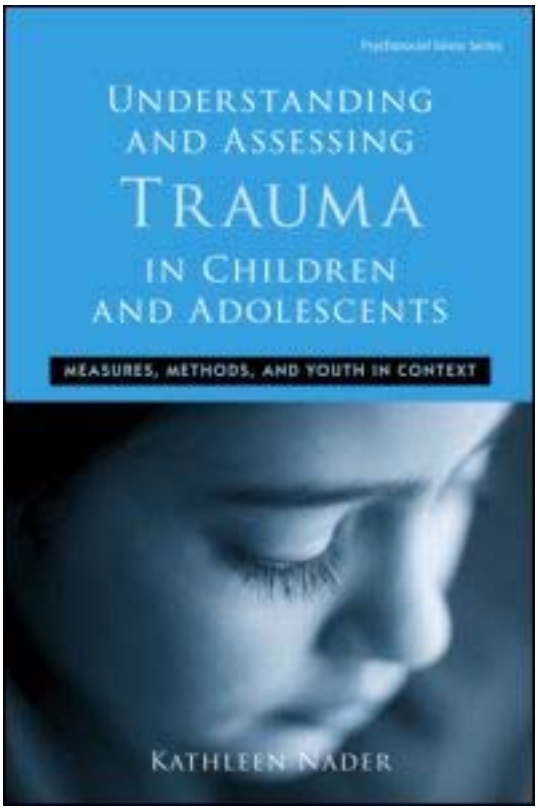

Chapter 6 *The Nature of the Child*

From

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6

The Nature of the Child

A youth's age, gender, personality, and temperament are likely to affect his or her reactions to trauma and to the associated assessment process. Findings regarding the association of traumatic symptoms with age and gender have been mixed (Fletcher, 2003; Udwin, Boyle, Yule, Bolton, & O'Ryan, 2000). The complexity of associations as well as aspects of assessment may contribute to these conflicting results (chapter 3). Determining the relationship between childhood trauma and the child's characteristics is somewhat problematic. Specific fears and types of reactions appear prominently at different ages or phases of development. Pretrauma ratings of personality or temperament are rarely available, whereas alterations in these child qualities have followed traumas (Nader, 2001b; Terr, 1991; Box 1.1e, 6.1). Even when traits and behaviors can be identified after an event, trauma may change aspects of them. For example, youths may become more concrete in focus, more sensitive to changes in the environment, or more difficult behaviorally. Thus, traits found in association with PTSD may be a result of trauma rather than a cause of symptoms. Factors such as culture or life experiences are among the significant predictors of personality characteristics (see McDermott, 1991; Oakland, 2001; chapter 7). Such variables, therefore, must be considered when assessing trauma's affects on personality and vice versa. Prospective studies are needed to distinguish the results of PTSD from pre-existing traits and qualities.

AGE, DEVELOPMENT, AND GENDER

Age and Development

Age and developmental level affect children's appraisals of threat, the meaning assigned to aspects of the event, emotional and cognitive coping,

BOX 6.1
Trauma May Shape or Alter Personality

a. *Mathew*. Before the massacre, Mathew was a happy, easygoing, and outgoing boy. He was friendly and made friends easily, enjoyed playing, was curious, and was very active. He had well-adjusted friends. Afterward, he was withdrawn, angry/hostile, aggressive, pessimistic, and unable to feel any positive emotions. In fact, he became adept at not feeling anything. He began to associate with other troubled and aggressive youths and to get into trouble.

b. *Joanie*. In the face of her mother's neglect and her father's sexual molestation, Joanie learned to fend for herself and to protect and care for her brother. She became very competent and grown up in some ways. She prepared cereal for her brother in the morning while her mother slept. She fixed her brother's afternoon snack. Taking control of things became her style (see Box 1.1e).

capacities to tolerate their reactions, and abilities to address secondary life changes (Nader, 2001b; Pynoos & Nader, 1993). Maturation also affects a youth's ability and willingness to report symptoms, to understand questions or directions, and to give information that may please or displease an adult. Age may not only influence perception and meaning attributed to aspects of the traumatic experience but may also affect the aspects of the event that assume prominence both initially and later. For example, the importance of a parent to survival (James, 1994) may influence the initial focus of a young child's experience.

Reporting Symptoms

Age and developmental level directly affect a child's ability to report symptoms and experiences. Very young children's preverbal or barely verbal capacities render them unable to report their subjective experiences (Scheeringa & Zeanah, 1995). Studies of young children have underscored the need for collecting information from multiple sources (Scheeringa, Peebles, Cook, & Zeanah, 2001; see chapter 4). Between 18 months and 2 years of age, children begin to use symbolic play and language to represent experience (Piaget, 1952, pp. 335-338) and to demonstrate their perceptual memories (Terr, 1985). Children under age 5 have been assessed using a combination of observation, questions during or directions regarding play, and supplemental information from caretaking adults (Nader, Stuber, & Pynoos, 1991; Scheeringa et al., 2001). Children as young as age 4 are able to report basic emotions—happy, sad, angry, mad, or scared (Gully, 2000).

When relying on self-reports or peer ratings to gather data, researchers must speak the language of their informants (McCrae & John, 1992). In addition to cultural adaptations (chapter 4, 7), instruments have been adapted for specific age groups through rewording of questions, breaking down questions into simpler units for younger children, and use of age-related answering systems. Children under the age of 8 may have

difficulty with the concept of time, even when time is narrowed to the preceding month. Research is needed to determine the efficacy of using a culturally appropriate identifying time period (e.g., Chanuka/Christmas/Kwanza/Ramadan, Halloween, a birthday) near the time of the event or the period in question (e.g., "since school started" = in the last month). Youths under 8 may also have difficulty with the complexities of a five-point scale.

