

Trauma and Boys, Birth to 3

What's Different?

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Abstract

This article considers infant and toddler boys' unique susceptibilities to caregiving inadequacies that might lead to trauma in their development. It does so by examining the results of research, which point to three areas where boys are likely to have particular difficulties—their slower developmental timetable, their different relationship with their mothers, and their tendency to externalize frustration and stress. The authors provide background to help home visitors and others who engage with caregivers around the problems of boys in infancy, childhood, and adolescence. They suggest that boys, especially when raised under trauma-inducing conditions in early childhood, often develop in ways that are different than girls raised under similarly inadequate circumstances. These early childhood influences persist into later life and may be seen in school failure, conduct disorders, and other boy-predominant psychopathologies.

Trauma inflicted from the caregiving environment on a young child can result in devastating lifelong psychological wounding and physical illness that may be suffered by both boys and girls (Edwards, Holden, Felitti, & Anda, 2003; Finkelhor, Turner, Hamby, & Ormrod, 2011). In this article, we limit our examination to the vulnerabilities more likely to be associated with trauma in infant and toddler age boys. One reason for looking at boys separately is that, to an increasing extent, infant mental health research finds that boys and girls in the first years show different susceptibilities to problematic caregiving (Zahn-Waxler, Shirtcliff, & Marceau, 2008). With this research in mind, our objective is to summarize some of the important findings about the tendencies more likely to be observed for boys.

In the following we will focus on the immediate parent-child relationship. This relationship takes place within a larger family, community, and societal context, which includes both harmful and protective features such as societal discrimination, low income, and unique cultural and religious elements, to mention a few (Schore, 2012; Shonkoff et al., 2012). To clarify our focus for this article—the circumstances that are more likely to affect infant and toddler boys—we examine the mother-child dyad almost exclusively. In doing so, we do not wish to convey the impression that we believe this central relationship exists in

a vacuum, separated from the larger environment affecting caregiving. For example, fathers have both direct and indirect (Fitzgerald & Eiden, 2007) effects on early social-emotional development that are both positive (Fitzgerald & Montanez, 2001) and negative (Fitzgerald, Wong, & Zucker, 2013) with respect to the organization of self-regulatory behavior. However, it is also a truism that during infancy and very early childhood, mothers account for the most direct and time-dependent caregiving for infants and toddlers. Thus, in this article, we focus more narrowly on attachment dynamics highlighting important areas in which boys' uniqueness may be illustrated, while knowing full well that fathers may be contributing to adverse mother-infant relationship dynamics (Fitzgerald & Bocknek, 2013).

To a significant degree the prevalence of developmental disorders differs, on average, by biological sex (Boyle et al., 2011; Holden, 2005; Kigar & Auger, 2013; Zahn-Waxler et al., 2008). For example, according to the Centers for Disease Control and Prevention, summarizing the most recent *Mental Health Surveillance Among Children, United States, 2005–2011* (2013):

Boys were more likely than girls to have most of the disorders, including ADHD, behavioral or conduct problems, ASD, anxiety, Tourette syndrome, and cigarette dependence, and



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Boys are less able to self-regulate and more in need of emotional and regulatory support from caregivers.

boys were more likely than girls to die by suicide. Girls were more likely to have an alcohol use disorder, and adolescent girls were more likely to have depression.

Increasingly, researchers studying these different patterns of disorders between boys and girls find that, in large part, they reflect gender differences in early neurobiological development in ways that can potentially affect emotional and social functioning (Grandjean & Landrigan, 2014; Kigar & Auger, 2013; Kunzler, Braun, & Bock, 2015; Martel, Klump, Nigg, Breedlove, & Sisk, 2009; McClure, 2000; Schneider et al., 2011; Schore, 2015; Weiss, 2011; Zahn-Waxler et al., 2008). In other words, when boys' different neurobiological structure and processes and their unique hormonal repertoire combine with early caregiving insult, the outcome is often likely to be somewhat different for them compared to the outcome for girls under similar circumstances (Schore, 1994). This article will describe three overarching conditions that are more likely to be experienced by infant and toddler boys. These conditions tend to render them differently susceptible to trauma in light of their unique neurobiological development. These conditions are: boys' slower developmental timetable, their unique relationship with the mother, and their proclivities to externalize frustration and anxiety.

