### Child Development: Context, Culture, and Cascades Check Your Understanding 7.1

1. *List the basic emotions.*

1. Darwin proposed six basic emotions that can already be observed in infants—anger, fear, surprise, disgust, happiness, and sadness.

2. *What evidence supports the proposition that humans are hardwired for basic emotions?*

2. Evidence is as follows:

* Ekman asked adults from the United States, Japan, Brazil, Argentina, Chile, and a preliterate community in New Guinea to identify emotions of characters in a story by pointing to one of several photos of facial expressions. Adults across the different cultural communities generally interpreted the facial expressions in the same way.
* Also, studies show that the facial expressions of infants from Chinese, Japanese, and European American families reveal the early and universal existence of basic emotions. For instance, the cries and smiles of infants across the world appear to look the same, similar to the emotions expressed by adults.

**Check Your Understanding 7.2**

1. *What are some regulatory and social functions of emotions? Give an example of each function.*

1. *Regulatory functions of emotions*: preparing individuals to respond to threats in the environment and to survival, resulting in fear or in the fight-or-flight response. Example: If an individual is walking on a sidewalk when a car quickly and unexpectedly swerves toward the walking individual, fear enables the individual to escape, creating heavy breathing and blood redistribution to allow for quick awareness and rapid movement away from the threat.

*Social functions of emotions*: communicating meaningful social information with the face, voice, and body, to understand how a person feels and how other persons should respond. Example: A toddler sees a dog in the park. The toddler looks to an older sibling to see how that person reacts to the dog. The toddler sees the older sibling smiling and reaching out to pet the dog. The toddler may react to the dog in a similar way after observing the older sibling’s body language and behavior.

**Check Your Understanding 7.3**

1. *Approximately when do different types of smiles typically occur in developmental time?*

1. Newborn infants: brief smiles that do not carry the same meaning of happiness in the smiles at older ages and that even occur during both daytime and sleep. Between the third and eighth week : infants increasingly smile in response to external stimuli in their environment but do not smile yet to engage others in social interactions. Between the sixth week and three months old: “Social smiles” develop—these smiles with cheek raising are directed towards individuals (namely primary caregivers). At about four months of age: infants display smiles in response to those of their caregivers and other familiar individuals in their lives—these persons then respond back to them with smiles. By the end of the first year: infants show different smiles across different settings and people (e.g., broad smiles with belly laughs while playing with their caregivers).

**Check Your Understanding 7.4**

1. *How might researchers determine which negative emotion(s) underlie an infant’s cry?*

1. As infants cannot tell researchers which emotions they are feeling, researchers try to set up experiments to better understand negative emotions infants may express in specific situations. For example, to examine anger, researchers have engaged infants in “arm restraint” lab tasks as the mothers gently hold down the infants’ arms for two minutes as researchers observe infants’ display of anger. As another example, to examine fear, researchers have used images of both threatening (a snake) and nonthreatening (a frog) stimuli to compare infants’ responses to each. Additionally, researchers may show infants a picture of something “fearful” (such as a toy spider) and observe infant responses (both behavioral and physiological).

2. *When do babies begin to show self-conscious emotions? Give an example.*

2. Toddlers start to show self-conscious emotions, such as pride, embarrassment, shame, and guilt (which relate to a sense of self and a sense of other), during their second and third years. One specific example is when a toddler scribbles on every page of an older sibling’s book. The toddler may hide the book, avoid the sibling (showing shame), and then even try to take the scribbling off (showing guilt).

**Check Your Understanding 7.5**

1. *What evidence suggests that newborns and very young infants can distinguish among different types of emotional expressions and gradations of emotional expressions?*

1. Newborns display rudimentary capacities to discriminate among emotions: They open their eyes more often when presented with happy speech than when presented with sad, angry, and neutral speech.

To test very young infants’ abilities to distinguish among gradations of emotion expressions, researchers presented three-month-old infants with a series of pictures demonstrating gradations of smiles (subtle smile to a full-blown smile). Infants looked longer at a picture of a smile of a different intensity after being habituated to a slightly larger or smaller smile, showing they discriminated among the strengths of smiles, even if from the same woman.