Emotional sophistication or how "street-wise" the child is may also affect age cutoff levels. For example, the CPTS-RI (chapter 11) has been successfully used without adaptation in wording with children ages 5 and older in south-central Los Angeles (Pynoos et al., 1987; Nader et al., 1990), ages 7 and older in rural New York (Nader & Pynoos, 1993), and a translated version with children ages 11 and older in Kuwait (Nader, Pynoos, Fairbanks, Al-Ajeel, & Al-Asfour, 1993). It was used as a Yes-No questionnaire, with minor alterations in wording, for children ages 5 to 7 in rural New York and for children ages 7 to 10 in the Middle East. Depending on sophistication levels (language and emotional), children ages 5, 6, and 7 (or older in some cultures) may need simplification of terms and shortening of questions (Nader, 1993b). Inasmuch as minor changes in wording can change the meaning of a question, it is important to use standard, recommended changes (e.g., as suggested in the instrument's manual).

As described in chapter 4, the order of questions as well as wording and the contributions of the interviewer (e.g., focus, acceptance, tone of questions) may be particularly important for children. The wording of questions has affected an interviewer's success in eliciting accurate symptom reports. For example, it may be impossible for adults or children to avoid reminders in the aftermath of traumatic events. Although children may wish to avoid some reminders of the event, they may have even less control than an adult over the actual ability to avoid. Therefore, asking if a child stays away from reminders rather than if he or she wishes to avoid them may elicit a misleading negative response. Wording issues may explain why some studies have found high levels of intrusive re-experiencing and relatively few avoidance symptoms. Similar wording difficulties exist for "survivor guilt." Asking children, without additional clarification, if they feel bad because someone else was killed or hurt worse than they were may not discriminate between traumatized and nontraumatized children, because most children feel bad that other children were killed or hurt worse than themselves.

Children (especially young children or children from particular cultures) may respond to cues from the interviewer when answering questions. It is essential that the youth sense a willingness to hear any answer and that there is no wrong answer. When there are open-ended questions, or questions asking for a general list of results (e.g., "Has anything really bad ever happened to you?" or "Do you want to stay away from things that remind you of [the event]?"), asking the open-ended question and waiting for an answer *before* giving specific examples (e.g., "Do you stay

away from windows [after exposure to the hurricane]?") or asking specific probe questions (e.g., "What things do you want to stay away from?") can be helpful. Young children may recognize that they want to avoid reminders, but may have difficulty thinking of specific reminders.

Development and Symptoms

More study is needed to determine clearly the variations in traumatic reactions at different developmental stages. Study is needed to delineate a traumatic response's mutations over time from specific developmental phases and from specific symptomatic forms. Symptom and exposure criteria altered from the current *DSM-IV* PTSD criteria may be important to the accurate diagnosis of infants and children (Carrion, Weems, Ray, & Reiss, 2002; Scheeringa, Zeanah, Drell, & Larrieu, 1995; Scheeringa et al., 2001). In assessing youths' behavior and reactions, it is essential to be aware of developmentally normal characteristics, maturation, and change (Tables 6.1A,B). For example, by around 8 months, infants become more hesitant in approaching novel or intense objects. Effortful control of impulses develops slowly from age 1 to 4 through the grade school years. Neural areas (e.g., those subserving memory and attention) undergo extensive maturation during adolescence (Putnam, Ellis, & Rothbart, 2001). Some researchers have found it more useful to examine results in relationship to development (e.g., pubertal stage) rather than age (Carrion et al.).

Particular reactions (e.g., fear) manifest differently at different ages (e.g., clinging or crying for infants, internalized for adolescents) (Putnam et al., 2001). For example, for neonates, activity tends to covary with behavioral distress (Rothbart, Chew, & Gartstein, 2001). Tables 6.1A,B lists some of the developmental occurrences that may be relevant to the assessment of trauma and essential to assessing temperamental differences. Responses by age may reflect the changing nature of symptoms over time or may vary depending on the type of trauma. In a study primarily of maltreated children ages 3 to 13 (n = 219) using a parent report measure (Briere et al., 2001), maltreated younger children were rated higher on anger, and maltreated older children were rated higher on depression.

Some behaviors are common at specific phases of development and signal disturbances at other age levels (Nader, 1997a). For example, when measuring dissociation, it is important to recognize that young children are often likely to exhibit forgetfulness, shifts in attention, and a variable sense of identity; that daydreaming may be a common behavior for youths; and that feeling unreal and detached from one's experience may be common for adolescents (Putnam, 1997; Friedrich, Jaworski, Huxsahl, & Bengston, 1997). Similarly, when measuring sexual concerns or behaviors, some thoughts or actions that are common to an adolescent male (e.g., thinking about sex, having sexual feelings in the body, thinking about touching the opposite sex, and having difficulty stopping thinking about

