controlling for age, sex, race/ethnicity, and self-reported health. 95% confidence intervals for each indirect effect (IE) are reported.

Results. Aggregate reports revealed 6.5h of sleep, 23 minutes of sleep latency, and 1.81 out of 5 for perceived stress (5=extreme stress). The average SREI score was 39.64 (SD=28.17). CO, NO_2, and PM_{10} significantly predicted SREI (all ps<.001) and perceived stress (all ps<.03). Nearly 6% of the variance in sleep latency was explained by air pollutants, SREI, and perceived stress. SREI (IE – 8.74 – –4.27, CO; –0.15 – –0.07, NO_2; –0.02 – –0.01, PM_{10}) negatively mediated the relationship between CO, NO_2, PM_{10} and sleep latency, whereas perceived stress (IE: 0.56 – 2.44, CO; 0.01–0.04, NO_2; 0.0007–0.01, PM_{10}) positively mediated these relationships. SO_2 predicted SREI (p<.001), and the full regression model explained 6% of the variance. SREI, but not perceived stress, positively mediated the effect of SO2 on sleep latency (IE: 0.53–1.13). While perceived stress predicted shorter sleep duration (p<.001), air pollutants and SREI did not predict sleep duration; therefore, mediation tests were not performed.

Discussion. Structural disadvantage may account for the toll of air pollution on sleep by increasing sleep pressure and promoting faster sleep onsets. In contrast, high environmental burden may also prolong sleep onset due to the impact of perceived stress on psychophysiological arousal.

4

Abstract: 1368

ASSOCIATIONS BETWEEN SUBJECTIVE SLEEP DISTURBANCES AND CARDIOVASCULAR RISK FACTORS IN SPOUSAL BEREAVED ADULTS

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Background: Individuals who have lost a spouse have a higher risk of mortality, particularly due to cardiovascular disease (CVD). Poor sleep is an established CVD risk factor. Given that bereavement is a period marked by heightened sleep disturbances, sleep may represent a potential pathway through which bereavement contributes to CVD. Therefore, in this study, we examined the association between subjective sleep disturbances and CVD risk factors in spousal bereaved adults.

Methods: Participants were 86 spousal bereaved adults (59.5% female, M_{age} =68.20 [SD=9.62] who were recruited approximately three months post-loss across two bereavement studies with harmonized measures. Sleep disturbances were assessed using scores on the Insomnia Severity Index (ISI) and the Pittsburgh Sleep Quality Index (PSQI). CVD risk factors included fasting blood glucose, body mass index (BMI), and systolic blood pressure. Multiple linear regression was used to examine associations between cardiovascular risk factors and sleep disturbance, and all models adjusted for age, sex, education, and the study of origin. Models examining associations with fasting glucose also adjusted for BMI.

Results: Mean scores on the ISI and PSQI were 9.78 (SD=5.24) and 8.60 (3.20), respectively. Mean fasting glucose, BMI, and systolic blood pressure scores were 102.52 mg/dL (25.46), 28.94 kg/m^2 (6.82), and 124.60 mmHg (16.11), respectively. Higher ISI scores were associated with higher fasting glucose levels (β=0.319, *p*=0.008). However, ISI scores were not associated with systolic blood pressure (β=-0.109, *p*=0.343) or BMI (β=-0.045, *p*=0.700). Additionally, PSQI scores were not associated with either systolic blood pressure (β=-0.144, *p*=0.199), BMI (β=0.048, *p*=0.677), or fasting glucose (β=0.188, *p*=0.120).

Conclusion: Insomnia symptoms are associated with glucose regulation among spousal bereaved adults. Future studies should further examine sleep as a potential factor contributing to cardiovascular risk with the use of larger, longitudinal studies and across bereavement types.

Neighborhood Factors and Health Session

1

Abstract: 1161

RESIDENTIAL GREENSPACE, COMMUNITY SOCIOECONOMIC DISADVANTAGE, AND SYSTEMIC INFLAMMATION

Maya Martinko; Peter Gianaros, PhD; Anna Marsland, PhD, University of Pittsburgh

Community greenspace has been implicated as an environmental determinant of health but has been rarely examined in association with systemic inflammation, a possible biological mechanism linking greenspace to a broad range of health outcomes. This study tested the hypothesis that more greenspace in a person's residential area would relate to lower levels of systemic inflammation. Greenspace was determined by geocoding a spatially- and temporally-specific measure of vegetation proximal to home addresses.

Participants were 1072 adults ages 28-71 (M = 53 years; 57% female; 84% White) in the Neurobiology of Adult Health (NOAH) and the Adult Health and Behavior (AHAB) cohorts. Circulating levels of interleukin (IL)-6 and C-reactive protein (CRP) were measured in fasting morning blood samples. The Normalized Difference Vegetation Index (NDVI) was used as a measure of greenness from satellite imagery to represent participant greenspace exposure. Satellite images from Landsat Operational Land Imager (OLI)/Thermal Infrared Sensor (TIRS) Collection 2 Level 2 were obtained from USGS Earth Explorer data portal for each year of data collection in NOAH and AHAB. These images captured the greenest months (May through September) and covered the geography of participant addresses in Western Pennsylvania. An NDVI raster was created for each year in ArcGIS, and these rasters were linked to a point scene layer containing participant addresses. Each participant was then assigned the NDVI value associated with their address within the calendar year of their blood draw (or nearest neighbor if unavailable). Linear regression tested whether greenspace at home addresses predicted log-transformed IL-6 and CRP levels, adjusting for age and sex at birth, and then community- and individual-level socioeconomic status (SES).

Greater greenspace exposure was negatively associated with IL-6 and CRP, adjusting for age and sex (B = -0.003, $p < .01$, CI [-0.006 -0.001]; B = -0.005, $p < .05$, CI [-0.01, -0.0001]). These effects were attenuated to nonsignificance, however, in models including SES measures. Moreover, participants in lower-SES communities, as represented by higher Area Deprivation Index scores, had less greenspace exposure on average (r = -0.18, $p < .001$).

Greenspace may not predict systemic inflammation independently of other measures of community disadvantage.

2

Abstract: 1255

NEIGHBORHOOD-LEVEL HOUSING, EMPLOYMENT, AND EDUCATION CONDITIONS AND METABOLIC SYNDROME AMONG BLACK ADOLESCENTS

Michelle A. Chen, Ph.D, Texas Christian University; Alexa A. Freedman, PhD, Northwestern University Feinberg School of Medicine; Jungwon Kim, BA; Veronica Passarelli, BS; Edith Chen, PhD; Gregory E. Miller, PhD, Northwestern University

Cardiovascular disease (CVD) is a leading cause of adult mortality in the U.S, with Black Americans facing a significantly high risk for developing CVD. While research shows that one's neighborhood context can contribute to these disparities, more work is needed to identify specific neighborhood conditions that can contribute to CVD risk, particularly among younger samples who may be at risk for early CVD progression. Currently, research examining the impact of neighborhoods on cardiovascular health in youth has typically focused on broad neighborhood characteristics such as SES. Here, we examined whether specific domains of typically understudied neighborhood conditions in the adolescent literature were associated with vulnerability to CVD risk. Specifically, we investigated whether neighborhood-level indicators of housing, employment/opportunity, and education were associated with metabolic syndrome (i.e., a cluster of risk factors that can forecast early signs of CVD risk in young, healthy samples) among Black youth. Data was collected from 400 Black youth aged 14 to 19 (Mean age = 16.39; 64% female at birth). Neighborhood data was obtained by geocoding residential addresses and linking to publicly available data at the block-group level or census tract level (depending on availability from various data sources). Metabolic syndrome was assessed per the International Diabetes Federation's definition for adolescents, using 5 measures: waist circumference, blood pressure, cholesterol, triglycerides, and fasting glucose; the latter three were obtained from fasting blood samples that were assayed for a glucose and cholesterol panel. Generalized estimating equations were conducted across both outcomes to account for spatial clustering. All analyses included age, gender, pubertal development status, and household SES as covariates. Poorer housing conditions (i.e., eviction filing rates, housing unaffordability, and housing instability) were significantly associated with both higher counts of metabolic syndrome signs ($b = 0.12$, $p = .006$) and with higher scores on a composite of z-scored metabolic syndrome signs ($b = 0.11$, $p = .026$). Poorer neighborhood-level employment and opportunity conditions (i.e., unemployment rate, job types, proximity to jobs) were also significantly associated with higher sign counts ($b = 0.08$, $p = .010$) and composites scores ($b = 0.08$, $p = .027$). The education composite was not significantly associated with either outcome ($ps > .341$). In sum, poorer neighborhood-level housing and employment/opportunity conditions may promote early CVD progression among Black youth. Future research should further identify mechanisms that may inform neighborhood-level prevention efforts to mitigate greatest risk for developing CVD.

3

Abstract: 1089

MULTI-LEVEL NEIGHBORHOOD AND SCHOOL CHARACTERISTICS DIFFERENTIALLY PREDICT RESTING-STATE FUNCTIONAL CONNECTIVITY DEVELOPMENT DURING ADOLESCENCE

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Background: Neighborhood disadvantage (ND) is associated with youth mental health and cognition, as well as resting state functional connectivity (RSFC) in relevant networks. However, the relation between ND and RSFC development over time is understudied, as is the protective role of school and school district environments. In addition, little attention has been paid the differential role of how ND varies locally, within metropolitan regions (Local-ND) compared with differences between metropolitan regions in neighborhood characteristics (Metro-ND).

Methods: We addressed these questions in youth ages 9-13 in the Adolescent Brain Cognitive Development℠ Study (n = 7003; 48.6% female; 55.5% White, 20.0% Hispanic/Latino, 11.8% Black), with RSFC measured at two time points and linked area-level data on neighborhood disadvantage and school and school district characteristics. Using linear mixed effects models, we examined the association between ND and the level of and change in within-network, between-network, and network-subcortical connectivity for networks related to mental health and cognition, including default mode (DMN), dorsal attention (DAN), fronto-parietal (FPN), and salience (SN) networks.

Results: We found interactions between ND and age for connectivity within the SN and between the DMN and the SN, DAN, and FPN. Higher ND was associated with attenuated age-related decreases in within-SN connectivity and reduced differentiation between networks over time. Metro-ND was uniquely associated with network-subcortical connectivity development, specifically DAN-right amygdala and FPN-left hippocampus connectivity. School district success fostering learning for economically disadvantaged students was a significant moderator for DAN-SN and FPN-SN connectivity, such that in districts with more supportive learning environments for marginalized youth, higher ND was associated with more positive associations between age and connectivity, whereas the opposite pattern emerged in less supportive districts.

Conclusions: Results are among the first to demonstrate links between ND and RSFC development using longitudinal data and highlight the role of broader developmental environments at the neighborhood and school district level. This highlights the importance of considering more distal, macro-level contexts in research on brain, cognitive, and emotional development.

4

Abstract: 1183

ALLOSTATIC LOAD, NEIGHBORHOOD SOCIAL COHESION, AND PSYCHOLOGICAL DISTRESS AMONG BLACK ADULTS IN MILWAUKEE, WISCONSIN

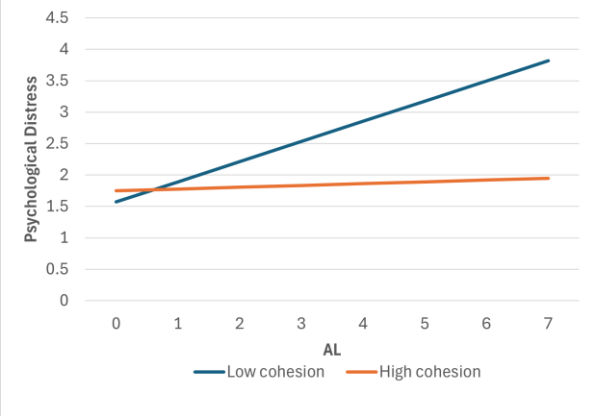
Weidi Qin, University of Wisconsin–Madison; Gail Wallace, PhD, Johns Hopkins University; Iwalola Awoyinka, PhD, MPH, Medical College of Wisconsin; Sarah Salas, MS, University of Wisconsin–Madison

Allostatic load (AL), defined as the cumulative physiological wear and tear over time in response to chronic exposure to stress, is associated with a wide range of adverse mental health outcomes. Socioeconomically disadvantaged groups can experience a high level of AL due to repeated and chronic exposure to social stressors. Extensive research has shown that Black adults have higher AL than White adults, while less is known about within-group differences in Black adults. Informed by Social Capital Theory, this within-group study focusing on Black adults aims to test the following research questions: 1) is AL associated with psychological distress? 2) Does neighborhood social cohesion moderate the association between AL and psychological distress?

