

Chapter 11

Evolutionary Perspectives on the Role of Early Attachment Across the Lifespan



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At its core, attachment theory is an evolutionarily based theory that articulates how people develop, both in terms of their personality and their social behavior, in response to significant environmental and interpersonal experiences throughout their lives. This development depends, in large part, on how they have been treated by close others (attachment figures) in different relationships and types of situations earlier in life. Indeed, it is difficult to fully appreciate attachment theory and all it has to offer without understanding its evolutionary foundations and purposes, both of which begin in infancy.

Over the past 30 years, a handful of attachment-relevant models of social development have utilized and expanded upon key connections between attachment theory and current theorizing in evolutionary psychology. As we shall see, much of this work has been guided by an overarching evolutionary framework known as *life history theory* (LHT). One of the primary goals of this chapter is to showcase these models and their underlying logic to not only reveal the fundamental role that attachment theory and research assume within them, but also to identify new directions in which future attachment research might head.

In this chapter, we begin by discussing some of the critical features of the physical and social environments in which our ancestors evolved, which ostensibly shaped the development of the attachment behavioral system in humans. We then discuss how and why attachment theory is considered a major, middle-level evolutionary theory and highlight a few of its normative (species-typical) and individual difference components, especially those that are relevant to the evolutionary-based social development models we review later in the chapter. Following this, we discuss some of the core tenets of LHT, after which we describe six evolutionary-grounded models of social development, each of which leverages ideas, principles, and processes from attachment theory as well as current evolutionary thinking to explain how and why people develop in different ways across their lives, starting early in infancy and childhood. We conclude by discussing some ways in which

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attachment theory and research might benefit from incorporating and examining additional constructs central to other major, middle-level evolutionary theories.

11.1 Key Features of the Social and Physical Environment of Evolutionary Adaptedness (EEA)

To appreciate the unique problems that the attachment behavioral system evolved to solve, one must understand the physical and social environments in which humans have lived during our evolutionary history. Attachment theorists beginning with Bowlby (1969/1982) have speculated some about what the physical *Environment of Evolutionary Adaptedness* (EEA) was probably like, but less attention has focused on the *social* EEA (see Simpson & Belsky, 2008).

Throughout most of evolutionary history, our ancestors hunted and gathered food in small, cooperative, and fairly well-coordinated groups (Cronk, 1999; Kelly, 1995). In all likelihood, most people were biologically related to other members in their tribe, with strangers being encountered primarily during inter-tribal trading, social exchanges, or war (Wright, 1994). Although some people moved in and out of their primary (natal) groups, many stayed within the same tribe for most or all of their lives. For the most part, men and women established pair bonds (Cronk, 1999), but serial monogamy was probably also common (Fisher, 1992). Most children were born approximately 4 years apart and were raised with help from extended family members, including some biologically unrelated individuals (Wright, 1994). According to Hrdy (1999, 2005), humans were “cooperative breeders” who shared and distributed important tasks, one of which was child rearing (see Hrdy and Burkart, Chap. 6, this volume). Especially during the first few years of life, young children were socialized by older children, particularly older siblings, if the older children survived the many perils of childhood (Eibl-Eibesfeldt, 1989). Both men and women provided food to their groups and families, with men doing most (but not all) of the hunting, and with women doing most (but not all) of the gathering (Wood & Eagly, 2002).

The physical environments our ancestors inhabited also varied over time in both their harshness and predictability (Ellis et al., 2009), which made daily life and parenting challenging. The attachment behavioral system, therefore, most likely evolved to address the challenges posed by these conditions, balancing trade-offs between increasing the likelihood of infant survival while also ensuring as much as possible parents’ own survival (Chisholm, 1996). Young children probably inferred what their current environment was like (e.g., its level of harshness and predictability) based on the quality of care they received from their primary caregivers (Simpson & Belsky, 2016). All of these probable features of our social and physical EEA must be considered when conceptualizing the purpose and functions of the attachment behavioral system in the context of an evolutionary framework.

11.1.1 Attachment as a Middle-Level Evolutionary Theory

Similar to almost all evolutionary theories, attachment theory has two primary components: (a) a normative component, which explains modal (species-typical) patterns, processes, and stages of attachment in humans (e.g., “How and why are attachment bonds formed in children and adults?”), and (b) an individual difference component, which addresses deviations from modal (normative) patterns, processes, and stages (e.g., “How and why do different patterns of attachment emerge in children and adults?”).