TABLE 6.1A
Some Findings on Age, Temperament, and Development: Infants

Age Emergence or Stability of Behavior	Observable or Reportable Behavior	Predicts, in a Significant Number of Study Subjects
Newborns	• Differences in irritability and orienting	
• Not an ideal period for assessing temperament characteristics	• Differences in susceptibility to distress to overstimulation and colic	• Not predictive
• Smiling and laughter not stable from initially but stable from 3 months	• Differences in activity level, distress to limitations, and duration of orienting	• Stability in activity level, distress to limitations, and duration of orienting at 12 months
Infants, 2–3 months	• Differences in smiling, laughter, and rapid approach	• Approach tendencies in infants and at ages 6–7; age 7 extraversion, susceptibility to anger and frustration, and low attentional and inhibitory control
• Emergence of positive emotionality		
• Emergence of orienting attention	• Smiling, laughter (also at 6.5 and 10 months)	• Age 7 positive anticipation and impulsivity
	• Distress	•Empathy, childhood guilt/shame
	• Parent report distress to limitations	• Anger/frustration at age 7
	• High parent-reported fear (also at 6.5 and 10 months)	• Fear at 7 years
Infants, 4–6 months	• Differences in distress and body movement to stimulation	• Later fear/behavioral inhibition; age 7 parent reported frustration & anger
• Behavioral approach can be measuredbetween 4 and 6 months; at 6 months, it is also manifested in latency to reach and grasp objects	• Motor reactivity coupled with positive affect	• Approach oriented behavior, 14 mo
	• Motor reactivity coupled with distress	• Behavioral inhibition
• Beginnings of appraisal process at 6 months: comparison of one perception to another	• NYLS “difficult” temperament	• Home & school adjustment at ages 4 & 5, behavior problems at age 3
	• Adaptability	• School adjustment & behavior problems
	• Kagan’s low reactive	• Age 2: uninhibited (sociable, spontaneous approach to unfamiliar)

TABLE 6.1A (continued)
Some Findings on Age, Temperament, and Development: Infants

Age Emergence or Stability of Behavior	Observable or Reportable Behavior	Predicts, in a Significant Number of Study Subjects
Infants, 6–12 months	• Differences in approach-withdrawal • In lab frustration (6.5 and 10 months)	• Stable from 6 to 12 months and to 2 years • Anger/frustration at age 7; plus activity, positive anticipation, impulsivity, aggression, and high intensity pleasure
• Overall distress, stable from 6.5 months		
	• Fear (also at 10 and 13.5months)/shyness, sadness	• Shyness, sadness
Infants, 9–12 months • The onset of fear or behavioral inhibition at this age may work in opposition to earlier rapid approach to novel objects; approach tendencies should not be assessed in this period but between 4 and 6 months • May now show distress to potentially threatening objects • Capacity to attribute mental intentions to another person	• Fear and behavioral inhibition	• Fearful inhibition at ages 8 and 18; (when combined with gentle discipline) highly internalized conscience; later tendency to be empathetic and susceptible to guilt reactions

Derived from the following references: Caspi, 1998; Caspi, Henry, McGee, Moffitt, & Silva, 1995; Caspi & Silva, 1995; Derryberry & Rothbart, 2001; Kochanska, 1997; Knox, 2004; Nelson, Martin, Hodge, Havill, & Kamphaus, 1999; Rothbart, 2001; Rothbart, Chew, & Gartstein, 2001.

TABLE 6.1B
Some Findings on Age, Temperament, and Development: Toddlers, Children

Age Emergence or Stability of Behavior	Observable or Reportable Behavior	Predicts, in a Significant Number of Study Subjects
Toddlers, 13–22 months	• Intentional movement among laboratory toys	• Age 7 high positive anticipation, impulsivity, motor activation, and low sadness
• Emergence of effortful control (e.g., ability to inhibit and correct movement) • Attention persistence from 14 to 20 months; distractibility stable from 18 to 24 months and from 2 to 12 years • Activity level (not stable before 12 months; generally stable from 14 to 20 months and from 2 to 12 years)	• In laboratory, fear at 13.5 months	• At 7 years: fear, low intensity (non-risk taking) pleasure; low positive anticipation, low impulsivity, low activity level, low aggression
Toddlers, 2–3 years	• Differences in effortful attention • Performance on spatial conflict task	• Adolescent ability to concentrate • Mother reported higher attentional focusing, higher inhibitory control, and lower impulsivity
• Ability to attend or not to stimuli permitting children the ability to delay reward, to suppress reactive tendencies, take in additional information, and plan more efficient coping strategies (e.g., constrain fear by attending to environmental sources of safety) • Ability to inhibit dominant response in favor of subordinate response improves from 27 to 36 months	• Fearful inhibition • High fear combined with maternal gentle discipline or low fear combined with secure attachment/maternal responsiveness	• Ages 4, 8, and 18 fearful inhibition • Higher conscience at ages 4 and 5

TABLE 6.1B (continued)
Some Findings on Age, Temperament, and Development: Toddlers, Children

Age Emergence or Stability of Behavior	Observable or Reportable Behavior	Predicts, in a Significant Number of Study Subjects
Children, 5–6 years	• Internalizing patterns	• Decrease in aggression between kindergarten and first grade
Children, 6–7 years	• Surgency	• Aggression is negatively related to guilt/shame
	• Negative affectivity	• Low aggression, anger; high empathy, guilt/shame, help-seeking, and negativity
• Able to replay positive and negative experiences		
	• Fear (fear-related inhibition is stable across childhood into adolescence)	• Combines with discomfort, anger/frustration, sadness, and low soothability/falling reactivity to form a general negativity; does not predict anger/frustration

Derived from the following references: Caspi, 1998; Caspi, Henry, McGee, Moffitt, & Silva, 1995; Caspi & Silva, 1995; Derryberry & Rothbart, 2001; Kochanska, 1997; Knox, 2004; Nelson, Martin, Hodge, Havill, & Kamphaus, 1999; Rothbart, 2001; Rothbart, Chew, & Gartstein, 2001.

sex) may be a sign of disturbance (e.g., sexual molestation) in an 8-year-old male (Friedrich et al.).

