



How Developmental Science Can Help Us Address Inequities During Adolescence

Adolescence—beginning at the onset of puberty, around 10 years old, and ending in our mid-20s—is a key window of opportunity for shaping positive trajectories that can last a lifetime. During adolescence, our developing brains are learning and adapting in ways that naturally take advantage of supportive relationships, environments, and experiences for growth and development. Unfortunately, the social systems that serve young people are often not structured to provide the support young people need for positive learning and adaptation. In some cases, structural barriers to successful development such as poverty, unequal allocation of resources, and racism, bias, and discrimination can create inequities that amplify risks of negative outcomes for certain groups of adolescents.

The National Academies of Science, Engineering, and Medicine (NASEM)'s 2019 report [The Promise of Adolescence: Realizing Opportunity for All Youth](#) explains some of the most serious disparities in outcomes for adolescents, as well as the sources of these outcomes: wealth and resource inequality, differences in the way institutions respond to adolescents from different backgrounds, and prejudicial or discriminatory attitudes or behavior by adults or peers who interact with adolescents. These disparities have been entrenched in our society for so long that disproportionately more resources and support will need to be directed toward youth who have experienced these disadvantages youth in order to create equitable outcomes.

We believe that a science-based understanding of adolescent development is an important addition to the knowledge and experiences of inequities that indigenous communities and communities of color have brought to the forefront of public awareness over years of advocacy. Insights from developmental science can help determine where to focus support in order to remove the social and economic barriers to adolescent health and well-being and illuminate which policies, practices, and additional resources might best create more equitable outcomes for all adolescents.

In this overview, we highlight some of the key features of adolescent development that must be considered in any reimagining of the systems, policies, and programs that serve adolescents to help ensure equitable treatment and outcomes for all young people. We then offer actions that can support these features, based on some of the NASEM report's recommendations for promoting the promise of adolescence for all youth.

Adolescent brain development

Adolescent brains are actively forming new connections and eliminating those that are not needed. Brain connections that are frequently used become stronger and faster—so strong that they can last for a lifetime. This makes adolescence a **key window for learning**, particularly for positive **social learning** and learning from lived experiences. Yet the lack of resources in many educational settings combined with limited access to healthy out-of-school activities leave many young people at a disadvantage. To maximize the opportunities of this important period for learning, all adolescents need supportive social environments, stimulating learning experiences, and diverse out-of-school activities to thrive. (See NASEM report recommendation 6-1.)

- All states should take steps to eliminate resource disparities across districts and schools and implement policies within the juvenile justice system to create significant opportunities for both academic and non-academic development.

Exploration and healthy risk taking

The **increased value** of exploration, experimentation, and risk taking during adolescence has adaptive functions for development. During adolescence, the novel experiences we seek **increase the breadth of information** we can learn from. Healthy risk-taking, such as tackling challenging school projects, engaging in out-of-school experiences, and participating in community activities can support positive development. However, without healthy outlets, the attraction of risk and novelty can make adolescents more vulnerable to dangerous behaviors, such as reckless driving, excessive drug and alcohol use, and unprotected sex. Adolescents need opportunities to explore and pursue the novel experiences that help support healthy development. (See NASEM report recommendation 6-2.)

- Schools and communities must provide opportunities to try new, challenging activities as well as support to learn from missteps and mistakes as they experiment and explore.

Respect and status

Hormonal changes at the beginning of puberty seem to play a part in **increasing our attention to social status and respect**. During adolescence, experiences that make us feel bullied, controlled, or treated as though we don't belong become powerful social threats. Such experiences include policies, practices, and behaviors that reinforce stereotypes or stigmatize certain groups. Explicit and implicit bias due to race, ethnicity, gender identity, sexual orientation, and abilities fall under this category. Relationships and environments that provide empathy, support, and positive pathways to earn status can **improve academic motivation** and **increase the effectiveness of health interventions** aimed at young people. Adolescents, particularly those who face discrimination and other forms of bias, need empathy, support, and positive, attainable ways to earn prestige and status among the peers and adults in their lives. (See NASEM report recommendations 6-5 and 8-3.)

- State and federal agencies, school districts, and schools should foster culturally sensitive learning environments through training on implicit bias and cultural sensitivity as well as adolescent development. Schools and districts should establish and utilize disciplinary policies and practices that are developmentally appropriate and applied equitably and fairly.
- Case managers and courts in the child welfare system should ensure that adolescents are viewed as respected partners in decision making regarding their placements, education, and support service.

Contribution

The physical, cognitive, and emotional capabilities that develop during adolescence enable us to make contributions that benefit the people around us. Opportunities to make such contributions help build a sense of meaning and purpose and support the **autonomy, identity, and ability to form intimate relationships** we need to flourish as adults. Research shows us that the act of contributing engages similar brain regions to those activated by risky or rebellious activities and can similarly result in feelings of reward.