According to Bowlby (1969/1982, 1973, 1980), the attachment system evolved to serve three basic functions: (1) to maintain close proximity between vulnerable infants and their stronger/older/wiser caregivers; (2) to provide infants a safe place to retreat for comfort and soothing when threatened; and (3) to provide infants a secure base within which to gain confidence and resume exploration of the world once threat abates. Bowlby believed that these three functions, if met sufficiently, should have, on average, increased the likelihood of infant survival and facilitated their social development, especially considering that humans are born in an underdeveloped physical state and must rely on caregivers to meet their basic needs for several years (Trevathan, 1987). This strong dependency makes it necessary for infants to maintain close physical and psychological proximity to their stronger/older/wiser caregivers. Close proximity allows caregivers to provide sufficient food, warmth, and safety to their vulnerable infants as well as a supportive place from which infants can explore their world and eventually pursue other important life tasks and goals.

For these normative (species-typical) features of attachment to emerge, however, there needs to be synchrony between caregivers and their infants. Evidence of such synchrony has been documented between caregivers and their young infants across many cultures (see Eibl-Eibesfeldt, 1989, for a review). Most caregivers behave in ways that facilitate emotional bonding with their infants from the opening days of life, such as emphasizing eye contact, automatically holding infants the ideal distance away for their infant’s underdeveloped eyes to see clearly, and exaggerating facial expressions once eye contact is made with their infant (Hane & Fox, 2016). These and other forms of synchronization between caregivers and their infants also facilitate the continued development of the attachment behavioral system as infants transition to becoming young children.

Attachment behavior early in life develops across four stages, beginning at birth and continuing to approximately 3 years of age (Bowlby, 1969/1982; Main, 1990). During the first stage from birth to about 3 months old, most infants enact attachment-related behavior (e.g., being soothed by being held when upset) toward many different adults, showing little preference for a specific caregiver or a small set of caregivers. From about 3 months of age until approximately 7 months, most infants enter a second stage during which their attachment-related behaviors become specific to either one or a small set of caregivers with whom they regularly interact. During the third stage, which runs from about 7 months to 3 years of age, infants’

internal working models (i.e., their general expectations about how their caregivers will respond to them) start to develop as the three primary functions of attachment (proximity maintenance, safe haven, and secure base) begin to emerge. At approximately age three and beyond, which marks the fourth stage, attachment processes begin to shift from a focus on physical proximity maintenance to a focus on psychological felt security (Sroufe & Waters, 1977) as children become more active and independent. During adolescence, most individuals gradually shift their attachment bonds from their primary caregivers to close peers (i.e., best friends) and eventually to long-term romantic partners.

Children, however, are exposed to different kinds of rearing environments and, subsequently, different styles and patterns of parenting. The Strange Situation Procedure, a lab experience in which infants are exposed to “danger cues” while their caregivers have an opportunity to comfort them, identifies stable individual differences in parent-child attachment relationships (Ainsworth et al., 1978). The manner in which the attachment behavioral system operates within a particular relationship can be categorized in one of four patterns: secure, insecure-anxious/resistant, insecure-avoidant/resistant (see Ainsworth, 1979; Main, 1981, 1996), and disorganized (see Lyons-Ruth & Jacobvitz, 2016).

Secure attachment patterns tend to emerge when caregivers behave in a warm, responsive manner to their distressed infants, routinely providing them with effective, soothing comfort. Infants and young children who are securely attached to their primary caregivers trust and rely on them to regulate their emotions, especially when infants are distressed. Insecure-anxious/resistant attachments usually emerge when caregivers do not respond to their infant’s distress in a consistent or skilled manner, perhaps due to lack of parenting knowledge, under-involvement, or distractions. Infants with insecure-anxious/resistant attachments tend to be clingy, vocal, and difficult to comfort, particularly when they become upset. Insecure-avoidant/resistant attachments are typically witnessed when caregivers consistently push away or reject their infant’s bids for comfort when infants are distressed, either because they do not like or want to be a parent or they feel overwhelmed by parenting responsibilities. Infants with insecure-avoidant/resistant attachments tend to be more independent, quieter, and less likely to turn to their caregivers for comfort when distressed. There is a fourth attachment pattern—disorganization—which usually emerges in response to parental abuse or mistreatment (Hesse & Main, 2000). Disorganized children often display strange or conflicting behavioral reactions when upset, revealing their lack of a coherent strategy to seek or maintain contact with their caregivers and utilize them as a source of safety and comfort.

