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### **Positive Psychology of Infancy and Early Childhood: Chapter in the Handbook of Positive Psychology**

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### **Abstract and Keywords**

This chapter provides a perspective on early childhood optimal development to identify the factors that set a foundation for flourishing across the lifespan. I examine possible links between developmental and positive psychological science to highlight how optimizing development begins in infancy. This perspective involves identifying the early childhood outcomes associated with short- and long-term flourishing. Whenever possible, these should be intrinsically motivated or even have innate roots. The chapter will have a heavy focus on the long-term outcomes because short-term (or concurrent) and long-term outcomes may not always be congruent. This perspective is not about accelerating developmental processes or advocating an unrealistic expectation of protecting children from all adversity. Accordingly, another element of this perspective involves finding ways to help children respond to adversity in healthy ways. Finally, the perspective focuses on outcomes that can be targeted for promotion and intervention as a way to increase chances of flourishing.

Keywords: infants, children, positive psychology, development, flourishing, well-being, emotions, relationships

Among parents' greatest wishes for their children is that they grow up happy, healthy, and successful (e.g., Diener & Lucas, 2004; Young, Davis, Schoen, & Parker, 1998). In other words, they want their children to flourish (i.e., a peak level of well-being that extends beyond the absence of pathologies; Coffey, Wray-Lake, Mashek, & Branand, 2016; Seligman, 2011). Yet, understanding circumstances necessary for flourishing across the lifespan remains limited because much of the early childhood research (i.e., studies focusing on infants, toddlers, and preschoolers) has addressed understanding developmental processes or ensuring the absence of maladaptation and psychopathology, rather than examining outcomes associated with flourishing (Coffey, Warren, & Gottfried, 2015; Gleason & Narvaez, 2014). To date, scientists have identified a range of vital indicators of adolescent and adult flourishing (e.g., life satisfaction, meaning in life), but many of these constructs have yet to be examined using a comprehensive developmental approach (Coffey et al., 2015). This approach needs to start in infancy and attempt to account for age-related differences in psychological and physiological functioning that are related to long-term flourishing.

The focus of this chapter is on providing an overarching perspective on early childhood optimal development with the goal of identifying the factors that set a foundation that enhances the chances of flourishing across the lifespan. To do so, I examine possible links between extant developmental and positive psychological science to highlight how optimizing development begins in infancy (if not sooner; Narvaez, 2014). Accordingly, this perspective involves identifying the early childhood outcomes associated with short- and long-term flourishing. Whenever possible, these should be intrinsically motivated or even have innate roots. Notably, the chapter will have a heavy focus on the long-term outcomes because short-term (or concurrent) and long-term outcomes may not always be congruent. For example, rewarding preschoolers for not throwing a tantrum when they are upset might serve an immediate goal of preventing future tantrums, but it could also condition a pattern of maladaptive emotion suppression as the children get older (e.g., Roth & Assor, 2010). This perspective is not about accelerating developmental processes or advocating an unrealistic expectation of protecting children from all adversity. Rather, another element of this perspective involves finding ways to help children respond to adversity in healthy ways (i.e., with resiliency). Finally, the perspective focuses on outcomes that can be targeted for promotion and intervention as a way to increase chances of flourishing.

In adopting a developmental systems approach for this perspective, I explore how individual differences and environmental circumstances are associated with optimal development (e.g., Lerner, 1996). The chapter will devote the most space to intrinsic drive areas commonly associated with later flourishing (e.g., healthy emotional functioning, relationships) that are targetable across cultures and contexts for interventions (Coffey et al., 2016; Seligman, 2011), while also highlighting other gaps in current understanding of early childhood optimal development. Finally, I conclude with three questions about moving this perspective forward.

## Theoretical Background

A developmental systems approach provides an appropriate lens for understanding optimal development because it promotes a multilevel analysis by examining individual differences (e.g., temperaments) and environmental factors (e.g., caregivers, education system) as they interact and change over time (e.g., Lerner, 1996; Lerner & Castellino, 2002). Furthermore, a central tenet of this approach is human plasticity—human infants are naturally and actively growth-oriented organisms seeking to optimize their potentials (Lerner, 1996; Ryan & Deci, 2002). That is to say, infants are intrinsically motivated to accomplish new things (e.g., walking, talking) that enhance their abilities to survive and flourish, but any number of internal and external factors can shape their development in optimal or suboptimal ways. To this point, the focus of the early childhood optimal development perspective is not on accelerating basic developmental processes (e.g., walking, talking), as there is little evidence that this is associated with long-term flourishing. Rather the focus is on understanding the factors (such as emotional functioning) that can be targeted for promotion and intervention associated with long-term flourishing.

## Evolutionary Background

Throughout the course of human evolution, several factors have shaped early childhood development and motivation that are central to understanding early-life optimal development. Contrary to many other mammals, human infants are born well before they can care for themselves, in part because longer pregnancies would result

in babies' heads that were too big to safely pass through their mothers' birth canals (Narvaez, 2014; Trevathan, 2011). Consequently, human infants are physiologically and psychologically unprepared to handle their environments on their own (Narvaez, Gleason, Wang, Brooks, Lefever, & Cheng, 2013). Accordingly, human babies' brains continue to develop for over 20 years after birth, with most of that development occurring by age five (Narvaez, 2014). Thus, neonates are not prepared to interact with adults in adult ways (e.g., speaking); nor are they able to crawl or walk to navigate through their own environment. As such, human babies' motivations and behaviors evolved to help them meet basic needs for long-term survival (Narvaez, 2014). As infants and toddlers, they rely on their caregivers to meet basic physical (e.g., food) and psychological needs (e.g., connectedness; Ryan & Deci, 2002), and their primary method of communication is through emotional expression. In summary, early childhood is a time when humans experience a more limited control over a range of factors that contribute to optimal and suboptimal motivations and behaviors as they get older.

## Individual Differences

Individual differences associated with biological factors are critical considerations when designing interventions and striving for optimal development (Grinde, 2002; Kochanska, 1995; Layous & Lyubomirsky, 2014; Belsky & Pluess, 2013; Pluess, 2015). Such biological factors do not necessarily imply that only some children have the capacity to develop optimally, but rather that these differences may elicit dissimilar responses and warrant diverse approaches to interventions. As such, developmental scientists have come to recognize how these individual biological differences such as temperament and gene expression are shaped by their environment (Komsis et al., 2006; Pluess, 2015; Rothbart, 2007).