Data came from the Midlife in the United States (MIDUS)'s Milwaukee African American Sample and the Biomarker Project. We combined Wave 2 (2005-2006) and refresher wave (2012-2013), resulting in a sample size of 318 Black adults who participated in the biomarker project. AL operationalized based on 24 biomarkers representing seven physiological systems (e.g., cardiovascular system). Neighborhood social cohesion was measured using a 4-item scale. Psychological distress was measured using the 6-item Kessler 6 scale. Ordinary least squares regressions were performed to test the study aims, controlling for relevant socio-demographics and health variables. An interaction term between AL and neighborhood social cohesion was created to test the moderating effects. Missing data were handled using multiple imputations.

The average sample age was 49 (range: 25-82) and approximately two thirds were female. In unadjusted model, psychological distress is associated with a higher score of AL (B = 0.15, p = 0.001) and lower level of neighborhood social cohesion (B = -0.22, p = 0.001). In fully adjusted model, AL maintained significantly associated with psychological distress (B = 0.14, p = 0.001). A significant interaction between AL and neighborhood social cohesion was found (B = -0.10, p = 0.043). Specifically, higher AL was associated with more psychological distress among those experiencing low social cohesion, whereas this association was non-significant among those perceiving high social cohesion.

Focusing on Black adults in Milwaukee, Wisconsin, our findings suggest that neighborhood social cohesion may serve as a buffer against adverse effects of AL on psychological distress. Our findings highlight the complex interplay between biological "tear and wear" and neighborhood cohesion in mental health among Black adults, providing implications for community-level efforts to promote Black health in urban settings.



Special Issue: Interpersonal Processes Session

1

Abstract: 1383

THE COMPOUNDING RISKS OF EARLY ADVERSITY AND COUPLES' LATER LIFE CONFLICTS IN BIOLOGICAL AGING

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Abuse in both childhood and adult intimate relationships are linked to age-related health problems. Positive marital dynamics, however, can buffer stress and protect health, particularly as couples grow older. In this longitudinal study, we applied individual and dyadic stress theories to examine how adversities in early and later life compound to accelerate biological aging. We investigated how couples' destructive (abusive) conflict tactics exacerbate early life adversity's associated biological aging, while constructive tactics temper biological aging concurrently and over time. We focused on middle-aged and older couples because, despite their age-related health risks, they remain an understudied group whose relationships are central to health. Married couples (n=107 couples, 214 individuals, ages 40–87 years) in mixed-gender relationships completed two visits, two years apart. Partners completed the Childhood Adversities scale, Childhood Trauma Questionnaire, and the Revised Conflict Tactics Scale short form. Blood-based measurements of biological aging included telomere length, T cell $p16^{INK4a}$ expression, and epigenetic age acceleration (EAA; PhenoAgeEAA, GrimAgeEAA, HannumEAA, Horvath2EAA, and DunedinPACE). Covariates included sex and comorbidities, with models predicting telomere length and $p16^{INK4a}$ also controlling for chronologic age. Linear mixed models showed those with childhood family adversities had shorter telomeres (b=0.001, p=0.02) and faster epigenetic aging (PhenoAgeEAA, GrimAgeEAA, DunedinPACE; bs= 0.01 to 0.73, ps<0.05). Over time, childhood family adversities predicted larger rises in $p16^{INK4a}$ (b=0.16, p=0.02) and accelerated epigenetic aging (Horvath2EAA and DunedinPACE; bs=0.01 to 0.37, ps<.05). Couple-level conflict tactics moderated these effects: adverse biological aging was driven by more destructive (GrimAgeEAA and DunedinPACE; bs=0.01 to 0.12, ps <0.01), and fewer constructive conflicts (Horvath2EAA; b=-6.12, p<0.01). Findings were similar for childhood maltreatment: those with

childhood maltreatment had shorter telomeres and faster epigenetic aging if couples engaged in more destructive (all markers except *p16 INK4a*; *b*s=0.002 to 0.74, *p*s<0.02) and less constructive (Horvath2EAA*; b*=-0.01, *p* = .02) conflicts in the past year. Couples' conflict tactics may exacerbate the harmful effects of childhood family adversity and maltreatment on biological aging in mid-to-late life. While constructive conflict tactics were protective, epigenetic age acceleration was consistently elevated among those with early life adversity and destructive conflicts. This research illustrates the combined risks of early life adversities and later life destructive marital conflicts on accelerated aging.

2

Abstract: 1240

INTRAINDIVIDUAL VARIABILITY IN AFFECTIVE EXPERIENCES AMONG COUPLES COPING WITH CANCER: TWELVE-MONTH PROSPECTIVE LINKAGES TO PHYSICAL AND FUNCTIONAL WELL-BEING

Shelby Langer; Rachel E. Koffer, PhD; Michael Todd, PhD, Arizona State University; Laura Porter, PhD, Duke University

Research has demonstrated that greater intraindividual variability (IIV) in both negative affect (NA) and positive affect (PA) are associated with poorer well-being and poorer physical health. To our knowledge, this work has not been assessed in the context of couples coping with cancer. Using linear mixed models in an Actor-Partner Interdependence Model framework, we examined prospective links between IIV in NA and PA and physical and functional well-being outcomes among persons with breast, colorectal, or lung cancer and their caregiving partners (244 dyads). Both dyad members independently completed twice-daily, smartphone-based ecological momentary assessments for 14 days. Three PA items and 9 NA items were used to compute PA and NA intraindividual means and standard deviations (IIV). Twelve months later, participants completed self-report measures of physical and functional well-being (Functional Assessment of Cancer Therapy-General). Demographics of the sample were M(SD) age 52.5 (12.5), 82% White, 64% female patients and 38% female caregivers. The analyses yielded several actor effects. For both patients and caregivers and across physical and functional well-being outcomes, greater mean NA predicted one's own lower/worse well-being 12 months later (coefficients [*b*s] = -0.30 to -0.41, *p*s<.05), and greater mean PA predicted one's own better well-being 12 months later (*b*s = 0.26 to 0.45, *p*s<.0001). For patients, greater IIV in their own NA predicted their own worse physical well-being (*b* = -0.52) and for caregivers, greater IIV in their own PA predicted their own *better* functional well-being (*b* = 0.54), *p*s<.05. Partner effects were also observed. Greater IIV in patient's NA predicted worse caregiver physical well-being (*b* = -0.40) and greater IIV in patient PA predicted worse caregiver functional well-being (*b* = -0.49), *p*s<.05. Further, greater IIV in caregiver PA predicted worse patient physical well-being (*b* = -0.41, *p*<.05). IIV in PA and NA emerged as important predictors of physical and functional outcomes 12 months later, even when controlling for average levels, and IIV alone had maladaptive *inter*personal effects. Findings suggest that psychosocial interventions designed to foster well-being in this population may be optimized by assessing and attending to emotional lability.

3

Abstract: 1294

POSITIVE RELATIONS WITH OTHERS AND LONGEVITY: POTENTIAL MEDIATION BY POSITIVE, BUT NOT NEGATIVE, DAILY SOCIAL INTERACTIONS

Elliot Friedman, HDFS - Purdue University; Melissa Franks, PhD, Purdue University

Rationale. Social relationships are critical for human health, but most existing research focuses on either the extent of connections to family and community institutions (e.g., social integration) or the perceived or realized availability of emotional or practical assistance (e.g., social support). We recently reported that positive relations with others – the nurturing and maintenance of mutually enriching social relationships as a critical component of a 'good life' – was associated with longevity independently of social integration and social support. The mechanisms underlying this association between positive relations with others and longevity, however, remain unclear. A potential explanation may be derived from evidence that positive life experiences in general are linked to greater longevity. The aim of the current study is to investigate a potential mediating role for routine positive and negative social interactions in the association between positive relations with others and longevity.

Method. Data were from the national longitudinal Midlife in the United States study (MIDUS). Positive relations with others was assessed using the Ryff Psychological Well-Being sub-scale. Positive as well as negative (arguments and avoided arguments) social interactions over 8 consecutive days were assessed as part of the National Study of Daily Experiences (NSDE). Mortality data through 2023 were obtained from the National Death Index (NDI) and linked to MIDUS. Covariates included age, sex, race, educational attainment, marital status, chronic medical conditions, social support, and social integration. Survival was estimated using Cox proportional hazard models with robust standard errors to account for clustering in the data (siblings and twins).

Results. Positive relations with others significantly predicted significantly reduced mortality hazard. Additional models showed that positive social interactions during a typical week were significantly associated with lower mortality hazard and weakened the association between positive relations with other and mortality hazard. In contrast, negative social interactions, i.e., arguments and avoided arguments during the week were not associated with mortality, and their inclusion in the models did not affect the significant association between positive relations with others and mortality.

Conclusion. These results support the possibility that routine positive social interactions may at least partially account for the association between positive relations with others and longevity. It is notable that the relationship between positive relations with others and mortality was robust to aversive social interactions, suggesting a unique role for positive interactions.

Caregivers Session

1

Abstract: 1116

EMOTION REGULATION TENDENCIES PREDICT INFLAMMATORY REACTIVITY IN DEMENTIA SPOUSAL CAREGIVERS

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Caregiving for a spouse with dementia is a severe, chronic stressor associated with heightened risk for accelerated aging and chronic disease. Yet not all dementia spousal caregivers experience detrimental health effects of caregiving stress; some remain remarkably resilient. Emerging evidence suggests that the ability to effectively regulate emotions during chronic stress can influence disease risk. Two common emotion regulation strategies are expressive suppression and cognitive reappraisal. Expressive suppression is the effortful inhibition of outward emotional expression, while cognitive reappraisal involves reevaluating the meaning of a stressful situation to alter its emotional impact. Expressive suppression is linked with inflammatory dysregulation and poor health outcomes, whereas cognitive reappraisal may buffer against adverse effects of an overactive stress response. This study examined whether cognitive reappraisal or expressive suppression were related to LPS-stimulated cytokine production in a sample of 197 dementia spousal caregivers (73.1% women, 81.7% White, mean age = 71.5 years). Participants provided blood samples and completed the Emotion Regulation Questionnaire, which assessed the frequency of cognitive reappraisal and expressive suppression use. We measured inflammation via ex vivo whole-blood cytokine responses (IL-6, IL-1β, TNFα, and IL-10) to LPS stimulation. Multiple linear regressions tested each emotion regulation strategy as a predictor of cytokine production. Caregivers who reported more frequent use of expressive suppression exhibited significantly higher levels of LPS-stimulated cytokine production compared to those who reported less frequent use of expressive suppression (b = 0.04, SE = 0.01, p = 0.013). Conversely, caregivers who reported more frequent use of cognitive reappraisal exhibited significantly lower levels of LPS-stimulated cytokine production compared to those who reported less frequent use of cognitive reappraisal (b = -0.03, SE = 0.01, p < 0.001). These findings suggest that cognitive reappraisal may protect dementia spousal caregiver health, while expressive suppression could increase vulnerability to premature aging and disease. Future research should explore targeted interventions that enhance cognitive reappraisal or reduce reliance on expressive suppression to improve dementia caregiver well-being.

