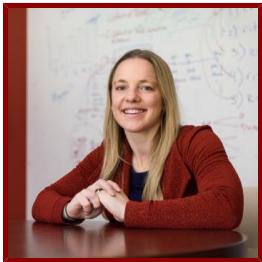


Stanford



Alia Crum

Associate Professor of Psychology and, by courtesy, of Medicine (Primary Care & Population Health)

Bio

BIO

My research focuses on how changes in subjective mindsets - the lenses through which information is perceived, organized, and interpreted - can alter objective reality through behavioral, psychological, and physiological mechanisms. My work is, in part, inspired by research on the placebo effect, a remarkable and consistent demonstration of the ability of the mindset to elicit healing properties in the body. I am interested in understanding how mindsets affect important outcomes outside the realm of medicine, in the domains of behavioral health and organizational behavior. More specifically, I aim to understand how mindsets can be consciously and deliberately changed through intervention to affect organizational and individual performance, physiological and psychological well-being, and interpersonal effectiveness.

ACADEMIC APPOINTMENTS

- Associate Professor, Psychology
- Associate Professor (By courtesy), Medicine - Primary Care and Population Health
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

PROFESSIONAL EDUCATION

- AB, Harvard University , Psychology (2005)
- PhD, Yale University , Clinical Psychology (2012)

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

<https://mbl.stanford.edu/>

Our lab focuses on how subjective mindsets (e.g., thoughts, beliefs and expectations) can alter objective reality through behavioral, psychological, and physiological mechanisms. Our work is, in part, inspired by research on the placebo effect, a robust demonstration of the ability of the mindset to elicit healing properties in the body. We are interested in understanding how mindsets affect important outcomes both within and beyond the realm of medicine, in the domains such as exercise, diet and stress. More specifically, we aim to understand how selective information through modalities such as media, marketing and labeling can inform mindsets, and how mindsets can be consciously and deliberately changed through intervention to affect physiological and psychological health.

Our research draws upon and integrates the psychology of schemas and appraisals within a range of disciplines including the science of the placebo effect, the behavioral economics of framing, and the sociology of valuation. We collaborate with an interdisciplinary web of scholars including psychologists, sociologists, organizational behavior scholars, and neurobiologists and employ a variety of methods, from experimental studies to surveys to field interventions. Though our approach is interdisciplinary and our methods multi-modal, our focus is precise: to bring together related streams of research to a) understand how mindsets shape reality and b) design interventions that can positively change health, performance and wellbeing.

CLINICAL TRIALS

- Stanford Clinics Physician Mindset Training, Recruiting
- Leveraging Mindsets to Improve Health and Wellbeing in Patients With Cancer, Not Recruiting
- Leveraging Mindsets to Improve Health and Wellbeing in Patients With Cancer, Not Recruiting

Teaching

COURSES

2023-24

- Designing Psychologically Wise Interventions: PSYCH 244 (Aut)
- Introduction to Psychology: PSYCH 1 (Win)

2022-23

- How Beliefs Create Reality: PSYCH 20N (Spr)
- Self and Society: Introduction to Social Psychology: PSYCH 70, SOC 2 (Spr)

2021-22

- Advanced Studies in Health Psychology: PSYCH 298 (Spr)
- How Beliefs Create Reality: PSYCH 20N (Spr)

2020-21

- How Beliefs Create Reality: PSYCH 20N (Sum)
- Self and Society: Introduction to Social Psychology: PSYCH 70, SOC 2 (Aut, Sum)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Chiara Gasteiger

Doctoral Dissertation Advisor (AC)

Kengthsagn Louis

Doctoral Dissertation Co-Advisor (AC)