Gender

Findings regarding gender differences among children exposed to traumas have been mixed. Some researchers have found no differences between the sexes, whereas others have discovered higher levels of symptoms among girls (Carrion et al., 2002; Fletcher, 2003; La Greca, Silverman, Vernberg, & Prinstein, 1996; McFarlane, Policansky, & Irwin, 1987; Nader, Pynoos, Fairbanks, & Frederick, 1990; Pfefferbaum et al., 1999; Pynoos et al., 1987; Stallard, Velleman, Langsford, & Baldwin, 2001; Udwin et al., 2000). When differences have emerged, they have been modest and their meaning uncertain (Silverman & La Greca, 2002). A number of factors must be taken into account when evaluating gender differences. For adults, some research has demonstrated a gender bias in reporting the symptoms of PTSD (e.g., females are more likely to report symptoms than males; Bleich, Gelkopf, & Solomon, 2003). Children's histories (e.g., previous trauma, psychiatric conditions), circumstances (e.g., support systems, cultural issues), traits (e.g., temperament), or levels of distress may also be factors in contradictory findings (Ahadi, Rothbart, & Ye, 1993; Fletcher, 2003; Kroll, 2003). For example, although bivariate analysis revealed gender differences for children exposed to Hurricane Mitch, the differences disappeared in a multivariate analysis that included levels of fear, horror, and helplessness during the hurricane (Goenjian et al., 2001).

Cultural differences also must be considered when assessing the differences between genders as well as when considering other variables (e.g., temperament) and traumatic response. For example, in a study of 6- to 7-year-old children in the People's Republic of China (PRC) and the United States (Ahadi et al., 1993), U.S. children showed higher activity levels, lower inhibitory control, and less smiling for boys than for girls. Gender differences in these traits for the PRC children were reversed: Girls had higher activity, lower inhibitory control, higher impulsivity, and high intensity pleasure (i.e., sensation seeking). Higher levels of sensitivity to low levels of stimulation (perceptual sensitivity and low intensity pleasure) were found to be greater for girls in the United States and for boys in the PRC.

The type of trauma may be a factor in each gender's rate of exposure and their responses to trauma. Silverman, Reinherz, and Giaconia (1996) found that females were 3 times more likely to report any type of abuse and 11 times more likely to report sexual abuse than males. In a study of 2000 10 to 16 year olds exposed to one or more of several types of violence (see chapter 10), Boney-McCoy and Finkelhor (1995) found that the most common form of victimization reported by female adolescents was sexual assault; for male adolescents, it was aggravated assault by a

nonfamily member. There was some symptom variation between the sexes. For example, sexually assaulted boys reported significant PTSD-related symptomatology (10 items measured), trouble with a teacher, and sadness. Sexual assault for girls and nonfamily member assault for both boys and girls was significantly associated with PTSD-related symptomatology and trouble with a teacher but not with sadness.

PERSONALITY

A child's personality is a collective of the physical, mental, emotional, and social qualities that are reflected in his or her thoughts, feelings, attitudes, beliefs, behaviors, and patterns of reaction (Chaplin, 1975; Gramercy Books, 1989). Personality traits are the individual tendencies to think, feel, and behave in certain consistent ways (Caspi, 1998). Caspi suggests that individual differences within a group are usually greater than those between groups. Behavior is likely determined by multiple traits that influence how individuals organize their behavior to meet developmental and environmental demands and challenges (Caspi). Personality theories emphasize different elements (e.g., biological, emotional, environmental, self-regulation and intentionality, perceptions, consistency) or their complex interdependence (van Lieshout, 2000).

Many personality and temperament characteristics are genetically influenced and are considerably heritable (Caspi, 1998; Rothbart & Bates, 1998; van Lieshout, 2000). In fact, studies of nonhuman species suggest that temperamental systems are evolutionarily conserved. Rothbart (2001) has summarized findings for 12 nonhuman species. Among the species examined, researchers found aspects of extraversion (energy and enthusiasm), neuroticism (negative affectivity, nervousness), openness (originality, open-mindedness), and agreeableness (altruism, affection). Attention openness was found in some animal species. Conscientiousness or effortful control was found among chimpanzees only. Studies of human twins and adoptees have especially substantiated the heritability of extraversion and neuroticism (see Factor Analytic Models, below) (Caspi). Relatives do not resemble each other, however, in direct correspondence to gene dosage. Therefore, genes may interact with one another in different ways.

Issues related to and measures for assessing temperament traits and personality types are presented in the following sections. Among the items discussed are theories (often research-based) that have influenced the measurement and study of temperament and type. Among them are the New York Longitudinal Study (NYLS), the Five Factor Model, Jeffrey Gray's theories, Jungian-based theories, and more (Table 6.2).

TABLE 6.2
Trait Theories

Theory	Trait Category	Definition of Trait Category
New York Longitudinal Study (Chess & Thomas)	Activity Level	• Amount of physical motion
	Rhythmicity	• Regularity of physiologic functions
	Approach/Withdrawal	• Initial responses to new stimuli
	Mood	• Amount of pleasant or unpleasant behavior
	Intensity	• Energy level of responses (positive or negative)
	Threshold of Sensitivity	• Amount of stimulation to evoke responses
	Distractibility	• Degree stimuli interferes with ongoing behaviors
	Attention Span/Persistence	• Length of time particular activities are pursued
	Adaptability	• Ease or difficulty of modifying reactions to stimuli
Five Factor	I. Extraversion or Surgency or Extraversion/Positive Emotionality (E)	• Sociability, dominance, activity, or the extent to which the person actively engages others or avoids social experiences
	II. Agreeableness (A)	• Helpfulness, manageability, honesty, sincerity; continuum from warmth and compassion to antagonism
	III. Conscientiousness or Conscientiousness /Constraint (C)	• Carefulness, faithfulness, diligence, or the extent and strength of impulse control; ability to delay gratification in favor of more distant goals or to modulate impulsive expression
	IV. Emotional Stability or Neuroticism or Negative Emotionality (N)	• Emotional reactivity; self-confidence, anxiety, fearfulness or low emotional stability or the extent to which the person experiences the world as distressing or threatening
	V. Intellect or Openness to Experience (O)	• Openness, interest, intelligence

