
BIOGRAPHICAL SKETCH

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NAME: Ayako Janet Tomiyama

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POSITION TITLE: Professor, Department of Psychology, University of California, Los Angeles

EDUCATION/TRAINING

| INSTITUTION AND LOCATION | DEGREE | Completion Date | FIELD OF STUDY |
|--|---------|-----------------|-------------------|
| Cornell University, Ithaca, NY | B.A. | 06/2001 | Psychology |
| University of California, Los Angeles, CA | M.A. | 12/2004 | Psychology |
| University of California, Los Angeles, CA | Ph.D. | 06/2009 | Psychology |
| University of California, San Francisco, CA/ University of California, Berkeley, CA (joint) | Postdoc | 08/2011 | Population Health |

A. Personal Statement

I am a Professor in the Department of Psychology at the University of California, Los Angeles. My role on this project is Principal Investigator (PI). My doctoral degree is in Social Psychology, with Minors in Health Psychology and Quantitative Psychology. I was a Robert Wood Johnson Foundation Health and Society Scholar jointly at UCSF and UC Berkeley. My program of research centers on stress, eating behavior, and weight and other stigmas. The high quality of my research throughout my career is evidenced by my receiving the Early Career Investigator Award from the Society of Behavioral Medicine, the Association for Psychological Science Janet Taylor Spence Award for Transformative Early Career Contributions, and the Society for Health Psychology (APA Div 38) Outstanding Contributions to Health Psychology by an Early Career Professional Award.

I have an established history of success in mentoring, particularly of those from underrepresented and marginalized backgrounds. I am certified in the National Research Mentoring Network's Entering Mentoring curriculum, which is an evidence-based mentor training program that has been demonstrated to promote the success of underrepresented minority scholars in particular. Moreover, I have received further certification to train other faculty in this program, and have trained multiple colleagues in the curriculum at UCLA. My accomplishments in mentoring and teaching are evidenced by the fact that I am the recipient of the UCLA Life Sciences Excellence in Promotion of Diversity & Inclusion Faculty Award, the Undergraduate Research Mentoring Award, and the Distinguished Teaching Award.

I also have an established history with the American Psychosomatic Society (APS). Since my first annual meeting in 2005, I have only missed two years – one due to a baby and one due to COVID. Beginning as a trainee who attended APS and took advantage of its mentoring programs like the Mentor-Mentee program, I have served in multiple leadership roles in the society (including now as a mentor in the Mentor-Mentee program). I was an elected member of APS Council (2020-2023), past member of the Program Committee (2018-2020), and founding member of the Antiracism Task Force (2021-current). A description of the accomplishments of the Antiracism Task Force was published in the paper below. In sum, I have the requisite expertise in mentoring and knowledge of the Society to successfully carry out the Aims of this conference grant.

Publication most relevant to the current project:

Mezuk, B., Sin, N. L., Stanton, M. V., Szabo, Y. Z., **Tomiyama, A. J.**, & White, K. E. (2023). The American Psychosomatic Society Antiracism Task Force: Implementation, Activities, and Lessons Learned. *Psychosomatic Medicine*, 85(6), 466.

Ongoing and recently completed projects I would like to highlight include:

NIH R01 HL158555

PI: Tomiyama

7/1/2021 - 6/30/2024

Weight Stigma and Health Behavior: An Experimental Approach

NIH R01 DK128575

PI: Tomiyama

7/1/2021 - 6/30/2026

Food Insecurity, Poor Diet, and Metabolic Syndrome: Cortisol's Amplifying Role

NSF BCS2220295

PI: Tomiyama

1/1/2023 – 12/31/2025

Testing the Stress-related Cyclical Nature of Socioeconomic Status Stigma

NSF BCS2220295

PI: Tomiyama

9/1/2016 - 8/31/22

Testing a Biobehavioral Cyclic Model of Weight Stigma

B. Positions, Scientific Appointments, and Honors

Positions and Employment

2022-present Professor, Department of Psychology, University of California, Los Angeles

2016-2022 Associate Professor, Department of Psychology, University of California, Los Angeles

2012-2016 Assistant Professor, Department of Psychology, University of California, Los Angeles

2011-2012 Assistant Professor, Departments of Psychology and Nutritional Sciences, Rutgers University

Selected Academic and Professional Honors

2022 Fellow, Academy of Behavioral Medicine Research

2021 UCLA Life Sciences Excellence in Promotion of Diversity & Inclusion Faculty Award

2017 Association for Psychological Science Janet Taylor Spence Award for Transformational Early Career Contributions

2016 Society for Health Psychology (APA Division 38) Outstanding Contributions to Health Psychology by an Early Career Professional Award