The Slower Developmental Timetables of Boys

A growing number of studies of boys' neurological development further substantiates the well-established difference in maturation rates between boys and girls, particularly during the earliest years. This difference shows up, perhaps most notably, in small boys' behavior; they are less able to self-regulate and more in need of emotional and regulatory support from caregivers. Using the still face paradigm to assess infant-caregiver

interactions, Tronick (2007) concluded that 6-month-old boys of nondepressed mothers were more likely than were girls

to show facial expressions of anger, to fuss and cry, to want to be picked up, and to attempt to get away or distance themselves from their mothers by arching their backs and turning and twisting in their infant seats. Boys were also more oriented toward their mothers than were girls. Boys were more likely than were girls to display facial expressions of joy and to communicate with their mothers using neutral or positive vocalizations and gestures. By contrast, girls were more object oriented than were boys. They were more likely than were boys to look at and explore objects and to display facial expressions of interest. Furthermore, girls show more self-regulatory behaviors than did boys. (p. 340)

These behavioral differences reflect boys' pre- and post-natal neurobiological development. For example, Zahn-Waxler et al. (2008) noted "The curve of development of the frontal cortex, caudate, and temporal lobes in girls is considerably faster than in boys" (p. 279), reflecting their differences in maturation.

Other researchers have also studied infant boys' relatively slower neurological development in early childhood. McClure (2000) examined the question of whether infant boys have more difficulty recognizing facial expressions and might be hindered in responding to emotional interactions with their principle caregivers. Using findings from a meta-analysis, she proposed that the likely greater neurological development in the frontal cortex and amygdala of girls provides an advantage in the first years of life in their early relationships. Because they seem to be more capable in reacting to interactions with adult caregivers, girls appear to receive more positive expressions from their mothers. McClure concludes that innate neurological maturational rates of development combine with differentiated support from adult caregivers to result in girls, by and large, having a greater ability to process facial expressions.

Several theorists of psychological development have speculated that pre-natal and perinatal exposure to testosterone (Baron-Cohen, 2003; Geary, 2010; Knickmeyer, Baron-Cohen, Raggatt, & Taylor, 2005; Martel et al., 2009; McClure, 2000; Zahn-Waxler et al., 2008) may contribute to differential rates of maturation, particularly with respect to social-emotional development. They speculated that boys seem to show less bio-behavioral regulation as a result of their slower maturing nervous systems, delayed by testosterone exposure that may render males more vulnerable to early life stressful conditions such as might be encountered by inadequate caregiving.

In another proposed theory, Sandman, Glynn, and Davis (2013) based their analysis on the male fetus', on average, larger size and speculated that more resources seem to go into growth in males, leaving less available for other purposes. Their findings may account for a more limited male ability to adjust to adversity before and after birth. This approach suggests a biologically based difference, which appears to be related to a developmental-evolutionary strategy. Among the elements of this strategy are that at birth the number of males exceeds



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the number of females, but males exposed to early adversity will likely suffer greater risk of fetal and infant morbidity and mortality. In contrast, female infants have been observed to have greater and more variable behavioral and biological repertoires. Sandman et al. referred to this as the “viability-vulnerability tradeoff:” male infants being larger and more numerous, but more vulnerable early in life, and females, though fewer in number, are more viable. It is well established that males suffer higher levels of morbidity and mortality in utero and after birth (Ingemarsson, 2003; Wells, 2000).

