### New Content From Perspectives on Psychological Science

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## Computing Components of Everyday Stress Responses: Exploring Conceptual Challenges and New Opportunities

Joshua M. Smyth et al.

Smyth and colleagues provide an overview of the approaches researchers use and the opportunities and challenges they encounter when applying repeated assessments in everyday life to study stress responses. They focus on the following questions: (a) What is the appropriate stress-free resting state (or "baseline") for an individual? (b) How does one index the magnitude of the initial response to a stressor (reactivity)? (c) Following a stressor, how can recovery be identified? and (d) Because stressors may not occur in isolation, how can one capture the temporal clustering of stressors and/or stress responses (pileup)? They also present initial ideas on applying this approach to intervention research.

#### The Idiosyncrasy Principle: A New Look at Qualia

M. Salti and D. Bergerbest

Qualia—the individual subjective experience—is often neglected in the study of consciousness. Salti and Bergerbest introduce a theoretical and experimental framework in which a person's subjectivity depends on the idiosyncratic mapping of physical properties to their qualia. This allows a person to conceptualize an idiosyncratic transfer function between the world and its representation. Salti and Bergerbest suggest a research plan based on numerosity, which allows people to report subjective experience objectively. This plan is aimed at delineating the idiosyncratic transfer functions and would permit one person to adopt the perspective of another and link qualia to its mechanism.

# <u>Sex/Gender Differences in Verbal Fluency and Verbal-Episodic Memory: A Meta-Analysis</u> Marco Hirnstein, Josephine Stuebs, Angelica Moè, and Markus Hausmann

In this meta-analysis, Hirnstein and colleagues analyzed 496 effect sizes to examine sex/gender differences in verbal fluency and verbal-episodic memory. They found that women outperformed men in

phonemic fluency (e.g., generating words starting with "S"). However, in semantic fluency (e.g., naming things that are round), the sex/gender difference appeared to be category dependent (e.g., women named more fruits, but men named more animals). Women also outperformed men in recall and recognition of words. The female advantage was relatively stable over the past 50 years and across lifetimes, but it appeared to be partly due to publication bias.

White (but Not Black) Americans Continue to See Racism as a Zero-Sum Game; White Conservatives (but Not Moderates or Liberals) See Themselves as Losing Raea Rasmussen et al.

In a 2011 article, Norton and Sommers assessed Black and White Americans' perceptions of anti-Black and anti-White bias from the 1950s to the 2000s. They found that White (but not Black) Americans perceived an association between decreased anti-Black bias and increased anti-White bias, signaling the perception that racism is a zero-sum game. They also found that by the 2000s, White Americans rated anti-White bias as more pronounced than anti-Black bias, signaling the perception that they were losing the zero-sum game. In collecting new data, Rasmussen and colleagues found that liberal, moderate, and conservative White (but not Black) Americans alike believed that racism is a zero-sum game. Also, liberal, moderate, and conservative White Americans saw racism as a zero-sum game they were winning by a lot, winning by only a little, and losing, respectively.

#### Why and When Beliefs Change

Tali Sharot, Max Rollwage, Cass R. Sunstein, and Stephen M. Fleming

Sharot and colleagues propose that a belief's utility is derived from the potential outcomes associated with holding it. Outcomes can be internal (e.g., positive/negative feelings) or external (e.g., material gain/loss), and only some are dependent on belief accuracy. Belief change can then be understood as an economic transaction that compares the old belief's multidimensional utility to that of the new belief. Belief change will occur when potential outcomes alter across attributes, for example, because of changing environments or when certain outcomes are made more or less salient.

#### **Cognitive Training: A Field in Search of a Phenomenon**

Fernand Gobet and Giovanni Sala

Cognitive training seems to have few benefits for tasks that are not explicitly being trained; that is, the overall effect of far transfer in cognitive training is null. Despite these conclusions, the field has maintained an unrealistic optimism about the cognitive and academic benefits of cognitive training, Gobet and Sala write. They demonstrate that this optimism reflects the field's neglect of meta-analytic results and of the statistical explanation that apparent effects are due to a combination of sampling errors and other artifacts. The authors discuss recommendations for improving cognitive-training research.