2

Abstract: 1170

THE ROLES OF AFFECT REGULATION AND GENDER IN TELOMERE LENGTH AMONG FAMILY CAREGIVERS OF ADULTS WITH CANCER

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Cancer caregiving is highly distressing. Difficulties in affect regulation over time have been linked to premature cellular aging, with evidence suggesting that these associations may vary by gender. This study examined the associations between emotion regulation in response to induced acute stress and telomere length over a two-year period, and tested gender as a moderator among spouses of adults with cancer.

Spousal caregivers (N = 113; 55.93 years old; 63.7% female) of adults diagnosed with colorectal cancer (57.05 years old; 36.3% female; 60% Hispanic; 73% with advanced cancer; 7 months post-diagnosis) underwent a close relationship and medical-related stress task during an initial assessment (T1). Caregivers self-reported negative and positive affect responses during the task, capturing both reactivity and recovery. Blood samples were collected to assess telomere length at T1, and at annual follow-ups (T2 and T3). Gender was self-reported and age was included as a covariate.

Caregivers exhibited significant affective reactivity and recovery (p < .001) and insignificant trends in telomere shortening over time. General linear modeling revealed that beyond the expected association between older age and shorter telomere length, the interaction between gender and positive affect recovery was significant at T1 (p = .019), and marginally significant at T3 (p = .055). Specifically, greater positive affect recovery was associated with shorter telomere length only among female caregivers (B = -.128 and -.247, p ≤ .03) at both T1 and T3. Other markers of affect regulation were not significantly associated with telomere length.

Findings underscore the differential roles of gender and affective valence in cellular aging. Greater affective resilience in the face of uncontrollable stress, such as advanced cancer, may come at a biological cost for female caregivers. Future research is needed to investigate biological (e.g., telomerase activity, cardiometabolic markers) and psychosocial (e.g., perceived caregiving stress, sociocultural expectation around caregiving) factors linking affect regulation to cellular aging. Identifying potential moderators of null findings are also warranted.

3

Abstract: 1286

AN ANTICIPATORY GRIEF PATHWAY FROM CAREGIVER BURDEN TO DEPRESSION AND THE BUFFERING ROLE OF PBMC ENERGY PRODUCTION EFFICIENCY

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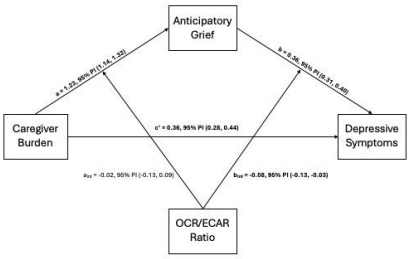
Dementia spousal caregiving is among life's most stressful experiences, often resulting in depression. Extensive burden on caregivers contributes to living bereavement and anticipatory grief, key stressors in depressive symptom pathogenesis for dementia caregivers. Immune cell energy production may also be a key player in depressive symptom pathogenesis, such that caregivers whose immune cells rely more heavily on glycolysis and less heavily on oxidative phosphorylation may be at greater risk for developing depression relative to caregivers whose immune cells produce energy more efficiently. This study sought to address whether anticipatory grief mediated the relationship between caregiver burden and depression, and whether the

baseline peripheral blood mononuclear cell oxidative consumption rate to extracellular acidification rate ratio (PBMC OCR/ECAR ratio) moderated this mediation. **Method:** In a cohort of 178 dementia spousal caregivers, we assessed caregiver burden, anticipatory grief, and depressive symptoms at four timepoints across two years. At baseline, we also assessed PBMC OCR/ECAR ratio using the Agilent Seahorse Mitochondrial Stress Test. We conducted a Bayesian multilevel moderated mediation model to assess our research question. **Results:** Accounting for within-person effects, between-person anticipatory grief significantly mediated the relationship between caregiver burden and anticipatory grief ($b_{indirect}$ = 0.44, 95% *PI* [0.37, 0.50]). Further, PBMC OCR/ECAR ratio significantly moderated the b path (from anticipatory grief to depressive symptoms) such that the relationship between anticipatory grief and depressive symptoms was strongest among caregivers with low OCR/ECAR ratios (b_{int} = -0.08, 95% *PI* [-0.13, -0.03]; see Figure 1) **Discussion:** This study highlights a causal, longitudinal psychosocial pathway from caregiver burden to depression in dementia spousal caregivers through anticipatory grief and demonstrates the predictive power of OCR/ECAR ratios in depressive symptom expression.



4

Abstract: 1171

ADJUSTMENT ACROSS PARENT–CHILD TRIADS WHILE TRANSITIONING TO EMPTY NESTING: A LONGITUDINAL DAILY DIARY PILOT STUDY

Athena Chan; Carson Dover, MS; Mozhgan Rezvani Shakib, MS; Sylvia Niehuis, PhD; Sylvia Niehuis, PhD, Texas Tech University

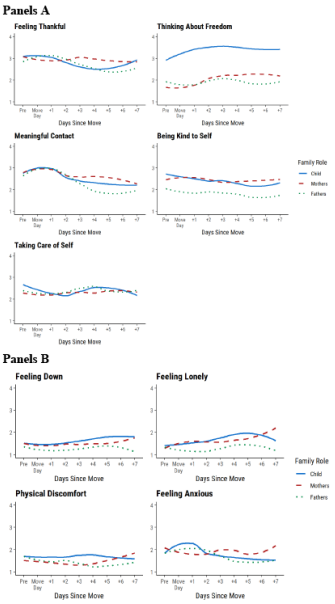
Introduction: When the last child leaves home for college, families face a major transition. Despite its prevalence, few U.S. studies have examined empty nesting. No prior work has used an intensive longitudinal design to track adjustment from three perspectives (two parents and the last departing child). We piloted a longitudinal mixed-methods daily-diary study with family triads to capture adjustment before, during, and after the move.

Methods: We recruited 22 families (66 individuals) via university orientation events, parent networks, and student announcements. Evening surveys were completed via app for 8 days pre-move, on the move day, and 7 days post-move. Fifty-four participants (18 children, ages 18-19; 16 fathers, and 20 mothers, ages 38-78, *M* = 52.4) completed daily surveys, yielding 486 person-days. Daily measures included positive (gratitude, freedom, meaningful contact, self-kindness, self-care) and negative states (low mood, loneliness, anxiety, physical discomfort). Open-ended reflections on supportive or disappointing interactions were collected. Pre-move surveys were averaged as the baseline. Analyses were descriptive and exploratory, with plotted trajectories and thematic coding to identify role-specific patterns.

Results: Trajectory plots showed daily variability in positive and negative states. Mothers' negative states gradually increased, whereas fathers and children showed decreases about 5 days post-move. Children reported higher freedom, whereas fathers reported lower self-kindness. Meaningful contact was stable for mothers but declined for children and fathers. Open-ended reflections aligned with these patterns: children emphasized remote connections but noted unmet practical support and autonomy struggles; mothers expressed pride in child independence but frustration with limited communication; and fathers focused on children's independence and behavior, with occasional concerns about adjustment and safety.

Conclusions: This pilot study demonstrates the feasibility of an intensive longitudinal daily-diary study with family triads for empty nesting. Larger studies are needed to confirm these observations and guide interventions. Future work should test resilience-building strategies, balanced autonomy, self-compassion, and gratitude journaling to support family well-being and reduce stress-related health risks during this transition.

Figure 1. Daily trajectories of psychological states across the empty-nesting transition for children, mothers, and fathers.
Panels A depict changes in positive states, including feeling thankful, thinking about freedom, meaningful contact, being kind to self, and taking care of self. **Panels B** depict changes in negative states, including feeling down, feeling lonely, physical discomfort, and feeling anxious.
Note. The x-axis represents days since move, with "Pre" reflecting the averaged baseline across the eight days before the move, "Move Day" indicating the day of departure, and +1 through +7 denoting days after the move. The y-axis represents ratings collected via daily surveys before, during, and after the move (range = 1-4).



Depressive symptoms and Health Session

1

Abstract: 1364

DEPRESSIVE SYMPTOM TRAJECTORIES, CARDIOVASCULAR EVENTS AND MORTALITY IN THE CORONARY ARTERY RISK DEVELOPMENT IN YOUNG ADULTS (CARDIA) STUDY

Diana Chirinos, University of Miami; Morgann West, M.A., Northwestern University Feinberg School of Medicine ; Carly

Bohlman, M.A., University of Miami; Hongyan Ning, Ph.D.; Kiarri Kershaw, Ph.D.; Norrina Allen, Ph.D., Northwestern University Feinberg School of Medicine ; Catarina Kiefe, M.D., University of Massachusetts Medical School; Allison Carroll, Ph.D., Northwestern University Feinberg School of Medicine ; Cora Lewis, Ph.D., The University of Alabama at Birmingham; Pamela Schreiner, Ph.D., University of Minnesota; Mercedes Carnethon, Ph.D., Northwestern University Feinberg School of Medicine

Background: Depressive symptoms are well-established cardiovascular disease (CVD) risk factors. Yet, most studies rely on single time-point assessments and conventional modeling approaches, overlooking the heterogeneity of depressive symptoms presentation and course. Leveraging data from the Coronary Artery Risk Development in Young Adults (CARDIA) study, we characterized depressive symptom trajectories over 20 years and examined their association with CVD endpoints (CVD events & CVD mortality) and all-cause mortality.

Methods: We included 3,147 CARDIA participants (18-30 years at baseline) with ≥3 depressive symptom assessments available from exam years (Y) 5 through Y25 who were free of CVD events during this period. We used group-based trajectory modeling to identify depressive symptom trajectories based on scores on the Centers for Epidemiologic Studies Depression Scale (CES-D). Survival analyses were used to examine associations between depressive symptom trajectories and incident CVD events, CVD mortality and all-cause mortality. Models controlled for socio-demographic (age, race, sex, education, field center) and CVD risk factors (blood pressure, anti-hypertensive medication, total cholesterol, diabetes, smoking, body mass index).

Results: Participants' mean (SD) age at Y25 was 50.2 (3.6), 45.3% (n=1425) were Black and 42.9% (n=1350) were men. Over a mean follow-up of 12.5 years, there were 169 incident CVD events, 35 CVD deaths and 149 all-cause deaths**.** We identified three depressive symptom trajectories characterized by stable Low (64.1% of the sample), Moderate (30.0%) and High (5.9%) depressive symptoms over time. In models adjusted for socio-demographic factors, individuals in the High Symptoms trajectory had significantly higher risk of CVD events (HR= 1.83, 95% CI=1.05-3.20), CVD mortality (HR= 5.08, 95% CI=2.08-12.42) and all-cause mortality (HR= 2.71, 95% CI=1.60-4.59) compared to those in the Low Symptoms trajectory. The elevated risk of CVD (HR= 4.09, 95% CI=1.62-10.37) and all-cause mortality (HR=2.33, 95% CI=1.37-3.98) remained significant after adjustment for CVD risk factors, while the association with CVD events was attenuated. Individuals in the Moderate Symptoms trajectory had higher risk of all-cause mortality (HR=1.57, 95% CI=1.106-2.24) compared to those in the Low Symptoms trajectory in models adjusted for socio-demographic factors, but not after adjustment with CVD risk factors. Results remained unchanged after controlling for antidepressant use.

Conclusions: Persistently high depressive symptoms across adulthood are linked to markedly higher risk of CVD and all-cause mortality, independent of socio-demographic and cardiovascular risk factors, highlighting the long-term impact of chronic depression.