Kris Evans

Master's Program Advisor

Gabriela Lipson

Publications

PUBLICATIONS

- **White patients' physical responses to healthcare treatments are influenced by provider race and gender.** *Proceedings of the National Academy of Sciences of the United States of America*
Howe, L. C., Hardebeck, E. J., Eberhardt, J. L., Markus, H. R., Crum, A. J.
2022; 119 (27): e2007717119
- **Negative consequences of self-presentation on disclosure of health information: A catch-22 for Black patients?** *Social science & medicine* (1982)
Louis, K., Crum, A. J., Markus, H. R.
2022: 115141
- **Mindset is associated with future physical activity and management strategies in individuals with knee osteoarthritis.** *Annals of physical and rehabilitation medicine*
Boswell, M. A., Evans, K. M., Zion, S. R., Boles, D. Z., Hicks, J. L., Delp, S. L., Crum, A. J.
2022; 65 (6): 101634
- **Making sense of a pandemic: Mindsets influence emotions, behaviors, health, and wellbeing during the COVID-19 pandemic.** *Social science & medicine* (1982)
Zion, S. R., Louis, K., Horii, R., Leibowitz, K., Heathcote, L. C., Crum, A. J.
2022: 114889
- **Emphasizing pleasure over health promotes preference for nutritious foods in people of low socioeconomic status.** *Appetite*
Boles, D. Z., Turnwald, B. P., Perry, M. A., Crum, A. J.
1800: 105945
- **Language in popular American culture constructs the meaning of healthy and unhealthy eating: Narratives of craveability, excitement, and social connection in movies, television, social media, recipes, and food reviews.** *Appetite*
Turnwald, B. P., Perry, M. A., Jurgens, D., Prabhakaran, V., Jurafsky, D., Markus, H. R., Crum, A. J.
1800: 105949
- **Nutritional Analysis of Foods and Beverages Posted in Social Media Accounts of Highly Followed Celebrities.** *JAMA network open*
Turnwald, B. P., Anderson, K. G., Markus, H. R., Crum, A. J.
1800; 5 (1): e2143087
- **Thriving Under Pressure: The Effects of Stress-Related Wise Interventions on Affect, Sleep, and Exam Performance for College Students From Disadvantaged Backgrounds** *EMOTION*
Goyer, J., Akinola, M., Grunberg, R., Crum, A. J.
2021
- **"Consensus on Placebo and Nocebo Effects Connects Science with Practice:" Reply to "Questioning the Consensus on Placebo and Nocebo Effects".** *Psychotherapy and psychosomatics*
Evers, A. W., Colloca, L., Bleasie, C., Gaab, J., Jensen, K. B., Atlas, L. Y., Beedie, C. J., Benedetti, F., Bingel, U., Buchel, C., Bussemaker, J., Colagiuri, B., Crum, et al
2021: 1–2
- **Changing mindsets about side effects.** *BMJ open*
Leibowitz, K. A., Howe, L. C., Crum, A. J.
2021; 11 (2): e040134
- **Can Exercising and Eating Healthy Be Fun and Indulgent Instead of Boring and Depriving? Targeting Mindsets About the Process of Engaging in Healthy Behaviors.** *Frontiers in psychology*
Boles, D. Z., DeSousa, M., Turnwald, B. P., Horii, R. I., Duarte, T., Zahrt, O. H., Markus, H. R., Crum, A. J.
2021; 12: 745950
- **The Stress-Mindset Intervention HANDBOOK OF WISE INTERVENTIONS**
Crum, A. J., Handley-Miner, I. J., Smith, E. N., Walton, G. M., Crum, A. J.
2021: 217-238

