Research Briefs

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Research Briefs features summaries of selected articles published recently in APS’s six journals. APS members receive weekly summaries of all new journal articles through the This Week in Psychological Science newsletter.

**Intelligence Polygenic Score Is More Predictive of Crystallized Measures: Evidence From the Adolescent Brain Cognitive Development (ABCD) Study**

Robert J. Loughnan et al.
_Psychological Science_

In children, crystallized measures (e.g., reading ability) of intelligence might exhibit a greater degree of gene–environment correlation than fluid measures (e.g., solving a puzzle), this study suggests. Analyzing data from 8,518 participants between 9 and 11 years old, Loughnan and colleagues found that polygenic predictors of intelligence test performance and educational attainment predicted neurocognitive performance. Moreover, both polygenic predictors were more strongly associated with
crystallized measures of intelligence than with fluid measures. These results are compatible with heritability differences reported previously in adults and suggest similar associations in children.

**We Are Still Here: Omission and Perceived Discrimination Galvanized Civic Engagement Among Native Americans**

J. Doris Dai et al.

*Psychological Science*

Leading up to the 2020 U.S. presidential election, Native American organizations and tribes launched get-out-the-vote campaigns that motivated Native peoples to vote in record numbers. Dai and colleagues examined the social and cultural factors explaining this historic engagement. Results indicated that the more participants identified as being Native, the more they reported (a) engaging in civic activities, including get-out-the-vote behaviors; (b) civic engagement more broadly across 5 years; and (c) intentions to engage in civic activities in the future. Moreover, participants who more strongly identified as Native were more likely to perceive the omission of their group from society and greater group discrimination, which predicted greater civic engagement. These results suggest that leveraging the link between Native identification and group injustices can motivate action.

**No Fixed Limit for Storing Simple Visual Features: Realistic Objects Provide an Efficient Scaffold for Holding Features in Mind**

Yong Hoon Chung, Timothy F. Brady, and Viola S. Störmer

*Psychological Science*

Working memory for simple visual features might improve when these features are part of a meaningful object, this research suggests. Across five experiments, Chung and colleagues found that visual working memory capacity for color was greater when colors were part of recognizable (vs. unrecognizable) real-world objects. For example, participants were more likely to remember the color of a notebook than of an object that had been manipulated to become unrecognizable. Thus, meaningful stimuli, by increasing the object’s distinctiveness and reducing interference from other objects might provide a scaffold to help maintain simple visual feature information.

**Just Dead, Not Alive: Reconsidering Belief in Contradictory Conspiracy Theories**

Jan-Willem van Prooijen, Iris Wahrng, Laura Mausolf, Nicole Mulas, and Shayda Shwan
Previous research has indicated that conspiracy theorists can simultaneously believe in contradictory conspiracy theories (e.g., Princess Diana was murdered vs. faked her death). However, van Prooijen and colleagues propose that this positive correlation shows up in the data because people who disbelieve one conspiracy theory are also more likely to disbelieve contradictory theories. In four preregistered studies, online participants evaluated 28 sets of contradictory conspiracy theories. Although results indicated a positive correlation between believing in contradictory conspiracy theories, this was mostly due to participants who believed the official version of these events (e.g., Princess Diana died in a car accident). Participants who disbelieved the official versions did not tend to believe contradictory conspiracies at the same time, especially if one implied a person was dead and the other implied the same person was alive.

**Surviving Racism and Sexism: What Votes in the Television Program Survivor Reveal About Discrimination**

Erin M. O’Mara Kunz, Jennifer L. Howell, and Nicole Beasley

Being a White man appears to be most advantageous for surviving Survivor, a reality-television game in which contestants compete for up to 39 days to win $1 million. What is least advantageous? Being a woman who is Black, Indigenous, or a person of color. Kunz and colleagues found that among 731 contestants across 40 seasons of Survivor, women were more likely than men to be voted out of their tribe first and less likely to make it to the individual-competition stage of the game. BIPOC contestants faced the same disadvantage compared with White contestants. Women were also less likely to win than men.

See related news release about this study: “The Tribe Has Spoken: Race and Gender Bias Influence Voting Outcomes in Reality TV Show.”

**iGen or shyGen? Generational Differences in Shyness**

Louis A. Schmidt et al.

Generation Z (1997–2012) has been characterized in the popular media as more socially inhibited, cautious, and risk-averse than prior generations, but are these differences real? Schmidt and colleagues examined generational differences in self-reported shyness among groups of undergraduates attending the same university approximately 20 years apart. Compared with young adults from the millennial
Younger Than Ever? Subjective Age Is Becoming Younger and Remains More Stable in Middle-Age and Older Adults Today

Markus Wettstein et al.
*Psychological Science*

There is a historical trend toward middle-aged and older individuals feeling younger than previous generations did. Wettstein and colleagues investigated historical trends in trajectories of subjective age—that is, whether middle-aged and older adults feel younger today than the birth cohorts before them felt. The authors used longitudinal data (observations over 24 years) from adults who were between 40 and 85 years old when they entered the study. They found that later-born cohorts felt younger and had a more stable subjective age over time compared with earlier-born cohorts. Factors such as education and health did not explain this trend.

