

Adolescent Brain Development and Its Impact on Risk-Taking Behavior

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Adolescent Brain Development and Reward Sensitivity

Adolescence is a complex stage of human development in which young people experience major physical, emotional, social, and cognitive changes. During this period, adolescents begin to move away from childhood dependency and toward adult independence. They become more interested in identity, peer relationships, social acceptance, freedom, and new experiences. Because of these changes, adolescence is often associated with risk-taking behavior. Many adolescents are more likely to experiment, challenge authority, seek excitement, and make decisions without fully considering long-term consequences. However, scholars disagree about whether adolescent risk-taking is mainly the result of brain development or whether it is shaped more by social, cultural, and environmental factors.

The article selected to support the argument that the adolescent brain makes risk-taking among adolescents more likely is titled “Risk, Adaptation and the Functional Teenage Brain,” written by Sercombe. This article provides scientific information about the development of the adolescent brain and explains why teenagers may be more likely to engage in risky behavior. According to Sercombe, during adolescence, the prefrontal cortex is still developing. The prefrontal cortex is the part of the brain associated with mature self-regulation, planning, judgment, impulse control, and decision-making. Since this region is not yet fully mature during [adolescence](#), [young](#) people may find it more difficult to control impulses and evaluate risks in the same way adults do (Sercombe, 2014).

Sercombe’s argument suggests that adolescent brain development creates a “storm of opportunities” for risky behavior. This does not necessarily mean that every adolescent will engage in [dangerous behavior](#), but it does mean that the developmental stage of the brain can make risk-taking more likely. Adolescents may understand that certain actions are risky, but their ability to regulate emotions, control impulses, and resist social pressure may not be fully developed. As a result, they may make decisions that seem exciting or rewarding in the moment, even when those decisions have negative consequences.

The article also considers that the adolescent brain undergoes significant changes during early adolescence. These changes are connected to patterns of brain development and maturation. Adolescents often become more focused on peer inclusion, social approval, and belonging. This means that their decisions are not always made independently. They may be strongly influenced by

friends, social groups, or the desire to be accepted. For example, an adolescent may take a risk not because he or she does not understand the danger, but because the presence of peers increases the emotional reward of the behavior. In this way, brain development and social pressure can work together to increase risk-taking.

The reward system of the adolescent brain is also important in understanding risk-taking. During adolescence, the brain may respond strongly to rewards, excitement, novelty, and social approval. This can make risky behavior feel more attractive. Activities such as reckless driving, substance use, rule-breaking, or unsafe social behavior may seem rewarding because they provide excitement, attention, or a sense of independence. Therefore, the adolescent brain may not be “broken,” but it may be especially sensitive to reward. This sensitivity can influence decision-making.

Critiques of Biological Determinism in Youth Science

However, the argument that adolescent brain development makes risk-taking inevitable is challenged by the article “The Mismeasurement of Youth: Why Adolescent Brain Science is Bad Science,” written by Bessant and Watts. These authors refute the idea that adolescent behavior can be explained mainly through brain science. They argue that there is no explicit evidence to claim that the adolescent brain makes risk-taking inevitable or that adolescent behavior is completely different from adult behavior. Their argument questions the assumption that young people naturally behave irresponsibly because their brains are immature.

Bessant and Watts suggest that some interpretations of adolescent brain science rely on overly simple assumptions. According to their view, describing the adolescent brain as immature or incomplete may create a misleading image of young people. It may make adolescence appear like a biological problem rather than a normal stage of development. The authors argue that visual evidence of structural or functional differences in adolescent brains can be interpreted too narrowly. Brain images may show differences, but those differences do not automatically prove that adolescents are unable to make good decisions or that risky behavior is unavoidable (Bessant & Watts, 2015).

This criticism is important because it challenges the idea of biological determinism. Biological determinism is the belief that behavior is controlled mainly by biology. If people accept that adolescent risk-taking is inevitable because of the brain, they may ignore the influence of education, parenting, culture, poverty, peer environment, trauma, school systems, and social expectations. Bessant and Watts remind readers that adolescent behavior is shaped by many factors, not only by brain structure. Young people are not simply controlled by their brains; they also respond to their environment, relationships, opportunities, and experiences.