- **Handbook of Wise Interventions HOW SOCIAL PSYCHOLOGY CAN HELP PEOPLE CHANGE Introduction HANDBOOK OF WISE INTERVENTIONS**
Walton, G. M., Crum, A. J., Walton, G. M., Crum, A. J.
2021: 1-5
- **The Taste-Focused-Labeling Intervention Emphasizing the Tasty and Enjoyable Attributes of Healthy Foods HANDBOOK OF WISE INTERVENTIONS**
Turnwald, B. P., Crum, A. J., Walton, G. M., Crum, A. J.
2021: 286-302
- **Nutritional Analysis of Foods and Beverages Depicted in Top-Grossing US Movies, 1994-2018. JAMA internal medicine**
Turnwald, B. P., Handley-Miner, I. J., Samuels, N. A., Markus, H. R., Crum, A. J.
2020
- **Five-Star Prices, Appealing Healthy Item Descriptions? Expensive Restaurants' Descriptive Menu Language HEALTH PSYCHOLOGY**
Turnwald, B. P., Anderson, K. G., Jurafsky, D., Crum, A. J.
2020; 39 (11): 975–85
- **What Should Clinicians Tell Patients about Placebo and Nocebo Effects? Practical Considerations Based on Expert Consensus. Psychotherapy and psychosomatics**
Evers, A. W., Colloca, L., Bleasie, C., Gaab, J., Jensen, K. B., Atlas, L. Y., Beedie, C. J., Benedetti, F., Bingel, U., Buchel, C., Bussemaker, J., Colagiuri, B., Crum, et al
2020: 1–8
- **The Future of Women in Psychological Science. Perspectives on psychological science : a journal of the Association for Psychological Science**
Gruber, J., Mendle, J., Lindquist, K. A., Schmader, T., Clark, L. A., Bliss-Moreau, E., Akinola, M., Atlas, L., Barch, D. M., Barrett, L. F., Borelli, J. L., Brannon, T. N., Bunge, et al
2020: 1745691620952789
- **Cancer Survivorship-Considering Mindsets. JAMA oncology**
Heathcote, L. C., Zion, S. R., Crum, A. J.
2020
- **Integrating Wearables in Stress Management Interventions: Promising Evidence From a Randomized Trial INTERNATIONAL JOURNAL OF STRESS MANAGEMENT**
Smith, E. N., Santoro, E., Moraveji, N., Susi, M., Crum, A. J.
2020; 27 (2): 172–82
- **Using social and behavioural science to support COVID-19 pandemic response. Nature human behaviour**
Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, et al
2020
- **Optimizing stress: An integrated intervention for regulating stress responses. Emotion (Washington, D.C.)**
Crum, A. J., Jamieson, J. P., Akinola, M.
2020; 20 (1): 120–25
- **Effects of physical activity recommendations on mindset, behavior and perceived health. Preventive medicine reports**
Zahrt, O. H., Crum, A. J.
2020; 17: 101027
- **What constitutes a 'successful' recovery? Patient perceptions of the recovery process after a traumatic injury. Trauma surgery & acute care open**
Rosenberg, G., Zion, S. R., Shearer, E., Bereknyei Merrell, S., Abadilla, N., Spain, D. A., Crum, A. J., Weiser, T. G.
2020; 5 (1): e000427
- **Increasing Vegetable Intake by Emphasizing Tasty and Enjoyable Attributes: A Randomized Controlled Multisite Intervention for Taste-Focused Labeling. Psychological science**
Turnwald, B. P., Bertoldo, J. D., Perry, M. A., Policastro, P., Timmons, M., Bosso, C., Connors, P., Valgenti, R. T., Pine, L., Challamel, G., Gardner, C. D., Crum, A. J.
2019: 956797619872191
- **When Your Doctor "Gets It" and "Gets You": The Critical Role of Competence and Warmth in the Patient-Provider Interaction FRONTIERS IN PSYCHIATRY**

