

Nature and nurture in child development

The Nature/Nurture debate is a continuing phenomenon in developmental sciences, resulting from emerging theoretical perspectives and research findings in neuroscience, psychology, sociology and education fields. It can be interpreted as a conflicting yet complementary dialogue which underpins a greater understanding of an extremely complex and dynamic interaction between the biological factors and the environmental influences in human development.

Human mind and developmental pathways do not follow a fixed pattern of cause and effect. Rather, the transformations of development are more unpredictable as the neurobiological processes are 'triggered' by the environment and, in turn, 'interpreted' by the person in individual ways. According to Thelen and Smith (1994), they are seen as 'complex interrelation of time, substance and process' in the dynamic play between gene action and environmental experience which continues throughout life. The effect of nature and nurture working together is most critically important in the earliest years of the child's life when the growth of the brain is at its highest. The brain's plasticity and the child's predisposition to learn (biogenetic uniqueness of the child) are shaped by environmental influences and stimulation of physical, emotional, social, cultural and cognitive nature in creating new pathways in learning and development.

It is, therefore, important to acknowledge that nature is inseparable from nurture and that both nature and nurture are sources of human potential and growth as well as risk of dysfunction and problematic behaviour. It would be easy to say that the starting points with which a child is born can be positively moulded and shaped by the quality of the environment, its emotional, social, physical and cognitive interaction with the child, and the child's interaction with it. However, Kagan's studies (2010) provide evidence that some brains are more easily triggered than others and may thus be more vulnerable to experiences they have. That is why attachment and how parents/caregivers respond to the child play such an essential part in building firm and positive foundations for the child's success in life. That is also why early experiences of family violence, abuse, poverty or mental health are of such concern, and why early interventions programmes are so important in promoting and supporting the best outcomes for children where children's starting points may not have been great. One answer to providing more effectively for children could be a much more self-critical, reflective and differentiated pedagogy developed through meaningful observations, noticing and recognising what is important and significant to the child and about the child, and responding in a supportive way. This kind of a good match between individual child's genes and the environmental context in which they develop would mean a good early start. More importantly, where hereditary vulnerabilities and complex behaviours are observed, it may at least increase their chances of more positive pathways in life.

References/Further reading

- Kagan, J (2010), *The Temperamental Thread: How genes, culture, time and luck make us who we are*, New York: Dana Press.
- Thelen, E. and Smith, L. B. (1994), *A dynamic systems approach to the development of cognition and action*, Cambridge, MA: MIT Press.

For reflection and discussion

- What key messages are you able to draw out of the text?
- Do you agree or disagree with those messages?
- Why are some children more resilient than others in face of adversity?
- What are the implications for practitioners in promoting positive life chances as the child develops?