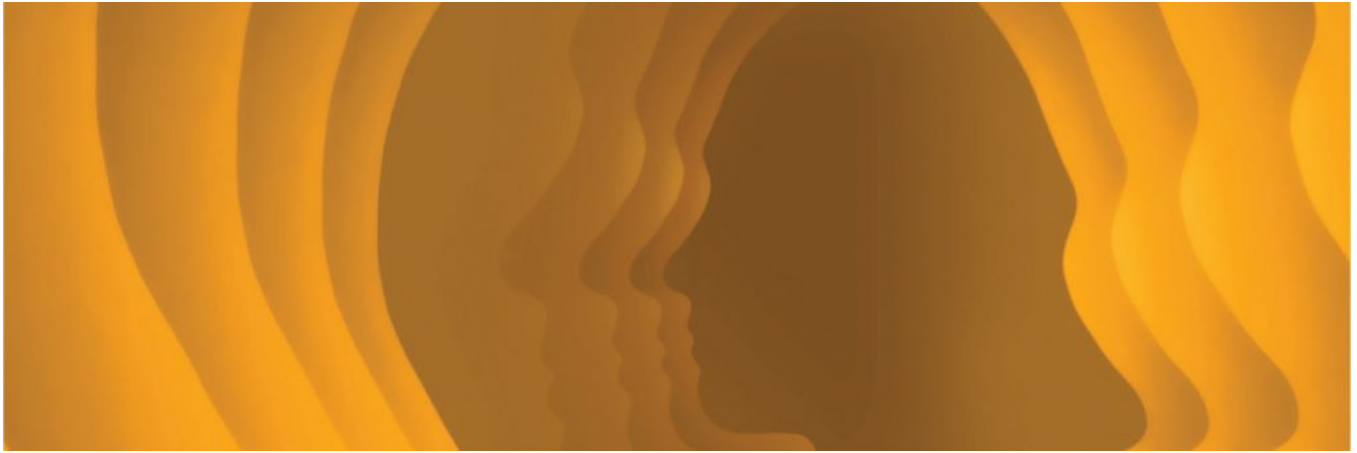


New Content From *Perspectives on Psychological Science*

February 24, 2021



[Psychological and Behavioral Predictors of Vaccine Efficacy: Considerations for COVID-19](#)

Annelise A. Madison, M. Rosie Shrout, Megan E. Renna, and Janice K. Kiecolt-Glaser

Several psychological and behavioral factors, such as stress, depression, loneliness, and poor health habits can affect the efficacy of vaccines, including the SARS-CoV-2 vaccine. In this review, Madison and colleagues discuss risk factors that may impair how the immune system responds to the vaccine. As these risk factors are especially prevalent during the COVID-19 pandemic, the researchers also suggest interventions to boost vaccine efficacy, including meditation/mindfulness, expressive writing, stress management, and exercise interventions. These targeted interventions, even if short term, might be important for SARS-CoV-2 vaccine responsiveness, especially in vulnerable groups such as the elderly.

[The Problem of Coordination and the Pursuit of Structural Constraints in Psychology](#)

David Kellen, Clinton P. Davis-Stober, John C. Dunn, and Michael L. Kalish

The *problem of coordination* arises whenever researchers attempt to measure quantities that are not directly observable but can be inferred from observable variables. Kellen and colleagues argue that the failure to acknowledge this problem is one of the reasons for slow theoretical progress in psychological science. They present a historical analysis of thermometry to illustrate the challenges of specifying functional relationships between theoretical concepts and observations and outline some solutions for the problem of coordination. These solutions include researchers restricting themselves to assuming only monotonic coordinations that do not necessarily generalize across procedures.

[How Computational Modeling Can Force Theory Building in Psychological Science](#)

Olivia Guest and Andrea E. Martin

Guest and Martin suggest that using computational modeling of theories, over and above data, might help to advance psychological science. They argue that, although computational modeling is undervalued, its demands may force researchers to conceptualize, specify, and formalize intuitions that

otherwise would remain untested. Thus, modeling might contribute to the creation of explanatory and predictive theories. The authors suggest that, without modeling, the field lacks transparent and open theorizing. They also explain how to formalize, specify, and implement a computational model.

[When the Numbers Do Not Add Up: The Practical Limits of Stochastologicals for Soft Psychology](#)

Nick J. Broers

Psychological theories tend to be verbal, allowing at best for predictors that lead to the practice of null-hypothesis significance testing, and this practice may slow the progress of psychology. Some researchers have argued that the use of meta-analyses might help psychology develop cumulative knowledge. Broers questions whether the numbers resulting from meta-analysis actually have theoretical meaning. He argues that, because psychological science lacks an indisputable set of observations, effect sizes do not exist independently of the adopted research design that led to them and, therefore, have no bearing on the credibility of a theory.

[The Relationship Between Multidimensional Motivation and Endocrine-Related Responses: A Systematic Review](#)

Richard P. Steel, Nicolette C. Bishop, and Ian M. Taylor

Steel and colleagues evaluated the association between motivational constructs and endocrine-related responses detected in saliva. Evidence from 41 studies, focusing on five distinct motivation theories, indicated that high-quality motivation attenuated cortisol response in evaluative environments. They also found that motivational needs for power and affiliation were associated with levels of salivary immunoglobulin A (lower and higher, respectively), and that, in some cases, the need for power may play a role in increasing testosterone among winners of a contest. The researchers mapped this evidence onto a unified theory of motivation, revealing areas of theoretical overlap and compatibility.

[How Do Young Children Explain Differences in the Classroom? Implications for Achievement, Motivation, and Educational Equity](#)

Sébastien Goudeau and Andrei Cimpian

Goudeau and Cimpian propose that children tend to explain the differences they see among their classmates, such as why some perform academically better than others, by focusing on their peers' inherent characteristics rather than external circumstances. This bias affects children's motivation and achievement in school, exacerbating, perpetuating, and even legitimizing inequalities. The researchers suggest that teachers, parents, and policy makers counteract children's inherent biases by providing extrinsic explanations for differences, blocking the implication that differences are stable and immutable, and minimizing the salience of differences in the classroom.

[Practical Methodological Reform Needs Good Theory](#)

Will M. Gervais

Gervais suggests that good theory may hasten the methodological reform and practical improvements that have emerged in psychological science to address issues with research reproducibility and lack of transparency. He believes that theoretical work from diverse disciplines helps create a better scientific ecosystem. Gervais focuses on philosophy of science and cultural evolution and reviews established

models of scientific discovery, the types of scientific networks researchers ought to aspire to, and the processes by which problematic norms and institutions might evolve.

[The Theory Crisis in Psychology: How to Move Forward](#)

Markus I. Eronen and Laura F. Bringmann

Eronen and Bringmann argue that the main cause of the “theory crisis” in psychological science is that developing good psychological theories is difficult, and researchers must understand the reasons why. The authors discuss three main reasons for this difficulty: the relative lack of robust phenomena (i.e., verifiable and detectable in several different ways) that narrow possible theories, problems of validity of psychological constructs, and obstacles to discovering causal relationships between psychological variables. Eronen and Bringmann offer some recommendations to overcome the theory crisis, such as engaging in phenomenon-driven research.