2

Abstract: 1341

SYMPTOM DYNAMICS OF DEPRESSION AND ANXIETY ACROSS TWO YEARS OF FOLLOW-UP IN PATIENTS WITH CORONARY HEART DISEASE

Heidi Hermans; Stefana Vida, BsC; Joris Mulder, PhD; Mihai Constantin, MsC; Nina Kupper, PhD, Tilburg University

Background: Among coronary artery disease (CAD) patients, symptoms of anxiety and depression frequently co-occur, worsening clinical outcomes and complicating recovery trajectories. Despite the high prevalence and clinical significance of this comorbidity, the underlying symptom-level dynamics and interactions between anxiety and depression in this population remain poorly understood. Therefore, our primary research goal was to gain new insights into the comorbidity of anxiety and depression symptoms in CAD patients by estimating psychological networks at multiple time points.

Methods: 2319 patients (23% female, age: 65±10.8, 36% elective procedure) who received a coronary angioplasty were included and provided information on symptoms of depression (PHQ-9) and anxiety (GAD-7) at five time-points over a two-year period (N range with complete symptom data: 1818 (BL) - 1100 (2-yr FU)). We estimated symptom networks of depression and anxiety consisting of 16 nodes at five time points using Bayesian Gaussian Graphical Models, identified symptom communities through clique percolation to gauge comorbidity, and looked at temporal changes in edge structure. We will also explore group differences based on several patient characteristics (i.e., sex or CAD risk factors).

Results: Network analyses revealed an internal structure linking depression and anxiety symptoms, with strong centrality observed for fatigue, loss of interest or pleasure, depressed mood and trouble relaxing. Community detection with clique percolation showed distinct but interconnected communities of symptoms with at least two other connected symptoms, which varied across the five time points. The two communities identified at multiple occasions were: a community with predominantly depressive symptoms (e.g., depressed mood, feelings of guilt, suicidal ideation), and a community with fatigue-related symptoms (e.g., fatigue, sleep disturbances, loss of interest). Longitudinal analyses demonstrated temporal shifts in the comorbidity pattern, e.g., at baseline and one-month follow-up, fatigue showed strong interconnections with concentration difficulties and fear, while over time these connections weakened. Results on group differences will be presented at the conference.

Conclusions: Symptoms of depression and anxiety are related, with interconnections weakening across the two-year follow-up. Depression symptoms were less variant and more interconnected than anxiety symptoms.

3

Abstract: 1141

ASSOCIATIONS BETWEEN PERCEIVED STRESS, ANXIETY, AND DEPRESSIVE SYMPTOMS WITH REPRESENTATIONAL SIMILARITY IN THE AMYGDALA'S REACTIVITY TO NEGATIVE VS. NEUTRAL STIMULI IN A LARGE ADULT SAMPLE SPANNING SEVEN DECADES

Mingtong Liu; Kareem Al-Khalil, Ph.D.; Sarah Skinner, B.S.; Lauren Gresham, B.A.; Elizabeth Nord, B.A.; Jinx Recchio, M.S.; Rasmus Birn, Ph.D.; Richard Davidson, Ph.D.; Stacey Schaefer, Ph.D., University of Wisconsin-Madison

Understanding how emotional processes in the brain contribute to stress, anxiety, and depressive symptoms is important for providing insights into the neural basis of mental health and may inform strategies to improve emotional well-being. We examined

associations between representational pattern similarity in amygdala reactivity to negative and neutral stimuli and levels of perceived stress, anxiety, and depressive symptoms in individuals from the Midlife in the United States study's Core and Refresher samples (M3+MR1: n = 259, mean age = 57.57 ± 13.47 (SD) years, age range = 26-95, 148 female, 77 Black, Indigenous, and/or People of Color, 64 with high school or less education, 48 with some college or technical training, and 147 with bachelors or higher degree). Task-based functional magnetic resonance imaging (fMRI) measured participants' brain reactivity to affective stimuli. During the fMRI scan, participants viewed 30 negative, 30 neutral, and 30 positive images (4s each). Participants completed a 10-item Perceived Stress Scale (Cohen & Williamson, 1988) and a Mood and Anxiety Symptoms Questionnaire (Clark & Watson, 1991) 1-2 days before the fMRI scan. We used representational similarity analysis to measure pattern similarity in the amygdala between the negative and neutral images (assessing amygdalar differentiation between the emotionally valenced stimuli to assess *emotionalreactivity*). Regression analyses, generalized estimating equation models, and path analyses were performed before and after adjusting for age, sex, race, education, and family dependencies. Less bilateral amygdalar pattern similarity between negative and neutral images was significantly associated with higher perceived stress. There was no direct association of amygdalar pattern similarity with anxiety or depressive symptoms. However, mediation analyses suggested that perceived stress indirectly linked amygdalar pattern similarity with both anxiety and depressive symptoms. Effects remained after adjusting for covariates. Individuals with more amygdalar differentiation between negative and neutral stimuli reported higher perceived stress, which in turn, predicted more anxiety and depressive symptoms. These findings are consistent with theories suggesting that stress influences individuals' emotional processes and contributes to distress. Greater amygdalar emotional sensitivity may contribute vulnerability to anxiety and depression based on perceived stress levels. Understanding how individual differences in amygdalar sensitivity to negative information are related to stress, anxiety, and depression can improve our knowledge of the neural basis of emotion and distress.

4

Abstract: 1172

STIGMA AND DEPRESSIVE SYMPTOMS IN INDIVIDUALS LIVING WITH ENDOMETRIOSIS

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Background: Endometriosis occurs when tissue similar to the endometrium is found outside the uterus and involves symptoms such as menstrual pain, dyspareunia, and infertility. Many individuals living with endometriosis (ILWEs) report being stigmatized and are at elevated risk for depression. Yet there is a dearth of research on the association between stigma and depressive symptoms among ILWEs, especially endometriosis stigma and menstrual stigma. This study aimed to understand the relationship of endometriosis self-stigma and menstrual self-stigma with depressive symptoms.

Methods: A sample of ILWEs residing in the U.S. was recruited through a non-profit organization in 2023. Participants completed an online demographic and endometriosis-related questionnaire, the Center for Epidemiologic Studies Depression Scale (CES-D), a version of the Stigma Scale for Chronic Illness (SSCI) adapted for ILWEs, and the Menstruation as Disgusting/Shameful and I Feel Self-Conscious subscales of the Menstrual Self-Evaluation Scale (MSES). Analyses included a series of hierarchical linear regression and mediation models controlling for sociodemographic and endometriosis disease variables.

Results: Participants (N = 410) were geographically diverse and had a mean age of 33.9 (*SD* = 7.62). A majority identified as White/non-Hispanic (77.6%). Participants reported high depressive symptoms (CES-D *M* = 25.3, *SD* = 11.7), moderate endometriosis self-stigma (Adapted SSCI *M* = 36.6, *SD* = 8.51), and low to moderate menstrual self-stigma (*M* = 22.2, *SD* = 7.12 on the Menstruation as Disgusting/Shameful subscale; *M* = 9.55, *SD* = 4.68 on the I Feel Self-Conscious subscale). Findings show that endometriosis self-stigma was the strongest statistical predictor of depressive symptoms, β = .46, 95% CI [.36, .57], t = 8.49, p < .001. Education (β = -.10, 95% CI [-.20, -.002], t = -2.01, p < .05), perceived health (β = -.13, 95% CI [-.24, -.03], t = -2.49, p < .05), and pain frequency (β = .12, 95% CI [.02, .22], t = 2.36, p < .05) also predicted depressive symptoms. Further, menstrual self-stigma as measured by the MSES I Feel Self-Conscious subscale partially mediated the association between endometriosis self-stigma and depressive symptoms (Indirect standardized effect estimate = .11, *SE* = .04, 95% CI [.08, .23]), but menstrual self-stigma via the Menstruation as Disgusting/Shameful MSES subscale did not.

Conclusions: Menstrual self-stigma – especially feeling self-conscious – contributes to depressive symptoms via its association with endometriosis self-stigma. Yet endometriosis self-stigma is also independently associated with depressive symptoms. Recognizing stigma as a contributor to depressive symptoms could be a first step to improve the mental health of ILWEs.

Personality and Health Session

1

Abstract: 1264

MOOD REACTIVITY AND METABOLIC RISK FACTORS IN HOSTILE ADULTS: AN EXPERIMENTAL INTERVENTION

Eli Rice; Colin Vize, PhD; Stephen Manuck, PhD; Thomas Kamarck, PhD, University of Pittsburgh

Much evidence has demonstrated that individuals who have high scores on dispositional hostility are at risk for metabolic syndrome. Moreover, previous evidence suggests that prolonged exposure to social conflict may be associated with increased cardiovascular risk, and individuals who are high in dispositional hostility may be particularly sensitive to these effects. Reductions in central serotonergic activity have been associated with both metabolic risk factors and social conflict, and as such have been the target for intervention efforts.

This analysis made use of data from the Stress Treatment and Health Risk (STAHR) cohort (n=159), an experimental study that assessed the effect of citalopram, a selective serotonin reuptake inhibitor (SSRI) on biopsychosocial outcomes in hostile but otherwise healthy adults. Participants completed lab-based metabolic measures pre- and post-treatment and monitored their daily experiences over two 3-day periods using ecological momentary assessment methods, once before and once during a

six-week treatment. During these periods, participants answered hourly questions about current activities, affect, and social interaction quality. Previous reports from this study have demonstrated a significant treatment effect in trait measures of hostile affect and metabolic risk factors. Changes in blood glucose were significantly mediated by treatment-related changes in trait hostile affect. In addition, those in the intervention condition showed a significant reduction in acute hostile mood responses to social conflicts during daily life compared to the control group. It may be that cumulative effects of autonomic responses to episodes of hostile affect in reaction to social encounters may have contributed to group differences in metabolic risk factor changes with treatment. Relatedly, here we test whether hostile mood responses to daily social conflict mediated the effects of the SSRI intervention on metabolic outcomes in STAHR.

Using RMediation with a distribution of product method, we found no significant evidence of mediation among any of the metabolic variables: glucose (b = –0.21, 95% CI [–1.01, 0.40]), cholesterol (b = –0.06, 95% CI [–2.10, 1.93]), triglycerides (b = 0.93, 95% CI [–3.80, 6.50]), HDL (b = 0.09, 95% CI [–0.44, 0.71]), insulin (b = 0.40, 95% CI [–0.33, 1.48]), and waist circumference (b = –0.07, 95% CI [–0.36, 0.16]).

Our results did not support that changes in acute hostile mood reactivity to social conflict were a mechanism by which metabolic risk factors were reduced in STAHR. Future work should continue to explore possible mechanisms linking hostility intervention effects with metabolic outcomes. This research was supported by the NHLBI (HL040962) and the Pittsburgh Mind-Body Center (HL076852, HL076858).