#### **Computational Scientific Discovery in Psychology**

Laura K. Bartlett, Angelo Pirrone, Noman Javed, and Fernand Gobet

Bartlett and colleagues address the current and future directions of computational scientific discovery, including artificial intelligence (AI), and its applications in psychological science. Along with AI becoming increasingly prevalent in our daily lives, its application to different scientific domains is

becoming more widespread. AI can assist in new discoveries both as a tool that gives scientists more freedom to generate new theories and by making creative discoveries autonomously. Conversely, psychological concepts such as heuristics have refined and improved artificial systems.

#### **Leveraging Math Cognition to Combat Health Innumeracy**

Clarissa A. Thompson et al.

To understand health statistics, such as gauging the likelihood of a medication's side effects, one must be able to correctly interpret rational numbers (i.e., fractions, percentages, decimals, and whole-number frequencies). Thompson and colleagues propose that natural-number bias—a tendency to misapply knowledge about positive integers to all numbers, including rational numbers—underlies biases that shape health decision-making. Thompson and colleagues describe how researchers may harness natural-number bias to improve rational-number understanding and ameliorate innumeracy in real-world contexts, including health. They recommend modifications to formal math education to help children learn the connections among natural and rational numbers.

### <u>Studying Socioeconomic Status: Conceptual Problems and an Alternative Path Forward</u> Stephen Antonoplis

Antonoplis argues that socioeconomic status (SES, or social class), under conventional conceptions, is an unmeasurable construct that presents an alternative strategy for studying socioeconomic conditions. The author reviews 20 years of psychological research on SES indicating that psychologists rarely define SES theoretically (only 20.4% of articles do) but use a great number of operationalizations measures of SES (147 in total). Moreover, current recommendations for studying SES permit contradictory predictions. To rectify these and other issues, Antonoplis reconceptualizes SES as a set of socioeconomic conditions and develops a measurement strategy for studying them.

#### The Role of the Skin in Interoception: A Neglected Organ?

Laura Crucianelli and H. Henrik Ehrsson

Many studies have used the perception of cardiac signals as a proxy for interoception—feeling and understanding the body's internal state—but they may have neglected the role of skin, according to Crucianelli and Ehrsson. To scientifically study interoception, the authors discuss anatomical, physiological, and experimental arguments supporting the use of skin-mediated signals such as affective touch, pain, and temperature. They argue that more attention should be paid to the skin as a sensory organ that monitors the bodily physiological state and propose thermosensation as a model of skin-mediated interoception.

### How I Learned to Stop Worrying and Love the Eco-Apocalypse: An Existential Approach to Accepting Eco-Anxiety

Devin Guthrie

There is little literature that scientifically addresses people's apocalyptic fears about the climate crisis, despite an urgent need, according to Guthrie. Guthrie synthesizes research on existential psychology, Acceptance and Commitment Therapy, grief, and end-of-life care to present a perspective on how people can become psychologically resilient to the climate crisis. Establishing that death anxiety underlies eco-

anxiety, the author demonstrates that preparing psychologically for eco-apocalypse therefore requires cultivating death acceptance. Guthrie also illustrates how people might live rich and meaningful lives despite their inevitable end.

### From Threat to Challenge: Understanding the Impact of Historical Collective Trauma on Contemporary Intergroup Conflict

Mengyao Li, Bernhard Leidner, Gilad Hirschberger, and Jiyoung Park

Li and colleagues propose a novel theoretical framework to understand how historical trauma can have a long-term impact on how victims as well as perpetrators perceive contemporary intergroup relations. Their framework proposes that people appraise their group's past victimization or perpetration differently, either as a threat or a challenge. These differential appraisals, shaped by contextual factors and individual differences, subsequently influence how group members respond to contemporary intergroup conflict, with adaptive and maladaptive consequences. This model contributes to previous research that has shown diverse effects of historical trauma on present-day intergroup conflict.

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