The great unknown—risk-taking behaviour in adolescents

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Young people are seeking new experiences, and in doing so, are often unable to gauge the risks of their behaviour. Credit: Jörg/Flickr (CC BY-NC 2.0)

Adolescents are more likely to ignore information that could prompt them to rethink risky decisions. This may explain why information campaigns on risky behaviors such as drug abuse tend to have only limited success. These are the conclusions of a study conducted by researchers at the Max Planck Institute for Human Development, which has been published in the journal *Scientific Reports*.

Reckless driving, binge drinking, drug taking—it is well known that adolescents are more likely than adults to engage in risky and impulsive behavior. A study conducted at the Max Planck Institute for Human Development provides new insights into these risky decisions. The findings show that, relative to children and adults, adolescents are less interested in information that would help them to gauge the risks of their behavior. They are less motivated to seek out such information and better able to tolerate a lack of knowledge. "It's not that they are cognitively incapable of processing the issues. They are simply driven to seek new experiences and try out new things," says lead author Wouter van den Bos, researcher in the Center for Adaptive Rationality at the Max Planck Institute for Human Development.

The patterns of adolescent risk-taking behaviors observed in previous experimental studies deviate sharply from those seen in real life. In these earlier laboratory experiments, participants were often given all the information they needed to make a decision. When adolescents test their luck by experimenting with drugs or having unprotected sex, however, they may have only a vague idea of the possible consequences of their actions and the likelihoods of those consequences. But they often have the opportunity to learn more about those consequences before making a decision—metaphorically speaking, they can look before they leap. "Ours was the first developmental study to use experimental tasks that afforded decision makers this opportunity to reduce uncertainty by searching for more information," adds van den Bos.

In the study, 105 children, adolescents, and young adults aged 8–22 years old played various lotteries, each offering a chance of winning a certain amount of money. Players either had full information on the value of the prize and the probability of winning it (choices under risk), or they were told the value of the prize but had incomplete information on its probability (choices under ambiguity), or they were not told the value of the prize or its probability but had the opportunity to access further information (choices under uncertainty). Additionally, participants were asked about their real-life risk-taking behavior.

It emerged that teenagers were more ready to accept ambiguity and also searched for less information in the context of uncertainty. This tolerance of the unknown peaked around age 13-15 years. Unlike adolescents' choices in the context of full information, their behavior under ambiguity and uncertainty also correlated with their self-reported risk-taking in the real world.

The study findings could also explain why information campaigns designed to educate young people about the risks of certain behaviors—such as drug abuse—often fall on deaf ears. Even when information is easily available to young people, they show little motivation to engage with it. "If we really want to get through to young people, we need to take these insights into account when designing interventions," says coauthor Ralph Hertwig, Director of the Center for Adaptive Rationality at the Max Planck Institute for Human Development. "A promising alternative to information campaigns would be to give adolescents the opportunity to experience the consequences of their risky behavior—in virtual environments, for example," adds Hertwig.

More information: Wouter van den Bos et al. Adolescents display distinctive tolerance to ambiguity and to uncertainty during risky decision making, *Scientific Reports* (2017). DOI: 10.1038/srep40962