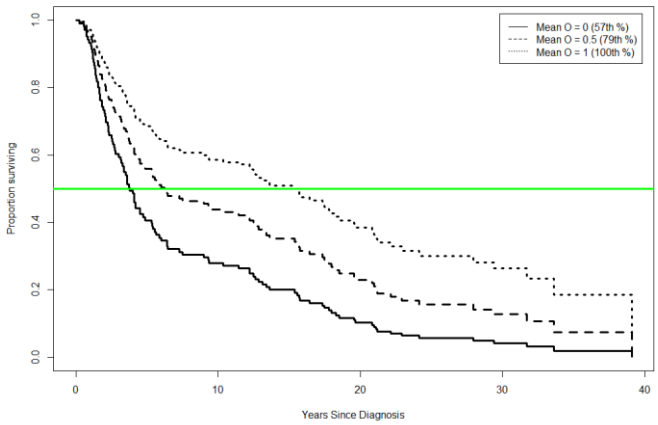
2

Abstract: 1031

OPENNESS, BUT NOT OTHER PERSONALITY FACTORS, PREDICTS SURVIVAL IN AMYOTROPHIC LATERAL SCLEROSIS

Suzanne Segerstrom; Sophia Beck, Undergraduate, Oregon State University; Edward Kasarskis, MD, PhD, University of Kentucky

Personality is associated with longevity in healthy samples as well as in many clinical disorders, and this association may also apply to people with amyotrophic lateral sclerosis (PALS). The present study tested the personality-survival relationship in a diverse sample of PALS (N = 123) in terms of age (Mage = 59, range 25-81 years), gender (70% male), and disease severity (29% severe, 36% moderate, 35% mild). PALS's study partners (84% spouses, Mage = 55 years, range 19-78 years) reported up to 7 times over 18 months whether or not personality adjectives (e.g., curious, grateful, unhappy) described the PALS. Adjectives were assigned to the broad factors of the Big 5 personality taxonomy (extraversion, agreeableness, conscientiousness, neuroticism, and openness/intellect). The 5 personality factors were operationalized as the mean endorsement across adjectives and time (range 0-1) for each factor. PALS were followed for up to 20 years for vital status. PALS who were high in openness/intellect ("curious") had up to 58% lower instantaneous risk of death (HR = .42, 95%CI [.24, .74]); other personality factors were not significantly associated with risk of death (HR = 0.93 (E), 0.96 (A), 1.12 (C), 1.20 (N)). The openness/intellect effect remained in models adjusted for prognostic variables age, sex, site of onset, and rate of disease progression (HR = .41 [.23, .74]) and additionally for respiratory strength (HR = .46 [.26, .84]) as well as in a model removing PALS without a confirmed diagnosis (N = 29), albeit at p = .056 with the smaller sample size (HR = .45 [.20, 1.02]). The predominance of openness/intellect, which is not a robust predictor of survival in other kinds of samples, in predicting ALS survival time may arise from an unmeasured variable in the original study. Frontotemporal dementia (FTD) is part of an ALS-FTD spectrum, a poor prognostic factor for survival in ALS, and associated with lower openness and curiosity. If openness is a proxy for FTD in ALS, the ability of personality to predict disease outcomes suggests the possibility of a simple and effective clinical tool.



3

Abstract: 1256

HARDINESS IS ASSOCIATED WITH REDUCED MORTALITY RISK IN PATIENTS UNDERGOING CORONARY INTERVENTION: THE THORESCI STUDY.

Nina Kupper, PhD, CoRPS, Dept.of Medical & Clinical Psychology; Michael Magro, MD PhD, Department of Cardiology, Elisabeth-TweeSteden hospital; Willem Johan (Wijo) Kop, PhD, Tilburg University

Background: Hardiness, a psychological trait denoting the tendency to view stressors as manageable (i.e. challenge), and feeling in control and engaged, has been cross-sectionally associated with better psychosocial adjustment, healthier lifestyles, and lower cardiometabolic risk. Longitudinal research and evidence regarding medical outcomes are largely lacking. The current study examined the prospective association of hardiness characteristics with 5-year mortality, while adjusting for confounders, and examined healthy lifestyle behaviors as a potential mediating mechanism.

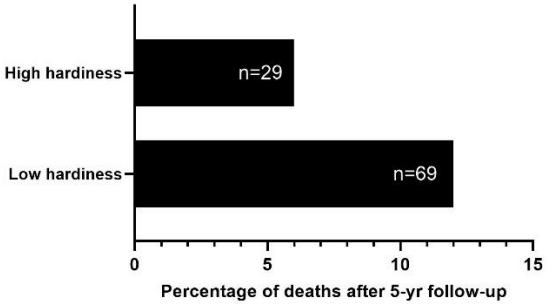
Methods: We used baseline and 5-year follow-up data of mortality events of 1365 patients (22% female, aged 64±11) from the THORESCI cohort who underwent percutaneous coronary intervention (PCI). Hardiness was assessed using the Bartone's DRS-15, including facets. The predictive value of hardiness for 5-year mortality was investigated by hierarchical logistic regression, adjusting for demographics (age, sex) and medical covariates (cardiac history, comorbidity). We also examined the mediating role of healthy lifestyle factors (participation in cardiac rehabilitation (CR), BMI, medication adherence, engaging in stress management activities (e.g., yoga, meditation; MOS), physical activity). These models were repeated for the three facets of hardiness (i.e., challenge, control, and commitment).

Results: At 5-year follow-up, 10% of patients had died from any cause (n=139). Hardiness was a significant protective factor against mortality (OR=.94 per scale unit (95%CI: .90-.98),

p=.003), adjusting for important demographic and medical covariates. CR participation (OR=.58 (95%CI: .36-.96), p=.034) and sufficient physical activity (OR=.55 (95%CI:.33-.93), p=.025) partially mediated hardiness' protective effect. In terms of facets, only challenge was related to reduced mortality, which remained significant in the full model (OR=.89 (95%CI:.79-.99), p=.038).

Conclusion: Patients who exhibited higher levels of hardiness were at reduced risk for 5-year mortality after PCI. Participating in CR and being sufficiently physically active may play a part in the observed protective effect. While hardiness interventions specific to cardiac patients are rare, techniques learned in psycho-educational and stress-management CR modules may boost aspects of hardiness, like goal setting, stress appraisal, and self-efficacy.

Number and percentage of deaths after 5-years of follow-up, stratified by a median split for hardiness in post-PCI patients



4

Abstract: 1241

NEUROTICISM AND FACET-LEVEL ASSOCIATIONS WITH BLOOD PRESSURE RESPONSES TO STRESS

Derick DeCamp, M.S.; John Kurtz, PhD; Benjamin Sachs, PhD; Elizabeth Pantesco

Neuroticism is a unique predictor of poor mental and physical health outcomes. One potential pathway underlying the neuroticism-health link is dysfunction in the cardiovascular response to acute stress. However, studies examining neuroticism in relation to blood pressure (BP) reactivity to acute lab stressors have produced mixed results, and few have focused on BP recovery. Therefore, we examined neuroticism and BP stress responses and explored differential effects of stressor type and neuroticism facets (anxiety, depression, and emotional volatility). Participants (N = 119; mean age = 19.9 years; 69.7% female) completed The Big Five Inventory- 2 (Soto & John, 2017) prior to a laboratory stress session consisting of an anger recall task and a speed-titrated Stroop task. BP measurements were taken every two minutes during baseline, stressor, and recovery. In linear mixed-effects models adjusted for demographics, body mass index, and task order, neuroticism was not associated with BP reactivity (systolic: B = 0.05, SE = 0.08, p = .49; diastolic: B = 0.04, SE = 0.06, p = .57). Neuroticism was associated with higher diastolic (B = 0.10, SE = 0.04, p = .007), but not systolic (B = 0.01, SE = 0.03, p = .78), BP during stress recovery. In exploratory analyses examining facets, anxiety (B = 0.34, SE = 0.10, p = .001) and emotional volatility (B = 0.18, SE = 0.09, p = .04) were related to higher diastolic recovery values, while depression was not (B = 0.13, SE = 0.09, p = .14). There was an anxiety × task type interaction (B = -0.32, SE = 0.12, p = .01) in which anxiety was associated with higher diastolic BP during anger recall recovery (B = 0.50, SE = 0.11, p < .001) but not during Stroop recovery (B = 0.18, SE = 0.11, p = .11). Findings highlight the importance of examining facet levels and considering stressor type in understanding how neuroticism relates to cardiovascular stress responses.

March 14th, 2026

Positive Psychosocial Factors and Health Session

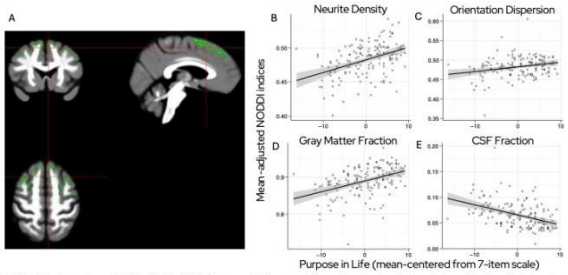
1

Abstract: 1243

HIGHER LEVELS OF PURPOSE IN LIFE ARE ASSOCIATED WITH HEALTHIER DORSOLATERAL PREFRONTAL CORTICAL GRAY MATTER MICROSTRUCTURE IN MIDLIFE AND OLDER ADULTHOOD

Stacey Schaefer; Nagesh Adluru, PhD, University of Wisconsin-Madison; Ajay Kumar Nair, PhD, National Institute of Mental Health and Neurosciences, Bengaluru, India; Lauren Gresham, BA; Sarah Skinner, BS; Andrew Alexander, PhD; Richard Davidson, PhD; Carol Ryff, PhD, University of Wisconsin-Madison

A growing body of evidence links having a sense of purpose and finding meaning in life with better health, preserved cognition, and longevity, suggesting that a greater sense of purpose in life provides resilience to stress, adversity, and even aging processes in the body and brain. We have previously found higher self-reported levels of purpose in life were associated with diffusion-weighted imaging (DWI) metrics indicative of better brain health in the *white matter and hippocampus* (Nair et al., 2024). We have now extended this work to examine associations between levels of purpose in life with *cortical* microstructure in the Midlife in the U.S. (MIDUS) study's Core sample at MIDUS 3 (n = 152, age mean = 64.91 years, age range = 48-95 years, 59% Female, 27% BIPOC, and 26% with a high school education or less, 31% with technical training and/or some college, and 43% with at least a Bachelor's degree). Using a Fisher method based non-parametric combination (NPC) in the Permutation Analysis of Linear Models (PALM) framework and gray matter based spatial statistics (GBSS), we tested the *joint* effect of self-reported levels of purpose in life (Ryff, 1989) using the multi-tissue Neurite Orientation Dispersion and Density Imaging model (NODDI; Fick et al., 2019). Specifically, we assessed relationships between purpose and four microstructural indices (neurite density, orientation dispersion, and gray matter and cerebrospinal fluid (CSF) fractions), while controlling for age, sex, race, and educational attainment. Statistical maps were corrected for family-wise error using threshold-free cluster enhancement (TFCE) across all of cortex. Higher levels of purpose in life were associated with greater gray matter, orientation dispersion, and neurite density indices, but lower CSF fraction bilaterally widespread in dorsolateral prefrontal cortex, the only cortical region to survive corrections, exhibiting a pattern consistent with more complex and healthier microstructure. Therefore, feeling a greater sense of purpose in midlife and older adulthood may be reflected by, *and/or supported by*, greater structural integrity of dorsolateral prefrontal cortex, which is critical for complex, goal-directed behaviors. Findings will be discussed in terms of the implications for maintaining wellbeing and brain health as we age.



(A) Statistical map shows significant joint effect of purpose in life across all four microstructural indices in dorsolateral prefrontal cortex. (B-E) Scatterplots visualizing significant relations in dorsolateral prefrontal cortex clusters such that greater self-reported purpose in life was associated with higher (B) neurite density, (C) orientation dispersion, (D) gray matter fraction, and lower (E) CSF fraction (adjusted for age, sex, race, and educational attainment).

2

Abstract: 1303

POSITIVE PSYCHOSOCIAL FACTORS AND THEIR PROTECTIVE EFFECT ON SYSTOLIC AND DIASTOLIC BLOOD PRESSURE IN BLACK WOMEN WITH AND WITHOUT SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Systemic Lupus Erythematosus (SLE) is a chronic autoimmune condition that disproportionately affects Black women in the United States, who also experience worse cardiovascular disease (CVD) outcomes than Black women without SLE. Past studies linking stressors to health outcomes partially attribute these disparities to psychosocial factors. However, research on positive psychosocial factors (PPF) is rarer, though necessary to delineate their protective role in CVD pathways such as blood pressure. PPF are multidimensional resources that include meaning, purpose and/or supportive relationships and promote human flourishing even in the face of social, physical, or economic challenges. Importantly, prior work shows that Black Americans often exhibit higher levels of religiosity and eudaimonic well-being (e.g. purpose) than White Americans. Therefore, studies in this population may benefit from incorporating socioculturally relevant frameworks for measuring PPF. We examined the association between an integrated, multidimensional measure of PPF and systolic (SBP) and diastolic (DBP) blood pressure in Black women with and without SLE.