Ethical Concerns and a Balanced Interpretation of Risk

The argument by Bessant and Watts also raises ethical concerns. If society views adolescents as naturally irrational or incapable of sound judgment, young people may be treated unfairly. Their voices may be dismissed, and their ability to participate in decisions may be underestimated. This is especially important in education, law, and social policy. Adolescents need support and guidance, but they should not be treated as if they are completely unable to think responsibly. Many adolescents are capable of making thoughtful decisions, especially when they have proper information, emotional support, and a safe environment.

In my opinion, the adolescent brain can contribute to risk-taking behavior, but it does not make risk-taking inevitable. Adolescents may be more likely to take risks because they have less life experience, stronger sensitivity to rewards, and still-developing self-regulation skills. However, they are also capable of learning, reasoning, and making responsible choices. The adolescent brain is not fully mature, but it is not incapable of decision-making. It is better to say that adolescence is a period of increased vulnerability rather than a period of unavoidable risk.

Experience, Education, and Risk Reduction

The lack of experience is one of the strongest reasons adolescents may take risks. Adults often make better decisions not only because their brains are more developed, but also because they have had more opportunities to learn from consequences. Adolescents may not yet fully understand how one decision can affect their future. For example, they may underestimate the long-term impact of substance use, unsafe driving, or harmful relationships. However, this lack of experience can be improved through education, mentoring, and supportive guidance.

In terms of brain development, I believe that the adolescent brain has greater activity in reward-related regions, making risk-taking more rewarding for teenagers than it may be for adults. This can explain why adolescents sometimes choose immediate excitement over long-term safety. However, this does not mean that risk-taking is automatic. If adolescents are taught how to evaluate consequences, manage emotions, and resist peer pressure, they can learn to make better choices. Therefore, brain development may influence behavior, but it does not completely determine behavior.

The argument that the adolescent brain makes risk-taking inevitable is not absolute. Effective education during early adolescence can reduce risky behavior. Schools, families, and communities can teach adolescents about decision-making, emotional regulation, peer pressure, and consequences. Programs that focus on life skills, mental health, responsible choices, and communication can help adolescents understand risk more clearly. When young people receive support, they are more likely to make thoughtful decisions.

Parenting and Peer Influence

Parenting also plays an important role. Adolescents who have supportive relationships with parents or guardians may be better able to manage risk. Supportive parenting does not mean controlling every action. It means providing guidance, setting reasonable boundaries, listening to concerns, and helping adolescents develop independence responsibly. When adolescents feel understood and supported, they may be less likely to seek dangerous forms of excitement or approval.

Peer influence is another important factor. Adolescents may take risks when they want to impress friends or gain acceptance. However, peer influence can also be positive. Good peer groups can encourage academic effort, healthy habits, sports, creativity, and responsible behavior. This means that risk-taking is not only a result of brain development. It is also affected by the kind of social environment in which adolescents live.

Cultural Context and Conclusion

Culture and society also shape adolescent behavior. In some environments, adolescents may face poverty, violence, discrimination, lack of educational opportunities, or weak family support. These conditions can increase risky behavior because young people may feel hopeless, stressed, or pressured. In other environments, adolescents may have access to education, sports, counseling, creative activities, and safe social spaces. These opportunities can reduce harmful risk-taking and help adolescents develop confidence and responsibility.

It is also important to recognize that not all risk-taking is negative. Some risks can be part of healthy development. Adolescents may take positive risks by trying a new sport, speaking in public, applying for a scholarship, making new friends, or standing up for their beliefs. These experiences help young people grow and develop independence. Therefore, the goal should not be to remove all risk from adolescence. Instead, the goal should be to help adolescents distinguish between healthy risks and harmful risks.

In conclusion, adolescent brain development has an important influence on risk-taking behavior, but it does not make risk-taking inevitable. Sercombe's article supports the idea that the developing prefrontal cortex, reward sensitivity, and social pressures can increase the likelihood of risky behavior during adolescence. However, Bessant and Watts challenge the overuse of brain science and argue that adolescent behavior should not be reduced only to biology. In my view, both perspectives are useful. The adolescent brain may make risk-taking more probable, but education, experience, parenting, peer influence, and social environment can greatly shape adolescent decision-making. Therefore, it is not appropriate to claim that adolescent risk-taking is inevitable. It is more accurate to say that adolescence is a period of increased risk, but with proper guidance and support, young people can learn to make responsible and healthy decisions.

References

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