One early-life biological factor that has received a lot of attention is temperament. Temperament involves a range of constitutional traits (i.e., inherited neurological and genetic structures) centered around individual reactivity (e.g., motor responses, attentional responses) and self-regulation (e.g., approach, withdrawal, effortful control of attention; Rothbart, 2007; Rothbart, 2011). Differences in temperament can result in a range of developmental outcomes and abilities to appreciate life (e.g., Grinde, 2002; Rothbart, 2007). For example, in a group of toddlers, those with a high fearful/anxious temperament benefited more from gentle maternal guidance and discipline than low fearful/anxious toddlers (Kochanska, 1995). Thus, researchers have highlighted the importance of individual differences in response to positive and negative environmental experiences (e.g., Pluess, 2015). That is to say, infants, toddlers, and preschoolers vary in their developmental plasticity, so that some are more likely than others to respond to positive or negative triggers within their environments (Belsky & Pluess, 2013; Pluess, 2015). Accordingly, I will highlight how other areas (e.g., emotions, relationships) central to optimal development might require consideration about individual differences.

## Emotions

### Emotions in Early Childhood: Definition and Concept

Emotions are at the center of people's well-being across the lifespan (Fredrickson, 2001; Lyubomirsky et al., 2005; Seligman, 2011). Building on these principles, research also suggests that infants' emotional experiences predict adult well-being (e.g., Coffey et al., 2015). In humans of all ages, emotions involve fluid and rapid multi-system (e.g., cognitive, subjective, physiological) response tendencies in reaction to stimuli that work to ensure survival

(Fredrickson, 2001; Rottenberg & Gross, 2003). For the most part, early childhood emotions serve many of the same purposes as they do later in life, but their utility is heightened early in childhood because infants and toddlers use their emotional expressions as a primary means of communication to get their physiological and psychological needs met (Abe & Izard, 1999; Tronick, 1989). As children get older, they can use language or their physical abilities (e.g., walking to get food, buying candy at a store) to meet these needs on their own. Furthermore, emotions can motivate behaviors that protect resources (e.g., retreating to a parent when scared) and promote the building of resources (e.g., building social connections with a caregiver) and skills (e.g., effective emotion regulation) necessary for flourishing (e.g., Fredrickson, 2001; Frijda, 1986).

According to Differential Emotions Theory (DET; Abe & Izard, 1999), infants start detecting patterns in discrete emotional experiences at birth. Over time, these cumulative (positive and negative) emotional experiences play a key role in developing either optimal or suboptimal well-being in a wide range of ways. For example, early emotional experiences shape children's representations about their relationships with other people (e.g., internal working models), emotion regulation strategies, cognitive schemas about the world, and ways of understanding the self (Abe & Izard, 1999; Izard, Fantauzzo, Castle, Haynes, Rayias, & Putnam 1995). As infants get older, their developmental needs and immediate purposes of their emotions change, but emotions continue to stimulate socio-cognitive advances and cause a reevaluation of expectations and behaviors (Abe & Izard, 1999).

## Positive Emotions

According to the broaden-and-build theory of positive emotions, positive emotions trigger broadened thought processes (e.g., people think of more solutions to a problem, act more socially open), which leads to opportunities to build beneficial resources (e.g., making new social connections) that can be useful later on (Fredrickson, 1998, 2001; see Tugade, Devlin, & Fredrickson, this volume). Although there are few direct tests of this theory done with early childhood samples, the idea that positive emotions broaden thoughts and build resources should apply to infants and toddlers, with some developmental specifications (detailed in the following paragraphs). Positive emotions should also undo negative emotions like they do in adults (e.g., Falkenstein, Schiffrin, Nelson, Ford, & Keyser, 2009; Fredrickson, Mancuso, Branigan, & Tugade, 2000). For example, when babies are sad, parents might elicit positive emotions by playing a game such as peek-a-boo with them as a way of undoing the negative emotion.

In accordance with the broaden-and-build theory, early childhood positive emotions are likely to broaden thought processes such that infants and toddlers explore their environments to learn more in unscripted ways (Fredrickson, 1998; Fredrickson, 2001). Thus, positive emotions should open infants and toddlers up to feel safe and comfortable enough to explore or to attend to a person or object that they find interesting. Positive emotions can also help to engage caregivers who are essential to infants' meeting their psychological need for connectedness (Bowlby, 1979; Narvaez, 2014; Ryan & Deci, 2002; Thompson-Booth et al., 2014). Over time, infants and toddlers will use these experiences while attending to novel stimuli, engaging with caregivers (or other people), and exploring their environment to build skills that they will continue to use as they get older (Abe & Izard, 1999; Coffey, Warren, et al., 2015). Unsurprisingly, the two most common emotions displayed by infants are interest and joy, as these emotions are likely to lead to learning and social connection (Izard et al., 1995). In summary, the primary role of positive emotions early in childhood appears to be to help infants and toddlers attend, engage, and explore as a way to build resources that can help them be successful and to deal with future adversity.

## Interest

Interest (sometimes referred to as *curiosity* or *wonder*) elicits a tendency to attend to something and to explore as a means of increasing knowledge and experience with the object drawing the person's attention (Fredrickson, 1998; Fredrickson, 2013). Although interest is the most common infant emotion (Izard et al., 1995), infants appear to have a biological selectivity about where they direct their attention. Beginning at birth, they direct much of their interest towards faces (or objects and shapes that resemble faces; e.g., Mondloch & Lewis, 1999). In contrast to a broad interest in their entire environment (which may be overstimulating and overwhelming), paying extra attention to faces helps infants engage and bond with caregivers and other adults who are vital to their care and survival (Tronick, 1989). Furthermore, six-month-old infants who spent more time looking at faces, and in particular mouths, demonstrated more rapid language development and more expressive language at age 24 months (Young, Merin, Rogers, & Ozonoff, 2009).

As infants grow older and their mobility increases, their interests broaden to include other things in their environment. Young children are often interested in novel or changing situations, such that infants and toddlers will explore new situations, which helps them to build cognitive schemas about the way things work (Abe & Izard, 1999). For example, as most parents may understand, as toddlers start using more words and becoming more mobile, their interests might drive them to ask more questions (e.g., "Why?") and play with a wider range of objects (e.g., toys). Thus, interest promotes infant and toddler flourishing by stimulating bonding with caregivers, learning more advanced communication (e.g., gestures, language), and learning more about their world.

## Joy

Joy (also referred to as *happiness*) is a high-arousal emotion that is particularly useful for free activation or play and social bonding (Fredrickson, 1998; Frijda, 1986). Joy is the second most common emotion expressed by infants (Izard et al., 1995). When young children express joy (e.g., smiles and laughs), it can help engage others in social interactions to strengthen bonds with adults and peers (Bowlby, 1979; Cassidy, 2008). In addition, one study found that preschoolers who displayed more happiness were more empathetic towards others (Strayer, 1980). Another study linked happy displays with prosocial behaviors in two- to three-year-olds (Denham, 1986).