Methods: This study was a cross-sectional analysis of a cohort of 402 Black women (n=401 with validated diagnosis of SLE) living in Georgia between 2017 and 2020. We recruited Black women with SLE from a population-based cohort established in Atlanta, and Black women without SLE of comparable age from the same geographic areas as those with SLE. A composite score of PPF was derived through summation of Z-transformed scales (mastery, purpose in life, self-compassion, emotional support, and religious dimensions) assessed at baseline. SBP and DBP were also clinically assessed at baseline. Next, we used SLE-stratified multivariable linear regression models to adjust for sociodemographic and clinical factors, as well as cognitive depressive symptoms.

Results: Average PPF scores as well as SBP were similarly distributed across the two groups. However, Black women with SLE had higher DBP levels on average (p=0.03). After adjustment for covariates, among Black women with SLE, higher PPF scores were associated with lower DBP (74.4 + 2.49 vs. 83.2 + 2.21, p=.001, highest vs. lowest quartile). Similar results were found for SBP (112.4 + 3.35 vs 121.6 + 2.96, p=.01, highest vs. lowest quartile). No associations between PPF scores and blood pressure levels were observed for Black women without SLE.

Conclusion: Findings suggest that among Black women with SLE, having higher levels of PPF is protective against a CVD risk factor: elevated blood pressure. Policies and interventions that target the psychosocial well-being of this population may help improve their cardiovascular health and overall well-being.

3

Abstract: 1237

EVERYDAY DISCRIMINATION, PURPOSE IN LIFE, AND T CELL WEATHERING IN THE HEALTH AND RETIREMENT STUDY

Emiko Kranz; Jemar Bather, PhD; Adolfo Cuevas, PhD, NYU School of Global Public Health

Background: Discrimination is a social determinant of health increasingly studied for its potential impact on immune health via neuroendocrine pathways that initiate the body's immune response. T cells, which play a critical role in protective immune responses, may be particularly sensitive to everyday discrimination. Everyday discrimination has been linked to dysregulated, higher total CD4+ and CD8+ T cell counts, as well as higher counts in certain T cell subpopulations. Increases in "terminally differentiated" subpopulations are of particular interest, as higher levels of these "weathered" T cell subpopulations can be indicative of accelerated aging and reduced functionality of the adaptive immune system. However, little is known about the potential buffering role of psychological wellbeing in the relationship between everyday discrimination and T cell weathering.

Methods: This study used data from the Venous Blood Study, a biomarker project within the Health and Retirement Study. Weighted linear regression models tested whether purpose in life significantly moderated the relationship between everyday discrimination and T cell abundance. T cell subpopulations were ascertained using multiparameter flow cytometry assays and natural log-transformed for analyses. The validated Everyday Discrimination Scale was used to measure daily discrimination exposure. Seven items were adapted from the Ryff Measures of Psychological Well-being to assess purpose in life. Covariates included age, sex, race/ethnicity, smoking status, alcohol use, and body mass index. Missing data was addressed using multivariate imputation by chained equations.

Results: Of the 6,790 participants (mean age = 70 years [SD=9]), 58% were female and 70% were White. Covariate-adjusted models indicated that purpose in life significantly moderated the relationships of everyday discrimination with overall CD8+ T cell counts (interaction term: B = -0.02, 95% CI: -0.03 to -0.01) as well

as terminally differentiated CD4+ T cell counts (interaction term: B = -0.06, 95% CI: -0.09 to -0.03) and terminally differentiated CD8+ T cell counts (interaction term: B = -0.03, 95% CI: -0.05 to -0.01). We did not find evidence of statistically significant moderation for overall CD4+ T cell counts (interaction term: B = -0.01, 95% CI: -0.02 to 0.00).

Conclusion: These findings suggest higher purpose in life may buffer the dysregulating effects of everyday discrimination on T cell abundance and weathering, warranting further investigation of these relationships in longitudinal studies.

4

Abstract: 1315

PURPOSEFUL LIVING AND HEALTHY SLEEP: A MIXED METHODS INVESTIGATION ACROSS 12 YEARS

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Background: Getting enough high-quality sleep is critical to mental and physical health. However, the modifiable determinants of sleep are poorly understood. Having purpose in life – that is, aims that guide and motivate one's life – is linked with healthier behaviors and reduced risk of disease. Higher purpose may also facilitate better sleep, but most research has examined if healthier sleep predicts better mental health. In this study, we use mixed methods to examine if purpose in life predicts healthier sleep duration across 12 years of midlife and older adulthood. We hypothesized that higher baseline levels of purpose would be associated with consistently healthier amounts of sleep over time.

Methods: Data are from the National Child Development Study, a birth cohort from the United Kingdom. At the age 50 assessment (2008-2009), participants wrote an open-ended response about their expectations for the future. Using defined criteria, two judges rated each open-ended response for the presence of purpose on a scale ranging from 1 (*not at all*) to 7 (*very*). Interrater agreement was excellent (Finn's *r* = .89); purpose ratings were averaged across judges for each respondent. At the age 62 assessment (2020-2023), participants self-reported their average number of hours slept each night. We created a binary variable with categories representing those who met recommended amounts of sleep (7-<9 hours) or not (<7 or ≥9 hours). Logistic regressions were conducted in IBM SPSS Statistics to examine associations between purpose at age 50 and meeting recommended hours of sleep at age 62 (*N* = 4,544). Analyses adjusted for known potential confounders including sociodemographic factors (sex, academic qualifications, family income, marital status), word count of open-ended responses, depressive symptoms, and hours slept, all assessed at age 50.

Results and Conclusions: Individuals with higher versus lower levels of purpose at age 50 were more likely to meet sleep recommendations at age 62 (odds ratio = 1.14, 95% confidence interval = 1.02, 1.27). Findings from this 12-year mixed methods study show that midlife adults who express more purpose in their lives tend to report healthier amounts of sleep as they transition into older age. Results were robust to adjustment for potential confounders and suggest purpose may be a potential target for intervention.

Trauma and Health Session

1

Abstract: 1222

THE ASSOCIATION OF HEALTH INSURANCE STATUS WITH PTSD SYMPTOMS 1 MONTH AFTER HOSPITAL DISCHARGE FOLLOWING CARDIAC ARREST

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Background. Rising healthcare costs and underinsurance affect millions of U.S. patients, with 23% of working adults lacking adequate coverage. Cardiac arrest (CA) hospitalization is especially costly, with 12-month expenses as high as $38,500, placing underinsured patients at high financial risk. These financial burdens can exacerbate health disparities by limiting access to follow-up care and recovery resources. Prior research has linked lack of insurance to greater psychological distress in cardiac populations, suggesting that insurance status may be particularly critical for post–cardiac event psychological outcomes. Given the severity and cost of cardiac arrest, insurance gaps may further compromise both recovery and mental health.

Method. CA survivors (*n* = 190; M_{age} = 56.2 years; 35% Hispanic) at two urban academic medical centers in Manhattan enrolled in a prospective longitudinal cohort study and completed baseline assessments at hospital discharge and an interview 1-month later. A linear regression model was run predicting PTSD Checklist for the DSM-5 (PCL-5) 1-month post-discharge from baseline health insurance status (adequate insurance: commercial or Medicare; underinsurance: Medicaid or no insurance). The adjusted model additionally included ICU length of stay, age, Charlson comorbidity index, female gender, and income. Independent-samples *t*-tests compared the underinsured (42%) and adequately insured (58%) groups on covariates.

Results. Underinsurance was significantly associated with higher PTSD symptoms, *B* = 11.82, *SE* = 4.16, *p* = .006, such that underinsured survivors scored nearly 12 points higher on the PCL-5 compared to adequately insured survivors. The fully adjusted model was significant, explaining ~9% of the variance in 1-month PTSD symptoms. Comorbidity burden was marginally associated with higher PTSD (*B* = 1.35, *p* = .051). The groups differed substantially in income (underinsured *M* = $28,636 vs. adequately insured *M* = $86,304) and marginally in age (underinsured were younger) and comorbidity (underinsured had higher comorbidity).

Conclusion. Among CA survivors, underinsurance was associated with greater PTSD symptom burden at 1 month, independent of length of stay, demographics, income, and comorbidity. The nearly 12-point difference on the PCL-5 exceeds thresholds for severity. These findings highlight underinsurance as a structural determinant of mental health outcomes following CA. Interventions targeting insurance coverage and access to care may be critical for mitigating PTSD in this at-risk population.

2

Abstract: 1030

POSTTRAUMATIC PSYCHOPATHOLOGY AND CARDIOVASCULAR RISK: A DANISH CASE-CONTROL STUDY OF SEX-SPECIFIC ASSOCIATIONS

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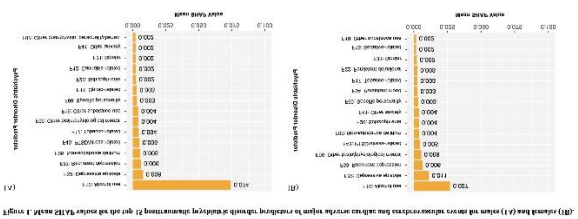
Background: Trauma and its psychiatric consequences are increasingly recognized as cardiovascular risk factors. However, most research has focused on posttraumatic stress disorder—despite the range of psychopathologies that may follow trauma. This narrow focus has led to an incomplete understanding of how the broader psychiatric sequelae of trauma may affect cardiovascular risk. To address this gap, we applied supervised machine learning (ML) to identify posttraumatic psychiatric predictors of incident major adverse cardiac and cerebrovascular events (MACCE) in a population-based sample of males and females.

Methods: Using Danish national health and administrative registries, we conducted a case-control study of adults aged ≥18 using data from 1994-2019, nested within a trauma-exposed cohort of all Danish residents from 1995-2018. Cases (*n*=43,994) were people who experienced MACCE (non-fatal myocardial infarction, non-fatal stroke, coronary revascularization, cardiovascular death) from 1995-2019. Controls (*n*=175,872) were matched 4:1 on MACCE date, sex, year of trauma, and age at trauma. Potential predictors included psychiatric disorders diagnosed within 3 years following trauma using ICD-10 codes from registries for a broad range of mental and behavioral disorders.

Results: Sex-stratified samples were randomly split 80%/20% into training (males: *n*=91,111; females: *n*=84,781) and testing sets (males: *n*=22,777; females: *n*=21,197). Sex-stratified ML models for posttraumatic psychiatric predictors of MACCE were trained using extreme gradient boosting; we identified the top 15 predictors using Shapley Additive exPlanations values in training sets. For males and females, the most important psychiatric predictor of MACCE was alcohol use disorders (Figure 1). Other important predictors included depressive disorders, PTSD/stress-related disorders, brain-related/physiological conditions, and non-substance-induced delirium. Some nuanced sex-specific findings also emerged (e.g., depressive episodes more important predictors for females than males). Overall, bivariate odds ratios in training and testing sets indicated that odds of MACCE were greater among those with (vs. without) psychiatric disorders.

Conclusions: This study emphasizes the importance of considering a broad range of psychiatric conditions when evaluating assessing cardiovascular risk following trauma.



3

Abstract: 1144

ERITRAUMATIC DISSOCIATION PREDICTS ALTERED AUTONOMIC RECOVERY: CONDITIONAL EFFECTS OF ADULTHOOD SEXUAL ASSAULT

Sydney Hardy , Brown University, Warren Alpert Medical School ; Alice Xu, Sc.B. (In Progress), Brown University, Department of Neuroscience ; Prachi Bhuptani, Ph.D.; Sharon Lee, Ph.D., Brown University, Warren Alpert Medical School

Background & Aim: Sexual assault is a widespread public health issue linked to long-term psychological and physiological consequences (e.g., posttraumatic stress disorder, depression) and physical health concerns (e.g., hypertension, cardiovascular risk). Survivors often exhibit reduced heart rate variability (HRV), reflecting impaired autonomic regulation and elevated health risk. Peritraumatic dissociation—feelings of detachment or unreality during trauma—is also common among sexual assault survivors, yet little is known about how dissociation and HRV interact in this population. This study tested whether a history of adulthood sexual assault moderates the relationship between peritraumatic dissociation and HRV during exposure to and recovery from a lab-based stressor.

