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## Early Attachment from the Perspective of Life History Theory

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The attachment system is an innate motivational system that becomes activated in response to threatening/distressing stimuli and regulates proximity-seeking behaviors aimed at reestablishing felt security (Bowlby, 1969/1982; Sroufe & Waters, 1977). Human infants are defenseless and require the protection of stronger and wiser caregivers. Seeking proximity to a primary caregiver when threatened or distressed, therefore, is a behavioral strategy that presumably enhanced infants' reproductive fitness in humans' evolutionary past. The enduring effects of early attachment experiences on cognitive, emotional, and behavioral outcomes suggest that the attachment system may also serve evolutionary functions later in life. In this chapter, we suggest that both secure and insecure early attachment experiences and their representations act as mediators of important information about early environments that channel development toward evolutionarily adaptive trajectories. We draw on recent advances in life history theory and attachment research to support this premise.

### **Life History Theory**

Life history theory (LHT) outlines the tradeoffs individuals make when investing their limited time, energy, and resources toward accomplishing important life tasks, such as growth and reproduction (Del Giudice, Gangestad, & Kaplan, 2016). For example, the number of children an individual has reflects a compromise between the reproductive advantages of having a large number of children in relation to the investments required to raise a healthy, competent child. Different types of strategies, known as life history (LH) strategies, are associated with different physical, psychological, and demographic characteristics (phenotypes). One key insight of LHT is that the optimal LH strategy is contingent on several fundamental properties of the local environment to which individuals are "evolutionarily designed" to perceive and react.

Two principle parameters that calibrate LH strategies are the degree of harshness (morbidity/mortality) and unpredictability (random fluctuations) in the local environment (Ellis, Figueredo, Brumbach, & Schlomer, 2009). Environments that are harsh and/or unpredictable should motivate individuals to achieve as much as they can before a more probable early death. Hence, they promote a *fast* LH strategy, which entails a shorter growth period (e.g., early menarche and pubertal timing), early reproduction, and a greater number of children to offset higher child mortality rates. In contrast, environments that are safe and predictable, in which premature death is less likely, allow individuals to accrue embodied and material resources before reproducing and to invest more resources in their children to increase their competence and chances of survival. Such environments, therefore, promote a *slow* LH strategy, which entails an extended growth period (e.g., later menarche, delayed puberty), delayed reproduction, more stable pair-bonds, and greater eventual parental investment.

Studies show that exposure to harshness and unpredictability during childhood have enduring effects on LH strategies (e.g., Simpson, Griskevicius, Kuo, Sung, & Collins, 2012). Presumably, this is because early environments signal to the developing child what future environments might be like, promoting the development of traits and capabilities that enhance fitness in such environments. These early-developing traits and capabilities form the basis for adult LH strategies (Simpson & Belsky, 2016).

### **Integrating Life History Theory and Attachment Theory**

The calibration of LH strategies to match environmental conditions occurs across development. For this process to occur, early local conditions (i.e., levels of harshness and unpredictability) must be detected and processed in a way that generates strategic physiological and psychological adjustments in the developing child. This is problematic because children are

not directly aware of how safe and predictable their local environment is. They are, however, aware of the quality of parental care they receive, which tends to be better and more reliable in safe and predictable environments (Simpson & Belsky, 2016). Thus, through their caregiving behaviors, parents mediate the effects of local environments on their children.

The quality and reliability of interactions with caregivers affect and calibrate the child's attachment system. Through such repeated interactions, a child develops mental representations and expectations (internal working models) about the responsiveness and availability of caregivers (Bowlby, 1973; Main, Kaplan, & Cassidy, 1985). These working models shape the child's future behavior in similar situations. The attachment system, in other words, provides a mechanism through which information regarding the quality of the caregiving environment and, indirectly, the safety and predictability of the local environment, becomes internalized by the child, which can lead to phenotypic adjustments that enhance fitness. When the caregiving environment is harsh or unreliable (e.g., neglectful or inconsistent parenting), the child typically develops insecure attachment representations. Not being able to rely on the availability and responsiveness of the caregiver, the child often develops either a "hyperactivated" attachment system designed to force responsiveness from the caregiver (anxious-resistant attachment) or a "deactivated" system that suppresses proximity-seeking behaviors (avoidant attachment) (Main, 1981). In contrast, when the caregiving environment is reliably good (e.g., sensitive and responsive parenting), the child typically develops secure attachment representations, which include positive expectations about the availability and support of the caregiver and feeling safe and confident to explore the surrounding world.