Joy also elicits the desire to explore and play (Fredrickson, 2013). Play is often unscripted and highly imaginative such that it encompasses social, physical, and cognitive elements. Over time, these cumulative play experiences help infants and toddlers to build a range of adaptive skills (Gray, 2014). For example, through play, toddlers increase coordination and physical abilities (Fry, 1990). Thus, feelings of joy lead children to build skills and experiences they need to develop a range of scripts for dealing with people and situations that they can rely on later to help them optimally navigate their environments (Abe & Izard, 1999).

Taken together, early childhood positive emotions open infants and toddlers up to attend, engage, and explore as a way to build resources and understand the world. All of these are likely to contribute to greater resiliency and flourishing among children just as positive emotions do for adults (e.g., Cohn, Fredrickson, Brown, Mikels, & Conway, 2009; Coffey et al., 2016).

## Negative Emotions

Experiencing negative emotions can also be adaptive and is central to early childhood optimal development, albeit in different ways than positive emotions. Negative emotions are typically elicited by unpleasant stimuli. They are adaptive because they narrow attention to the source of the emotion to allow people to quickly respond to the distress in an attempt to protect themselves and alleviate the negative emotions (Frijda, 1986; Taylor, 2006). To

deal with the source of distress, negative emotions trigger a range of responses, such as the need to fight or to escape (i.e., flight), or to tend or befriend others who could help protect them (Frijda, 1986; Izard, 1993; Taylor, 2006).

Although the function of negative emotions across the lifespan is to protect oneself and alleviate distress, the resulting behavioral responses of young children may be vastly different from those of adults. For example, when encountering a dangerous situation, such as a snake, an adult who feels fear may respond by quickly fleeing the area. In contrast, infants may not be developmentally capable of running away. Accordingly, this fear experience may lead them to alert their caregivers by crying so that the caregivers takes action to protect them. Similarly, infants display anger by crying to indicate they need to be fed or changed, and when the infants are lonely, they make sad faces while holding out their arms (as a signal they want to be held). As they become mobile, they might actively move closer to a caregiver when lonely (Ainsworth, 1979; Bowlby, 1982). Meanwhile, adults have adapted to handle these situations on their own (e.g., adults do not usually cry when hungry), so the threshold for early childhood negative emotions may be lower than it is later in life. Thus, early childhood negative emotions serve a protective function of meeting basic physical (e.g., safety, food) and psychological needs (e.g., being close to caregivers).

In contrast to positive emotions, which build resources, a primary role of negative emotions in infants and toddlers is to behaviorally motivate them to quickly alleviate or resolve sources of distress in ways that promote survival and protect their resources. As negative emotions are intended for quick response because of a potential threat, they are often more powerful than positive emotions and can overwhelm any current positive emotions to ensure a rapid reaction (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). In an ideal situation, infants and toddlers will quickly resolve sources of distress so they can return to activities suited more for growth (e.g., exploring their environment) rather than for survival (Ainsworth, 1979; Tronick, 1989).

Although negative emotions are adaptive and necessary for survival, in some cases, they may also contribute to maladaptive outcomes. Frequent or prolonged negative emotions for infants and toddlers can have long-term physiological and psychological consequences (e.g., Denham, 1986; Soltis, 2004; Tronick, 1989). For example, toddlers who expressed mostly negative emotions (i.e., felt sad, angry, hurt) were more likely to display deficits in prosocial and social-cognitive domains (Denham, 1986). Thus, even though negative emotions can be adaptive, experiencing them frequently can be suboptimal and related to long-term negative consequences.

Unsurprisingly, then, in day-to-day circumstances, early childhood emotional experiences involve fewer negative emotions than positive emotions (Izard et al., 1995). Despite being less frequent, specific negative emotions might serve different purposes. The two most common negative emotions for infants are anger and sadness (Izard et al., 1995).

## **Anger**

Anger, a sense of displeasure when one's goals or interests are obstructed, along with an urge to remove the agent (Frijda, 1986), is useful in a variety of ways for infants and toddlers (Abe & Izard, 1999; Ainsworth, 1979). Infant anger is often expressed by crying as a way to alert and activate their caregivers, protest against restraint or separation, and to try to change what is happening (Abe & Izard, 1999; Bowlby, 1969/1982; Soltis, 2004). Anger can also be expressed to protest when learning and engagement are interrupted. For example, in an experimental study, some infants displayed anger (others displayed sadness) when an audiovisual display they were enjoying

quit responding. The researchers postulated the display of anger was a way to get help in restoring the display to working order (Lewis, Sullivan, Ramsay, & Alessandri 1992).

Although frequency of negative emotions as a whole decreases as infants get older, something that will not surprise parents is that toddlers begin to experience anger more frequently around age two (e.g., Dunn, 1988), hence the popular nickname the “terrible twos.” According to DET, the increase at this age suggests that anger is important for developing a sense of self, because it allows toddlers to witness a range of others’ response to their anger. These different responses help toddlers start to see their world as independent of others. By developing a sense of self and beginning to understand how their actions affect others, they begin to experience more advanced emotions such as shame or guilt (Abe & Izard, 1999) that will be helpful for relationship-building. Although a slight increase in anger is adaptive, two- to three-year-olds who experienced anger more frequently than other toddlers engaged in fewer prosocial behaviors and demonstrated lower social-cognitive abilities (Denham, 1986). In summary, anger in limited amounts can be useful in meeting both physiological and psychological needs by alerting and activating caregivers, but frequent anger might lead to suboptimal social skills over the long-term.

## **Sadness**

Sadness, a sense of displeasure involving a desire for a lost object (Frijda, 1988), is also adaptive for infants and toddlers. Among infants, sadness is most likely to be triggered by the absence or inattention of a caregiver. Sadness is used to signal to a caregiver a displeasure with being apart from them, with the goal of eliciting empathy and love from the caregiver (Bowlby, 1979). Cumulatively, feelings of sadness early in life might help infants and toddlers to distinguish between situations and stimuli that leave them feeling lonely; ultimately, these sad experiences might contribute to the development of cognitive representations of the self and others (Abe & Izard, 1999; Bowlby, 1979). In an experimental study in which infants’ goals were blocked (removing something they were enjoying), some infants displayed sadness (rather than anger), which resulted in an increased likelihood of those infants’ withdrawing from the activity (Lewis et al., 1992). This withdrawal might be an act of submitting to others. By withdrawing from the activity, these infants might protect themselves from further disappointment of not being able to accomplish their goal. By submitting, they reduce the risk of upsetting someone who has more control over their environments and will be important for meeting future needs. In a study with older children (ages five to six), parents who reported giving extra affection when their children hid feelings of sadness also reported their children experienced lower levels of emotional awareness and empathetic responding (Roth & Assor, 2010), thus aligning with other research suggesting that suppression of negative emotions can be maladaptive (e.g., John & Gross, 2004). Although frequent displays of sadness are relatively uncommon and potentially problematic, a limited amount of sadness can be adaptive for maintaining social connections and understanding relationships during early development.