2014 Hellman Fellow

2013 Society for Behavioral Medicine Early Career Investigator Award

2013 Association for Psychological Science Rising Star

2013 Fellow, 13th annual NIH Institute on Design and Conduct of Randomized Behavioral Clinical Trials

2009 Joseph A. Gengerelli Distinguished Dissertation Award

2008 American Psychological Association Dissertation Research Award

2007 Elizabeth Blackwell, MD Women's Health Research Award

2007 NIMH Health Psychology Predoctoral Fellowship

2004 National Science Foundation Graduate Research Fellowship

2003 Edwin A. Pauley Fellowship - UCLA

2001 Phi Beta Kappa, Cornell University Chapter

C. Contributions to Science

Full list of publications available at

www.ncbi.nlm.nih.gov/sites/myncbi/1TYIae2PMBQQq/bibliography/45461274/public

C1. Health disparities in minoritized populations

Deep disparities in the United States exist between racial/ethnic groups. I have conducted research to understand the nature of health and educational inequalities. I have examined disparities in socioeconomic status markers like education and studied stigmatized and minoritized populations like low-income Black and Latinx individuals. Rather than using essentialist constructions of race, I strive to characterize racial/ethnic differences as resulting from cultural sources, wherein individuals use eating behavior, for example, to cope with systemic stressors such as discrimination. In one publication, I linked stress to long-term BMI gain in the NHLBI Growth and Health Study of 2,379 Black and White girls in the transition from childhood to adolescence, finding that the stress-BMI link was stronger for Black girls. On the basis of that publication and my contributions to this field, I was awarded the 2013 Early Career Investigator Award from the Society of Behavioral Medicine.

1. **Tomiyama, A. J.**, Puterman, E., Epel, E., Rehkopf, D., & Laraia, B. A. (2013). Chronic psychological stress and racial disparities in Body Mass Index change between black and white girls aged 10-19. *Annals of Behavioral Medicine*, 45, 3-12.
2. Incollingo Rodriguez, A. C., White, M. L., Standen, E. C., Mann, T., Wells, C. R., & **Tomiyama, A. J.** (2018). Body mass index and educational inequality: An update of Crandall (1995). *Stigma and Health*, 4(3), 357-363.
3. Parker, J. E., Levinson, J. A., Hunger, J. M., Enders, C. K., Laraia, B. A., Epel, E. S., & **Tomiyama, A. J.** (2023). Longitudinal stability of disordered eating symptoms from age 12 to 40 in Black and white women. *Clinical Psychological Science*.
4. Strings, S., Wells, C., Bell, C. N. & **Tomiyama, A. J.** (2023). The association of BMI and odds of Type 2 Diabetes Mellitus varies by race/ethnicity. *Public Health*, 215, 27–30.

C2. Biopsychosocial consequences of weight stigma

Despite the fact that two-thirds of our nation has an “overweight” or “obesity” Body Mass Index, weight stigma has been vastly understudied compared to racial, gender, and sexual minority stigma. I have therefore developed a theoretical model called the Cyclic Obesity/Weight-Based Stigma Model (COBWEBS), wherein experiencing weight stigma is stressful, which in turn causes increases in cortisol, a hormone that triggers fat deposition and drives appetite. Weight gain results over time, putting individuals at ever more risk for experiencing weight stigma – a vicious cycle, with individuals getting “stuck in the COBWEBS.” On the basis of papers I published supporting my model, I have been funded by an NIH R01 grant and an NSF CAREER grant to carry out this work. A reviewer of the NSF grant stated my work provides, “novel contributions to the fields of obesity and weight stigma, fill important research gaps, and have potentially important implications that could influence policy, public health, and other disciplines.”

1. **Tomiyama, A. J.** (2014). Weight stigma is stressful: A review of evidence for the Cyclic Obesity/Weight-Based Stigma Model. *Appetite*, 82, 8-14.
2. Hunger, J. M., & **Tomiyama, A. J.** (2014). Weight labeling and obesity: A 10-year longitudinal study of girls aged 10-19. *Journal of the American Medical Association-Pediatrics*, 168(6), 579-580.
3. Himmelstein, M. S., Incollingo Belsky, A. C., & **Tomiyama, A. J.** (2015). The weight of stigma: Cortisol reactivity to manipulated weight stigma. *Obesity*, 23(2), 368-374.
4. Lee, K. M., Hunger, J. M., **Tomiyama, A. J.** (2021) Weight stigma and health behaviors: Evidence from the Eating in America Study. *International Journal of Obesity*.

