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## SEPARATION ANXIETY

Separation anxiety—the emotional distress displayed by infants and young children due to separation from their attachment figure—is one of the most important and salient developmental events in childhood. Separation anxiety begins to emerge in infants around 8 months of age, peaks for most infants around 13 to 15 months of age, and then begins to wane thereafter. Interestingly, even blind infants show evidence of separation anxiety, indicating that they are capable of perceiving the sudden absence of their mother.

The origins of separation anxiety are thought to derive from the adaptive evolutionary value that such a response confers to the infant by keeping the caregiver in close proximity. Cross-cultural data support the evolutionary origins of separation anxiety, indicating that the onset and developmental progression of separation anxiety are similar in every culture tested to date, including China, Japan, Guatemala, and Israel.

Individual differences in the incidence and severity of separation anxiety exist among infants, with some infants demonstrating high levels of separation anxiety and others displaying little or no evidence of it. Researchers have found in a U.S. sample, for example, that only 42% of 11-month-olds and only 79% of 13-month-olds fretted and cried at the departure of their mothers. Thus, even at the peak of separation anxiety—13 to 15 months of age—one of approximately every five infants exhibits little sign of separation anxiety. Research indicates that differences between infants showing varying degrees of separation anxiety are attributable to infant temperament, the cultures in

which infants are raised, and the caregiving practices to which they are exposed.

Developmentalists have uncovered several contextual factors influencing the incidence of separation anxiety among infants. For example, infants tend to display less separation anxiety (a) when they are left in the presence of another familiar caregiver such as a parent, a babysitter, or a grandparent, (b) when they crawl or walk away from the caregiver rather than the caregiver departing them, (c) when they are left with a sibling or stranger compared to being left alone, (d) when they are left with toys, (e) when they are left behind with their pacifiers, and (f) when they can hear and see their caregivers in an adjacent room. These findings make it clear that the presence and intensity of separation anxiety depends on the relations between the infant, the caregiver, and the broader social context.

Given the fact that the children's responses to separation are not due solely to themselves as discussed above, what can caregivers do to reduce the frequency and intensity of separation anxiety? Although verbal gestures such as "bye-bye" are ineffective for 1-year-olds, these types of gestures do appease older children. In addition, caregivers can arrange the child's environment to maximize the likelihood that the child will not be distressed upon separation. For example, caregivers may place toys in the environment, leave the infant with a pacifier, or have a familiar substitute caregiver present during the departure. Finally, the caregiver of a child older than about 2 years should avoid physical contact with the child just before departure and explain what the child could do when the parent is absent (e.g., play with toys or watch a cartoon).

Although separation anxiety diminishes for most children and adolescents, approximately 4% to 5% of infants develop separation anxiety disorder (SAD). This disorder is distinguished by abnormal emotional reactivity to real or imagined separation from attachment figures that disrupts activities of daily living. Epidemiological studies indicate that the majority of children and adolescents with SAD are raised by families with low socioeconomic status and many children with SAD refuse to go to school. Pharmacological, behavioral, and psychotherapeutic treatments for SAD have been shown to be effective.

—Matthew J. Hertenstein and  
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See also Attachment

## Further Readings and References

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## SEX DIFFERENCES

Are boys and girls really different? Are little boys really, as Mother Goose says, made of snips and snails and puppy dog tails? And are little girls made of sugar and spice and everything nice? If the amount written about the topic is any indication, then this question is of prime interest. A search of the PsycInfo database found 44,621 journal citations in English with the key words *sex difference* from 1840 to April 2004.

Psychologists and others who study this topic divide differences into three types: sex, gender, and sex related. Sex refers to classifications based on genetic makeup, anatomy, and reproductive functions and are biological differences. As we shall see, there are very few “pure” sex differences. The second type, gender, refers to the expectations associated with being female or male in social and cultural settings. These are socially determined. The third type, sex-related differences, implies that the behavior corresponds to sex but it does not say anything about the cause or the etiology of the difference. The majority of the differences between boys and girls and between women and men fall within this definition.

### PHYSICAL AND HEALTH DIFFERENCES

#### Physical Characteristics

Some physical differences clearly are sex differences, whereas others are sex related. Males are heavier

and longer at birth and have a greater lung capacity and higher caloric intake. They are more vulnerable to physical handicaps. Females are developmentally older at birth, both in skeletal maturation and central nervous system maturation. They mature faster than males, and they live longer. The life expectancy for a white female born in 2001 is 80.2 years, whereas it is only 75 years for a white male. For a black female born in 2001, life expectancy is 75.5 years and 68.6 for a black male.

Large differences in motor skills do not appear until adolescence, when hormonal differences lead to large height and musculature changes in males. Physical performance of motor skills increases with age; however, there is no difference in the curve of boys and girls until about 5 years of age. Then the curve for girls is lower, but the increases are parallel until adolescence. At adolescence boys show a sharp increase, whereas girls level off or decline.

Puberty begins and ends for girls, on the average, 2 years before boys. There is a great deal of variation within each sex in both the age at which puberty begins and the length of time it takes for changes to be completed. Although primarily a biological function, menarche, or first menstruation, occurs earlier in girls who are well nourished, who live in warmer climates, or who have had sexual intercourse.

In terms of external changes, girls may experience their growth spurt at 9 years whereas boys typically begin their growth spurt after age 11. Most girls are at adult height by 14 to 16 years, but most boys do not stop growing until their late teens.

Men, on the average, are taller and stronger than women. Women, on the other hand, have a higher proportion of body fat than do men.

#### Brain Size

Even after correcting for body size, men's brains are larger than women's brains. The difference is about 200 cubic centimeters or two and a half golf balls. Most of the difference is in white matter, which is primarily nerve fibers and blood vessels. Women's brains contain a larger proportion of gray matter than do men's brains. Research using magnetic resonance imaging technology indicates that men's corpus callosums, the large band of white matter that connects the two hemispheres, is about 10% larger than women's. Again, the excess is primarily white matter. The difference in volume is spread across all the lobes of the