

# New Research in *Psychological Science*

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## [Exact Number Concepts Are Limited to the Verbal Count Range](#)

*Benjamin Pitt, Edward Gibson, and Steven T. Piantadosi*



Pitt and colleagues tested the role of language in number concepts among the Tsimane' of Bolivia, an indigenous group in which knowledge of number words varies across individual adults. The researchers used a novel data-analysis model to quantify the point at which participants switched from exact to approximate number representations during tasks in which they made arrays with the same number of objects as a sample array. Participants' verbal count ranges (the numbers they could count to) predicted the point at which they started making approximations. That is, their representation of exact numbers was limited to the number of words they knew.

## [Pain as Social Glue: A Preregistered Direct Replication of Experiment 2 of Bastian et al. \(2014\)](#)

*Jakub Prochazka et al.*



Prochazka and colleagues attempted to replicate one of Bastian and colleagues' (2014) experiments indicating that shared painful experiences among groups could promote intergroup cooperation but found no such effect. Participants assigned to groups of three performed painful or painless tasks and then played an economic game. Despite some deviations from the original study, including the number of participants per group (two to six in the original) and balancing group gender homogeneity across conditions, these findings suggest that the effects of pain on cooperation might have been overestimated in the original study.

## [Low Perinatal Androgens Predict Recalled Childhood Gender Nonconformity in Men](#)

*Talia N. Shirazi et al.*



Gender-role behaviors in childhood may be influenced by exposure to gonadal hormones during early gestation, this research suggests. Shirazi and colleagues tested the recall of childhood gender nonconformity among adult male and female participants with and without isolated gonadotropin-releasing-hormone deficiency (IGD)—an endocrine disorder characterized by low or absent gonadal hormone after the first trimester of gestation but external genitalia at birth and hence gendered rearing concordant with their chromosomal sex. Compared with men without IGD, men with IGD reported elevated childhood gender nonconformity, particularly if they also reported undescended testes at birth, a marker of low perinatal androgens. No differences were found between women with and without IGD.

### [Perceptual Grouping Explains Similarities in Constellations Across Cultures](#)

*Charles Kemp, Duane W. Hamacher, Daniel R. Little, and Simon J. Cropper*



This research suggests that basic perceptual factors appear to account for a large set of similarities in asterisms and constellations across cultures. Kemp and colleagues compiled data from 27 cultures around the world and found that the same constellations appear frequently across cultures, with the list of recurring asterisms extending beyond familiar examples such as Orion and the Big Dipper. A computational model that grouped stars on the basis of proximity and brightness accounted for many of the recurring cross-cultural constellations. These results suggest that basic perceptual principles can account for more of the structure of constellations across cultures than previously acknowledged.

### [Acting Like a Baby Boomer? Birth-Cohort Differences in Adults' Personality Trajectories During the Last Half a Century](#)

*Naemi D. Brandt et al.*



Society and developmental theory generally assume that there are wide generational differences in personality. Yet evidence showing historical change in the levels of adult personality traits is scarce, particularly for developmental change. Brandt and colleagues tracked personality in 4,732 participants (born between 1883 and 1976) across 50 years. At age 56, later-born cohorts exhibited lower levels of maturity-related traits (agreeableness and neuroticism) and higher levels of agency-related traits (extraversion and openness) than earlier-born cohorts. Changes in agreeableness and neuroticism were more pronounced among young adults, but changes in openness were less pronounced. Some of the cohort differences were related to historical changes in education and gender roles and refute overly generalized stereotypes that stigmatize people born at specific historical times.

### [Safe and Sound: The Effects of Experimentally Priming the Sense of Attachment Security on Pure-Tone Audiometric Thresholds Among Young and Older Adults](#)

*Shir Nagar, Mario Mikulincer, Gal Nitsan, and Boaz M. Ben-David*



This research suggests that attachment security—confidence that support will be available when needed—may improve hearing in young and older adults. Participants performed an audiometric test while being presented with a picture of a security-enhancing figure (someone they trusted, who made them feel secure, and who would respond to their needs), a picture of an unknown person, or a neutral stimulus (a circle). Participants (22–35 years old and 60–75 years old) who saw the security-enhancing figure performed better than the other participants. Thus, psychological factors may affect hearing loss assessment.

### [Behavioral Consistency in the Digital Age](#)

*Heather Shaw, Paul J. Taylor, David A. Ellis, and Stacey M. Conchie*



Individuals show distinctive patterns of digital behavior that can make them easily identifiable, posing threats to security and privacy, this research suggests. Shaw and colleagues analyzed 28,692 days of smartphone app usage across 780 individuals and found that each individual's app usage (pickup frequency and usage duration) was consistent over the days, allowing the creation of profiles. When trained models generated their top 10 predictions of who the possible users were, given their app usage, the actual user was on the list about 75% of the time. That is, anonymous data can become identifiable by being matched to actual users' profiles.

### [The “Equal-Opportunity Jerk” Defense: Rudeness Can Obfuscate Gender Bias](#)

*Peter Belmi, Sora Jun, and Gabrielle S. Adams*



Rudeness toward men makes sexism hard to recognize, Belmi and colleagues report. In five preregistered studies, they found that observers judge a sexist perpetrator as less sexist if he is rude toward men. This occurs because rudeness toward men creates the illusion of gender blindness. However, men who hold sexist beliefs about women can be—and often are—rude toward other men. These results indicate that rudeness toward men may protect sexist perpetrators and prevent the first perceptual step necessary to address sexism.