## **Emotions and Optimal Development**

As highlighted throughout this emotions section, both positive and negative emotions play central and distinctive roles in early childhood optimal development. In general, frequent positive emotions seem to be more common and ideal, but occasional negative emotions can also be adaptive and beneficial. Furthermore, many of the benefits of positive emotions are independent of negative emotions (e.g., Coffey et al., 2015; Denham, 1986). For example, one study found that children who expressed fewer positive emotions at age three displayed more maladaptive cognitive styles (i.e., helplessness, explanatory styles) associated with depression at age seven. In this same study, negative emotions were unrelated to these maladaptive cognitive styles, suggesting that a lack of positive emotions

can be problematic beyond the effects of negative emotions (Hayden, Klein, Durbin, & Olino, 2006). Unsurprisingly, then, infants and toddlers experience positive emotions more frequently than they do negative emotions (e.g., Denham, 1986; Izard et al., 1995; Strayer, 1980).

Emotions are easily influenced by internal and external factors, making them a prime focal point for early childhood intervention. That is to say, small changes in day-to-day experiences might have long-term consequences during development.

For example, early childhood interactions with caregivers and peers play an important role in how infants and toddlers experience emotions and how they begin to understand and regulate their emotions (e.g., Roth & Assor, 2010; Nelson, Kushlev, & Lyubomirsky, 2014; van der Pol et al., 2015). A study examining new mothers and their infants found that mothers' expression of positive emotions predicted their infants' expressions of positive emotions (Haviland & Lelwica, 1987). Another study found that mothers and fathers demonstrated gender biases in their speech patterns when communicating with their toddlers, such that they associated boys more with anger and girls with sadness and happiness, which could contribute to differences in emotional socialization among boys and girls (van der Pol et al., 2015). Furthermore, a study found that children whose parents reported more attempts to control or limit displays of negative emotions in their children (ages five to six) demonstrated poorer emotion recognition and awareness and other maladaptive outcomes (Roth & Assor, 2010).

Notably, emotions are associated with individual differences across the lifespan. In particular, children's temperaments are commonly associated with how often or intensely they experience positive and negative moods and emotions (e.g., Guerin, Gottfried, Oliver, & Thomas, 2003; Lykken & Tellegen, 1996; Saudino, 2005). Thus, the most effective interventions designed to promote certain emotional responses will benefit from considering biological differences.

In sum, caregivers' emotions and attitudes about their children's emotions appear to have a wide range of implications for early childhood optimal development. Furthermore, working with parents to find adaptive ways to promote emotional understanding and regulation is a prime area for intervention that needs more research, especially in understanding the ways that individual differences might alter the effectiveness of these interventions.

## Parent-Child Relationships

Relationships are central to optimal development across the lifespan, but their role in early life is particularly critical as infants and toddlers rely on caregivers (usually parents) to meet their basic physiological and psychological needs more than that at any other point in life, and because they serve as a foundation for all future relationships (Bowlby, 1988; Coffey et al., 2016; Feeney, 2008; Ryan & Deci, 2002).

### Attachment: Definition and Concept

Caregivers provide basic survival needs (e.g., food), but in order for optimal development to occur, caregivers also need to provide comfort and reassurance when infants and toddlers face threats or other challenging situations (Weinfield, Sroufe, Egeland, & Carlson, 2008; Narvaez, 2014). For this reason, researchers argue that infants have a biological predisposition to build an understanding of their caregivers' behaviors to be able to anticipate their caregivers' behaviors. This anticipation leads to the development of an attachment bond between infants and each

of their caregivers that guides their interactions with others as they get older (Ainsworth, 1989; Bowlby, 1969/1982; Feeney, 2008; Mikulincer & Shaver, 2008). Indeed, virtually all children will develop attachment bonds based on interactions with caregivers. Although this bond develops regardless of whether or not the caregivers meet the infants' needs, the attachment bond quality varies in ways that can have optimal or suboptimal consequences as children get older (Ainsworth, 1979; Bowlby, 1969/1982; Bowlby 1988; Cassidy, 2008; Feeney, 2008; Mikulincer & Shaver, 2008).

Infant-caregiver attachments begin forming organically as a result of infants' cumulative interactions with their caregivers (Bowlby, 1969/1982). Notably, attachment relationships are not present at birth but are observable by the end of the first year of life (Ainsworth, 1967; Cassidy, 2008). Early on, infants rely on communicating their needs to caregivers using "attachment behaviors" (i.e., behaviors designed to keep proximity to caregivers) as a way to ensure that their physiological and psychological needs are met (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982, 1988). For example, babies express anger by crying when hungry, prompting the caregivers to provide milk. Alternatively, when babies are alerted because a new person enters the room, they might move closer to their caregivers to determine the caregiver's comfort with the person. Caregivers might indicate that the person is trusted by encouraging the babies to interact with the stranger so the infant feels safe in following up on their interests and further exploring the room (Ainsworth, 1979). Conversely, inattentive caregivers in either of these situations might be slow to respond or not recognize the infant's needs. Over time, infants' individual experiences and their emotions associated with them contribute to their overall understanding about how to best interact with the caregiver in order to get their needs met (Ainsworth, 1979, Ainsworth et al., 1978).

In congruence with notions expressed in DET (Abe & Izard, 1999), newborns start to recognize patterns based on these cumulative emotional experiences with all of their caregivers, leading to the development of internal working models that guide their attachments to each of their caregivers (Bowlby, 1982; Cassidy, 2008). Internal working models are internalized cognitive representations regarding the relationship that allow individuals (of all ages) to imagine and predict how future interactions with another person will go, even if they have no experience with the person (Bowlby, 1969/1982; Bowlby, 1988). Ultimately, they develop patterns or schemas associated with the different forms of attachment (Weinfield et al., 2008). Accordingly, early childhood attachment patterns are predictive of adult relationship behaviors and quality (e.g., Bowlby, 1988; Mikulincer & Shaver, 2008).