How do early attachment representations help to shape LH strategies later in life?

According to life history models (see Simpson & Belsky, 2016), secure attachment promotes the

development of slow LH traits that should be more adaptive in safe, predictable environments, whereas insecure attachment promotes the development of fast LH traits that ought to be more adaptive in harsh and/or unpredictable environments (Szepeswol & Simpson, 2019). Early attachment security should be a fundamental construct in this causal chain, because it (a) sets the stage for attachment security throughout life (Fraley, 2002), (b) is important for the development of basic interpersonal and regulatory competencies that support a slow LH strategy (e.g., emotion regulation, social competence; Calkins & Leerkes, 2011; Groh et al., 2014), and (c) forecasts the emergence of personality traits that are more adaptive for a slow LH strategy (e.g., agreeableness, conscientiousness, emotional stability; Young, Simpson, Giskevicius, Huelsnitz, & Fleck, 2019). Early attachment security, therefore, may be an important mediator between sensitive/responsive parenting, rooted in safe and predictable early environments, and psychological traits that facilitate slow LH strategies. We now review evidence linking early attachment security with four of the main markers of a slow LH strategy.

### **Early Attachment Security Predicts Slow Life History Traits**

#### **Mating strategies**

A main prediction of LHT is that growing up in a safe and predictable environment should forecast a long-term mating strategy characterized by stable, committed romantic relationships (Belsky, Steinberg, & Draper, 1991). Recent evidence from the Minnesota Longitudinal Study of Risk and Adaptation (MLSRA) reveals that this link is partially mediated by attachment representations. Individuals whose first four years of life were more predictable (based on the stability in parents' employment, cohabitation, and residence) were more likely to receive better early supportive parenting from their mothers, which predicted more secure

attachment representations at age 19. Attachment security, in turn, predicted greater engagement or desire to engage in long-term romantic relationships at age 23 (Szepsenwol et al., 2017).

Direct evidence linking early attachment security with mating strategies is more limited. Several longitudinal studies, however, have found that early attachment security prospectively predicts interpersonal behaviors known to promote more stable romantic relationships. For example, individuals categorized as secure in the Strange Situation at 12 months of age had more positive emotional experiences in their romantic relationships in early adulthood and displayed less negative affect during conflict resolution and collaboration tasks with their romantic partners (Simpson, Collins, Tran, & Haydon, 2007). Similarly, individuals categorized as secure at 12 and 18 months exhibited better conflict recovery skills in adulthood following conflict discussions with their romantic partners (Salvatore, Kuo, Steele, Simpson, & Collins, 2011). These findings suggest that the interpersonal skills necessary to enact a long-term mating strategy successfully are rooted in early attachment security.

### **Parental attitudes and behavior**

LHT and attachment theory share the premise that parental behaviors in adulthood are influenced by early rearing experiences. According to LHT, growing up in a safe, predictable environment should forecast greater parental investment, a hallmark of a slow LH strategy. This may be especially true for men, for whom there is a stronger tradeoff between investing in existing children and having more children via additional mating (Geary, 2000). Indeed, recent findings from the MLSRA reveal that males whose first four years of life were more predictable had more positive attitudes about parenting at age 32 and displayed more supportive parenting behavior in videotaped interactions with their infant children. Moreover, the connection between early predictability and better adult parenting was serially mediated by the quality of early

parenting they had received from their mothers and the resultant security of their attachment representations at ages 19 and 26 (Szepeswol, Simpson, Griskevicius, & Raby, 2015). Although this research did not examine early attachment security directly, it highlights the important intermediary role of the early caregiving environment and subsequent attachment representations in the link between early environments and adult parenting.