See related *Under the Cortex* episode: Feeling Young at Heart Comes With Well-Being Benefits.

The General Factor of Psychopathology (p): Choosing Among Competing Models and Interpreting p

Avshalom Caspi, Renate M. Houts, Helen L. Fisher, Andrea Danese, and Terrie E. Moffitt
*Clinical Psychological Science*

Caspi and colleagues review the history of p (the general factor of psychopathology)—the idea that all mental disorders share something. The authors use data from the Environmental Risk Longitudinal Twin Study to examine the properties of different statistical representations of p. Their results indicate that p performed similarly regardless of how it was modeled, suggesting that if a sample and content are the same, the resulting p factor will be similar. They thus suggest that dueling over statistical models will not clarify the meaning of p and, instead, it would be more fruitful to conduct well-specified criterion-validation studies and develop new measurement approaches.

Accusation Is Not Proof: Procedural Justice in Psychology

William O’Donohue and Jane Fisher
*Clinical Psychological Science*

O’Donohue and Fisher discuss the construct of procedural justice—the adjudicative processes in which norms are applied to cases that allege transgressions. In clinical psychology, procedural-justice concerns arise in a variety of contexts, including diagnoses, administrative adjudications such as ethics
complaints, conflicts between clients and others, and more informal contexts such as gossip. O'Donohue and Fisher argue that there are five general dimensions of procedural justice (epistemic, ethical, subjective, legal, and pragmatic) and 20 specific principles of procedural fairness. They conclude with suggestions for improved practice and future research.

**Do I Like Me Now? An Analysis of Everyday Sudden Gains and Sudden Losses in Self-Esteem and Nervousness**

Theresa Eckes and Steffen Nestler

Eckes and Nestler investigated daily rapid changes (i.e., sudden gains and losses) in young adults’ self-esteem and nervousness ratings. The results suggested that everyday sudden gains and losses seem to be a common but unstable phenomenon that is more common among individuals who show higher variance in losses and gains. These findings are in accordance with the revised theory of sudden gains, which suggests that they are part of natural fluctuations in symptomatology. The findings also support the complexity theory of psychopathology, which views sudden gains and losses as part of a self-organizing dynamic system.

**A Meta-Analysis of the Relationship Between Emotion Regulation and Social Affect and Cognition**

Maike Salazar Kämpf et al.

Emotion regulation training might foster empathy and compassion as well as alleviate empathic distress, this meta-analysis suggests. To disentangle the link between adaptive and maladaptive emotion regulation and different aspects of social affect and cognition, Kämpf and colleagues analyzed 549 effect sizes from 58 samples. Their meta-analysis indicates that higher adaptive emotion regulation is related to higher cognitive empathy, affective empathy, and compassion, and to lower empathic distress. Furthermore, higher maladaptive emotion regulation is related to lower cognitive empathy and higher empathic distress. These findings suggest that emotion regulation influences empathy, compassion, and empathic distress.

**15 Years of Parental Burnout Research: Systematic Review and Agenda**

Moïra Mikolajczak, Kaisa Aunola, Matilda Sorkkila, and Isabelle Roskam

*Current Directions in Psychological Science*
Parental burnout (PB), an exhaustion disorder related to parenting, is receiving increasing attention. Mikolajczak and colleagues review the accumulated findings about PB from the past 15 years. They identify four core symptoms of PB: intense parenting exhaustion, emotional distancing from one’s children, loss of parenting fulfillment, and feelings of guilt and shame. The researchers also identify factors associated with an increased risk of PB (e.g., perfectionistic or anxious personality, family disorganization, coparental disagreement) and protecting factors (e.g., high emotional competence, support from the coparent, social support). Finally, Mikolajczak and colleagues identify consequences of PB, including escape and suicidal ideations, parental neglect and violence, and high physiological manifestations of stress.

**Facing the Unknown Unknowns of Data Analysis**

*Eric-Jan Wagenmakers, Alexandra Sarafoglou, and Balazs Aczel*

*Current Directions in Psychological Science*

Empirical claims are inevitably associated with uncertainty, hence a major goal of data analysis is to quantify that uncertainty. However, most uncertainty may lie in what any given scientific article does not report (e.g., how the experiment was designed, how credible the authors believe their hypothesis to be). Wagenmakers and colleagues summarize recent methodological developments in this area and conclude that focusing on a single statistical analysis is myopic. They argue that social scientists may gain more insight by taking a broad view of uncertainty and by working to reduce the “unknown unknowns” that still plague reporting practices.