Even though attachment insecurity tends to be associated with more negative psychosocial outcomes (Thompson, 2016), insecure-anxious/resistant and insecure-avoidant/resistant attachment patterns are adaptive in evolutionary meaningful ways (e.g., Main, 1981; Szepeswol & Simpson, 2019). For example, the clingy, protesting behaviors commonly displayed by anxious-resistant infants help them to draw the attention of caregivers who are failing to provide consistent attention and care. Moreover, the standoffish behavior of avoidant-resistant infants keeps their potentially reluctant caregivers from feeling overburdened or overwhelmed, increasing

the likelihood that such children are not abandoned. Secure attachment patterns also make evolutionarily adaptive sense, but primarily in benign environments that permit warmer, more responsive caregiving, which was by no means the norm in evolutionary history. These distinct attachment patterns and associated behaviors not only help children cope more effectively with their current environments; they also provide a glimpse of what children might eventually encounter in their own future environments. We now introduce a broad evolutionary framework within which attachment theory and its core principles are embedded.

11.2 Life History Theory

At its core, life history theory (LHT) addresses how and why individuals allocate time, energy, and resources to different traits, behaviors, and/or life tasks, given certain trade-offs that might affect their reproductive fitness (Del Giudice et al., 2016). Cast another way, LHT attempts to identify the selection pressures that would have influenced how our ancestors should have allocated their time, energy, and resources to physical development, growth, reproduction, body repair, or aging. Broadly speaking, individuals can increase their reproductive fitness in two fundamental ways: (1) they can “invest” (either consciously or unconsciously) in traits or attributes that affect the timing of their mortality (i.e., the age at which they die), or (2) they can “invest” in traits or attributes that influence the timing of their fertility (i.e., the age and rate at which they reproduce).

Many life history traits/attributes, however, have opposing effects on mortality and fertility (Del Giudice et al., 2016). For example, traits or attributes that improve fertility through more frequent or greater mating effort tend to shorten survival because many of the traits that make people (particularly men) more attractive to the opposite-sex compromise the immune system (Grafen, 1990). Moreover, the allocation of energy and resources to growth during development usually impedes fertility when individuals are younger, but enhances it after they reach sexual maturity (Charnov, 1993). As a result, individuals must make three basic trade-offs during their lives: (1) whether to invest in present (immediate) reproduction or future (delayed) reproduction; (2) whether to invest in higher quantity or higher quality offspring; and (3) whether to invest in mating effort or parenting effort. The way in which each trade-off is made should be contingent on many factors, such as the nature of the local environment (e.g., how difficult it is, the number of pathogens it contains, whether biparental care is necessary), an individual’s health, skills, and resources at a given time, the health, skills, and resources of others (e.g., kin, potential mates, competitors), and so on.

11.2.1 Lifespan Attachment-Evolutionary Models of Social Development

Attachment theory was developed in part to explain social and personality development across the lifespan (Bowlby, 1979). Early attachment theory and research, however, focused primarily on barriers to inclusive fitness, especially problems surrounding infant survival, rather than other major barriers to fitness, such as problems associated with mating and parenting later in life (for an exception, see Main, 1981). In fact, the possible evolutionary function(s) of childhood attachment patterns were not linked theoretically to the development of different adult romantic attachment and mating orientations until Belsky et al. (1991) published a groundbreaking model that conceptualized social development from an evolutionary/attachment perspective.

11.2.1.1 Belsky, Steinberg, and Draper's Model

Inspired by LHT and the effects of early father absence during childhood (e.g., Draper & Harpending, 1982), Belsky et al. (1991) outlined the first evolution-based, attachment-oriented lifespan model of human social development. According to this model, early social experiences “prepare” young children for the social and physical environments they are likely to inhabit across their lifetime. The model focuses primarily on the rate of development (faster vs. slower) and the trade-off between offspring quantity versus quality. As depicted in Fig. 11.1, the model suggests that: (a) early contextual factors in and around the family of origin (e.g., the degree of stress, spousal harmony, and financial resources) affect (b) early child-rearing experiences (e.g., the level of sensitive, supportive, and responsive caregiving they receive). These experiences, in turn, then shape (c) psychological and behavioral development (e.g., the development of specific attachment patterns and associated internal working models), which influence (d) somatic development (i.e., how quickly sexual maturation is reached) and ultimately (e) the adoption of faster vs. slower orientations toward both mating and parenting.

