

# New Research From Psychological Science

December 29, 2017



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

[Does Smile Intensity in Photographs Really Predict Longevity? A Replication and Extension of Abel and Kruger \(2010\)](#)

*Michael Dufner, Martin Brümmer, Joanne M. Chung, Pia M. Drewke, Christophe Blaison, and Stefan C. Schmukle*

Past research has suggested that positive affectivity is associated with longevity. Many of the studies finding this connection have examined a small to medium timeframe (less than 30 years), but one of the few studies examining this relationship over a longer period was conducted by Abel and Kruger (2010). In this study, the researchers analyzed pictures of U.S. professional baseball players who were active in 1952. The authors used the players' smiles in the photographs as a proxy for positive affectivity and examined how long they had lived (as of 2009). The researchers found that players who showed a full smile were half as likely to die in a given year as players who did not smile. In the current study, the authors attempted to replicate and extend these findings by analyzing three samples: one almost identical to that in the Abel and Kruger (2010) study, a nonoverlapping sample from the same cohort, and all players in the database. The pictures were assessed by human coders and by automatic computer-based emotion-recognition programs. The researchers found that the results failed to replicate, in that indicators of positive affectivity did not predict longevity after birth year was controlled as a covariate.

[Mothers' Neural and Behavioral Responses to Their Infants' Distress Cues: The Role of Secure Base Script Knowledge](#)

*Ashley M. Groh and Katherine C. Haydon*

Children who have sensitive caregivers are likely to represent the attachment relationship as structured around a secure base of support, a representation that guides how they process social information later in life. However, some individuals may form less adaptive attachment representations. Do these

representations influence how mothers attend to their infants' distress cues? To find out, the authors used a narrative completion task to gauge the degree to which participating mothers held a secure-base attachment representation. They also had each mother complete an attention task in which she viewed images of her infant making different facial expressions and pressed a button whenever she saw the target expression. Physiological data recorded via EEG revealed that mothers whose narratives lacked a secure-base structure showed a larger P3b amplitude (an event-related potential component) when attending to their infants' distress expressions and were less likely to identify these expressions compared with mothers whose narratives included a secure base. Because P3b amplitude is thought to indicate the attentional resources engaged in a task, the authors conclude that lacking a secure-base attachment representation may make it more difficult for some mothers to attend to their infants' distress.

### [Early Conceptual Understanding of Cardinality Predicts Superior School-Entry Number-System Knowledge](#)

*David C. Geary, Kristy vanMarle, Felicia W. Chu, Jeffrey Rouder, Mary K. Hoard, and Lara Nugent*

Most children's first mathematical insight is that number words represent unique and specific quantities (i.e., cardinal values). This understanding may emerge as early as age 3 or as late as age 6, meaning that children who acquire cardinality insight later may fall behind their peers in mathematical competence and other academic outcomes. The researchers tested children's mathematical abilities when they began preschool at ages 3 and 4 and throughout the next 2 years, measuring skills including verbal counting, cardinality understanding, and numerical recognition. When the children were 6 and 7 years old, the researchers asked them to solve some simple addition problems and some more complex math problems without pencil and paper; the children then described how they solved each problem. Statistical analyses revealed that children who understood that number words represent specific quantities earlier showed greater knowledge of number systems and mathematics achievement at follow-up compared with peers whose understanding of cardinality emerged later. This suggests that the age at which children acquire the concept of cardinal value is central to their mathematical development and school readiness.