**Active Learning in Language Development**

*Ruthe Foushee, Mahesh Srinivasan, and Fei Xu*

*Current Directions in Psychological Science*

The study of language development typically casts children as passive recipients of adult guidance. Foushee and colleagues argue that this approach overlooks language learning as a fruitful domain in which to explore children’s active, self-directed learning. Specifically, children seize language-learning opportunities and actively select the linguistic information they want to receive, thereby enhancing their own learning. The authors suggest that reframing the child as an active language learner generates novel explanations for key phenomena in language development and generates complex, ecologically valid test contexts for researchers interested in rational accounts of learning.

**A Romantic-Partner Model of Mental Health**

*Susan C. South*

*Current Directions in Psychological Science*

Romantic relationships that become unsatisfying, distressed, or conflicted can be a precursor to the experience of mental illness. South examines how these relationships may trigger a tendency to suffer from psychopathology. She proposes a diathesis-stress model of relationship distress and psychopathology, according to which relationship distress may trigger biological (e.g., genetic) and/or
psychological (e.g., cognitive, emotional) predispositions to suffer from psychopathology. Future research should examine the plethora of diatheses (predispositions) that put individuals at risk specifically from distressed relationships, South suggests.

Deepfakes: Vehicles for Radicalization, Not Persuasion

Maja Nieweglowska, Cal Stellato, and Steven A. Sloman

Current Directions in Psychological Science

Deepfakes—hyperrealistic digital falsifications of images, videos, and audio created through machine-learning—are an effective method of media manipulation. Nieweglowska and colleagues explain how deepfakes’ realism and vividness make them so effective at propagating fake information. However, people share deepfakes not necessarily because they believe them but because they want to create a reality that aligns with their desires, opinions, and values. Thus, deepfakes do not persuade people to change but can radicalize people by sowing confusion. Nieweglowska and colleagues suggest potential solutions to reduce deepfakes’ negative consequences, such as using collective action to change norms and expectations about media.


Sina Kianersi et al.

Advances in Methods and Practices in Psychological Science

The Transparency and Openness Promotion (TOP) Guidelines describe modular standards that journals can adopt to promote open science. Kianersi and colleagues examined the interrater agreement and reliability of three instruments for assessing TOP implementation in journal policies (instructions to authors), procedures (manuscript-submission systems), and practices (journal articles), in 339 journals from the behavioral, social, and health sciences. Interrater agreement (IRA) was high for most standards, but most journals did not implement most TOP standards. No standard had “excellent” interrater reliability (IRR). Three standards had “good,” one had “moderate,” and six had “poor” IRR. Likewise, IRA was high for most questions, and IRR was moderate or worse for 62%, 54%, and 43% of policy, procedure, and practice questions, respectively. Kianersi and colleagues suggest that clarifying distinctions among different levels of implementation for each TOP standard might improve its implementation and assessment.

When to Use Different Inferential Methods for Power Analysis and Data Analysis for Between-Subjects Mediation

Jessica L. Fossum and Amanda K. Montoya
Advances in Methods and Practices in Psychological Science

Fossum and Montoya explore the similarity of power estimates from six inferential methods for between-subjects mediation when the samples are the same size. They found that when data meet the assumptions of linear regression, the joint significance test, the Monte Carlo confidence interval, and the percentile bootstrap confidence interval perform similarly. When the assumptions are violated, the nonbootstrapping methods tended to have vastly different power estimates compared with the bootstrapping methods. Thus, the researchers recommend using the joint significance test for power analysis only when no assumption violations are hypothesized, and using the percentile bootstrap confidence interval when assumption violations are suspected.

iCatcher+: Robust and Automated Annotation of Infants’ and Young Children’s Gaze Behavior From Videos Collected in Laboratory, Field, and Online Studies

Yotam Erel et al.

Advances in Methods and Practices in Psychological Science

Erel and colleagues build on a system for automatic gaze annotation in young children, iCatcher, by engineering improvements and then training and testing the improved system—iCatcher+. When trained on three data sets (videos of children aged 4 months–3.5 years, collected in labs and field settings, in the U.S. and Senegal), iCatcher+ performed with near human-level accuracy on held-out videos on distinguishing “LEFT” versus “RIGHT” and “ON” versus “OFF” looking behavior. The system achieved this high performance at the level of individual frames, experimental trials, and study videos. The performance also held across participant demographics (e.g., age, race/ethnicity), participant behavior (e.g., movement, head position), and video characteristics (e.g., luminance), as well as generalized to a different online data set.

A Guide for Calculating Study-Level Statistical Power for Meta-Analyses

Daniel S. Quintana

Advances in Methods and Practices in Psychological Science

In this tutorial, Quintana introduces the metameta R package and app, which facilitate the straightforward calculation and visualization of study-level statistical power in meta-analyses for a range
of hypothetical effect sizes. The statistical power of a study’s design/statistical test combination for detecting hypothetical effect sizes of interest determines a study’s evidential value, and the credibility of a meta-analysis depends on the evidential value of the studies included. Quintana shows how to reanalyze data using information typically presented in meta-analysis forest plots or tables and how to integrate the metameta package when reporting novel meta-analyses. The researcher also provides a step-by-step companion screencast video tutorial to assist readers using the R package.

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