According to the Belsky et al. model, two developmental trajectories result in two phenotypically different reproductive strategies in adulthood. One strategy reflects a short-term, opportunistic orientation toward mating and parenting in which sex occurs relatively earlier in life, romantic pair bonds tend to be weak, fleeting, and unstable, and parental investment is lower. During our evolutionary past, this orientation would have increased the *quantity* of offspring, on average. The second strategy reflects a longer-term, more investing orientation toward mating and parenting in which sex occurs comparatively later in life, romantic pair bonds are stronger and more enduring, and parental investment is greater. Across evolutionary history, this orientation would have maximized offspring *quality*, on average. The most unique prediction stemming from this model is that early rearing experiences should alter the timing of puberty. Specifically, sexual maturation

Developmental Pathways of Divergent Reproductive Strategies

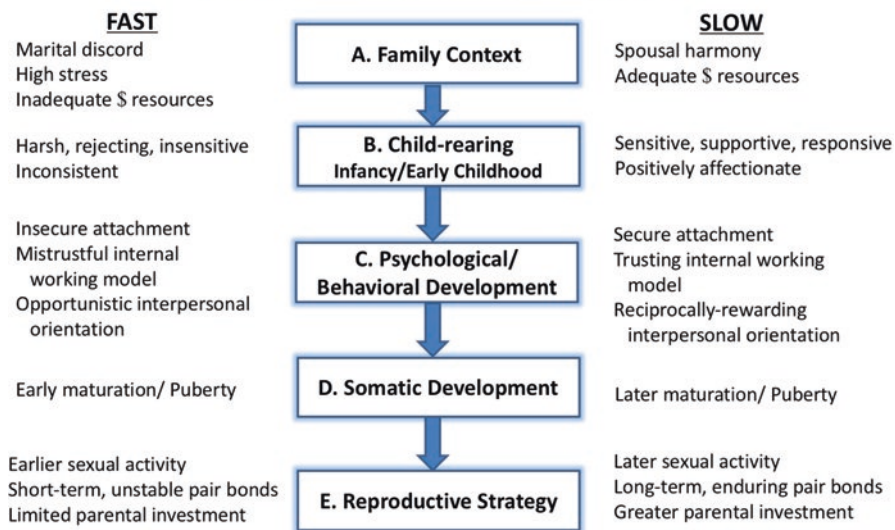


Fig. 11.1 The stages and pathways of Belsky et al.’s (1991) evolutionary model of social development

should occur earlier in individuals who develop on the “quantity trajectory” relative to the “quality trajectory.”

A sizable amount of cross-sectional and more recently longitudinal research supports various stages of the Belsky et al. model (see Belsky, 2012; Simpson & Belsky, 2016 for reviews). For example, higher socio-emotional stress within families is associated with more insensitive, harsh, rejecting, inconsistent, and/or unpredictable parenting practices. Moreover, economic hardship (McLoyd, 1990), occupational stress (Bronfenbrenner & Crouter, 1982), marital discord (Emery, 1988), and psychological distress (McLoyd, 1990) are all related to more hostile or detached/indifferent styles of parenting. Conversely, greater social support and more abundant economic resources forecast warmer, more sensitive child-rearing practices (Lempers et al., 1989), most likely because parents who are less stressed tend to be more patient with or tolerant of their children (Belsky, 1984).

The hypothesized link between parental sensitivity and the psychological and behavioral development of children is also well established. For example, during the first year of life, insensitive and unresponsive caregiving predicts the development of insecure attachment patterns in children (De Wolff & van IJzendoorn, 1997), which forecasts more behavior problems later in childhood (e.g., Matas et al., 1978; Waters et al., 1979). During elementary school, for instance, insecure children typically display more behavior problems, especially involving aggression and

disobedience (Lewis et al., 1984). These behaviors are presumably guided by their insecure working models, which “prepare” the child to engage in more opportunistic advantage-taking and less communal relationships later in life.

Belsky et al. (1991) also conjectured that children who are exposed to greater socio-emotional stress, have insecure attachment patterns, and display behavior disorders should reach puberty (i.e., reproductive capacity) earlier than children without these attributes. According to LHT (Chisholm, 1993, 1999), in environments where resources are scarce, relationship bonds are weak, and mortality risks are high, individuals should allocate more energy and effort toward physical development, earlier mating, and shorter-term romantic pair bonds because doing so would have increased the likelihood of reproducing before death in the EEA. Conversely, environments in which resources are plentiful and relationship bonds are stronger and more enduring should motivate individuals to channel greater energy and effort to somatic development, later sexual maturity, delayed mating, and longer-term romantic pair bonds that facilitate higher quality parenting. In these more benign evolutionary environments, reproductive fitness would have been enhanced by delaying reproduction until individuals acquired the skills and resources needed to ensure sufficient quality of each offspring, allowing offspring to benefit from the embodied capital that humans often require for successful reproduction.

