

Puberty resets the brain, giving preteens facing stress and hardship a second chance

A childhood characterized by hardship, negligence or abuse can also alter the neuroendocrine system that regulates how the body responds to stress. Problems in the stress response can set kids on a path toward behavior struggles along with increased risk for depression, diabetes and a host of other health problems.

But recent studies offer hints that such a difficult future may not be inevitable. As [developmental psychobiologist Megan] Gunnar and others have shown, impaired stress responses can return to normal during puberty, raising the possibility that imbalances created by early trauma can be erased. The research is prompting a new view of puberty as an opportunity — a chance for people who had a shaky start to reset their physiological responses to stress.

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How might puberty combine with better caregiving and support to reshape neuroendocrine stress responses? [Psychobiologist Russell] Romeo speculates that it stems from the fact that the hypothalamus and other brain areas, such as the prefrontal cortex, that control our reactions to stress are among the regions that rewire and strengthen connections during adolescence.

Whether those changes in the stress response will ultimately harm or help a young person is hard to predict, Gunnar says. Mental health and resilience emerge from an ever-changing combination of genes and life experiences — some of which set the body awry early on. But adolescence could potentially erase some of the damage, her research shows.

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