To conclude this section, we point out that ZERO TO THREE noted in its advice to parents on its website under “FAQs on the Brain” that “sex differences in the brain are reflected in the somewhat different developmental timetables of girls and boys.” It goes on:

By most measures of sensory and cognitive development, girls are slightly more advanced than boys: vision, hearing, memory, smell, and touch are all more acute in female than male infants. Girl babies also tend to be somewhat more socially-attuned—responding more readily to human voices or faces, or crying more vigorously in response to another infant’s cry—and they generally lead boys in the emergence of fine motor and language skills. (ZERO TO THREE, 2015)

This slower emotional development of boys, requiring that they be more reliant on their caregivers for help with their emotional regulation, means that boys may be at greater risk of suffering more from traumatic caregiving environments. This possibly greater vulnerability of boys in the first years of life may mean that boys are more likely to experience problems associated with inadequate caregiving and perhaps be more likely to suffer trauma inflicted from an adverse caregiving environment.

The Mother-Infant Son Relationship

Generally speaking, infant boys appear to have a different relationship to their mothers than girls. Under some conditions, as when a mother is severely depressed over a long period of time and less able to interact with her infant in a sensitive manner, this difference may be more likely to manifest in boys’ developmental disorders in a different way for reasons related to their slower developmental timetable. First, we will look at the mother-infant son relationship through the lens of psychoanalytic theory to establish the possible baseline phenomenon, and second we will look at this relationship from the perspectives of maternal depression and the consequences of maternal posttraumatic stress disorder.

As a psychoanalyst, who has written extensively about the development of the men in his practice, Diamond (2015) noted that among the psychodynamic issues that boys in early childhood are presented with is an unconscious identification with mother, who is fundamentally different from them. The deep effect that this may have on many boys may leave them susceptible to a host of problems. At base these come from their inability to comprehend their mothers’ otherness at such an early age, while nonetheless experiencing it. Diamond sums this up as a boy’s “primordial vulnerability” (p. 62): the primordially coming from its pre-symbolic form, occurring before it can be made conscious. Indeed, it happens so early in life that it is impossible to recall its origins. This plausible fundamental alienation of boy from mother is a base condition of being male. Hence, Diamond adds, a boy’s separation from his mother is likely to be more disruptive for him than for his sister as he finds a new internal equilibrium involving an identification with father—if there is a father—who apprehends this important role in his son’s life.

Many infant girls, on the other hand, have been observed to be more consistently related to their mothers. Chodorow (1978/1999), another psychoanalyst who has written about gender development, pointed out that “relational capacities that are curtailed in boys as a result of the masculine Oedipus complex are sustained in girls” (p. 93). However, the relative absence of relationality that Chodorow noted in young males seems to happen well before oedipal dynamics enter the picture at 3 and 4 years old. Hatzinikolaou and Murray (2010), for example, found a “similarity bias” that infant girls, as early as 4 months old, share with their mothers due to a girl’s “enhanced capacity for emotional regulation compared to boys” (p. 604), and with this, a greater ability for general relationality. At the same time, those mothers—who may be diagnosed as depressed, and who thus find their daughters more responsive to them—are able to relate emotionally more to their daughters than to their sons. On the negative side with regard to maternal depression, Hatzinikolaou and Murray speculated that in the first year of life girls may express an excessive sensitivity to maternal negative emotions while boys may block such emotional involvement. Both conditions can leave children at a distinct disadvantage: a girl might develop an overwhelming sensitivity to others, losing her own sense of self in the process, while a

boy could wind up cut off from an emotional understanding of others and of the feeling atmosphere around him.

The issue of the different reactions of infant boys and girls to their depressed mothers and the mothers' counter-reactions has received a great deal of research attention (Carter, Garrity-Roukous, Chazan-Cohen, Little, & Briggs-Gowan, 2001; Hammen, Hazel, Brennan, & Najman, 2012; Shaw & Vondra, 1995). For example, using the still face paradigm to assess dyadic relationships, Weinberg, Olson, Beeghly, and Tronick (2006) found that boys are more likely to be negatively reactive in the reunion episode and less easy to coax back into interactions. This suggests that boys tend to be more vulnerable to high levels of maternal depressive symptoms, challenging seriously depressed mothers' ability to give their sons the support needed to maintain interaction. In another article, Tronick and Reck (2009) concluded that "infant sons are more reactive to maternal emotions, are less able to control their own emotions, and require more regulatory scaffolding from their mothers than daughters—characteristics that make them more difficult interactive partners" (p. 149).

