Quality of Early Family Relationships and Individual Differences in the Timing of Pubertal Maturation in Girls: A Longitudinal Test of an Evolutionary Model

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In an 8-year prospective study of 173 girls and their families, the authors tested predictions from J. Belsky, L. Steinberg, and P. Draper's (1991) evolutionary model of individual differences in pubertal timing. This model suggests that more negative–coercive (or less positive–harmonious) family relationships in early childhood provoke earlier reproductive development in adolescence. Consistent with the model, fathers’ presence in the home, more time spent by fathers in child care, greater supportiveness in the parental dyad, more father–daughter affection, and more mother–daughter affection, as assessed prior to kindergarten, each predicted later pubertal timing by daughters in 7th grade. The positive dimension of family relationships, rather than the negative dimension, accounted for these relations. In total, the quality of fathers’ investment in the family emerged as the most important feature of the proximal family environment relative to daughters’ pubertal timing.

The onset of pubertal development has typically been viewed as an important marker of the transition into adolescence and is accompanied by major social and cognitive changes (J. J. Conger, 1984; Feldman & Elliot, 1990). Variations in the timing of pubertal maturation—in levels of physical and sexual development of adolescents compared with their same-age peers—have received considerable research attention. The most consistent finding to emerge from the literature is that early onset of puberty in girls is associated with negative health and psychosocial outcomes. In particular, early maturing girls are at greater risk later in life for breast cancer (e.g., Kampert, Whittemore, & Paffenbarger, 1988; Viiko & Aptel, 1986) and unhealthy weight gain (e.g., Ness, 1991; Wellens et al., 1992); have higher rates of teenage pregnancy (e.g., Manlove, 1997; Udry & Clicquet, 1982); are more likely to have low-birthweight babies (Scholl et al., 1989); and tend to show more disturbances in body image, to report more emotional problems such as depression and anxiety, and to engage in more problem behaviors such as alcohol consumption and sexual promiscuity (e.g., Caspi & Moffitt, 1991; Flannery, Rowe, & Gulley, 1993; Graber, Lewinsohn, Seeley, & Brooks-Gunn, 1997; Mezzich et al., 1997; Susman, Nottleman, Inoff-Germain, Loriaux, & Chrousos, 1985).

Although a good deal is now known about the sequelae of variations in pubertal timing in girls, relatively little is known about the social and psychological antecedents of this variation. Recent theory and data (e.g., Belsky, Steinberg, & Draper, 1991; Graber, Brooks-Gunn, & Warren, 1995) have suggested that an individual’s experiences during childhood may influence the physiological mechanisms that initiate and control pubertal development. In this article, we examine antecedents of pubertal timing in adolescent girls in a community sample that has been followed prospectively from preschool through adolescence. We tested predictions from an evolution-based theory of the development of female reproductive strategies. These predictions concern the relation between the quality of early family relationships and individual differences in the timing of pubertal maturation.

Sources of Variation in Pubertal Timing

Individual differences in the timing of pubertal maturation are influenced by both genes and environment. Genetic studies using twin designs have suggested that genotypic effects account for most of the variation in menarcheal timing and that the remaining variance is attributable to nonshared environmental effects (Kaprio et al., 1995; Treloar & Martin, 1990). Given the apparent absence of shared environmental effects on menarcheal timing, one might