## Secure and Insecure Attachment

Each form of attachment is adaptive as it helps infants survive by keeping them close to their caregivers; however, only a secure attachment is considered optimal for long-term development. The other forms, broadly classified as *insecure attachments* (i.e., avoidant, ambivalent/resistant, disorganized; Ainsworth et al., 1978; Main & Solomon, 1990) are suboptimal because they compromise an infant's exploration and are associated with greater risk of later psychopathology and other maladaptive outcomes (for a review, see Weinfield et al., 2008). As the focus of this chapter is on optimal development, I will focus more on comparisons between secure attachment and the broad classification of insecure attachments.

A key to optimal development is the ability to explore the environment, as this is when new skills (e.g., social, cognitive, communicative) and environmental mastery are most likely to be learned. Bowlby (1982) argued that infants (and toddlers) use caregivers as both a "secure base" and "haven of safety" as a way to maintain a proximity to their caregivers when they are exploring. Caregivers serve as secure bases for infants during their goal-directed exploration of the environment. As they monitor their environment and their caregivers' behaviors,

infants constantly adjust that proximity to keep within a comfortable distance of their caregiver (e.g., Ainsworth, 1979). For example, if a mother gets up and moves across the room, the infant might move closer to that side of the room until they feel comfortable enough to move further away. If infants are unsure or anxious about something, they seek closer proximity to their caregivers, treating their caregivers as safe havens. Thus, infants' attachment systems seem to be constantly "on," but the systems level of arousal and infants' attachment behaviors vary based on the infant-caregiver relationship and the context (Bowlby, 1969/1982; Cassidy, 2008).

## Secure Attachment

Secure attachments are considered optimal for development as they allow children to comfortably explore their environments with an internal working model that indicates their caregivers will be there for them if needed. Infants develop secure attachments with caregivers who are consistently available and responsive to them (Bowlby, 1969/1982; Kochanska, 2002; Weinfield et al., 2008). The caregiver's primary role is retrieval (when children express discomfort), but other supportive behaviors include "calling, reaching, grasping, restraining, following, soothing, and rocking" (Cassidy, 2008, p. 10). Infants and toddlers also benefit from positive parental touch such as hugs for comfort and shared positive affect (Kochanska, 2002; Narvaez, 2014). Thus, secure caregivers are frequently engaging their children, which should result in feelings of safety, gratitude, and joy that then allow them to return to exploring more quickly (Mikulincer & Shaver, 2007). In one study, securely attached infants did smile more and share with their peers more than insecurely attached children (Waters, Wippman, & Sroufe, 1979).

Caregivers should strive for a mutually responsive orientation that fits their children's needs (Kochanska, 2002). Caregivers need not be overly intrusive or involved with all their infants' exploration, as the biological role of the attachment system is protection (Bowlby, 1969/1982; Matte-Gagne, Bernier, & Lalonde, 2015). In other words, caregivers do not need to hover over their children (helicopter parenting) and insert themselves into situations when their child is not feeling threatened, but be there when their child is in distress. One study found that toddlers performed better on executive functioning tasks when their mothers supported their autonomy by involving themselves in their children's play on a more limited basis (Matte-Gagne, Bernier, & Lalonde, 2015). Indeed, infants from cultures in which mothers are highly sensitive to their infants' needs, but do not spend as much time in play or direct interaction with the infants, often result in secure attachments between infants and caregivers (cf. Ainsworth, 1990). Importantly, secure attachments and internal working models develop as the result of consistently supportive and responsive behaviors even if occasional lapses do occur (Cassidy, 2008; Weinfield et al., 2008). Accordingly, infants with secure attachments display confidence that their caregivers will be there in times of need, so they are free to spend the maximum time exploring and mastering their environment.

## Insecure Attachment

Infants with insecure (or suboptimal) forms of attachment lack the confidence in their caregivers' availability (Mikulincer & Shaver, 2007; Weinfield et al., 2008). These infants have experienced caregivers that have been inconsistently available or responsive when infants experience a challenging situation or a threat. These caregivers consistently respond to bids for attention with indifference or by rebuffing the infants (Ainsworth et al., 1978; Bowlby, 1973). Some of these caregivers might also be intrusive (e.g., hovering or guiding during free play) which can restrict their exploration and autonomy. As a result of these caregiver behaviors, such infants experience more frequent negative emotions such as anxiety or fear that their caregivers will not be effectively responsive when the

infants need them (Mikulincer & Shaver, 2007; Weinfield et al., 2008). Furthermore, some infants are more likely to display anger at the unresponsiveness of caregivers (e.g., Bowlby, 1988; Robertson & Robertson, 1971).

In response to these inconsistent and intrusive caregiver behaviors, children develop insecure internal working models with a stronger focus more on maintaining proximity to their caregivers. Although these internal working models keep them close to caregivers, they are suboptimal for emotional experiences, exploration, and learning (Bowlby, 1988; Mikulincer & Shaver, 2007). As these children get older, they experience more negative emotions and fewer positive emotions (Kochanska, 2001; Mikulincer & Shaver, 2007; Waters et al., 1979). For example, insecurely attached young children afraid of a stranger may be less likely to direct attachment behaviors at caregivers, thus leaving them in a prolonged state of anxiety. In addition, insecure infants may not be comforted as effectively as secure infants are by their caregivers because the caregivers are unreliable (Weinfield et al., 2008). Insecurely attached toddlers display less joy and more fear and anger than securely attached children (Kochanska, 2001). As a result of this, these infants spend more time unsettled and are likely to devote extra cognitive resources to alleviating their distress rather than learning (e.g., language development) or exploring.

The extra time and cognitive resources expended from prolonged negative emotions are likely to intrude on opportunities to explore and master the environment. For example, imagine an infant is playing near his mother, when the mother suddenly leaves the room to take a phone call. The infant cannot maintain the desired proximity to his mother and expresses anger by crying. The crying forces the mother to move even further away so that she can hear the person on the phone, leaving the baby in distress for an extended period of time. Frequent instances like these in which the infant does not quickly resolve distress will probably result in the experience of more frequent negative emotions and less frequent positive emotions, which in turn could result in suboptimal outcomes.

## **Long-Term Consequences of Attachment Differences**

Attachment is integrally related to a broad range of factors that often inform emotions, cognitions, behaviors, and relationships across the lifespan (Bowlby, 1988; Feeney, 2008; Mikulincer & Shaver, 2008; Weinfield et al., 2008). Attachments, and primary attachments (usually formed with the mother) in particular, lay a foundation for all future relationships such that infant attachments predict a number of factors associated with adult relationships (Bowlby, 1988; Mikulincer & Shaver, 2008). These attachment patterns can also span from one generation to the next, as people are more likely to develop attachment styles with their romantic partners and their future children similar to those they experienced with their caregivers (e.g., Bowlby, 1988; Feeney, 2008; Mikulincer & Shaver, 2008). Importantly, neither a secure or an insecure attachment by itself is an indicator of psychopathology, but insecure attachments are more predictive of later psychopathology (Weinfield et al., 2008).