Several studies have found evidence consistent with these expectations (Belsky, 2012; Simpson & Belsky, 2016). For example, greater parent-child warmth forecasts delayed pubertal development in both prospective longitudinal studies (e.g., Ellis et al., 1999; Graber et al., 1995) and in retrospective or concurrent ones (e.g., Kim et al., 1997; Miller & Pasta, 2000). Moreover, greater parent-child conflict and coercion predict earlier pubertal development in both prospective longitudinal studies (e.g., Ellis & Essex, 2007; Moffitt et al., 1992) as well as retrospective or concurrent ones (e.g., Kim et al., 1997). Furthermore, parents involved in happier, less conflict-ridden relationships tend to have daughters who reach puberty later, both in prospective longitudinal studies (e.g., Ellis et al., 1999; Ellis & Garber, 2000) and in non-prospective ones (e.g., Kim et al., 1997). In addition, attachment insecurity in the first 1–2 years of life prospectively forecasts the earlier age of menarche (Belsky et al., 2010). Not all studies, however, have documented puberty-related effects. Steinberg (1988), for instance, did not find associations between either the amount of family conflict or coercion and pubertal timing in a sample of girls. However, family experience/pubertal timing effects have emerged in studies capable of accounting for possible genetic confounds (e.g., Tithers & Ellis, 2008; Pesonen et al., 2008).

It is important to emphasize that all of these findings come from studies of girls, but not boys. What might explain this gender difference? One possible explanation is that the early versus later reproduction trade-off might be more important for females, whereas the trade-off between somatic development and reproduction might be more pressing for males, who often must engage in greater intrasexual competition in order to attract and retain mates (see James et al., 2012).

Evidence relevant to the final stages of Belsky et al.’s model comes from two sources: (1) research linking adult attachment orientations to mating and romantic

relationship functioning, and (2) research linking adult attachment and parenting practices. Besides several cross-sectional studies that have confirmed these connections (e.g., Brennan & Shaver 1995; Miller & Fishkin, 1997; Simpson, 1990), recent longitudinal research from the Minnesota Longitudinal Study of Risk and Adaptation has provided fairly compelling support for the model. Simpson et al. (2007), for example, found that individuals who were insecure at age 1 in the Strange Situation experience and express more negative emotions in their romantic relationships 20 years later, an effect that is mediated through their lower social competence in grade school and their less-secure same-sex friendships at age 16. Additionally, Simpson et al. (2012) have shown that exposure to more unpredictable forms of life stress during the first few years of life predicts more risk-taking in early adulthood, as indexed by having more sexual partners and scoring higher on aggression, delinquency, and ties to criminal activity by the early 20s. Szepeswol et al. (2017) have shown that being exposed to more unpredictable environments early in life predicts more unrestricted sociosexuality (i.e., the adoption of a fast life history strategy) in early adulthood. Finally, Szepeswol et al. (2015) have found that men who are exposed to more unpredictable environments early in life have a more negative orientation to parenting at age 32, whereas women do not. Furthermore, men exposed to more unpredictable early environments are more likely to have received lower quality care from their mothers early in life, which in turn predicts them having more insecure attachment representations of their childhood in early adulthood. These insecure representations, in turn, predict having a less-positive orientation to being a parent at age 32.

11.2.1.2 Chisholm's Model

Chisholm (1993, 1996) proposed an alternate model of reproductive strategies, one that highlights the life history trade-off of immediate versus delayed reproduction. This model contains several novel features beyond those proposed by Belsky and colleagues. For example, the Chisholm model suggests that local mortality rates are the specific cues that children use to regulate the rate of their physical/sexual development as well as their adult reproductive strategies. The principle reason for this expectation is that higher mortality rates should have been a valid indicator of how difficult local environments were in the EEA, and they should also have been associated with poorer caregiving in our ancestral past. According to this model, parental indifference or insensitivity—which should have been valid indicators of higher local mortality rates—should have motivated children to develop avoidant working models and associated behavioral patterns, which in turn may have increased fitness in difficult environments. Lower mortality rates, indicative of more benign environments, should have generated better, more attentive caregiving in general. Sensitive parenting, in other words, should have “communicated” to children that premature death was less likely, instilling secure working models and behaviors that should have enhanced fitness in more hospitable environments.

