Alliance of Girls' Schools Australasia

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Research summary for principals

The science of resilience: Enabling all children to find positive pathways to adulthood

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Why do some children do well under high-risk circumstances while others do not? In a major study conducted by researchers from the Harvard Graduate School of Education, the American Institutes for Research, Turnaround for Children, and the Center for Individual Opportunity, current knowledge from multiple fields — including epigenetics, neural malleability and plasticity, integrated complex skill development and learning, human variability, relationships and attachment, self-regulation, science of learning, and dynamics of stress, adversity and resilience — has been drawn together to better understand children's development and trajectories.

Pamela Cantor, David Osher, Juliette Berg, Lily Steyer and Todd Rose make five key findings, including that all children are vulnerable to risks and adversities. Adversity, which results in the biological process of stress, "exerts profound effects" on development, behaviour, learning and health. However, resilience has the potential to lead to positive outcomes, even when individuals are faced with significant adversity.

Factors which can protect children from short- and long-term negative consequences include family and community assets; adult "buffering" which can prevent or reduce unhealthy stress responses; and early care and educational settings which provide developmentally rich relationships and experiences. These settings can ameliorate the effects of stress and trauma, promote resilience, and foster healthy development. The study authors write that:

> If experiences are interpersonally rich, predictable, patterned, and if stressful experiences are not overwhelming, the brain becomes more connected, integrated, and functionally capable over time, increasing its adaptivity and resilience to future stress.

However, brain cell "pruning", a natural and healthy process, can be disproportionately increased when a child experiences prolonged stress, reducing the brain's capacity to enhance neural integration. In addition, when experiences are unpredictable, harmful or traumatic, or involve severe, recurrent stress, the brain forms negative "templates" which condition the brain to default to a negative response, significantly altering pathways for complex skill construction.

Resilience has been defined as the capacity of an individual to successfully adapt through multiple processes to challenges that threaten the individual's function, survival or positive development. This means, writes Cantor and her colleagues, that resilience is a common phenomenon. It is not rare, and nor is it a personality trait. Biological and contextual resources contribute to adaptation, meaning that it is not a fixed process and that resilience is not immutable.

Throughout our lives, particularly during periods of transition, internal and external factors present us with opportunities for adaptation or maladaptation. Children's long-term responses vary with the type, timing and intensity of adversities they face, along with their individual sensitivities, the socialisation practices they have experienced, and the buffering supports available to them. Since children each have unique backgrounds, there are multiple but equally valid pathways that lead to resilience and wellbeing. Even young people at high levels of risk can be prevented from developing negative adaptation when they are supported by strategic prevention or intervention efforts.

Research shows that periods of stress resistance, breakdown, recovery and normalisation help develop resilience, as does exposure to catastrophes, particularly acute catastrophes, when an individual experiences an initial breakdown followed by reorganisation and strengthening. Cantor et al. write that: "Research in this area reinforces the concept — one that has a long history in resilience science — that some exposure to adversity may be better than none."

PO Box 139, Tugun QLD 4224 Australia
(e) agsa@agsa.org.au (t) +61 7 5521 0749
www.agsa.org.au

On the other hand, they state, “the cumulative allostatic load associated with chronically harsh environments can exhaust adaptive resources and present significant, long-term consequences to health and well-being [sic], with much individual variation as a function of personal attributes and environmental supports”.

Which processes and factors impact on whether an individual will positively adapt to challenge and stress? Positive adaptation is affected by the interaction of the learning systems of the brain, stress response systems, and self-regulatory systems. Psychological factors include emotional security, attachment, stable and responsive relationships, mastery motivation and self-efficacy, cognitive development and problem solving, self-regulation and executive function, and positive perspectives on the self and the future. Cantor et al. write that supportive relationships are especially important: “Research has repeatedly found that children who do well in the face of adversity have at least one stable and responsive relationship with a parent, caregiver or other adult.”

A subsequent study by researchers from the Learning Policy Institute, Stanford University and the American Institutes of Research investigated well-vetted strategies that support the kinds of relationships and learning opportunities needed to promote children’s wellbeing, healthy development, and transferable learning. Linda Darling-Hammond, Lisa Flook, Channa Cook-Harvey, Brigid Barron and David Osher also reviewed the research on practices that can help educators respond to individual variability, address adversity, and support resilience, “such that schools can enable all children to find positive pathways to adulthood”.

They conclude that the science of learning and development suggests three principles for education practice:

- schools and classrooms should explicitly teach and provide regular opportunities to integrate social, emotional and cognitive skills into the academic curriculum and throughout the school day,
- students should receive guidance and support to develop habits and mindsets that promote perseverance, resilience, agency, and self-direction (e.g., executive function, self-regulatory routines, stress management, growth mindset), and
- schools should offer behaviour supports that teach students skills which enable positive behaviours, encourage them to take responsibility and, if needed, “make amends to restore relationships and community health”.

“All of these practices,” write Darling-Hammond and her colleagues, “support and derive from a school culture that aims to develop strong relationships, trust, positive interactions, and thoughtful development of student agency.”

References

Cantor, P., Osher, D., Berg, J., Steyer, L., & Rose, T. (2018). Malleability, plasticity, and individuality: How children learn and develop in context. *Applied Developmental Science*. Published online 24 January 2018, pp. 1-31. DOI: 10.1080/10888691.2017.1398649 (open access).

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2019). Implications for educational practice of the science of learning and development. *Applied Developmental Science*. Published online 17 February 2019, pp. 1-44. DOI: 10.1080/10888691.2018.1537791 (open access).