Methods: Seventy trauma-exposed cisgender women (M_age = 34.09) with ≥1 posttraumatic stress disorder symptom completed a 90-minute lab visit involving resting, stressor, and recovery periods. HRV was continuously monitored via Polar V800 monitor. Peritraumatic dissociation was assessed via the Peritraumatic Dissociative Experiences Questionnaire (PDEQ). Sexual assault history was measured using the Traumatic Life Events (TLEQ). Moderation analyses tested sexual assault × dissociation interactions on seven HRV indices during stress and recovery, controlling for posttraumatic stress disorder symptoms.

Results: Of the sample, 56% endorsed a history of adulthood sexual assault. Adulthood sexual assault history significantly moderated the relationship between peritraumatic dissociation and five HRV indices (all ps < .01) during the recovery period, but not during stress exposure. Among women without a history of adulthood sexual assault, greater dissociation predicted lower autonomic activity during recovery (i.e., lower total power, SDNN, RMSSD, pNN50), indicating impaired ANS regulation. In contrast, dissociation was not associated with HRV recovery among those with a history of sexual assault.

Conclusion: These findings suggest that peritraumatic dissociation may reflect distinct autonomic patterns depending on trauma history. Results underscore the importance of individualized approaches when implementing psychophysiological interventions for trauma, as dissociative responses may reflect different underlying regulatory mechanisms.

Clinical Implications: Addressing peritraumatic dissociative symptoms may confer benefits with respect to cardiovascular health among trauma-exposed women. Additionally, mind-body interventions such as biofeedback may help trauma survivors to physiologically recover from acute stressors.

4

Abstract: 1110

A SCOPING REVIEW OF THE LONGITUDINAL RELATIONSHIP BETWEEN POSTTRAUMATIC STRESS DISORDER AND CARDIOMETABOLIC HEALTH IN MILITARY POPULATIONS

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Previous studies suggest a link between posttraumatic stress disorder (PTSD) and adverse cardiometabolic outcomes such as type 2 diabetes, metabolic syndrome, and chronic inflammation in the general population. Military populations face unique stressors that may contribute to both PTSD risk and cardiometabolic health, such as frequent relocations, deployments, and combat exposure. However, no recent review has focused on the longitudinal associations between PTSD and a broad spectrum of cardiometabolic health indices in military populations. Therefore, the objective of this scoping review was to examine the state of the literature for studies examining the longitudinal association between PTSD and cardiometabolic health in military populations. Authors searched key databases (PubMed, EMBASE, CINHAL, PsycINFO, Defense Technical Information Center) from inception to March 2025. Studies were included in the scoping review if they were peer-reviewed studies, dissertation/theses, or government reports published in English. The study had to also include any observational longitudinal analysis (≥4 weeks) between PTSD (diagnosis and/or symptoms) and cardiometabolic health variable(s) of interest in an adult military population. Abstracts and then full-texts were dually screened by two independent study team members for eligibility. Data extraction was completed by one study team member and was verified by a second reviewer. Twenty-seven studies were included: 19 studies (70.4%) included veterans, 9 (33.3%) included active-duty military members, and 1 (3.7%) included national guard/reserve members. The majority (k = 21, 77.8%) were conducted in the United States and most studies (63.0%) examined the how PTSD at baseline impacted cardiometabolic health over time. The most common cardiometabolic health indices were hypertension (k =8), type 2 diabetes (k = 8), C-reactive protein (CRP; k = 6), and dyslipidemia (k = 5). Overall, PTSD onset, maintenance, or worsening of symptoms was generally associated with increased risk of subsequent hypertension and type 2 diabetes. Findings were mixed for baseline PTSD predicting subsequent dyslipidemia. Preliminary studies suggest that higher baseline CRP may be associated with worsened PTSD symptoms over time. Few studies examined other relevant indices (e.g., triglycerides, blood pressure, interleukin-6), limiting conclusions. Many studies analyzed data from electronic medical records to examine these relationships and few studies adjusted for body mass index or fat mass. Future research should further elucidate the bidirectional relationship between PTSD and cardiometabolic health in military populations, particularly active-duty military members.

Body Image, Weight Stigma, and Health Session

1

Abstract: 1119

INCONSISTENT BODY-SIZE PERCEPTION ACROSS POINTS OF VIEW AND ITS ASSOCIATION WITH EATING DISORDER TENDENCIES

Manato Murata, HS dip, Tohoku University; Kumpei Ogawa, M.Sc., Tohoku University; Godai Saito, PhD; Kazuyuki Fujita, PhD; Yoshifumi Kitamura, PhD, Tohoku University; Yumi Hamamoto

Body image disturbance (BID), the difficulty in experiencing one's own body, is one of the main causes of eating disorders. BID is divided into two components: perceptual disturbance, assessed by the discrepancy between perceived self-body and actual body sizes, and affective disturbance, assessed by the discrepancy between perceived self-body and ideal body sizes. BID has been measured with figural drawings, photographs, and computer-generated body images. These stimuli have been presented in paper-based questionnaires or on display monitors; however, perceiving bodies in this way differs from how we view our own body, namely by looking down at it or using a mirror. Such actual points of view (POVs) during body-checking behavior have not been considered in BID measurement. As prior studies suggest that perceptual disturbance is linked to visual and attentional processing, whereas affective disturbance is linked to socio-cognitive processing, POVs may affect BID measurement.

To examine this, we reproduced two typical POVs of body checking in a virtual reality (VR) environment: first-person and mirror POVs. Thirty-five healthy young women participated. They adjusted a VR avatar's size to match their own body size (perceived self-body size) and ideal body size in each POV. We first tested whether the degree of each BID component differed by POV. We then investigated whether inconsistency across POVs in each BID correlated with eating disorder tendencies measured by the Eating Disorder Examination Questionnaire (EDEQ). Inconsistency was defined as the absolute difference between POVs in each BID (e.g., [perceptual disturbance/first-person] – [perceptual disturbance/mirror]).

Results showed that perceptual disturbance was significantly larger in the first-person POV than in the mirror POV. No significant POV effect was observed for affective disturbance; however, both perceived self-body size and ideal body size were judged larger in the first-person POV than in the mirror POV, which canceled out any POV effect on affective disturbance. No significant correlation was observed between inconsistency in perceptual disturbance and EDEQ scores. In contrast, inconsistency in affective disturbance was positively correlated with the EDEQ global score.

These findings highlight the importance of considering POVs when measuring BID. In particular, the association between inconsistency in affective disturbance and EDEQ scores implies that individuals with stronger eating disorder tendencies may have difficulty feeling satisfied even after losing weight, as the gap between perceived self-image and ideal image fluctuates. This mechanism may help explain why some individuals continue losing weight beyond their original goals when dieting.

2

Abstract: 1139

DOES BMI MATTER?: EXAMINING ASSOCIATIONS BETWEEN BODY MASS INDEX, INTERNALIZED WEIGHT STIGMA, AND COMPULSIVE EXERCISE AMONG COLLEGE STUDENTS

Harley Layman, Washington University in St. Louis; Misty Hawkins, PhD, Department of Health & Wellness Design, Indiana University; Natalie Keirns, PhD, Ball State University

Background: Compulsive exercise (CE) is a maladaptive health behavior that is associated with numerous consequences, such as disordered eating and exercising to the point of injury. Much of CE research has been conducted in clinical eating disorder samples or populations with low body mass index (BMI). In these samples, greater internalized weight stigma (IWS) is associated with greater CE. However, IWS has been associated with avoidance of exercise in the general population. How relationships between IWS and CE translate to a non-clinical sample with broad BMIs is unknown. This study examined associations between IWS and CE in healthy emerging adults and tested whether observed relationships are moderated by BMI.

Methods: Participants included 337 college students from a southern university. Self-reported BMI, IWS, CE, and demographic variables were assessed with an online questionnaire. Associations of IWS, BMI, and the IWS*BMI interaction with CE were tested using moderation (PROCESS v4.2). Covariates included age, gender, race, discrimination, and education.

Results: On average, participants were 20.5 years old and had a BMI in the normal range (*M*=24.9±6.5 kg/m2). All BMI categories were represented in the sample (5.6% underweight, 57.6% normal weight, 22.3% overweight, 14.5% obese). In moderation analyses, IWS was positively associated with CE (*b*=5.79, *p*<.001), but BMI was not (*b*=-0.23, *p*=.39). Additionally, no significant IWS*BMI interaction was observed (*b*=-0.20, *p*=.08). Thus, greater IWS was associated with more CE across BMI levels.

Conclusions: Those with higher IWS may be at risk of CE engagement, regardless of BMI. These findings extend evidence of this relationship from clinical eating disorder populations to a healthy emerging adult sample. Future research should continue investigating moderating factors that may differentiate associations between IWS and various adverse physical activity outcomes (e.g., compulsive engagement in vs avoidance of exercise). Emerging adults with high IWS may benefit from interventions to reduce CE and encourage healthy physical activity.

3

Abstract: 1014

PREGNANCY-RELATED WEIGHT STIGMA FROM CLOSE OTHERS AND ADHERENCE TO PERINATAL PHYSICAL ACTIVITY AND NUTRITION RECOMMENDATIONS

Angela Incollingo Rodriguez, Worcester Polytechnic Institute; Taniya Nagpal, PhD, University of Alberta

Background: Weight stigma, defined as negative misconceptions and stereotypes associated with weight, is a pervasive social issue in pregnancy and postpartum that can impair physical and mental wellbeing, and engagement in healthy behaviors. Previous studies have not tested the downstream behavioral implications of weight stigma on integral factors that promote maternal and newborn wellbeing, including physical activity (PA) and nutrition. Moreover, very little work has examined weight stigma specifically from close relations. This study evaluated whether experiencing weight stigma in pregnancy and postpartum from friends and family was associated with adherence to PA and nutrition recommendations. **Method**: Participants were recruited during pregnancy and completed one survey at ≥13 weeks pregnancy and another at 3 months postpartum. In both surveys, participants indicated whether they had experienced weight stigma, their PA levels, and if their nutrition behaviors had stayed the same, worsened, or improved. Participants were grouped as active or inactive according to international prenatal PA guidelines, and as having improved or stayed the same/worsened with their nutrition. Logistic regression analyses tested the relationship between frequency of weight stigma experiences and adherence to recommendations. **Results**: Both study timepoints were completed by 463 participants. Of those, 397 (85.7%) reported experiencing weight stigma in pregnancy and 341 (74.6%) in postpartum. Frequency of weight stigma was significantly associated with reduced adherence to guidelines for prenatal PA (β=0.59, Odds Ratio [OR]=1.80, 95% Confidence Interval [CI]=1.3, 2.3, *p*<0.001), prenatal nutrition (β=0.44, OR=1.56, 95% CI=1.2, 1.9, *p*<0.001), and postpartum PA (β=0.26, OR=1.30, 95% CI=1.0, 1.6, *p*=0.019). **Conclusion**: Weight stigma in pregnancy and postpartum from close others may reduce adherence to PA and nutrition recommendations, thus undermining maternal-child health and exacerbating existing health disparities for populations with higher weights.

4

Abstract: 1184

EFFECTS OF A BRIEF, WEB-BASED EDUCATIONAL MODULE ON RESIDENT PHYSICIANS' WEIGHT BIAS AND PREPAREDNESS TO PROVIDE WEIGHT-RELATED CARE

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Weight-based stigma from healthcare professionals can contribute to patient healthcare avoidance, poor interpersonal care experiences, and poor patient health outcomes. To address this pervasive issue, we developed and evaluated an online learning module for primary care physicians about weight stigma and weight-related care practices. The 30-minute module covered: weight bias and its impact on care; cognitive strategies to interrupt the impact of weight bias on behavior; strategies to address bias in the physical environment; and concrete recommendations of ways to reduce stigma during healthcare encounters. The module had multiple putative targets, including explicit weight bias, preparedness to care for higher-weight patients, and confidence in navigating care for patients with different goals.