## **Promoting Secure Attachment**

A number of interventions designed to enhance attachment security have been developed and tested with infants and their caregivers (e.g., Hoffman, Marvin, Cooper, & Powell, 2006; Van Zeijl et al., 2006). These interventions generally target parents' or caregivers' behaviors, rather than directly targeting the infant. Attempting to directly modify infants' attachment without working with the caregivers would probably be ineffective and potentially risky for the infants if they started to act and react in ways that are unsatisfactory to their caregivers.

In a meta-analytic review by Bakermans-Kranenburg and colleagues (2003), attachment interventions designed to enhance sensitive maternal behaviors were most effective for improving attachment security. Interestingly, starting these interventions six months after the infants' births and limiting session (e.g., fewer than five) was the most

successful. Furthermore, some interventions worked with high-risk samples (e.g., poverty, maternal depression). Interventions involving fathers and mothers were more successful than those involving just the mother. The authors also noted that attachment insecurity was harder to change than maternal insensitivity (see Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003, for a full review).

Other attachment-focused interventions are useful for certain populations. One attachment-based intervention, The Circle of Security intervention, uses parent education and psychotherapy for parents of young children in high-risk communities. In tests of it, they found the intervention did enhance attachment security (Hoffman et al., 2006; Marvin, Cooper, Hoffman, & Powell, 2002). Others have documented how attachment-focused interventions are more effective for caregivers with specific types of attachment insecurity (e.g., Burkhart et al., 2015). In addition, others have detailed the importance of considering temperaments and other individual differences as possible moderators of attachment relationships (e.g., Kochanska, 1995; Vaughn, Bost, & IJzendoorn, 2008).

## Broader Ecological Factors

Early childhood contextual factors such as family income and preschool education are likely to impact childhood development differently than they do later in life (e.g., Sameroff, 1998). As infants have little control over the environments they are born into, the effects these environmental circumstances have on them can vary. In more difficult circumstances such as poverty, the consequences can be severe. Despite these risks, however, developmental plasticity allows some infants and toddlers to emerge psychologically and physically healthy, even in situations high in environmental risk factors. Even so, much of the research examining this early childhood resiliency (i.e., the ability to emerge from challenging or threatening situations in good health) is limited by a focus on average functioning, rather than optimal functioning (Gleason & Narvaez, 2014).

### Socioeconomic Status

In this section, I will briefly examine some of the environmental factors that are related to optimal and suboptimal development.

#### Family Income

Although socioeconomic status (SES) is associated with lifespan flourishing, the research on family income is complex. In adults, poverty is a significant risk factor for suboptimal well-being, whereas the benefits of extreme wealth for well-being outcomes (e.g., happiness) are limited (cf. Diener et al., 1985). Numerous studies have detailed the consequences of extreme poverty on children's development (e.g., Noble, Houston, et al., 2015; Noble, Engelhardt, et al., 2015; Sameroff, 1998). One recent study examining young children (which controlled for genetic and cultural differences) found that poverty was associated with suboptimal development in regions of the brain associated with language, reading, and spatial skills. Small changes in income were highly beneficial for those in extreme poverty, but this effect leveled out as wealth increased, suggesting that high levels of wealth were no different from moderate levels (Nobel, Houston, et al., 2015). Notably, poverty is often conflated with other factors such as parent education level, family stress, low environmental stimulation, and poor nutrition. In situations in which poverty is not conflated with such factors, it may be less of a risk factor (e.g., Sameroff, 1998). In another study where researchers coded parents' descriptions of their children, they found a curvilinear relationship between happiness and SES. Thus, the upper-middle-class and middle-class children were happier

than the wealthy children; all groups were happier than poor children (Park & Peterson, 2006). During middle childhood and adolescence, wealth has been linked to increased risk for substance abuse and mental health concerns such as depression in certain populations (for a review, see Luthar, Barkin, & Crossman, 2013). This increased risk is likely to result from family differences associated with wealth in things such as parental expectations and priorities that result in environmental differences that start early in childhood. In summary, poverty can be a risk factor for maladaptation when conflated with factors such as unsupportive parents and frequent threats (causing frequent negative emotions), but wealth can also be a risk factor for some forms of suboptimal development.

## **Parent Education**

Parent education is associated with flourishing. Higher parent education levels can be beneficial for their children's brain functioning. In the same study mentioned in the preceding SES section, parent education was linearly associated with optimal brain development. That is, parents' education was associated with higher levels of toddler brain surface area (Nobel, Houston, et al., 2015). Notably, parent education is often conflated with other factors that might better explain the benefits of their education such as access to health care and time spent talking with their children. Thus, a strong educational system might be fundamental to certain areas associated with optimal development.

## **Early Childhood Education**

Access to early education programs is well researched, but the findings are mixed and highlight the need to focus on short- and long-term outcomes. The overall value and success of early education programs (e.g., preschool, nursery school) may depend on the structure of the curriculum. Some decades-long cross-cultural studies suggest that early childhood curriculum designed to promote socio-emotional learning through play (i.e., traditional instruction) is more effective than those that focus on academic instruction and activities like writing and math (i.e., academic instruction). One large-scale longitudinal study found traditional instruction predicted better socio-emotional and academic functioning as children got older (Darling-Hammond & Snyder, 1992). Notably, children in academic instruction classes experience short-term academic skills gains. However, these gains often fade or even reverse within five years such that they are surpassed by those traditional instruction groups, even for children from poverty (e.g., Darling-Hammond & Snyder, 1992; Marcon, 2002; Schweinhart, & Weikart, 1997). Furthermore, at age 15, children who attended traditional instruction classes had half as many behavioral concerns as those in the academic instruction group. By age 23, fewer than 14% of traditional instruction children had had felony arrests, compared to 39% of the academic instruction group. These differences might be related to more advanced socio-emotional understanding that allowed them to learn more effectively as they got older and to interact with others (e.g., ask for help) in healthy ways (Schweinhart, & Weikart, 1997). Although more research using controlled designs is needed, the long-term results reviewed here offer initial evidence about the benefits of focusing on socio-emotional learning and play early in childhood (e.g., Gleason & Narvaez, 2014; Denham & Brown, 2010) and then focusing more on academic skills as children get a bit older.

## **Community and Family Structure**

An ideal situation for early childhood optimal development involves a supportive and safe community structure. Situations like these might mitigate some risks associated with poverty or low parent education. Infants and toddlers benefit from having multiple supportive adult and peer relationships, similar to older children (Gleason &

Narvaez, 2014; Scales, Benson, & Mannes 2006), but that is not to imply any specific family structure is vital. Children can form meaningful relationships with biological parents, other relatives such as grandparents, and other members of the community (e.g., family friends, nannies, teachers; Scales et al., 2006; Goossens & Van IJzendoorn, 1990). Thus, a key element to early childhood optimal development is having a broad range of supportive and interactive adults.