Consistent with Chisholm's model, robust associations exist between having experienced more adverse life conditions and the expectations that people have for their longevity and the timing of their reproduction later in life (Nettle, 2010; Nettle & Cockerill, 2010). For example, when life expectancy declines on average within a geographic area, most women in the area reproduce at a relatively younger age (Wilson & Daly, 1997). Moreover, teen mothers who believe they will die at a comparatively younger age tend to have their children earlier in life (Johns, 2003). These findings are consistent with what is known as the "weathering hypothesis" (Geronimus, 1996), which suggests that having children earlier in life is an adaptive response when women believe they are less healthy than their same-aged peers. Viewed together, these findings support the premise that local mortality rates served as a valid cue that may shape alternate reproductive strategies in adulthood.

Chisholm's model also addresses time preference—people's tendency to discount the future by favoring small, immediate rewards now instead of large, delayed rewards later—as another psychological mechanism tying early childhood experiences with adult mating and parenting behavior (Chisholm, 1999). The rationale for this focus is that children raised in harsh or unpredictable environments, where waiting for rewards could result in leaving no descendants, should prefer immediate payoffs, even when delayed ones might be superior.

Finally, Chisholm's model devotes attention to two primary threats to the survival and growth of children in the EEA—a parent's *inability* and *unwillingness* to invest in their offspring—both of which children should have evolved to detect and try to counteract. Chisholm suggests that attachment security reflects an adaptation to a parent's ability *and* willingness to provide sufficiently good investment, as indexed by warm and sensitive parenting. He further proposes that attachment avoidance is an adaptation to a parent's unwillingness to invest (regardless of their ability), as indexed by cold and rejecting parenting. Finally, he claims that anxious attachment is an adaptation to a parent's inability to invest, as indexed by inconsistent, unpredictable parenting.

The Belsky et al. and Chisholm models are important because they have focused attention on how and especially *why* certain types of early experiences tend to shape development across the life course. Neither model, however, addresses some additional variables that may also influence the adoption of specific reproductive strategies in adulthood. Mate selection involves a host of other factors, such as a potential mate's compatibility, health, ability to accrue and share resources, and capacity to teach and socialize offspring (Gangestad & Simpson, 2000). Moreover, the early psychosocial acceleration models such as those by Belsky et al. and Chisholm did not address the unique reproductive roles of men and women (Buss & Schmitt, 1993; Geary, 2005). As discussed below, the most critical trade-off for most women is likely to be between early vs. later reproduction, whereas the most important trade-off for most men may center on growth versus reproduction. Despite these limitations, both models have significantly advanced our understanding of attachment and social development across the lifespan.

11.2.1.3 Del Giudice's Model

Del Giudice (2009) formulated a model that directly addresses sex differences within an attachment/evolutionary framework. A reasonably large body of cross-cultural research has revealed that boys are somewhat more likely to be avoidantly attached in middle childhood, whereas girls tend to be somewhat more anxiously attached (Del Giudice, 2009; van IJzendoorn & Bakermans-Kranenburg, 2010). According to Del Giudice's model, sex differences in attachment patterns beginning in middle childhood could have been evolutionarily adaptive if they reflect the initial enactment of sex-specific life history strategies. In particular, early psychosocial stress and insecure attachment patterns may serve as external and internal cues of heightened environmental risk, which shift development toward reproductive strategies that facilitate current reproduction over later reproduction and/or prioritize mating effort over parenting effort. In line with the well-documented sex differences in mating and parenting effort (see Geary, 2005), more insecure males tend to be avoidantly attached, whereas more insecure females are anxiously attached, with each of these behavioral strategies increasing investment from the kin and mates of males and females, respectively.

Perhaps the most novel element of Del Giudice's model is the assertion that sex differences in attachment should emerge during middle childhood rather than earlier in life, contrary to what psychosocial acceleration models anticipate. According to his model, adrenarche (the early stages of sexual maturation) is a "developmental switch-point" that reorganizes attachment starting in middle childhood, which then has noteworthy developmental implications later in life. During early middle childhood, for example, insecure attachment patterns become sex-biased, shunting reproductive strategies down somewhat sex-differentiated developmental pathways. To the extent that attachment security (versus insecurity) was a valid indicator of the amount of risk in a child's immediate environment in the EEA, it could have been retained by evolutionary processes to function as a stable and adaptive behavioral trait. Of course, strategies adopted earlier in life can be altered later during the course of development, especially if earlier strategies no longer address environmental demands later in development. This flexibility is important because avoidant and anxious attachment patterns appear to have different adaptive values for boys and girls, particularly with regard to successful competition within same-sex peer groups during middle childhood (Del Giudice, 2009).