TABLE 6.2 (continued)
Trait Theories

Theory	Trait Category	Definition of Trait Category
Neurological Systems (Jeffrey Gray)	Behavioral Activation System (BAS)	• Neuroanatomical system that is sensitive to cues of reward and controls behaviors such as exploration and approach responses; includes medial forebrain bundle, lateral hypothalamus, and the neurotransmitters dopamine and norepinephrine
	Behavioral Inhibition System (BIS)	• Neuroanatomical system that is sensitive to cues of punishment and nonreward; includes the orbital frontal cortex, medial septal area, hippocampus, and Ascending Reticular Activating System, and involves the neurotransmitters norepinephrine and serotonin
Jungian Mental Functions (Carl Jung)	Sensation vs. Intuition (S vs. N)	• Focus on concrete vs. abstract realities, facts/details vs. symbolic, theoretical
	Thinking vs. Feeling| (T vs. F)	• Use objective, logical decision making vs. subjective, personal judgment criteria
	Extroverted or Introverted (E vs. I)	• Outward turning (e.g., think out loud; seek outward interests, stimulation) vs. inward turning (e.g., process internally)
(Myers)	Judging vs. Perceiving (J vs. P)	• Wanting things settled (closure) vs. keeping options open (flexibility)

TEMPERAMENT

Studied in both infants and animals, temperament characteristics are the early dispositions (e.g., affect, attention, arousal) upon which personality is based (Caspi, 1998; Rothbart, 2001). Temperament, often defined as a substrate of personality, refers to a person's characteristic emotional style or disposition or to the individual differences that index a person's style of approach and response to the environment. In addition to its prominence in the psychological health of very young children, temperament has been identified as a factor in children's vulnerability to traumatization (Bagley & Mallick, 2002; Strelau, 1995), their traumatic and stress reactions (Carey & McDevitt, 1995b; Schwarz & Kowalski, 1992; Strelau), behavioral problems (Dodge, Bates, Pettit, & Valente, 1995; Nelson, Martin, Hodge, Havill, & Kamphaus, 1999; Ruchkin, Schwab-Stone, Koposov, Vermeiren, & Steiner, 2002), psychiatric symptoms (Teerikangas, Aronen, Martin, & Huttunen, 1998), and memory for traumatic experiences (Howe, 1997). In humans and primates, temperamental traits may serve as protective or risk factors. In two studies of veterans (Dalton, Aubuchon, Tom, Pederson, & McFarland, 1993; Otis & Louks, 1997), introversion was prominent among PTSD samples. Primate studies reveal, however, that solitary orangutans seem less affected by social isolation than highly social chimpanzees (Maestripieri & Wallen, 2003).

Some developmental research suggests that temperament encompasses an infant's innate patterns of reacting to stimulation (reactivity) and the parallel capacity for emerging self-regulation (Neisworth, Bagnato, Salvia, & Hunt, 1999). Studies of early temperament and adult adjustment have yielded mixed results. The predictive accuracy of early assessments of temperament has varied to some extent by age and gender (Martin, Wisenbaker, Huttenen, & Baker, 1997; Teerikangas et al., 1998). To interpret the role of temperament as a risk or a protective factor, it is essential to assess the cumulative effect of multiple risk factors of infancy and later childhood (Teerikangas et al.).

Theories of Temperament

Theorists define temperament differently (Rothbart, Ahadi, Hershey, & Fisher, 2001). Most measures of temperament in infants and young children have been based on dimensions identified by the NYLS (Table 6.2, 6.3) and by Buss and Plomin (emotionality, activity, sociability) (Rothbart, Ahadi et al., 2001). From the NYLS of infants, Thomas and Chess (1977) elaborated nine major dimensions of temperament and behavioral style for young children in response to their environments (activity level, rhythmicity, approach/withdrawal, mood, intensity, threshold of sensitivity, distractibility, attention span/persistence, and adaptability) (Chess & Thomas, 1991; Thomas & Chess). NYLS also identified three types of infants

TABLE 6.3
Personality Type Theories

Theory	Type	Trait Combination
NYLS	Easy	• Regular, approaching, adaptable, mild, and predominantly positive in mood
	Difficult	• Timid in initial reactions (withdraw in novel situations), low adaptability, high intensity, predominantly negative mood, and low regularity
	Slow to warm	• Slow initial response (withdrawal), low adaptability but tend to adapt with increased exposure, lower energy levels of response (low intensity), low activity, and a more negative mood
Block's Q-Sort	Ego-resilients or resilients	• Well-functioning cognitively, emotionally, and interpersonally
	Vulnerable overcontrollers or overcontrollers	• Few interpersonal skills, shy, inward; low extraversion and emotional stability; average agreeableness, conscientiousness, and openness
	Unsettled undercontrollers or undercontrollers	• Hostile, disagreeable, show little concern for others, extraverted; average stability and openness; low conscientiousness
Kagan	Low reactive infants (possible uninhibited toddler)	• Respond to stimulation with minimal motor activity and distress; may become uninhibited in the second year
	High reactive infants (possible inhibited)	• Display vigorous motor activity combined with distress in response to stimulation (auditory, olfactory, and visual); may become inhibited (initial avoidance, distress, or subdued emotions)