Shaffer, Yates, and Egeland (2009) found in a prospective study that boys who had been abused in early childhood were more likely than other children—including girls who had been abused in infancy—to be socially withdrawn in adolescence. They concluded that emotional abuse tends to turn boys away from relationships with others as a way of actively coping with these experiences and protecting the self from further emotional abuse. When this reaction extends to peer relationships, however, it can be maladaptive and psychopathic. Hence, "mother-initiated emotional maltreatment may be especially salient for boys" (p. 42).

Another example is a study by Murray et al. (2010) which demonstrated the relationship between the experience of maternal depression in infancy and low academic performance in adolescence. Their research found a connection with poorer cognitive functioning for boys—but not girls—in infancy and early childhood. In adolescence, the majority of boys in their study who grew up with depressed mothers did significantly worse on standardized tests in secondary school. They concluded that "boys are more vulnerable to the effects of maternal interaction difficulties" (p. 1157).

Turning to the question of maternal posttraumatic stress disorder and how this might affect boys, Barrett and Fleming (2011) described the mother-infant dance in which it helps if the mother falls in love with her infant. They further elaborate on this dance:

the nature of the mother-infant dance relies on the integrity of multiple physiological and behavioral systems and also on two maternal experiential factors, one proximal and one distal, that have a great impact on how a mother mothers: postpartum depression and early experiences. (p. 386)

Among the early experiences that may predispose a mother to have greater difficulty "falling in love" with her son than her daughter might include the possibility of the mother's early

sexual abuse by a male and her projection of the abuser onto her infant or toddler son. A similar negative maternal projection of a son's father onto a young boy has also been commented upon in the literature. In many fragile family situations with a single mother this possibility may carry quite negative associations (Amato, 2005).

Since Fraiberg, Adelson, and Shapiro's 1975 article, *Ghosts in the Nursery*, infant mental health advocates have become ever more aware of how trauma may be passed from one generation to the next. Between boys and their mothers there is sometimes a genderization added to this process of intergenerational transmission that affects boys in a particular way. For example, because of her experience of early abuse from a male figure, a mother may project sexual and aggressive behavior onto her toddler-age son far beyond the young boy's capacities. Lieberman (1996) wrote that it is not uncommon for single mothers with a history of abusive relationships with men to attribute to their young boys the same aggressiveness that they experienced from the boy's father. Instead of appreciating the young boy's need to be active, his behavior is condemned as aggressive and part of his (maternally projected) violent core that will ultimately lead to his becoming, in this projection, an abuser like his father. The possibility exists that this kind of maternal attribution can both distort the boy's sense of himself and also lead to his internalizing his mother's projection. In this way, the intergenerational transmission of trauma may move from mother to son (Fitzgerald et al., 2013).

In their treatment of this subject, Sroufe, Egeland, Carlson, and Collins (2005) discussed the experience of boys who were raised in the context of "boundary dissolution" between themselves and their mothers. Among the population of the prospective Minnesota Study of Risk and Adaptation, a pattern of "seductive care" (p. 115) by mother toward toddler son was observed in some dyads in which the mother had experienced sexual abuse in childhood from a male figure. The authors pointed out that this particular genderized system of relating was part of a larger pattern that they call boundary dissolution, which took different, also harmful, forms with daughters. They noted that with boys, boundary dissolution seems to have led to later serious behavioral problems in preschool and beyond.

Perhaps these types of projections onto young boys result in other maternal care deficits with relation to sons. For example, Bertrand and Pan (2013) have documented that for many boys, more so than girls, being raised in single mother families results in twice the rate of behavioral and disciplinary issues than boys raised in two-parent families. Further, boys from single-parent families are more than twice as likely to have been suspended from school by the eighth grade. Another of their notable findings, based on the American Time Use Survey of the U.S. Department of Labor's Bureau of Labor Statistics (2014), is that single mothers spend significantly less time with their sons when they are less than 3 years old than with their daughters of the same age. Other researchers looking at different data sources have similarly discovered that many sons growing up in single mother homes fare worse than their sisters and that the

problems seem to originate in the birth-5 years (Autor, Figlio, Karbownik, Roth, & Wasserman, 2015).

