

DECISION MAKING

Costly evidence sampling in adolescence

Adolescents may particularly benefit from gaining extra information as they begin to have more agency in making independent decisions

Adolescents sample more information before making a decision than young adults, according to new research published in *Developmental Psychology*. These results suggest that common perceptions of adolescents as impulsive might be incomplete.

People make decisions throughout daily life, ranging from small (whether to buy a coffee) to large (whether to move for a new job). There is a common perception that adolescents make rash decisions, engaging in risky behaviours with little regard for the potential outcome. By contrast, adults are perceived as more logical thinkers, considering relevant risks before making their choices. However, this simplistic picture obscures potentially key differences across decision scenarios, which might differentially influence decision makers at different stages in life.

In many real-life decision situations there are multiple opportunities to gather information about the available options and associated risks. Information gathering often requires effort, resulting in an effort–accuracy trade-off: collecting more information is costly but might lead to a more optimal decision. However, past psychology research on decision making has focused largely on situations in which the potential risks and outcomes are known up front.

Jesse Niebaum and colleagues tested decision making by

adolescents and the influence of costly information gathering in a preregistered experiment with over 450 participants. On the basis of prior research, “we expected that adolescents would gather less information and thus make more suboptimal decisions than young adults,” notes Niebaum.

Adolescents (mean age 15 years) and young adults (mean age 20.5 years) completed a computer-based task that required them to decide whether a display contained more blue or yellow tiles. At the start of the trial, each tile was hidden, and participants could click on tiles to reveal their colour, which remained in view until they decided whether the majority of the display was blue or yellow. Trials differed in the cost of gathering more evidence for the decision, requiring 1, 4 or 12 clicks to reveal each tile.

Contrary to their predictions, the researchers found that adolescents revealed more tiles than young adults before making their decision. This result held across effort levels: adolescents always revealed more tiles than adults, even when they had to click 12 times to reveal each tile.

The finding that adolescents expended more effort than young adults aligns with previous research suggesting that adults are less prone to exert effort to obtain information than adolescents. Niebaum notes that this sensitivity to effort might reflect changing circumstances

across life stages. “Adolescents may particularly benefit from gaining extra information as they begin to have more agency in making independent decisions, whereas adults may more accurately calibrate their effort with expected benefits, better conserving effort for when it’s needed.”

Indeed, the additional tiles revealed by the adolescents did not improve their accuracy compared to the young adults. Although accuracy dropped slightly with increasing effort level, both groups showed accuracy of between 90 and 100% correct across all effort levels, with no differences between groups. The increased information the adolescents collected resulted in stronger evidence for their decisions, but did not result in better performance.

Niebaum hopes that these results help to change the perception of adolescents as rash decision makers. “Contrary to what many people would expect, adolescents are putting more effort in and searching for more information before making a consequential decision,” says Niebaum. “We hope these findings also provide some evidence against adolescence simply being a period of poor decision making.”

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