Myers	ENTJ	• Intuitive, innovative organizer
	ESTJ	• Fact-minded practical organizer
	INTP	• Inquisitive analyzer
	ISTP	• Practical analyzer
	ESTP	• Realistic adapter in material world
	ESFP	• Realistic adapter in human relationships
	ISTJ	• Manager of facts/details in organizations
	ISFJ	• Manager of facts/details among people
	ISFP	• Loyal helper, sees needs of the moment
	INFP	• Independent helper, sees possibilities
	ESFJ	• Practical harmonizer
	ENFJ	• Imaginative harmonizer
	INFJ	• Innovator of ideas, people-oriented
	INTJ	• Innovator of ideas, logical, decisive
	ENFP	• Enthusiastic planner of change
	ENTP	• Inventive, analytic planner of change
Keirsey-Bates	NT	• Rational: knowledge, competence, expertise, logic, pragmatism, trust logic
	NF	• Idealist: unity, self-actualization, authenticity, trust their intuition
	SJ	• Guardian: responsibility, security, stability, community, trust authority
	SP	• Artisan: aesthetics, performance, variety, stimulation, trust their impulses

representing a percentage of those studied (difficult, easy, and slow to warm; see "Personality Types," below). Factor analytic results have confirmed some of the constructs proposed by Thomas and Chess (Presley & Martin, 1994). Other researchers have included additional concepts such as self-regulation in the study of temperament and personality (Neisworth et al., 1999; Rothbart, 2001). They conclude that a young child's failure to develop a mature ability to delay or to inhibit a dominant action in order to perform a nondominant action is strongly linked to the difficulties in self-regulation that are associated with various problems in thinking and behavioral organization (DeGangi, 1991a, 1991b; Neisworth et al.).

Jeffrey Gray (1972, 1985, 1987, 1991) highlighted two neurological systems that compete to control motor behavior and have been linked to behavior and temperament (Martin & Bridger, 1999; Rothbart & Bates, 1998). The *Behavioral Inhibition System* (BIS) is a neuroanatomical system that is sensitive to cues of punishment and nonreward (Martin & Bridger). Its neural substrates include the orbital frontal cortex, medial septal area, hippocampus, and Ascending Reticular Activating System and involve the neurotransmitters norepinephrine and seratonin (Rothbart & Bates, 1998). BIS sets in motion inhibition or anxiety responses to novelty, high-intensity stimulation, cues of punishment, and evolutionarily prepared fears (Martin & Bridger, 1999; Rothbart & Bates, 1998). The *Behavioral Activation System* (BAS) (similar to Panksepp's 1986 *Expectancy-Foraging System* or Depue & Iacano's 1989 *Behavioral Facilitation System, or BFS*) is a neuroanatomical system (brain: medial forebrain bundle, lateral hypothalamus; neurotransmitters: dopamine and norepinephrine) that is sensitive to cues of reward (Martin & Bridger; Rothbart & Bates). It controls behaviors such as exploration and approach responses when there are cues of reward (Martin & Bridger). According to Depue and Iacano, when reward is blocked or a desired avoidance impossible, the BFS may facilitate aggression toward removing an obstacle or threat (cited in Rothbart & Bates). Gray sees a stronger BAS than BIS in extraverts who are high on approach and active avoidance and a strong BIS in introverts who are high on inhibition and anxiety.

Factor Analytic Models

In the past 2 decades, personality psychologists have debated the applicability of a five factor model (or "the Big Five") to account for measurable individual personality differences in adults (Eysenck, 1967; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994; McCrae & John, 1992; Zhang, Kohnstamm, Slotboom, Elphick, & Cheung, 2002). As one of the methods that have proven useful in hypothesizing, organizing, and integrating personality findings (Caspi, 1998), the five factor model has influenced the study of adult personality development and has begun to be tested for children and adolescents (John et al.; Zhang et al.). For adults, the

five factors identified have been given varying names and descriptions (Caspi; McCrae & John; van Lieshout, 2000) and have included the following (Table 6.2): (1) extraversion or surgency (E; sociability, dominance, activity) or extraversion/positive emotionality (the extent to which the person actively engages others or avoids social experiences); (2) agreeableness (A; helpfulness, manageability, honesty, sincerity; continuum from warmth and compassion to antagonism), (3) conscientiousness (C; carefulness, faithfulness, diligence) or conscientiousness/constraint (the extent and strength of impulse control—ability to delay gratification in favor of more distant goals or to modulate impulsive expression); (4) emotional stability (N; emotional reactivity; self-confidence, anxiety, fearfulness) or neuroticism (low emotional stability) or negative emotionality (the extent to which the world is experienced as distressing or threatening); and (5) intellect or openness to experience (O; openness, interest, intelligence).

Factor analyses seek to reveal simple clusters of variables that are structure-discrete and define a dimension (McCrae & John, 1992). Many important personality traits, however, are blends of two or more of the five dimensions (McCrae & John). Measures of shyness, for example, typically combine elements of N and low E (Briggs, 1988). Traits such as "hostile" and "temperamental" may include attributes of high N or low A (McCrae & John). Moreover, in a factor analysis, a different selection of variables can result in a different set of dimensions within the same factor (McCrae & John; Rothbart & Bates, 1998). Nevertheless, although fine-grain analyses permit more specific examination of particular aspects of temperament than factor analyses, factor analyses explore interrelationships among temperament dimensions and between temperament and other variables (Putnam et al., 2001).

Proponents of the five factor model agree that the five factors do not exhaust the description of personality. Instead, they suggest, it represents the highest hierarchical level of trait description (Zhang et al., 2002). Some researchers and theoreticians have argued that five factors are insufficient to summarize all known individual differences in personality. Although earlier theorists have combined personality into fewer than five dimensions, some researchers have found more than five factors for youths (e.g., John et al., 1994; Tellegen & Waller, 1992).