We evaluated the module with a sample of resident physicians specializing in Family Medicine (*n* = 55 across four sites). They completed a set of questionnaires prior to viewing the module (pre-test), during the week after viewing the module (post-test), and three months later (follow-up). Each time, they completed measures of explicit weight bias (i.e., empathy, blame, and critical health subscales of the FAAT; Cain et al., 2022), preparedness to

care for higher-weight patients (e.g., "How prepared do you personally feel bringing up a discussion of healthy lifestyle choices without focusing on weight or weight loss"), and confidence in navigating care for patients with different goals (i.e., "I can effectively navigate providing care for a patient who is interested in losing weight").

We found significant improvements in explicit weight bias from pre-test to post-test (*p*s<.04). Specifically, participants reported greater empathy for higher-weight people (mean change: +.34/7 points), stronger beliefs that weight is a poor indicator of health (+.3/7 points), and weaker beliefs that fatness is a result of personal responsibility (-.41/7 points) after completing the module. These improvements were maintained at three-month follow-up (*p*s>.05 from post-test to follow-up), although there was considerable attrition (i.e., 30%). We observed similar patterns in participants' preparedness to care for higher-weight patients (+.59/5 points) and confidence in navigating care (+.57/5 points); there were significant improvements from pre- to post-test (*p*s<.02), and little change from post-test to follow-up, suggesting that the changes were maintained.

Further research is needed to establish the effectiveness of this educational module relative to a control group. However, this initial evidence suggests that the module could be an effective tool for reducing weight bias and increasing self-efficacy to care for higher-weight patients among primary care physicians.

Physical Activity Session

1

Abstract: 1263

EXAMINING THE IMPACT OF ACUTE EXERCISE AND AROUSAL REAPPRAISAL ON STRESSOR-EVOKED PSYCHOLOGICAL AND CARDIOVASCULAR RESPONSES

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Background: Extreme stressor-evoked psychophysiological responses are associated with adverse mental and physical health outcomes. Acute exercise (EX) and arousal reappraisal (AR) have been shown to improve stressor-evoked responses. However, limited work has explored their combined effect on psychophysiological responses.

Aim: Examine the individual and combined influence of EX and AR on stressor-evoked psychophysiological responses.

Methods: Participants (N = 238; Mean age = 18.93; *SD* = 1.10 years; 60.1% female; 42.0% White; 20.6% Hispanic or Latino) were randomly assigned to one of four groups: control (CTRL), AR only, EX only, or combined AR and acute exercise (AR+EX). All participants completed a 5-minute baseline and a 25-minute activity period, followed by either: exercise (EX and AR+EX groups) or watching neutral documentary (CTRL and AR groups). All participants then completed a 30-minute recovery period, a second 5-minute baseline, and a 10-minute speech task (5-minute preparation and 5-minute delivery). The AR and AR+EX groups received AR instructions three times during the activity period and once before the speech task. Systolic and diastolic blood pressure (SBP, DBP) were taken discontinuously, and heart rate (HR) was measured continuously and phase averages were computed. State psychological measures (i.e., intensity and interpretation of perceived stress and perceived physiological arousal) were taken after informed consent and after the stress task. Participants also completed measures of trait reappraisal.

Results: There was a statistically significant difference between groups in the interpretation of perceived stress ($F(3, 230) = 3.93$, $p = .009$, $\eta_p^2 = .05$); participants in the AR group rated their stress intensity as more facilitative compared to the other groups. There was no significant difference between groups in interpretation of perceived physiological arousal ($p = .188$). However, trait reappraisal significantly moderated the relationship between group and interpretation of physiological arousal. At higher levels of trait reappraisal, the EX group (b = .851, $p = .023$, 95% CI: 0.12 – 1.58) and the AR+EX group (b = .959, $p = .005$, 95% CI: 0.30 – 1.62) viewed their physiological arousal as more facilitative than the CTRL group. There were no significant effects of group on cardiovascular responses to acute stress.

Conclusion: Findings suggest that AR may significantly reduce negative interpretations of stress. Additionally, reappraisal instructions may only be beneficial at reducing negative interpretations of perceived physiological arousal if trait reappraisal levels are high. Future research should examine if increasing levels of trait reappraisal improves interpretations of physiological arousal.

2

Abstract: 1210

ECOLOGICAL MOMENTARY ASSESSMENT AFTER 2-DAY CPET IDENTIFIED POST-EXERTIONAL MALAISE IN ME/CFS

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Background: Post-exertional malaise (PEM) is a hallmark of myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS), yet its temporal features in real-world settings remain under-characterized. We used ecological momentary assessment (EMA) to assess delayed symptom worsening after standardized exercise testing.

Methods: Individuals with ME/CFS and healthy controls (HCs) underwent two consecutive days of cardiopulmonary exercise testing (CPET). Following the second CPET, participants wore a watch-type EMA device (PRO-Diary®) for eight days. Three times daily, participants rated current fatigue relative to the same time the previous day on a five-point ordinal scale: "Much better," "Somewhat better," "Same," "Somewhat worse," or "Much worse." Classification and regression tree (CART) model was trained to classify participants into the ME/CFS or HC using daily fatigue rating as predictors, with the Gini index as the splitting metric. All participants provided written informed consent under a protocol approved by the Mount Sinai Institutional Review Board (STUDY 20-02014).

Results: Thirty-one individuals with ME/CFS and 10 sedentary HCs were included. Group-wise median responses were plotted across time (Figure 1). In the CART model, a single split at the root node separated groups: the branch with "Somewhat worse/Much worse" responses on Day 3 contained predominantly ME/CFS (23 ME/CFS and 1 HC), whereas the

branch with “Same/Somewhat better/Much better” responses on Day 3 included 8 ME/CFS and 9 HCs. This single split showed a sensitivity of 74% and specificity of 90% for identifying ME/CFS (Figure 2).

Conclusions: EMA, when anchored to a standardized 2-day CPET, captured the delayed fatigue worsening characteristic of PEM in ME/CFS. A CART model with a single root split identified worsening fatigue at Day 3 as a key discriminator between ME/CFS and HCs. These findings highlight the potential of EMA-based digital phenotyping as an efficient, scalable method to quantify PEM dynamics and distinguish ME/CFS from controls. Larger samples incorporating additional symptoms are warranted to refine predictive validity.

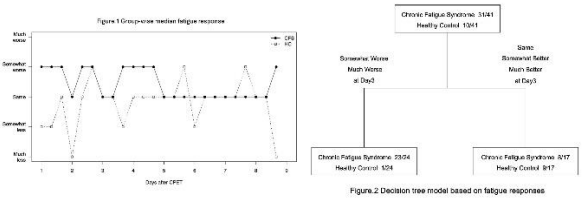

Figure.2 Decision tree model based on fatigue responses

Abstract: 1239

PHYSICAL ACTIVITY MODERATES THE RELATIONSHIP BETWEEN ETHNICITY AND VASCULAR DYSFUNCTION IN HISPANIC/LATINO OLDER ADULTS IN THE HABS-HD STUDY

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Alzheimer’s disease (AD) is a progressive neurodegenerative disorder marked by episodic memory deficits and pathological build-up of amyloid-beta and tau proteins. While AD affects many older adults, minoritized communities are at an elevated risk, including the Hispanic/Latino population. However, the mechanism underlying this disparity remains unknown. In recent years, there has been increased interest in the role of vascular dysfunction in AD development, particularly among minoritized groups. One MRI measure of vascular disease is expanded perivascular spaces (PVS), which are believed to indicate cerebrovascular dysfunction and impaired glymphatic clearance. PVS expansion has not yet been well-characterized in minoritized groups, and the impact of behavioral and sociocultural factors on PVS expansion is not well-understood. Our study investigates the relationship between ethnicity and expanded PVS burden in community-dwelling older adults, with acculturation and physical activity as moderators.

We included 3879 older adults (mean age 63.12 years) from the Health and Aging Brain Study: Health Disparities (HABS-HD) dataset (27.38% Black, 34.96% Hispanic, 37.66% White). PVS segmentation was performed on T1-weighted MRI using a validated deep learning algorithm to extract whole-brain expanded PVS volumes and counts. Group differences in expanded PVS volumes and counts were evaluated using ANCOVA with age, sex, years of education, and total intracranial volume as covariates. Moderation of PVS burden by acculturation (measured by the Short Acculturation Scale for Hispanics) and physical activity (measured by the Rapid Assessment of Physical Activity) was assessed.

Hispanic older adults displayed significantly lower whole-brain PVS volumes and counts compared to Black and White counterparts ($p < 0.001$). Additionally, physical activity was a significant modifier of this relationship in Hispanic/Latino individuals, such that individuals who engaged in higher physical activity had a significantly lower whole-brain PVS counts ($\beta = -2.92$, $p = 0.003$) and PVS volumes ($\beta = -58.59$, $p = 0.007$). Interestingly, physical activity was not a significant moderator for White and Black older adults. Finally, acculturation did not moderate PVS burden.

Together, these findings demonstrate that vascular risk differs by race/ethnicity and that physical activity is a key factor to consider when assessing risk in Hispanic/Latino individuals. Future work will investigate the role of social and structural factors in PVS expansion as well as the relationship between PVS and memory performance in these populations.

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Abstract: 1075

MODERATORS OF A BEHAVIORAL INTERVENTION TO PROMOTE PHYSICAL ACTIVITY IN TYPE 2 DIABETES

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In type 2 diabetes, physical activity is associated with improved glycemic control and a reduced risk of complications. Interventions to promote physical activity in type 2 diabetes are not consistently effective for all individuals. Identifying factors associated with intervention response can facilitate the tailoring of interventions to optimize their efficacy. Using data from two randomized trials, we aimed to identify moderators of a phone-based, positive psychology-motivational interviewing (PP-MI) intervention to promote physical activity in 130 individuals with type 2 diabetes. Participants were randomized to receive the PP-MI intervention or a control condition, and assessments were performed at baseline, post-intervention, and 8 weeks post-intervention. To identify moderators, we performed mixed effects regression analyses, with an unstructured covariance matrix and a categorical effect of time. Outcomes included positive affect, moderate to vigorous physical activity (MVPA; minutes/day), and overall physical activity (steps/day). Predictors included sociodemographic, medical, and psychological factors (i.e., resilience, optimism, depression, anxiety) at baseline, as well as their interactions with treatment group and time. Analyses were adjusted for age, gender, baseline MVPA, medical comorbidities, study, and their interactions with time. Non-Hispanic White race/ethnicity (B=13.71, 95% CI 1.66, 25.76), medical comorbidity burden (B=-2.92; 95% CI -5.84, -0.01), optimism (B=0.97, 95% CI 0.13, 1.82), depressive symptoms (B=-1.69, 95% CI -3.12, -0.27), and anxiety (B=-1.34, 95% CI -2.64, -0.04) at baseline significantly moderated the impact of the PP-MI intervention on post-intervention MVPA. Depressive symptoms also moderated the impact of the intervention on overall activity post-intervention (B=-235, 95% CI -421, -30). Finally, race/ethnicity and a history of depression moderated the intervention’s impact on positive affect at 8-week follow-up (Non-

Hispanic White: B=5.87, 95% CI 0.39, 11.35; depression diagnosis: B=5.97, 95% CI 0.83, 11.10). Non-Hispanic White individuals, those with fewer comorbidities, and those with a more positive psychological profile experienced greater benefits from this program. Additional adjustments to the program may help to increase intervention efficacy for those individuals who did not respond as strongly.