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Gender Bias in Mothers' Expectations about Infant Crawling

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Although boys outshine girls in a range of motor skills, there are no reported gender differences in motor performance during infancy. This study examined gender bias in mothers' expectations about their infants' motor development. Mothers of 11-month-old infants estimated their babies' crawling ability, crawling attempts, and motor decisions in a novel locomotor task—crawling down steep and shallow slopes. Mothers of girls underestimated their performance and mothers of boys overestimated their performance. Mothers' gender bias had no basis in fact. When we tested the infants in the same slope task moments after mothers' provided their ratings, girls and boys showed identical levels of motor performance.

Key Words: gender; locomotion; infants; parents' expectations; crawling; motor development; gender bias.

In contrast to the large literatures on gender bias in parents' expectations in cognitive, social, and language development (see Ruble & Martin, 1998, for review), few researchers have examined gender bias in infant motor development. Lack of research in this area is particularly striking because gender differences in motor development undergo a dramatic developmental shift: There are no differences in infancy but large ones years later.

One reason for the paucity of research on parents' expectations about motor ability is that early motor development is rarely considered in its social context (Biringen, Emde, Campos, & Applebaum, 1995). Typically, infant motor development is portrayed as a lonely exercise, where babies achieve each motor milestone on their own. However, motor skill acquisition does occur in a social context. Most infants' first steps are into the open arms of an encouraging parent.

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As infants begin to sit up, crawl, and walk, parents reconfigure their play environments and "baby-proof" their homes. Parents' expectations about their infants' motor abilities may play a role in how they structure children's environment and how they interact with their children.

Gender differences in infants' physical growth and activity level may inform parents' expectations. By 6 months, infant boys begin to outstrip girls on their growth charts; boys are 1 kg heavier and 2 cm longer than girls (Hamill et al., 1979). Parents' reports of activity level and objective measures of activity level obtained with mechanical actimeters show that boys are consistently more active than girls and that gender differences increase with age (Eaton & Enns, 1986).

Despite these physical differences, boys and girls do not differ in motor development until after the infancy period. According to developmental norms, girls and boys achieve early motor milestones such as reaching, sitting, crawling, and walking at roughly the same ages (Allen & Alexander, 1990; Bryant & Davies, 1974; Capute, Shapiro, Palmer, Ross, & Watchel, 1985; Francis-Williams & Yule, 1967; Neligan & Prudham, 1969; Shirley, 1931; Solomons & Solomons, 1975). The most prevalent standardized instruments of developmental norms in infancy, the Bayley Scales of Mental and Motor Development and the Denver Developmental Screening Test, show no gender differences on their motor items (Bayley, 1965; Frankenburg & Dodds, 1967).

We know of no reported gender differences in the literature on infant motor skill acquisition (e.g., Bertenthal & Clifton, 1998; Bril & Breniere, 1992; Clark, Whitall, & Phillips, 1988; Freedland & Bertenthal, 1994; Thelen et al., 1993). Reanalyses of existing data sets from our laboratory show that infant girls and boys display similar rates of improvement in crawling and walking and do not differ on motor ability within a given age (Adolph, 1997; Adolph & Avolio, 2000; Adolph, Vereijken, & Denny, 1998). Girls and boys move just as quickly, their steps are of equal length, their patterns of interlimb coordination are similar, and changes in these variables follow similar developmental trajectories. Likewise, girls and boys perform equally well in novel laboratory tasks such as crawling and walking over steep slopes and large cliffs (Adolph, 1995, 1997, 2000).

Similarly, we know of no reported gender differences in the functional aspects of infants' motor skills—motor decisions about which movements to employ in various situations. Infant girls and boys are equally accurate in their decisions about whether to crawl and walk over safe and risky slopes (e.g., Adolph, 1997), avoid an apparent drop-off on the visual cliff (e.g., Campos, Bertenthal, & Kermoian, 1992), lean forward over gaps of various sizes (Adolph, 2000), step over high and low barriers (Schmuckler, 1996), reach with one or two arms (Corbetta & Thelen, 1999), and so on. As with motor ability, there are no reported gender differences in developmental changes in the accuracy of infants' motor decisions.

By the preschool years, boys begin to outperform girls in gross motor skills (Toriola & Igbokwe, 1986), and their superiority becomes increasingly evident