Boys and the Externalization of Frustration

Given their likely slower developmental timetable and their possibly different relationship with their mother, are boys in their toddler and preschool years more likely than girls to engage in aggressive, antisocial, and rule-breaking behaviors when they have experienced an insecure or disorganized attachment? Such behavior, as the result of externalizing frustration, could put boys more at risk for later developing the other problems such as school failure and conduct disorders often statistically associated more with boys than girls in adolescence.

A recent meta-analytic review of emotional expression in children found that boys demonstrated more externalizing emotions—anger, aggression, rule-breaking behaviors—than girls in the toddler/preschool age (Chaplin & Aldao, 2013). The authors of this study cited others who have called attention to boys' slower language development and self-regulation abilities as possibly creating this behavioral tendency of many boys.

In a longitudinal study of the attachment precursors of externalizing behaviors, Shaw and Vondra (1995) examined low-income families in which maternal depression was prevalent. They found that for boys, maternal depressive symptoms and low maternal involvement were associated by 3 years old with behavior problems. The authors speculated that boys act out trying to get a depressed mother's attention and in the frustration and anger come to externalize their negative energies.

Zahn-Waxler et al. (2008) pointed out that most of the psychopathologies of boys seem to involve externalization of energies, involving difficulty in regulating negative emotions, anger, and irritability. These include conduct disorder and attention deficit-hyperactivity disorder. As boys become older, those who have not had help from a sympathetic adult to effectively contain their disruptive energies are more physically active and have little tolerance for frustration. In their extreme form these externalizing pathologies manifest in school and later adult contexts as antisocial behavior (Granic & Patterson, 2006; Shaw, 2013). Zahn-Waxler et al. noted:

Even toddlers and preschool children can have serious externalizing problems, and sex differences are already present at this time. This suggests an even earlier onset that may need to be incorporated into developmental models. The delayed physical maturation and language development of boys, along with emotion regulation problems, may place young boys at greater risk than girls. (p. 282)

Hosseini-Kamkar and Morton (2014) placed the greater boy tendency to externalize in the context of parental investment theory of the sexual selection theory of evolution. That is to say, externalizing is related to behaviors that evolved in hominids long ago. Unlike females, males have an unlimited amount of gametes (sperm cells) and in the deep human past have confronted relatively little cost in spreading them around for

many pregnancies. Thus, human males have not evolved having to discriminate in terms of selecting mates and probably in other aspects of life. Indeed, many aspects of male behavior, in this evolutionary context, are enhanced by an absence of caution, such as the male (greater than female) tendency to take risks (Harris, Jenkins, & Glaser, 2006). In contrast, the extensive literature on behavioral inhibition confirms that females have a greater capacity to delay gratification. An often-cited manifestation of this is the marshmallow test. Mischel (2014) reported that female preschoolers were able to wait significantly longer than boys before eating and were more likely to receive the reward of an additional marshmallow for abstaining.

The following list enumerates some other research that further substantiates the boy proclivity to act out with consequences that often bring them further difficulties:

- A study of 1,364 children in the National Institute of Child Health and Human Development study found a significant relationship between insecure/disorganized attachment in early childhood and elementary school behavior problems for boys, but not girls (Fearon & Belsky, 2011).
- In a Dutch study, poor performance on tests of executive function at 4 years old was more likely for boys, but not girls, when maternal sensitivity tested low 2–3 years earlier. Boys who most act out their frustration are those who often suffer from insensitive caregiving (Mileva-Seitz et al., 2015).
- The disorganized pattern of fight or flight is more likely to be seen in boys in the Strange Situation (David & Lyons-Ruth, 2005).
- The 25-year Minnesota study of risk and adaptation from birth to adulthood concluded: psychosocial risks may push girls toward internalizing problems and boys toward externalizing problems (Sroufe et al., 2005).