- Howe, L. C., Leibowitz, K. A., Crum, A. J.
2019; 10
- **When Your Doctor "Gets It" and "Gets You": The Critical Role of Competence and Warmth in the Patient-Provider Interaction.** *Frontiers in psychiatry*
Howe, L. C., Leibowitz, K. A., Crum, A. J.
2019; 10: 475
 - **The Role of Patient Beliefs in Open-Label Placebo Effects** *HEALTH PSYCHOLOGY*
Leibowitz, K. A., Hardebeck, E. J., Goyer, J., Crum, A. J.
2019; 38 (7): 613–22
 - **Smart food policy for healthy food labeling: Leading with taste, not healthiness, to shift consumption and enjoyment of healthy foods (vol 119, pg 7, 2019)** *PREVENTIVE MEDICINE*
Turnwald, B. P., Crum, A. J.
2019; 123: 344
 - **Changing Patient Mindsets about Non-Life-Threatening Symptoms During Oral Immunotherapy: A Randomized Clinical Trial** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY-IN PRACTICE*
Howe, L. C., Leibowitz, K. A., Perry, M. A., Bitler, J. M., Block, W., Kapchuk, T. J., Nadeau, K. C., Crum, A. J.
2019; 7 (5): 1550–59
 - **Americans' Health Mindsets: Content, Cultural Patterning, and Associations With Physical and Mental Health** *ANNALS OF BEHAVIORAL MEDICINE*
Conner, A. L., Boles, D. Z., Markus, H., Eberhardt, J. L., Crum, A. J.
2019; 53 (4): 321–32
 - **Americans' Health Mindsets: Content, Cultural Patterning, and Associations With Physical and Mental Health.** *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*
Conner, A. L., Boles, D. Z., Markus, H. R., Eberhardt, J. L., Crum, A. J.
2019; 53 (4): 321–32
 - **Smart food policy for healthy food labeling: Leading with taste, not healthiness, to shift consumption and enjoyment of healthy foods** *PREVENTIVE MEDICINE*
Turnwald, B. P., Crum, A. J.
2019; 119: 7–13
 - **Providers' Demeanor Impacts Patient Perceptions of Visit Length** *JOURNAL OF GENERAL INTERNAL MEDICINE*
Howe, L. C., Hardebeck, E. J., Leibowitz, K. A., Crum, A. J.
2019; 34 (2): 182–183
 - **Changing Patient Mindsets About Non-Life-Threatening Symptoms During Oral Immunotherapy: A Randomized Clinical Trial.** *The journal of allergy and clinical immunology. In practice*
Howe, L. C., Leibowitz, K. A., Perry, M. A., Bitler, J. M., Block, W., Kapchuk, T. J., Nadeau, K. C., Crum, A. J.
2019
 - **Learning one's genetic risk changes physiology independent of actual genetic risk** *Nature Human Behaviour*
Turnwald, B. P., Goyer, J. P., Boles, D. Z., Silder, A., Delp, S. L., Crum, A. J.
2019; 3: 48–56
 - **Targeting Mindsets, Not Just Tumors** *Trends in Cancer*
Zion, S. R., Schapira, L., Crum, A. J.
2019
 - **Learning one's genetic risk changes physiology independent of actual genetic risk.** *Nature human behaviour*
Turnwald, B. P., Goyer, J. P., Boles, D. Z., Silder, A., Delp, S. L., Crum, A. J.
2019; 3 (1): 48–56
 - **Stress, Mindsets, and Success in Navy SEALs Special Warfare Training.** *Frontiers in psychology*
Smith, E. N., Young, M. D., Crum, A. J.
2019; 10: 2962
 - **Physician Assurance Reduces Patient Symptoms in US Adults: an Experimental Study** *JOURNAL OF GENERAL INTERNAL MEDICINE*