Adolescents can contribute by engaging in family decision making, helping with chores and sibling care, or providing emotional support to friends. The NASEM report highlights the potential for contributing in the broader community, such as by participating in decisions regarding school policies and volunteering through high-quality service programs. But while adolescents with fewer socioeconomic resources are more likely to support their families through chores or financial assistance, opportunities to impact their social worlds outside of the home **skew toward youth from higher socioeconomic backgrounds**. All adolescents need opportunities to make meaningful contributions to their families, peers, schools, and wider communities. (See NASEM report recommendation 6-3.)

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- School districts and local governments should provide opportunities for young people to offer ideas, resources, and help in ways that foster civic engagement and support youth to effect change in their social worlds.

Family involvement

Relationships with parents and other caring adults are extremely important in adolescence, even as peer relationships become a more central focus. Close, supportive family and caregiver relationships can act as a buffer against negative outcomes from stressors such as [socioeconomic disadvantage](#) or [peer rejection](#). When parents and adult caregivers are warm and respectful, and set firm, rational expectations, adolescents are more likely to display [resilience and self-regulation](#), regardless of [ethnicity](#), [socioeconomic status](#), or [family structure](#).

Unfortunately, structural barriers such as poverty and racism, bias, and discrimination place added stress on families that can negatively impact adolescents. To successfully address these barriers, families need support that addresses limited economic resources and financial stress and helps them navigate the increasingly complex education, health, and juvenile justice systems. Policies and programs that support the whole family are essential to ensure the well-being of all adolescents, particularly those facing adverse experiences. (See NASEM report recommendations 6-6, 8-3, and 9-2.)

- Policymakers should support adolescents and families to navigate the educational, health, welfare, and justice systems.
- Child welfare and juvenile justice systems should implement policies and practices that help youth maintain supportive relationships with family members or other caring adults.

Sleep

Sleep is not only a public health issue for adolescents—influencing mood, attention, learning, and academic success as well as mental and physical health—it is also a racial equity issue. In general, most adolescents don't get enough sleep. Research shows that experiencing ethnic and non-ethnic discrimination may have [negative effects on sleep duration and quality](#) due to stress and loneliness, and may be one reason why adolescents of color generally have poorer sleep quality than their white peers. Policies that increase sleep duration for all adolescents, such as later school start times, are an important way to address inequities. (See NASEM report recommendation 6-4.)

- Policy makers should prioritize ways to mitigate the potential challenges of later school start times. Educators should include consideration of the importance of sleep as they plan schedules and homework policies.

Technology use

Rapid changes in the social experiences adolescents are having through digital technologies may be amplifying the existing opportunities and vulnerabilities of adolescence. In general, all of the above-mentioned characteristics of adolescent development—brain changes, risk taking, respect and status, contribution, connection to family, and sleep—affect outcomes related to adolescent technology use.

The “digital divide” in terms of access to technology is shrinking in many countries, including the U.S., but in its place is a new divide in which differences in online activities and experiences may intensify existing risks and benefits. For example, although [recent studies](#) on adolescents' [technology use](#) indicate that screen time has only a small effect on well-being and in fact may have [positive effects](#) for many young people, adolescents from lower-income families are more likely to [report problems from online activities](#).

Policy and programs addressing technology use by young people must find ways to expand the positive opportunities technology provides while limiting the negative effects for all adolescents equitably.

- Educators should introduce positive approaches to and uses of technology in early adolescence, rather than trying to reverse negative usage in mid- to late-adolescence.
- Policy makers must ensure that advances in machine learning, digital mental health, and artificial intelligence increase opportunity for everyone, instead of “baking in” biases that could pose added risks for our most vulnerable young people.

Conclusion

Adolescence is a critical window of opportunity to shape positive trajectories that can last a lifetime. But too often the social systems that serve young people are not structured to provide the resources and support they need for healthy growth and development. The COVID-19 pandemic of 2020 has already begun to exacerbate inequities in health, wealth, and education. Widespread protests have highlighted longstanding institutional racism, bias, and discrimination that create barriers to positive development.

Developmental science supports the understanding that all adolescents need respect, opportunities to explore and contribute, support from caring adults, and sufficient sleep. Aligning the policies, programs, and practices that serve adolescents to meet these key developmental needs can play an important part in promoting equitable outcomes for all young people.

Additional Resources

For more information, we recommend the following resources:

- [Addressing Inequities in Education During the COVID-19 Pandemic: How Education Policy and Schools Can Support Historically and Currently Marginalized Children and Youth](#) (2020), edited by Tiffany Yip, by the Society for Research in Child Development
- [Fulfilling the Promise of Adolescence: Applying Developmental Knowledge to Create Systems Change](#) (2020), by Dara Shefska and Emily Backes, in the *Journal of Youth Development*
- [The Promise of Adolescence: Realizing Opportunity for All Youth](#) (2019), by the National Academies of Sciences, Engineering, and Medicine
- [Returning to School with Equity in Mind](#) webinar series by Youth-Nex