C3. Stress, eating, and BMI gain

How does stress “get under the skin” to influence obesity? One major behavioral pathway is through increased unhealthy eating behavior. In this arc of research, I first demonstrated that negative emotions precede increased eating in daily life. In the first human study to test whether comfort eating actually comforts physiologically, I found that high levels of stress were related to high levels of comfort eating and lower activity of the stress-responsive Hypothalamic-Pituitary-Adrenal (HPA) axis. Finally, I conducted a systematic review tying HPA axis function to multiple markers of obesity, following this with an *Annual Reviews of Psychology* article.

1. **Tomiyama, A. J.**, Dallman, M. F., & Epel, E. S. (2011). Comfort food is comforting to those most stressed: Evidence of the chronic stress response network in high stress women. *Psychoneuroendocrinology*, 36, 1513-1519. PMID: PMC3425607

2. Incollingo Rodriguez, A. C., Epel, E. S., White, M. L., Standen, E. C., Seckl, J. R., & **Tomiyama, A. J.** (2015). Hypothalamic-pituitary-adrenal axis dysregulation and cortisol activity in obesity: A systematic review. *Psychoneuroendocrinology*, 62, 301-318.
3. **Tomiyama, A. J.** (2019). Stress and obesity. *Annual Review of Psychology*, 70.
4. Finch, L. E., Cummings, J. R., Lee, S. C., & **Tomiyama, A. J.** (2021). A Pavlovian intervention to condition comforting effects of fruits. *Psychosomatic Medicine*, 83(9), 1050-1057.

C4. Efficacy of low-calorie dieting

Dieting is one of the most recommended treatments for weight loss, and yet the obesity epidemic continues. This line of my research aims to understand why. I find that low-calorie dieting is not effective in causing weight loss over the long term, and what's more, the amount of weight lost on a diet is not clearly tied to improvements in health markers such as blood pressure, fasting glucose, triglycerides, and cholesterol. Using well-controlled experimental designs, I have found that one reason low-calorie dieting might be ineffective is that it is stressful, and causes increases in the obesogenic stress hormone cortisol. The first paper concluding that dieting is ineffective for long-term weight loss (#1 below) has been cited 1,596 times, indicating its impact on the progress of science.

1. Mann, T., **Tomiyama, A.J.**, Lew, A.M., Westling, E., Chatman, J., & Samuels, B. (2007). Medicare's search for effective obesity treatments: Diets are not the answer. *American Psychologist*, 62, 220-233.
2. **Tomiyama, A. J.**, Moskovich, A., Byrne Haltom, K., Ju, T., & Mann, T. (2009). Consumption after a diet violation: Disinhibition or compensation? *Psychological Science*, 20(10), 1275-1281. PMID: PMC2761536
3. **Tomiyama, A. J.**, Mann, T., Vinas, D., Hunger, J. M., DeJager, J., & Taylor, S. E. (2010). Low calorie dieting increases cortisol. *Psychosomatic Medicine*, 72, 357-364. PMID: PMC2895000
4. **Tomiyama, A. J.**, Ahlstrom, B., Mann, T. (2013) Long-term effects of dieting: Is weight loss related to health? *Social and Personality Psychology Compass*, 7(12), 861-877.

C5. Moving toward plant-based diets and alternative proteins

Meat consumption is responsible for many problems facing the world. Conventional meat production harms the environment, and red meat consumption predicts risk of chronic conditions like cardiovascular disease. Moving away from conventional meat production and consumption, therefore, could significantly improve the health of the earth and humans. Rather than treating vegetarianism and veganism simply as diets, my work investigates them as social identities, identifying barriers and promoters of adopting these ways of eating. I have also investigated barriers to adopting cultured meat, which is meat grown in the lab from biopsies of living animals.

1. Rosenfeld, D. L., Rothgerber, H., & **Tomiyama, A. J.** (2020). Mostly vegetarian, but flexible about it: Investigating how meat-reducers express social identity around their diets. *Social Psychological and Personality Science*, 11(3), 406-415.
2. Rosenfeld, D. L., Brannon, T. N., & **Tomiyama, A. J.** (2022). Racialized perceptions of vegetarianism: Stereotypical associations that undermine inclusion in eating behaviors. *Personality and Social Psychology Bulletin*, 1461672221099392.
3. Rosenfeld, D. L., Bartolotto, C., & **Tomiyama, A. J.** (2022) Promoting plant-based food choices: Findings from a field experiment with over 150,000 consumer decisions. *Journal of Environmental Psychology*, 81, 101825.
4. Rosenfeld, D. L., & **Tomiyama, A. J.** (2023). Toward consumer acceptance of cultured meat. *Trends in Cognitive Sciences*, 27(8), 689-691.