**Check Your Understanding 7.6**

1. *What is social referencing and why is it considered adaptive?*

1. Social referencing is the seeking and use of social information in uncertain situations. It is adaptive because as infants learn to use social information and emotional cues in their environment, they become more skilled at understanding the world around them. Through social referencing, infants begin to understand connections among emotional expressions, causes, and behavioral responses.

2. *What methods have developmental researchers use to examine infant social referencing?*

2. The visual cliff experiment observes infants’ decisions in crossing the cliff as they look to their mothers for social–emotional cues. For example, when mothers express joy from the other side of the cliff, infants tend to cross the visual cliff. As another example, in an examination of the behaviors of 10-month-old infants and 12-month-old infants after they watch researchers’ different reactions to new objects, 12-month-olds avoided objects to which the researchers displayed a negative reaction (whereas 10-month-olds did not avoid these objects). These methods tap into infants’ developing social-referencing capacities in interactions with others.

**Check Your Understanding 7.7**

1. *What are some strategies that older infants and toddlers might use to regulate their emotions?*

1. Looking away from an event that is unpleasant; asking for help from parents/caregivers by using gestures and vocalizations; singing as a distraction; and playing finger games to divert attention from something that causes anxiety or fear.

**Check Your Understanding 7.8**

1. *What is effortful control?*

1. A child’s capacity to regulate attention and behaviors voluntarily in response to situations that are emotionally challenging.

2. *What is the connection between emotion regulation and inhibitory control?*

2. The attentional and behavioral components of effortful control require inhibitory control, which refers to the infants’ ability to suppress a dominant, unfavorable response for a more adaptive response. As children grow in inhibitory control, they likewise can control their emotions, such as by inhibiting the dominant or desired response of throwing a toy in frustration.

**Check Your Understanding 7.9**

1. *Describe “easy babies,” “difficult babies,” and “slow-to-warm-up babies” as identified by Thomas and Chess.*

1. *Easy babies*: Infants with regular eating and sleeping patterns, who adapt to the environment easily, who show positive emotions, and who approach new stimuli in their environment

*Difficult babies*: Infants with irregular eating and sleeping patterns, who take a rather long time to adapt to the environment, who cry frequently, and who tend to withdraw from novel situations

*Slow-to-warm-up babies*: Infants with low activity and intensity, who are slow to adapt to new situations, and who tend to withdraw from novel situations

**Check Your Understanding 7.10**

1. *What are the six dimensions of temperament identified by Mary Rothbart and Jack Bates?*

1. Activity (gross motor activity level); positive affect (expressions of happiness); fear (intensity of reaction to stimuli); distress to limitations (distress related to goals); soothability (reduction of crying, fussiness, and distress when being soothed); and attention (vocalizations and looking at an object for some time).

2. *How do these six dimensions relate to the temperament components of surgency, negative reactivity, and orienting regulation?*

2. Mary Rothbart and colleagues studied the six dimensions of temperament listed above and determined three essential components of temperament—surgency (measure of an infant’s activity level and intensity of pleasure), negative reactivity (index of fear, frustration, sadness, and low soothability), and orienting regulation (ability to regulate attention towards goals). Characteristics of temperament are classified into one of the three components.

**Check Your Understanding 7.11**

1.*What evidence suggests that temperament is stable?*

1. Studies that follow children longitudinally to track their temperament characteristics reveal stability. For example, Thomas and Chess determined that “slow-to-warm-up babies” were very fearful and cautious in novel situations during preschool and in the school years. Also, Mary Rothbart observed similarities between infant and toddler temperaments and later adult personality traits as characterized in the “Big five of personality”: openness, conscientiousness, extraversion, neuroticism, and agreeableness.