Indeed, the strongest selection pressure on attachment patterns during middle childhood may well have stemmed from intrasexual competition within peer groups as children begin competing with one another for status, attention, and resources. Successful negotiations within peer groups ought to be particularly challenging for insecurely attached children, who cannot necessarily turn to nuclear family members to buffer them from many of the stresses and failures that occur when children enter grade school. The avoidant behavioral pattern, which is characterized by higher levels of aggression, strong self-reliance, and inflated self-esteem, tends to be used more effectively by males as they attempt to gain higher status and popularity within their middle-childhood peer groups (Benenson, 2014). Girls, on the other

hand, shift toward the anxious behavioral pattern, which helps them utilize “tend-and-befriend” tactics (Taylor et al., 2000), which result in greater success within female peer groups.

11.2.1.4 Ellis’ Model

In developing their evolutionary model of reproductive strategies, Ellis and colleagues (1999; Ellis & Garber, 2000) borrowed concepts from work on father absence (Draper & Harpending, 1982) along with parental investment theory (Trivers, 1972) to examine the unique role that fathers play in the emergence of reproductive strategies in girls. Whereas Belsky et al. (1991) viewed early father absence as a marker of stress mainly within the family of origin, Ellis (2004) proposes that father absence (or stepfather presence) is its own powerful evolutionary cue communicating low, unpredictable, or declining paternal investment.

There is abundant prospective evidence showing that father absence predicts accelerated pubertal development in most girls (e.g., Campbell & Udry, 1995; Ellis & Garber, 2000; Ellis et al., 1999). Similar effects, however, have not been found in African-American samples (e.g., Campbell & Udry, 1995; Rowe, 2000), and studies have not always revealed stronger effects for fathering (or the quality of the father-child relationship) versus mothering (or the quality of the mother-child relationship) (e.g., Ellis et al., 2011). What there is consensus on is the robust finding that the earlier father absence takes place (particularly within the first 5 years of a child’s life), the more powerfully it predicts the earlier age of puberty in girls (e.g., Ellis & Garber, 2000; Quinlan, 2003). Furthermore, the presence of stepfathers also influences pubertal timing in girls, which might explain some prior father absence effects (Ellis, 2004). Supporting this assertion, greater conflict between the mother and stepfather in conjunction with earlier stepfather presence appears to accelerate pubertal development in girls (Ellis & Garber, 2000). Finally, pubertal development in girls tends to be delayed the longer fathers care for their daughters during the first few years of life and the more fathers have warm, supportive relationships with their daughters early in life (Ellis et al., 1999).

11.2.1.5 Hazan/Zeifman’s and Kirkpatrick’s Models

Other models have focused more squarely on adult romantic pair bonds from an attachment/evolutionary perspective. One such model, proposed by Hazan and Zeifman (1999; Zeifman & Hazan, 2008), suggests that adult romantic relationships represent a unique type of attachment bond, which has some similarities with parent-child attachment bonds (see Shaver et al., 1988). Both young children and adults, for example, express similar reactions to separation from or the loss of their attachment figures. Furthermore, both children and adults behave in somewhat similar ways when seeking physical contact, expressing emotional intimacy, and displaying affection toward their attachment figures.

Hazan and Zeifman (1999) hypothesize that the basic evolutionary purpose of forming secure attachment relationships in adulthood is to promote stable, enduring pair bonds between mates so they can support one another and provide better care to their children (Zeifman & Hazan, 2016). Pair bonding, in other words, may have evolved to facilitate the reproductive fitness of *both* parents and their children (see also Fletcher et al., 2015). Supporting this account, adult mating strategies are associated with the pair bond status of one's parents in that father absence and greater marital discord in one's family of origin both forecast earlier sexual maturation, enacting short-term adult mating strategies, and having less stable marriages (Belsky, 1999). Children with pair-bonded parents who are likely to be securely attached, in contrast, are more inclined to adopt longer-term mating strategies and place greater emphasis on investing in their children (Hazan & Zeifman, 1999). Pair-bonded partners also contribute to their own reproductive success by providing more support to one another, which tends to be associated with better physical and mental health (Zeifman & Hazan, 1997).