The number of factors appears to vary by age as well as by traits studied. Using the Child Behavior Questionnaire (CBQ), Rothbart, Ahadi et al. (2001) found three main factors for 4 to 5 and for 6 to 7 years olds, but four factors for 3 year olds. Although the five factor model may reasonably represent personality structure in late adolescence and adulthood, Dutch and American analyses suggest an additional two factors (activity and irritability) are needed to describe children and early adolescents (Caspi, 1998). The two additional factors have been statistically related to outcomes also associated with traumatic response: school performance, juvenile delinquency, and internalizing and externalizing behavior problems.

Temperament in Relationship to Trauma

Adults and children vary in the characteristic vigor or intensity of their emotional reactions (Martin & Bridger, 1999). Some are more sensitive to the rewarding aspects and some more sensitive to the punitive and novel aspects of their environments. Although its role has not been widely studied, a child's style of reacting to stress can make a significant difference both during an experience and to the event's outcome for the child (Carey, 1997). Sensitivity and reactivity contribute to a child's immediate responses to stress or crisis. Adaptability, mood, persistence, and other qualities help to shape the ongoing outcome. In addition to differential intensities and sensitivities associated with child traits, nonsimilar youths evoke different responses from others and selectively attend and react to circumstances (Caspi, 1998; Dalgleish, Taghavi, Neshat-Doost, Moradi, Canterbury, & Yule, 2003; Dodge et al., 1995; chapter 3, 13). Kagan (2001) suggests that researchers must find theoretically fruitful ways to discover the temperaments and characteristics that bias children to develop particular profiles and must determine how social factors maintain or alter the profiles acquired during the childhood years.

Temperamental functioning (including aspects related to posttrauma assessment) is influenced by maturation and experience (Rothbart, 2001). For example, behavioral fear appears at 6 to 7 months of age, attentional self-regulation at 10 to 12 months, and the beginnings of effortful control develop rapidly between the toddler and preschool years. The associations between brain locations and development have begun to be identified (Caspi, 1998; Rothbart; Rothbart & Bates, 1998; chapter 2). Temperament also varies between cultures. For example, Ahadi et al. (1993) found that for Chinese respondents, effortful control correlated negatively with extraversion but did not correlate with negative affectivity. In studies of U.S. adults and children, effortful control correlated negatively with negative affectivity and did not correlate with extraversion (Rothbart, Ahadi et al., 2001). Rothbart and her colleagues suggest that effortful self-regulation may be employed to inhibit culturally discouraged tendencies (negative affect in the United States, extraversion in China).

A number of theoreticians and statisticians have suggested that personality factors play a part in psychopathology including PTSD. Traits may create vulnerabilities to particular kinds of stressors such as failure to achieve impossible goals for the obsessive-compulsive or abandonment for the dependent personality (Otis & Louks, 1997). Boehnlin (2001) suggests that an obsessive personality style may be more vigilant for the cascade of symptoms that lead to panic (or, for Cambodians, to *kyol goeu*; see chapter 7). Although most inhibited children will not be diagnosed as adults with one of the anxiety disorders, Biederman et al. (1990) found increased risk of multiple anxiety, overanxious, and phobic disorders for inhibited children (see Kagan, Snidman, & Arcus, 1995).

Personality may affect a youth's response to and needs in treatment and assessment. Youths whose trust has been damaged, introverts (Myers & Myers, 1995), or youths with slow-to-warm personality styles (Chess & Thomas, 1991) may need additional time to develop trust. Silence or temporary "shutdown" may indicate an introvert's need to reflect on thoughts, feelings, and ideas before sharing them; tendency to share thoughts and feelings in bits and pieces; and proneness to "shut down" if deprived too long of "alone time" (Kurcinka, 1998a, 1998b). Berens (1998) explains that *idealists* (emphasis: intuition and feeling) are especially stressed by betrayal, insincerity, and lack of integrity. *Rationals* (emphasis: intuition and thinking/knowledge) are particularly stressed by powerlessness, incompetence, and lack of knowledge (see also Keirsey & Bates, 1978). Some youths are particularly attuned to injustice, are sensitive to stimuli and the emotions of others, are prone to focus on the future or the past, or have different paces at processing information. Traits affect initial and ongoing response.

Scales and Measures

A number of scales are available to assess the temperamental traits of infants (see Rothbart, Chew et al., 2001) and children. At this time, fewer are available for adolescents. Some of the scales are described here and in Table 6.4.

The Child Behavior Questionnaire (BQ)

Age range: 3–8 years (see Associated Scales for other age groups' scales)
Translation: Spanish
Format: Parent-report (self-report: EATQ and ATQ)
Associated scales: IBQ-R (3–12 months); ECBQ (18–30 months); EATQ (9–16 years); ATQ (17 and older)

CBQ (Rothbart & Gartstein, 2000) is a parent report questionnaire theoretically derived from temperament dimensions (e.g., emotional reactivity, arousability, self-regulation) and their associated subconstructs (Rothbart, Ahadi et al., 2001). Unlike factor-derived scales, which are often heterogenous, CBQ's larger constructs are relatively homogenous. Because temperamental functioning is influenced by maturation, there are Behavioral Questionnaires for Infancy (IBQ-R), Early Childhood (ECBQ), Childhood (CBQ), Early Adolescence (EATQ), and Late Adolescence into Adulthood (ATQ) (see age ranges in "Associated scales," above; Rothbart, Ahadi et al.). Scales and subscales vary accordingly. The CBQ scales include positive anticipation, smiling/laughter (mood), high intensity pleasure (sensation seeking), activity level, impulsivity (speed of response initiation), shyness (behavioral inhibition), discomfort (distress), fear (fear and withdrawal), anger/frustration (related to the strength of expectation of reward and