2. *Provide an example of how biological factors may interact with experience to influence temperament over time.*

2. Evocative effects are a form of gene–environment association. A child’s inherited characteristics elicit strong responses from other individuals that actually strengthens the child’s inherited characteristics. For instance, if an infant continuously becomes very distressed from loud noises or meeting new people, caregivers may have a hard time reacting calmly every time the scenario occurs. Thus, biological factors may dispose infants toward negativity reactivity, which then heightens over time through environmental inputs.

**Check Your Understanding 7.12**

1. *What is goodness of fit?*

1. The extent to which a person’s temperament matches the requirements, expectations, and opportunities of the environment.

2. *How do social experiences contribute to changes in temperament, in line with the notion of “goodness of fit”?*

2. Social experiences in daily life include parents’ behaviors, which may or may not show a goodness of fit with their infant’s temperament. A goodness of fit example would be if an infant with high negativity to novel situations is given time by the parents to adapt to a new situation and become more comfortable with the surroundings, the infant may be calmer and more positive in engaging with others. The infant learns from the parents that things will be okay.

**Check Your Understanding 7.13**

1. *List three aspects of parenting related to individual differences in emotional development among infants.*

1. Parental emotional expressivity (how caregivers express their emotions in different situations), parental depression and anxiety (anxious parents display heightened reactions and depressed parents may be flat or unresponsive to their infants), and parental sensitivity and synchrony (the importance of interaction synchrony, displaying mirroring behaviors).

2. *Why do you think that cell phone use by parents harms infants’ emotional functioning?*

2. If parents frequently attend to their phones, they may be missing their infants’ cues for engagement and interaction and therefore may be presenting challenges to infants’ emotional development. When on a phone, parents may show less sensitivity and synchrony to infant emotional displays (which relates to infant emotional development).

**Check Your Understanding 7.14**

1. *How do cultural values and expectations affect emotional development? Give an example.*

1. Cultures offer infants lessons about emotional expressions, level of intensity of emotions, and acceptable/unacceptable emotions. Infants growing up in cultures that are a fit with their own temperament characteristics tend to be better adjusted than infants without this fit or match. An example of cultural values and expectations affecting emotional development is found in observations of infants who may or may not be perceived as “difficult.” In Kenya, infants were perceived as difficult if they were distressed at going with other caregivers (since shared caregiving was considered a typical practice), whereas in communities where only one caregiver was typical, it was expected that infants would become distressed when being given to other caregivers.

**Check Your Understanding 7.15**

1. *What is Bowlby’s ethological theory of attachment?*

1. According to John Bowlby, “attachment is an evolved response that aids the baby’s survival” (from text). Bowlby’s research was aligned to the bird and mammal work of Konrad Lorenz, who posited the notion of imprinting. Bowlby believed that infants were born with an array of behaviors that became focused on the primary caregiver (mother). Attachments are then formed with other important people in the child’s life.

2. *How did Harlow’s monkey study support Bowlby’s theory?*

2. Harry Harlow’s study of infant rhesus monkeys showed that attachment to a primary caregiver was created through “proximity to and close bodily contact with an ‘attachment figure,’ rather than the provision of food or oral gratification alone” (from text). Harlow’s study emphasized the biological value of attachment, as seen when he placed infant monkeys away from their mothers and in a cage with a “surrogate”—a wire monkey that gave milk or a cloth monkey that gave warmth. The monkeys spent more time clinging to the cloth “mother” than the wire “mother,” highlighting the importance of proximity, closeness, and warmth as integral to attachment.