Kirkpatrick (1998) has offered an alternative view of the evolutionary function of adult romantic attachment and its ties to specific reproductive strategies. Similar to the models proposed by Belsky et al., Chisholm, and Del Giudice, Kirkpatrick conjectures that adult romantic attachment orientations (secure, avoidant, and anxious) evolved to enhance reproductive fitness in relation to early childhood experiences. As discussed earlier, the allocation time and energy to mating effort versus parenting effort is one of the critical life history trade-offs. Kirkpatrick (1998) and others (e.g., Gangestad & Simpson, 2000) have proposed that, during evolutionary history, it may not have always been adaptive for women and men to pursue long-term, monogamous mating strategies. If so, adult attachment orientations could have provided a way to adopt the best mating strategy depending on one's childhood experiences, especially the quality of early parental care and investment received. On average, individuals who received consistently good, sensitive, and responsive parenting should have developed secure working models and should have pursued long-term, more committed mating strategies. Indeed, secure adults do usually report higher levels of trust, intimacy, and commitment in their romantic relationships, and they tend to become involved with secure partners, which further promotes the stability of their relationships (Feeney, 2016). Avoidantly attached adults, by comparison, tend to have less trusting, less intimate, and less committed relationships, and they are more likely to engage in short-term mating strategies, which result in less stable, less satisfactory relationships (Simpson et al., 2004). Most anxiously attached adults claim that they want long-term mates, but their strong need to please and be desirable to potential romantic partners frequently leads them into short-term romantic relationships that tend to be unstable (Kirkpatrick, 1998).

11.3 Stepping Back: How Attachment Theory Can Benefit from Incorporating Elements of Other Evolutionary Theories

Considered together, these early life attachment-based evolutionary models of social development illustrate the complex interconnections between an infant's early rearing environment, their experience of receiving care, and the internal working models that eventually guide their social development, starting in infancy and stretching across their lives. In the same way that each of these models has benefited from the incorporation of attachment principles to stipulate how developmental processes are likely to be affected by certain environmental conditions, attachment theory might also benefit from incorporating some key ideas and principles underlying LHT (Szepeswol & Simpson, 2021).

Take, for example, the different forms of attachment insecurity. Attachment theory and research suggest that anxious and avoidant attachment patterns in children stem at least in part from differences in caregiver sensitivity, with anxious attachment occurring in response to inconsistent or unpredictable care, and with avoidant attachment being generated in part by consistent parental rejection or rebuffing. As reviewed above, a great deal of evidence has documented connections between the nature of the early caregiving environment and the degree of parental sensitivity. Much less work, however, has examined whether and how other features of the early environment shape the development of these insecure attachment patterns.

Chisholm (1993, 1996), for example, discusses two primary reasons for insensitive parenting: a parent's *inability* to provide care in a sensitive and responsive manner, and a parent's *unwillingness* to do so. He posits that caregivers who have neither the skill nor the ability to parent a child sensitively, but would be willing to do so if circumstances were different, are likely to engage in less predictable caregiving, which typically should result in anxious attachment. On the other hand, caregivers who are simply unwilling to parent sensitively and responsively should display colder, more disengaged caregiving, usually culminating in avoidant attachment. These ideas—linking the ability versus the willingness to parent with the quality of parental care in response to specific features of the local environment—have received insufficient empirical attention to date.

Furthermore, even though there is good empirical evidence that environments affect parenting behavior, the unique effects that the predictability or harshness of the local environment has on specific modes of parenting and infant attachment patterns have not been extensively examined (for an exception, see Simpson, 2019). Do unpredictable environments encountered early in life reliably produce inconsistent caregiving, which results in anxious attachment patterns in young children? Do harsh environments early in life reliably generate more rejecting caregiving, which results in avoidant attachment patterns in young children? Do extreme levels of unpredictability *and* harshness encountered early in life interact to predict other forms of attachment insecurity, such as the disorganized pattern? And what role

does the sensitivity of parenting play in moderating (or mediating) these associations? All of these questions deserve examination.

11.4 Conclusion

As noted at the beginning of this chapter, attachment theory is a major, middle-level evolutionary theory (Simpson, 1999), one that provides an underlying current that links all of the evolutionary theories and models summarized in this chapter. Thus, understanding the nature of our earliest attachment relationships—especially those in infancy—is key to understanding the implications of each of these theories and models, including the mechanisms through which they operate across the lifespan. Early attachment patterns and their associated internal working models shunt individuals down different developmental trajectories, shaping how they respond to future attachment-relevant relationships, environments, and events.

Nevertheless, as evolutionary approaches advance, so too must attachment theory. One promising avenue forward would involve devoting greater attention to understanding *how* critical features of the early rearing environment, such as its degree of harshness and/or predictability, impact the ability and/or willingness of parents to provide sensitive, responsive care to their children. It will also be important to document how these variables are prospectively related to the consistency with which parents enact sensitive/responsive versus insensitive/non-responsive care across time as their children grow and develop. Addressing these issues will advance not only our understanding of the origins and nature of parenting, but of attachment theory, as well.

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