### **Pubertal timing**

Another key insight of life history models is that psychological development and physiological development should be interwoven and calibrated by the same early environmental cues (Belsky et al., 1991). For girls, this means that growing up in a safe, predictable environment should delay the onset of puberty, given that such environments favor somatic growth over early reproduction. Some evidence supports this idea and points to the involvement of early attachment in this process. For example, in findings from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (SECCYD), girls who grew up in relatively poor families (those with lower income-to-needs ratios), but were classified as secure in the Strange Situation at 15 months, experienced later menarche than lower income girls classified as insecure (Sung et al., 2016).

### **Physical health**

An additional important prediction of LHT is that individuals who grow up in a safe, predictable environment should experience better adult physical health and greater longevity compared to individuals who grow up in a harsh and/or unpredictable environment (Ellis et al., 2009). The reason for this is that safe and predictable environments have fewer uncontrollable sources of morbidity and mortality, which should promote a prolonged period of somatic growth and greater somatic maintenance at the expense of earlier reproduction. Evidence from the

MLSRA indicates that the attachment system plays a key role in this process. Individuals who were classified as secure during infancy (at both ages 12 and 18 months) were less likely to report having a diagnosed physical illness at age 32 (Puig, Englund, Simpson, & Collins, 2013; see also Ehrlich & Cassidy, this volume).

### **Boundary Conditions**

Our discussion thus far has focused on how early attachment security is prospectively related to slow LH traits. We do not mean to imply, however, that the enduring effects of early attachment on behaviors, cognitions, and emotions can be fully understood within an LHT framework. LHT is concerned with variables governing the pace of growth, reproduction, and aging. The purview of attachment theory, of course, extends well beyond this. For example, unlike attachment theory, LHT does not make predictions regarding the quality of one's living experience (e.g., life satisfaction), primarily because it has little significance for evolutionary fitness. Another example is religiosity. While some scholars have proposed a link between the attachment system and religious thoughts and behaviors (e.g., Kirkpatrick, 1998), it is unlikely that such links reflect a life history process. Although religiosity is associated with some life history outcomes in modern times (e.g., reproductive decisions), it is unlikely that religiosity mediated the pace of growth, reproduction, and aging during humans' ancestral past.

Researchers, therefore, should be cautious when applying life history logic to attachment processes, ensuring that the predicted traits or behaviors are connected in theoretically meaningful ways to patterns of growth, reproduction, and aging in humans' ancestral past.

### **Future Directions**

It is important to understand *how* early attachment representations are prospectively related to different LH strategies. Mediating mechanisms could have psychological,



physiological, and/or behavioral components. One possibility involving all three components is that early attachment has an enduring impact on stress reactivity and emotional regulation and expression, which in turn shape interpersonal functioning throughout life. Individuals who were securely attached as infants do show an early advantage in buffered HPA axis reactivity (Gunnar et al., 1996) and tend to express their emotions in more well-regulated ways (Calkins & Leerkes, 2011). This allows them to maintain better relationships, parent more effectively, and manage stress in a healthier way. In contrast, individuals who were insecurely attached as infants are typically more reactive to stress and express their emotions in poorly regulated ways (e.g., excessive anger, intensified distress) (Calkins & Leerkes, 2011; Gunnar et al., 1996), which may expedite the achievement of certain short-term goals (such as fending off rivals or gaining attention), but often is maladaptive in the long run. Thus, patterns of stress reactivity and emotional regulation may mediate the relation between early attachment representations and adult LH strategies.

### **Conclusions**

Early attachment representations serve an evolutionary function by mediating the effects of early environments on adult LH strategies. Early attachment security, which is rooted in supportive caregiving experiences that occurred in safe, predictable rearing environments, forecasts the development of a slow LH strategy characterized by delayed puberty, a long-term mating strategy, high parental investment, and a longer, healthier life. In the future, the productive integration of attachment theory and LHT will be facilitated by a better understanding of the mechanisms that link early attachment and LH strategies.

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