**Check Your Understanding 7.16**

1.*What four attachment styles/categories do researchers identify from the Strange Situation?*

1. From the glossary:

*secure attachment*: An attachment status initially identified by Mary Ainsworth in which infants display a strong connection or bond with their caregiver(s) and use their caregivers as a safe base from which to explore their environment; securely attached infants become upset when their caregivers leave the room, are happy when their caregivers return, and seek comfort from their caregivers

*insecure resistant*: An attachment status (also called ambivalent), initially identified by Mary Ainsworth that is characterized by infants who become very upset and anxious when the caregiver leaves the room and are not easily comforted on caregiver return

*insecure avoidant*: An attachment status initially identified by Mary Ainsworth that is characterized by infants who do not become distressed by the caregiver’s departure, freely explore the room, are easily comforted by the stranger, and show indifference during reunion with the caregiver

*disorganized*: An infant attachment style characterized by an infant’s contradictory emotions and behavior and disorganized movements, freezing, and apprehension toward caregiver

**Check Your Understanding 7.17**

1. *How does the quality of parent-infant interaction shape infants’ attachment development?*

1. In particular, sensitive parenting affects infants’ attachment development. Sensitive parenting is related to an infant’s strong, secure attachment. Research by Ainsworth demonstrates that prompt, consistent responses to an infant’s cries and needs nurture a secure attachment.

2. *What can caregivers do to foster secure attachment in their infants?*

2. Caregivers can respond sensitively to their infants’ cues, vocalizations, and behaviors, promptly pick up their crying infants, hold infants for the time they need to be soothed, and remain calm behaviorally and physiologically when infants become upset and distressed.

**Check Your Understanding 7.18**

1. *How might infants’ cultural and social experiences affect their behaviors in the Strange Situation?*

1. Ainsworth’s and Robin Harwood’s cross-cultural attachment work demonstrated how infants’ attachment to their primary caregivers (mothers) were reflections of their culture’s own ideas and practices around childrearing and child development, including parental perceptions and expectations of their children. As one example of differing cultural practices and observations of infant attachment, Ainsworth found that U.S. infants protested less when separated from their mothers in the Strange Situation when compared to infants from Uganda, highlighting the cultural differences between the two communities, with U.S. infants tending to have more out-of-home experiences and Ugandan infants tending to remain in or close to home.

2. *What conclusions can be drawn about infants’ attachments to multiple caregivers beyond the mother? Provide evidence to support your conclusion.*

2. Studies have shown that infants who are growing up in communities with multiple caregivers (not just a primary one) form attachment relationships with multiple nonparent caregivers and tend to display less stranger anxiety. A meta-analysis offers support for this finding/conclusion. In a study of about 3,000 children between birth to three years old, children were likely to form secure attachments to nonparental care providers with high sensitivity, while simultaneously having a secure attachment with their parents. Hence, the study illustrated that positive attachment relationships may be formed between the infant and multiple caregivers who are warm, sensitive, and contingent.

**Check Your Understanding 7.19**

1. *How do researchers assess infants’ prosocial behaviors, such as helping and sharing?*

1. Researchers put infants in situations where they elicit prosocial behaviors and then observe infants’ reactions to the distress displayed. For example, researchers have commonly pretended to be in distress. In one study, children between 14 and 18 months of age helped a researcher pick up toys that were out of reach (helping). In another study, toddlers shared their food with a researcher who did not have a snack (sharing).

**Check Your Understanding 7.20**

1. *Define (a) moral goodness; (b) moral understanding and evaluation; and (c) moral retribution.*

1. *moral goodness*: Feelings of concern for others and attempts to help those who are in need (e.g., infants’ empathetic response to others’ distress)

*moral understanding and evaluation*: Identifying and liking individuals who are helpful and empathetic and not liking individuals who are unhelpful

 *moral retribution*: The tendency to punish an individual who misbehaves or acts immorally toward others

2. *What developmental changes are seen in moral retribution across the first three years of life?*

2. Helper-hinderer studies examine infants’ understanding of moral retribution. Infants observed puppets who helped or hindered another puppet who was attempting to achieve a goal. They were then introduced to new characters who either took a dropped ball away from or gave the ball back to the prosocial helper or antisocial hinderer. Five-month old infants preferred the character who gave the ball to the prosocial helper but did not yet show understanding of retribution. However, eight-month-olds preferred the agent who took the ball away from the antisocial hinderer, suggesting they recognized and supported the idea of punishing antisocial agents (Hamlin et al., 2011). By around two years of age, children *consistently* show moral retribution, for example by taking treats away from a hinderer (i.e., to punish antisocial behavior).

