

New Research From Psychological Science

June 07, 2019



Read about the latest research published in *Psychological Science*:

[National Gross Domestic Product, Science Interest, and Science Achievement: A Direct Replication and Extension of the Tucker-Drob, Cheung, and Briley \(2014\) Study](#)

Anqing Zheng, Elliot M. Tucker-Drob, and Daniel A. Briley



As the demand for science graduates increases, identifying the key predictors of high performance in science disciplines can help researchers create interventions aimed at increasing science knowledge. In 2014, Tucker-Drob and colleagues examined data from the 2006 Programme for International Student Assessment (PISA) and concluded that across 57 countries, 15-year-old students' high interest in science was associated with higher science achievement, but this association was stronger for students from advantaged backgrounds (i.e., from families and schools with higher socioeconomic status and from countries with higher national gross domestic product). Zheng and colleagues analyzed data from the 2015 PISA and found similar results across 72 countries. They also found that between 2006 and 2015, the disparities between students from advantaged and disadvantaged backgrounds decreased, and the association between science interest and achievement increased for students from more disadvantaged backgrounds. This increase was more pronounced in less prosperous countries than in rich countries and was accompanied by increases in access to the Internet, education, and higher education expenditures. These findings suggest that increasing the availability of educational resources and removing barriers to learning might allow more students to transform interest in science into knowledge and achievement.

[Information Processing Under Reward Versus Under Punishment](#)

Timothy Ballard, David K. Sewell, Daniel Cosgrove, and Andrew Neal



What effects do rewards and punishments have on how individuals process information while making a decision? In this study, participants saw successive frames with clouds of moving dots and had to quickly judge whether the dots were moving toward the left or toward the right of the screen. They were given a specific accuracy and quickness goal and they could (a) be rewarded with \$2.50 if they achieved the goal (expected reward), (b) be punished by losing \$2.50 if they did not achieve the goal (expected punishment), or (c) be neither punished nor rewarded (no incentive). The results pointed to worse performance when punishment was expected. Participants were slower and less accurate when they expected punishment than when they expected a reward or no incentive. Under expected punishment, easy stimuli (i.e., with a larger proportion of moving dots) elicited similar accuracy and response time as did medium-difficulty stimuli under expected-reward or no-incentive conditions, and medium-difficulty stimuli elicited similar accuracy and response time as did high-difficulty stimuli under expected-reward or no-incentive conditions. Using a computational model, the authors found that, compared with expected reward or no-incentive conditions, expected punishment lowered the average quality and quantity of information processed and lowered the amount of information used to make a decision, causing less cautious decision making. Thus, the information individuals extract from the environment and their decision processes seem to be determined not only by the stimuli but also by the task incentives.

[Differentiate to Regulate: Low Negative Emotion Differentiation Is Associated With Ineffective Use but Not Selection of Emotion-Regulation Strategies](#)

Elise K. Kalokerinos, Yasemin Erbas, Eva Ceulemans, and Peter Kuppens



Knowing whether you are sad, angry, or anxious when you feel awful (rather than not being able to identify a particular feeling) is known as *emotion differentiation*, and this ability has been associated with well-being. This may be because low emotion differentiation decreases the successful use of emotion-regulation strategies (e.g., social sharing, expression suppression), this research suggests. Participants sampled their emotions and regulation strategies 10 times a day for 7 days. They received prompts on a smartphone to rate their levels of stress, anger, sadness, anxiety, depression, and loneliness and their use of rumination, distraction from the emotion, reappraisal of the emotion, suppression of the expression of the emotion, and social sharing of the emotion (i.e., talking to other people about it). Emotion differentiation was not related to the specific use of any strategy; that is, it did not increase the use of more adaptive strategies such as emotional reappraisal or sharing. But in lower differentiators, the use of any strategy was more strongly associated with negative emotion than in higher differentiators, which suggests that the strategies were not attenuating negative emotions for low differentiators. These effects were replicated when emotions were sampled around an emotional event: receiving first-semester grades. Differentiation deficits thus seem to impair the successful use of emotion-regulation strategies but not the selection of strategies. Given that differentiation seems to support effective emotional regulation, differentiation training may facilitate regulation in clinical populations.

[Aggression Toward Sexualized Women Is Mediated by Decreased Perceptions of Humanness](#)

Steven Arnocky, Valentina Proietti, Erika L. Ruddick, Taylor-Rae Côté, Triana L. Ortiz, Gordon



Women with a sexualized appearance (described as an outward physical appearance that signals greater sexual receptivity and promotes greater attractiveness to men) may be victims of aggressive behaviors from other women. In this study, female college students completed a measure of how competitive they are with other women (intrasexual competition) and then viewed a video depicting a female partner who was, in reality, a confederate. The confederate was dressed either conventionally, in a blue long-sleeved shirt with her hair up and no makeup, or in a sexualized way, in a strapless red top with her hair down and face made up. Participants rated the partner's personality traits and were told they would play a game against the partner. In the game, participants received points by repeatedly pressing a key on the keyboard, but those points could be stolen by the partner. When points were stolen, participants could respond by stealing points back from the partner, but they could not keep the stolen points — choosing to steal points was considered an indicator of aggression toward the partner. Participants who scored higher on intrasexual competition rated the sexualized partner lower in the uniquely human traits of openness to experience and conscientiousness, and those lower ratings were associated with more aggressive behaviors during the game. This effect appeared not to be due to how typical or atypical the partner's appearance was but solely to how sexualized it was. These findings suggest that dehumanization may be a mechanism through which interacting with a sexualized woman fuels aggression from competitive females.