## Early Childhood Optimal Developmental and Positive Psychology

Early in childhood, infants and toddlers experience a rapid development of important socio-emotional and cognitive skills that will be cornerstones for later psychological well-being. Researchers are starting to connect early life constructs to later adult constructs (e.g., Coffey, 2015; Narvaez, 2014), but this remains limited when considering constructs associated with flourishing. In this section, I highlight some research that helps to illuminate early life factors related to the foundational elements of positive psychology (found throughout this handbook).

### Happiness

Subjective well-being (SWB) or happiness in adults is usually conceptualized as including positive emotions, negative emotions, and life satisfaction (e.g., Lyubomirsky et al., 2005; see Oishi, this volume). Notably, life satisfaction assessments are not possible early in childhood (Coffey, , 2015). Therefore, early childhood happiness, life satisfaction, or subjective well-being assessments are limited to frequency of positive emotions and infrequency of negative emotions.

In order to test the relationship between adult life satisfaction and early childhood emotions, my colleagues and I used the Fullerton Longitudinal Study (FLS; Gottfried, Gottfried, & Guerin, 2006). In our 29-year study examining happiness and life satisfaction (Coffey, 2015), parents reported on the frequency of their children's positive and negative emotions at 1.5 years of age, and then when those children were 29 years old, they self-reported life satisfaction. We expected and found that infant positive affect predicted (nearly 10%) adult life satisfaction, but negative affect did not. We considered this indirect evidence of the way that positive emotions might build a foundation for later well-being. Notably, infant positive affect, but not negative affect, also predicted adult workplace hope and optimism. Even though negative affect can be adaptive, ideally, the negative emotions should be resolved quickly as a way of minimizing the long-term consequences (Coffey, 2015). Conversely, these findings might be representative of early childhood individual differences in mood or temperament that set a foundation for later well-being, but if that were the case, it would seem that negative affect would also play a significant role. Other research highlighted here has explored some differences in early childhood positive and negative mood and emotions (e.g., Denham, 1986; Strayer, 1980), but much more evidence is needed about what components of emotions (e.g., intensity, frequency, variability), especially positive emotions, are related to long-term SWB and other forms well-being as infants and toddlers get older (e.g., Coffey, 2015).

### The Benefits of Play

Early childhood experiences that occur during play have a number of potential benefits for long-term well-being. I have already examined how play is associated with children's emotions and their early educational experiences. Infants, toddlers, and preschoolers often play in a range of ways (e.g., fantasy play, play with toys, rough-and-tumble play) that are done either by children themselves, with peers, or with adults (e.g., Cohen & Tomlinson-Keasey, 1980; Gleason & Narvaez, 2014; Gray, 2014; Howes & Stewart, 1987). Generally, play is a self-chosen, intrinsic activity conducted in an engaged way that can involve mental rules and imagination (Gray, 2014). From an evolutionary perspective, play for humans (and animals) is useful for learning, mastery of the environment, and learning socio-emotional skills for interacting with others (Fry, 1990; Fry, 2014; Gray, 2014; Howes & Stewart, 1987). In other words, play might help children satisfy the three basic psychological needs proposed by self-determination theory: connectedness, competence, and autonomy (Ryan & Deci, 2002). Thus, play has the potential to promote a wide range of skills central to optimal development across the lifespan.

## Friendship

For toddlers and preschoolers, play with peers can foster emotional understanding, emotion regulation, and social skills central to healthy relationships. For example, preschoolers playing together learn and respond to different emotions in different ways (Strayer, 1980). In non-aggressive forms of play (e.g., playing with blocks), children can learn about sharing and fairness (Gray, 2014). Furthermore, as children get older and engage in more rough-and-tumble play, they learn other skills. Although this play may seem aggressive, the goal is not to hurt one's playmate. The real goal of these activities can be to sustain them for as long as possible and keep the other peers engaged, which requires self-monitoring and emotion regulation (Gray, 2014). For example, children learn to restrain their aggression and to know when to back off in order to avoid harming their playmates if they get too excited. In addition, children typically engage in this type of play when they are in a friendly mood. Taken together, these conditions may explain the infrequency of serious injuries (Gray, 2014). Thus, play can educate young children on ways to modulate their emotions and how to deescalate confrontational situations in non-aggressive ways (for reviews, see Fry, 2014; or Gray 2014). Conversely, children who learn about aggression through observation or imitation of adults and things they see in the media, where opportunities for regulation and socio-emotional learning seem more limited, may not learn the same skills and may suffer other maladaptive consequences (e.g., Bandura, 1991; Osofsky, 2003; Villani, 2001). In summary, play with peers seems to have many benefits for early childhood experiences and the socio-emotional learning central to making friends.

## Flow

Play is probably central to the development of later elements of adult well-being such as "flow," academic success, and other forms of achievement. Flow is an intrinsically rewarding experience of complete absorption in an activity that requires a balancing of skill and challenge that occurs in a wide range of activities (Coffey & Csikszentmihalyi, 2016; Csikszentmihalyi, 1988; see Nakamura and Csikszentmihalyi, this volume). I speculate that infants and toddlers driven by interest in a relatively challenging environment (for their developmental stage) encountered during play might have the opportunity to have their first flow experiences. Although this idea would be difficult to measure using extant flow scales, the definition herein for play hints at ideas related to flow. For example, play can meet many of the criteria for flow (Csikszentmihalyi, 1988) as it is intrinsically motivating and something that children wish to keep from ending (Gray, 2014), such that they might be required to balance skill and challenge.

## Achievement

Like adults, infants and toddlers are innately driven to achieve new (developmentally appropriate) things (Coffey, et al., 2016; Ryan & Deci, 2002), such that play and exploration are central to advancing infants' and toddlers' social and physical skills (e.g., coordination). The social skills learned in early play will set a foundation for later basic tasks (e.g., asking for help) such as problem solving and relationship building. . As discussed earlier in this chapter, preschoolers in traditional (play-based) classrooms are more successful academically and better adjusted as adults than those in more academically focused preschools (e.g., Darling-Hammond & Snyder, 1992; Marcon, 2002; Schweinhart, & Weikart, 1997).