In ending this discussion of boys' likely greater proclivity to externalize, we quote Tronick and Reck (2009):

We know from the literature on juvenile delinquency that boys commit many more crimes than girls, but there is no persuasive explanation for this phenomenon. Our research indicates that gender differences in infancy may already set the stage for this differential rate. The explanation, however, is not simply that boys are more aggressive than girls. Rather, boys have greater difficulty controlling their emotional reactions, and because of this difficulty they are more likely than girls to fail to accomplish their goals. (p. 154)

A Few Implications for the Future

Knowledge about boys' likely different developmental timetable, their different relationship with mother, and their proclivities to externalize should become part of the knowledge base of all who provide services related to infant children's well-being and carry out assessments of infants and toddlers. Further, this knowledge should also inform society's push to enroll more children in preschool, to keep children in those pre-

schools, and to develop early interventions to help parent-boy dyads to achieve better mental health and functioning.

Perhaps of even greater and more fundamental importance, we suggest that knowledge of the unique difficulties of infant boys needs to be part of the national discussion about the problems of boys later in life. For many years, U.S. society has considered the boy crisis (Tyre, 2006) as among the more prominent social problems in adolescence. It has shown up in the form of school failure, juvenile delinquency, and the rapid growth in such boy-predominant psychopathologies as attention deficit-hyperactivity disorder and autism spectrum disorder. At the same time, U.S. society has increasingly come to accept the early years as crucially important in the development of the person as evidenced by increasing expenditures on home visiting, preschool education, and infant mental health care, for example. Yet, there seems to be a disconnect between the understanding of these vulnerabilities in infancy—described in this article—and the kinds of problematic behavior adolescent boys exhibit later. We recommend that the understanding of the boy crisis come to be associated more with its infant mental health basis in which boys' difficulties figure in the ways that we have described above.



At birth the number of males exceeds the number of females, but males exposed to early adversity will likely suffer greater risk of fetal and infant morbidity and mortality.

Learn More

Websites

Five Things to Know About Boys

www.childtrends.org/5-things-to-know-about-boys

A quick overview of the status of boys in the United States.

For Every 100 Girls ...

www.edweek.org/media/every100girls-32boys.pdf

An extensive display of data comparing boys and girls in the United States in health, education, and other social metrics.

Partnership for Male Youth

<http://partnershipformaleoyouth.org>

Website concerned with adolescent and young adult male health issues.

The Santa Fe Boys Educational Foundation

<http://santafeboys.org/conference/conference-presentations>

Links to presentations from its November 2015 conference on "The Psychology of Boys at Risk: Indicators From 0-5"

Books

The War Against Boys: How Misguided Policies Are Harming Our Young Men

C. H. Sommers (2013)

New York, NY: Simon & Schuster

Guyland: The Perilous World Where Boys Become Men

M. Kimmel (2008)

New York, NY: Harper

The Trouble With Black Boys: And Other Reflections on Race, Equity, and the Future of Public Education

P. Noguera (2008)

Hoboken, NJ: John Wiley & Sons

Real Boys: Rescuing Our Sons From the Myths of Boyhood

W. Pollack (1999)

New York, NY: Henry Holt

Boys Adrift: The Five Factors Driving the Growing Epidemic of Unmotivated Boys and Underachieving Young Men

L. Sax (2007)

New York, NY: Basic Books

The Trouble With Boys: A Surprising Report Card on Our Sons, Their Problems at School, and What Parents and Educators Must Do

P. Tyre (2008)

New York, NY: Crown Publishers

DVDs

Raising Cain: Exploring the Inner Lives of America's Boys (2006)

Powerhouse Productions, Inc. and Michael Thompson

Country Boys: A David Southerland Film (2006)

PBS-Frontline (shoppbs.org)

Men II Boys (2009)

Producer & Director Jenks Morton

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