



The Impact of Temperament on Child Development: Comments on Rothbart, Kagan, and Eisenberg

REBECCA L. SHINER, PhD

Colgate University, USA

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Topic

Temperament

Introduction

The articles on temperament present three lucid reviews of contemporary temperament research, including one review of the field of temperament as a whole (Rothbart) and two reviews of particular temperament traits (Kagan on inhibition and Eisenberg on effortful control). These reviews convey the vibrancy of this burgeoning field of research. Although parents throughout history have undoubtedly recognized that their children show distinctive behavioural patterns from early in life, recent research has probed the nature of these behavioural patterns in greater depth. Specifically, over the last several decades, researchers have documented what temperament traits exist in young children, how stable such traits are, and how children's temperament shapes important outcomes such as social competence and psychopathology.

Research and Conclusions

Temperament researchers have hotly debated the very definition of *temperament*. The pieces on temperament, in fact, differ in the ways temperament is conceptualized. All three authors agree that temperament involves individual differences in emotional and behavioural processes, which emerge early in development and are shaped by biological processes. Kagan appears to equate temperament with the biological processes underlying early behavioural differences in positive and negative emotions and approach and avoidance. Rothbart adds that temperament is also shaped by context and life experiences, emphasizing that temperament itself develops over time. Rothbart sees temperament as including a broader array of traits, including the positive and negative emotion traits noted by Kagan, as well as early traits indicating self-control (attention, effortful control and persistence). Most contemporary researchers accept the broader definition offered by Rothbart,^{1,2} and there is great interest in early temperament traits reflecting self-regulation, as described by Eisenberg. Further, recent research with infant twin pairs has made it clear that children's individual differences arise from both genetic factors and environmental experiences, even during infancy.³ Thus, children's temperamental traits are shaped by a combination of genetic and environmental factors, both early in development and across childhood.¹

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The three pieces provide excellent and accurate reviews of temperament in terms of its measurement, development over time and biological and environmental underpinnings. To these reviews, four further points about recent research can be added.

First, the array of temperament traits may be even broader than the lists provided by Rothbart. Rothbart notes a number of temperamental traits that can be measured in young children: positive emotions and approach, activity level, fearfulness, anger/frustration, attention and effortful control. By around age three, children also appear to differ in two other traits: 1) Agreeableness — affiliation, kindness and nurturance versus antagonism toward others (a trait noted briefly by Rothbart); and 2) Intellect/imagination — curiosity, creativity and cleverness.¹ Agreeableness and Intellect/imagination shared several features with the temperamental traits included in Rothbart's list: a) Comparable traits have been observed in more rudimentary forms in a number of animal species;⁴ b) Parents from many countries use all of these traits to describe the most important characteristics of their children;⁵ c) All of these traits can be observed in older children, adolescents, and adults;^{1,6} and d) All of these traits are moderately heritable in late adolescence and adulthood.^{1,6}

Second, there are now good data on the extent to which children's early traits exhibit continuity. After the first few months of life, is there convincing evidence for continuity in children's temperaments? According to a recent comprehensive synopsis of data addressing this question, children's temperamental traits show only modest stability during infancy and toddlerhood and then show a rather large increase in stability by around age three.⁷ Surprisingly, temperament does not appear to become more stable during the elementary-school years and adolescence, but remains moderately stable, comparable to the level of stability seen in the preschool years. In short, preschool-age children's temperamental traits meaningfully predict their later personalities, but there is also good evidence that children do still change across the childhood and adolescent years.

Third, it is now clear that children's temperaments shape their outcomes, in part by forming the ways that children engage and evoke responses from their environments.¹ Children interpret their environmental experiences differently depending on their temperaments. For example, anxious and irritable children tend to perceive negative events in their lives as more threatening than do children with lower levels of negative emotions.⁸ Children's temperaments also shape the responses typically evoked from other people. For example, mothers of infants who are irritable and hard-to-soothe experience lower confidence and greater depression than do mothers of more temperamentally easy infants;⁹ similarly, more emotionally negative children evoke more negative parental responses than less emotionally negative children in the same family.¹⁰ Children's temperaments likewise affect the responses they evoke in other caregivers, teachers and peers.¹

Fourth, different parenting strategies appear to work better for children with certain temperaments. Thomas and Chess introduced the idea of "goodness-of-fit" many years ago in some of the earliest contemporary work on temperament. According to this model,

the outcome of a child's temperament will vary, depending on how well the parents can adapt their parenting style to the child's temperament.¹¹ Although this notion is intuitively appealing, for many years it proved difficult to substantiate with data. More recent work, however, has demonstrated several replicable instances of "goodness-of-fit."^{12,13,14} For example, children who are aggressive and difficult to manage appear to receive particular benefit from a parenting style involving more restrictive control and lower parental negativity. Shy children appear to benefit from being encouraged by parents to explore novel situations and are more likely to remain shy and inhibited if parents are overprotective. Beyond the family environment, children's school environments, peer relationships and neighbourhoods can have additional important impacts on whether children's early temperaments remain stable and on whether their temperaments lead to good or poor outcomes.¹⁵

Implications

Rothbart, Kagan, and Eisenberg note several crucial implications of current temperament research. Children's behavioural differences stem in part from influences beyond social learning; rather, there are important hereditary influences on children's temperaments (Rothbart, Kagan, and Eisenberg). Early effortful control and attention confer a variety of benefits for children, and caregivers and teachers should make every effort to help children cultivate these positive traits (Rothbart and Eisenberg). In contrast, children's early tendencies toward extraversion versus shyness and toward fearfulness versus fearlessness confer both risks and possible benefits (Rothbart and Kagan; Kagan's description of the specific risks and benefits of inhibition is speculative at this juncture).

A final implication should be emphasized. Some children pose greater challenges to parents, teachers and other caregivers because of their temperaments. In particular, several temperament traits may be particularly challenging for some caregivers: irritability/frustration, fearfulness, high activity level and low effortful control. In such situations, caregivers are likely to benefit from additional support and education; in particular, caregivers can be helped to avoid negative responses that might be naturally evoked by children's temperaments. For example, parents have been successfully taught how to manage irritable, hard-to-soothe infants so that such children can develop a secure attachment.¹⁶ By providing support and education to caregivers, it may be possible to help children achieve better "goodness-of-fit" in the worlds in which they grow up.

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