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Emotions, age, and subjective probability in children

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Abstract

Many of our decisions are based on probabilistic information. While probability theory is a useful tool for quantifying probabilities mathematically, subjective probability is a complex psychological phenomenon. We investigated developmental changes in subjective probability and the modulating role of emotions in probabilistic cognition. For this, we asked $N = 45$ children ($M = 10.59$, $SD = 2.28$, range 7-15) and $N = 160$ adults ($M = 25.20$, $SD = 14.35$, range 18-88) to estimate the probability of a series of three-item compound events generated from a known probability distribution. While children's estimates largely resembled those of adults, conservatism (avoidance of the extremes) and representativeness judgments (basing estimates on similarity) were modulated by age and emotions. Our findings suggest that the way in which people use the representativeness heuristic develops with age and that emotions modulate subjective probability in children and adults.