## Meaning

Finally, play and exploration might also set children on a path towards things they will eventually consider meaningful. "Meaning" is another construct that is cognitively not possible for children early in life to conceptualize in the same way as adults because they lack the experience necessary for such evaluations, but infants do attempt to make sense of their world. As outlined before, DET and attachment theory highlight infants' early attempts to find patterns in of their relationships and to establish understanding of other routines in their daily lives. Erikson (1993) also argued that infants and children use play and interaction to work through different developmental stages of understanding their world. From the self-determination theory perspective, play might offer ways for children to boost feelings of autonomy (e.g., control of their environment) and competence (Ryan & Deci, 2002); these experiences may serve as precursors to developing a sense of meaning for those activities. Others have argued and found evidence that both genetics and environmental factors are responsible for developing a sense of meaning in life (Steger, Hicks, Krueger, & Bouchard, 2011; see Steger, this volume). Thus, involvement in play experiences and other activities that their caregivers find meaningful (e.g., going to church), may set a foundation for later meaning. For example, preschoolers might start playing a sport that results in continued participation later in life. Slightly older children do benefit from involvement in other out-of-school activities, such as playing sports and attending church (e.g., Scales, 1999), that are often the source of meaning in life for adolescents and adults (e.g., Devogler & Ebersole, 1980). However, as noted previously, pushing some things like academics might be maladaptive, so this is one area that will require caution in order to promote potentially meaningful things at developmentally appropriate periods.

## Moral and Character Development

A central element of positive psychology and related developmental theories (e.g., Positive Youth Development; see Callina and colleagues, this volume; Narvaez 2014; Narvaez, 2015) involves moral and character development (Character Strengths; see Park, this volume).

## Moral Development

Evolutionary scientists argue that moral behaviors such as cooperation (often involving inherent cost to individuals) help groups with their goals (e.g., survival through mutual support; Aknin, Hamlin, & Dunn, 2012; Narvaez, 2014). Some innovative experimental research has shown that the overwhelming majority of infants (less than a year old) display a preference for helpful or prosocial puppets over anti-social puppets. This finding suggests that the roots of moral development are demonstrated very early and are possibly innate (Hamlin, Wynn, Bloom, & Mahajan, 2011). Another study found that toddlers exhibit greater happiness when giving treats away to others than when they received treats (Aknin et al., 2012). Thus, the innate nature of moral development suggests that it can be cultivated in early childhood.

## Character Strengths

In the development of the character strengths model (see Park, this volume), Peterson & Seligman (2004) argued that a defining feature of each character strength is that they can be found in child prodigies across cultures. In a study by Park and Peterson (2006) that coded parents' written descriptions about their children (ages three to nine), parents mentioned an average of over three character strengths for their children. Furthermore, all 24 character strengths were noted. Love, kindness, creativity, humor, love of learning, and perseverance were the most commonly mentioned. As is the case with adults (e.g., Park, Peterson, & Seligman, 2004), love, hope, and zest were all associated with greater levels of coded happiness. One developmental difference for the preschool-aged children emerged: gratitude was not associated with happiness for the children under seven years old (Park & Peterson, 2006). This might be because gratitude is a more complex emotion that is still developing at that age. Regardless, researchers argue that promoting one's strengths is a great way to help individuals flourish (e.g., Peterson & Seligman, 2004). That said, more research is needed to clearly identify the best ways to cultivate character strengths. Collectively, this evidence suggests that moral and character development is present in rudimentary forms early in childhood, such that it might be targeted for promotion and interventions.

## Conclusions

In this chapter, I have examined a wide range of research from developmental science and positive psychology as support for an early childhood optimal development perspective that can set a foundation for lifelong flourishing. Some areas of this chapter have received much more attention (e.g., emotions, relationships) because they are well researched and direct proxies to adult well-being that are easily targeted for interventions. Other well-researched areas (e.g., temperament) highlight the need to account for individual differences in development. Finally, I speculated about some other links between early childhood development and adult well-being that are under-researched. Accordingly, many questions remain, and much more empirical support is needed to fully gain an understanding of early childhood optimal development. Despite the limited research in this area, the evidence is clear that early childhood development sets a foundation that can lead to optimal or suboptimal development later in life. Thus, researchers need a broader focus that includes early childhood optimal development as a way to help parents, caregivers, and communities to ensure that a foundation that promotes flourishing is started in infancy.

## The Future of Early Childhood Optimal Development Research

1. What is the impact of broadening developmental focus to include optimal development and lifespan flourishing starting in infancy? Although I have started to map out different ways that early childhood optimal development is associated with later flourishing, experimental and longitudinal evidence is needed to fully understand how well-being theories focused on adults (e.g., Seligman, 2011) and positive psychology constructs are associated with early childhood experiences. As with other childhood programs and interventions, these endeavors need to be cautious to avoid assuming that short-term consequences will continue to have the same effect across the lifespan. Furthermore, early childhood research will continue to benefit from the rapidly expanding measurement techniques that extend beyond other reports (e.g., parent-reports) to include innovative physiological (e.g., neuroimaging) and observational technologies (e.g., eye and facial tracking headsets).

2. What are the best strategies for promoting optimal early childhood development? Building on question 1, once areas have been identified and associated with later flourishing, programs or interventions will need to be developed. Caregivers will be central to any early childhood intervention, such that oftentimes the parent might be the direct target of the interventions (resulting in indirect benefits for their children). In addition, individual differences and developmental plasticity (Lerner, 1996; Pluess, 2015) will require that person–activity fit be accounted for in these interventions, just as it is in adults (Layous & Lyubomirsky, 2014). A final consideration for this question is how technology can aid and hinder these interventions and early childhood development. Concerns about early childhood screen time (e.g., using computers, watching television) are being expressed by parents and researchers. In comparison to play, screen time is probably suboptimal for learning things such as socio-emotional skills because it does not involve as much active involvement or interaction with other humans. Thus, caution is again warranted with using technological innovation as a way to supplement or replace existing strategies of promoting optimal development.

3. How can sound research on early childhood optimal development be used to transform policies (e.g., governmental, educational, medical) to ensure that caregivers and their children are being optimally supported by their communities well before these children are born? For example, many countries have shifted to giving parents (mothers and sometimes fathers or other caregivers) considerable amounts of time off and health care and financial resources to help promote early childhood optimal development. Furthermore, programs that increase chances of flourishing such as better health and more prosocial behavior can save governments money by reducing health problems and incarcerations (e.g., Howell et al., 2016). Thus, continued research into understanding the first two questions will help to make sure policy is empirically informed in ways that can benefit governments and their citizens.

## Future Questions

1. What is the impact of broadening the developmental focus to include optimal development and lifespan flourishing starting in infancy?
2. What are the best strategies for promoting optimal early childhood development?
3. How can sound research on early childhood optimal development be used to transform policies (e.g., governmental, educational, medical) to ensure that caregivers and their children are being optimally supported by their communities well before these children are born?

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