- Leibowitz, K. A., Hardebeck, E. J., Goyer, J., Crum, A. J.
2018; 33 (12): 2051-2052
- **Smart food policy for healthy food labeling: Leading with taste, not healthiness, to shift consumption and enjoyment of healthy foods.** *Preventive medicine*
Turnwald, B. P., Crum, A. J.
2018
 - **Beliefs About Stress Attenuate the Relation Among Adverse Life Events, Perceived Distress, and Self-Control.** *Child development*
Park, D., Yu, A., Metz, S. E., Tsukayama, E., Crum, A. J., Duckworth, A. L.
2018; 89 (6): 2059–69
 - **Beliefs About Stress Attenuate the Relation Among Adverse Life Events, Perceived Distress, and Self-Control** *CHILD DEVELOPMENT*
Park, D., Yu, A., Metz, S. E., Tsukayama, E., Crum, A. J., Duckworth, A. L.
2018; 89 (6): 2059-2069
 - **Providers' Demeanor Impacts Patient Perceptions of Visit Length.** *Journal of general internal medicine*
Howe, L. C., Hardebeck, E. J., Leibowitz, K. A., Crum, A. J.
2018
 - **Physician Assurance Reduces Patient Symptoms in US Adults: an Experimental Study.** *Journal of general internal medicine*
Leibowitz, K. A., Hardebeck, E. J., Goyer, J. P., Crum, A. J.
2018
 - **Catechol-O-Methyltransferase moderates effect of stress mindset on affect and cognition** *PLOS ONE*
Crum, A. J., Akinola, M., Turnwald, B. P., Kaptchuk, T. J., Hall, K. T.
2018; 13 (4): e0195883
 - **Mindsets Matter: A New Framework for Harnessing the Placebo Effect in Modern Medicine.** *International review of neurobiology*
Zion, S. R., Crum, A. J.
2018; 138: 137–60
 - **Mindsets Matter: A New Framework for Harnessing the Placebo Effect in Modern Medicine** *NEUROBIOLOGY OF THE PLACEBO EFFECT, PT I*
Zion, S. R., Crum, A. J., Colloca, L.
2018; 138: 137-160
 - **Implications of Placebo and Nocebo Effects for Clinical Practice: Expert Consensus** *PSYCHOTHERAPY AND PSYCHOSOMATICS*
Evers, A. M., Colloca, L., Bleasie, C., Annoni, M., Atlas, L. Y., Benedetti, F., Bingel, U., Buechel, C., Carvalho, C., Colagiuri, B., Crum, A. J., Enck, P., Gaab, et al
2018; 87 (4): 204–10
 - **Optimizing stress responses with reappraisal and mindset interventions: an integrated model** *ANXIETY STRESS AND COPING*
Jamieson, J. P., Crum, A. J., Goyer, J., Marotta, M. E., Akinola, M.
2018; 31 (3): 245–61
 - **Selection Does Not Equate Consumption Reply** *JAMA INTERNAL MEDICINE*
Turnwald, B. P., Boles, D. Z., Crum, A. J.
2017; 177 (12): 1875–76
 - **Making mindset matter.** *BMJ (Clinical research ed.)*
Crum, A. J., Leibowitz, K. A., Verghese, A.
2017; 356: j674-?
 - **The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress.** *Anxiety, stress, and coping*
Crum, A. J., Akinola, M., Martin, A., Fath, S.
2017: 1-17
 - **Reading Between the Menu Lines: Are Restaurants' Descriptions of "Healthy" Foods Unappealing?** *Health psychology : official journal of the Division of Health Psychology, American Psychological Association*
Turnwald, B. P., Jurafsky, D. n., Conner, A. n., Crum, A. J.
2017

- **Harnessing the placebo effect: Exploring the influence of physician characteristics on placebo response.** *Health psychology : official journal of the Division of Health Psychology, American Psychological Association*
Howe, L. C., Goyer, J. P., Crum, A. J.
2017; 36 (11): 1074–82
- **Changing Mindsets to Enhance Treatment Effectiveness.** *JAMA*
Crum, A. n., Zuckerman, B. n.
2017; 317 (20): 2063–64
- **Perceived physical activity and mortality: Evidence from three nationally representative U.S. samples.** *Health psychology : official journal of the Division of Health Psychology, American Psychological Association*
Zahrt, O. H., Crum, A. J.
2017; 36 (11): 1017–25
- **Association Between Indulgent Descriptions and Vegetable Consumption: Twisted Carrots and Dynamite Beets.** *JAMA internal medicine*
Turnwald, B. P., Boles, D. Z., Crum, A. J.
2017
- **Adaptive Appraisals of Anxiety Moderate the Association between Cortisol Reactivity and Performance in Salary Negotiations** *PLOS ONE*
Akinola, M., Fridman, I., Mor, S., Morris, M. W., Crum, A. J.
2016; 11 (12)
- **Transforming Water: Social Influence Moderates Psychological, Physiological, and Functional Response to a Placebo Product** *PLOS ONE*
Crum, A. J., Phillips, D. J., Goyer, J. P., Akinola, M., Higgins, E. T.
2016; 11 (11)
- **Self-Fulfilling Prophesies, Placebo Effects, and the Social-Psychological Creation of Reality** *Emerging Trends in the Social and Behavioral Sciences*
Scott, R., Kosslyn , S.
John Wiley & Sons, Inc.2015
- **Rethinking Stress: The Role of Mindsets in Determining the Stress Response** *JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY*
Crum, A. J., Salovey, P., Achor, S.
2013; 104 (4): 716-733
- **Mind Over Milkshakes: Mindsets, Not Just Nutrients, Determine Ghrelin Response** *HEALTH PSYCHOLOGY*
Crum, A. J., Corbin, W. R., Brownell, K. D., Salovey, P.
2011; 30 (4): 424-429
- **Mind-set matters: Exercise and the placebo effect** *PSYCHOLOGICAL SCIENCE*
Crum, A. J., Langer, E. J.
2007; 18 (2): 165-171