3. *Define two types of aggression that toddlers display.*

3. From the glossary:

*physical aggression***:** Behavior causing physical harm to others, such as hitting, pushing, kicking, and biting

*relational aggression*: A type of nonphysical aggression in which harm is caused by hurting someone’s relationships or social status, such as by threatening to withdraw a friendship, withdrawing a friendship, ignoring a peer, or excluding a peer

**Check Your Understanding 7.21**

1.*Define and give examples for the (a) conceptual self; (b) subjective self; (c) ecological self; and (d) interpersonal self.*

1. From the glossary:

*conceptual self*: The characteristics a person uses to describe oneself, also referred to as the “me” or “objective self” (example: you are aware of yourself as a human being, “me”)

*subjective self*: The characteristics a person uses to describe oneself, also referred to as the “I” of the self; a person’s sense of acting in the environment as a unique entity (example: the “I” that is experienced in the moment)

*ecological self*: The perception of one’s body in relation to the physical environment (example: you feel yourself move your legs as you take a walk in the park; you feel your fingers move as you type)

*interpersonal self*:The perception of oneself in relation to other people, including experiences with eye-contact and back-and-forth exchanges with others (example: you expect your conversational partner to listen to you and respond to your talk and you know to engage in the same responsive behaviors as well)

**Check Your Understanding 7.22**

1. *Explain the single-touch and double-touch experiment. What does it reveal about infant understanding of self?*

1. The single- and double-touch experiment is an experiment to test infant self-awareness. A researcher asks whether very young infants (newborns, four-week-olds) can distinguish between an experimenter touching the infant’s cheek (single-touch; other-stimulation) and the infant’s own touch of the cheek (double-touch; self-stimulation). Infants in the experiment were more likely to turn their heads and to open their mouths in other-stimulation than in self-stimulation. This result suggests infants’ earliest understanding of self from other, stemming from these sensory experiences of touch.

2. *Explain contingency experiments and what they tell us about infant understanding of the interpersonal self.*

2. Through contingency experiences and experiments, infants recognize that environmental effects are caused by their own actions (understanding of ecological self). As one example, if infants realize kicking their legs causes a mobile to move, they will continue to do so. This understanding is extended to the interpersonal self, as shown in contingency experiments with parent–child interactions. Specifically, infants in a control group communicated with their mothers in real time with a closed-circuit television. Infants in an experimental group viewed prerecorded videos of their mothers. Infants in the experimental group became very distressed by the videos of their mothers, whereas infants in the control group were enjoying their “live” interactions with the mother, indicating understanding of infants’ interpersonal self in connection with others.

**Check Your Understanding 7.23**

1. *Give an example of how a toddler’s understanding of gender affects their behaviors.*

1. Toddlers generally form a basic gender identity, or knowing that one is a boy or a girl. Achieving gender identity may result in toddlers engaging in stereotyped behaviors, including playing with toys that are “for girls” (such as dolls) or toys that are “for boys” (such as trucks) in line with their birth sex.

**Check Your Understanding 7.24**

1.*What are some ways that parents socialize gendered behaviors in their infant boys and girls?*

1. Through the provision of specific toys for their boys and girls—“gender divide of toy play” (from text); typically, parents buy their girls such toys as dolls and tea sets and their boys such toys as cars and tools. Also, through their perceptions of girls’ and boys’ abilities, such as underestimating girls’ crawling ability and being more accurate with respect to their boys’ crawling ability (as one study of infant motor skill found).

**Check Your Understanding 7.25**

1. *Describe Margaret Mead’s observations of cultural differences in gender roles.*

1. Margaret Mead observed males and females in the communities of the Arapesh, Mundugumor, and Tchambuli. In the Arapesh society, males and females were both gentle and responsive. In the Mundugumor society, both males and females were aggressive and violent. In the Tchambuli society, females were dominant and males were less responsible. This study showed the social constructions of gender roles in different cultural communities.