TABLE 6.4.
Measures of Personality and Temperamental Traits

Measure (Age range)	∝ Internal Consistency	Interrater r	Test-retest r	Assesses/Measures (Scale or Subscale r; distinguishes)	Authors (Available from)
CBQ (age 3–8 + scales for older ages)	.64–.94 s	.69. 28–.79 P-P		Temperament characteristics	Rothbart & Gartstein, 2000 (www.darkwing.uoregon.edu/~maryroth)
Poz (infants to age 5)				Temperament characteristics	Carey & McDevitt, 1978; 1995a (www.preventiveoz.org or The Preventive Ounce, a Nonprofit, Preventive Mental Health Organization, 354 63rd Street, Oakland, CA 94618)
TABSC-R (age 2–7)	.71–.90 P s .86–.95 T s	.34–.66 P-P .25–.35 P-T	.59–.76 s 1 yr. .54–.72 s 2 yr. .53–.61 s 3 yr.	Temperament characteristics (Low r between inhibition and impulsivity)	Martin & Bridger, 1999 (Roy Martin, rpmartin@coe.uga.edu)
TABS (infancy to almost age 6)	.83 Split-half r = .72 no risk C (.68–.86 s) .91 C w/disabilities (.64–.84 s)		.90 2–3 wk.	Dysfunctional behaviors	Bagnato, Neisworth, Salvia, & Hunt, 1999 (www.brookespublishing.com or Brookes Publishing Company, P.O. Box 10624, Baltimore, MD 21285-0624)

RCMAS (age 6–19)	.60–.80 (except m over 15) KR20 = .83–.85 (.78 for black f ages 10–11)	.69 9 mo. .98 3 wk.	Levels and nature of anxiety (RCMAS and State-Trait Anxiety Inventory for Children Trait Scale [Spielberger, 1973])	Reynolds & Richmond, 1978 (WPS, 12031 Wilshire Blvd., Los Angeles, CA, 90025-1251; 310-478-2061 or 800-648-8857; Fax: 310-478-7838)
MMTIC (age 7–14)	Spearman-Brown split-half r = .62– .75 s	Significant with no change for 70% of C	Jungian based traits.	Murphy, 1986; Murphy & Meisgeier, 1987 (www.capt.org or Consulting Psychologists Press, 3803 E. Bayshore Road, Palo Alto, CA 94303)
SSQ (age 8–17)		.67–.80 7 mo.	Jungian based traits. (Distinguishes cultural differences in trait preferences)	Oakland, Glutting, & Horton, 1996 (Harcourt Assessment, Inc., 19500 Bulverde Road, San Antonio, TX 87259-3701; 800-221-8378)

∝ = *alpha; C = children; dis = disabilities; f = females; KR20 = Kuder-Richardson formula 20; m = males; mo. = months; P = parent; s= for subscales; T = teacher; wk. =weeks; yr. = year*

Sources: Martin & Bridger, 1999; Murphy & Meisgeier, 1987; Neisworth, Bagnato, Salvia, & Hunt, 1999; Reynolds & Richmond, 2000; Rothbart, Ahadi, Hershey, & Fisher, 2001.

aggressive self-regulation), sadness, soothability, inhibitory control, attentional focusing, low intensity pleasure (nonrisk-taking pleasure), and perceptual sensitivity (threshold of sensitivity or external sensitivity). For U.S., Chinese, and Japanese children, factor analysis of CBQ recovered three broad dimensions of temperament: extraversion/surgency, negative affectivity, and effortful control.

The Preventive Ounce (Poz)
Age range: 4–12 months; 1–3 years; 3–5 years
Translations: Spanish
Format: Parent completion

The Preventive Ounce Questionnaires are derivatives of the Carey questionnaires (Carey & McDevitt, 1978, 1995a) and years of research studies with Kaiser Permanente in Oakland, CA. The major differences between these questionnaires and those of Carey and his associates are (1) the scoring for the preschooler questionnaire generates more scales than the toddler measures and flows more from the toddler than from the infant questionnaire; (2) frustration tolerance questions are added; and (3) redundant mood questions are removed. Subdividing the intensity levels for toddlers or preschoolers into positive events, negative events, and new situations improved predictability to specific behavioral problems and helped parents better understand their children's temperaments (Cameron, 2002). All three questionnaires include basic information (e.g., birth order, infant characteristics) and a sheet to list current concerns. The infant questionnaire is 46 items; the toddler, 67 items; and the preschooler, 69 items. Items are rated as true for the child on a six-point scale (1 = Almost never . . . 6 = Almost always). A Web site provides scales, scoring, and profiles.

The Temperament Assessment Battery for Children-Revised (TABC-R)
Age range: 2–7
Scales: Parent and teacher on child temperament
Format: Caretaker or teacher completion

The Temperament Assessment Battery for Children-Revised (Martin & Bridger, 1999) consists of two forms, a 37-item parent form (PF) and 29-item teacher form (TF). It includes theory-based measures of children's temperamental characteristics based on NYLS dimensions of temperament (Chess & Thomas, 1977) and the neuropsychological theory of Jeffrey Gray (Table 6.2). TABC-R was primarily designed to determine temperamental types or groups of children with a common pattern of temperamental characteristics (i.e., impulsive, inhibited, highly emotional, typical, reticent, and uninhibited). Traits assessed include impulsivity, inhibition, negative emotionality, activity level, and lack of task persistence. On the teacher form, an additional passive type is identified. The TABC-R inhibition scale was developed as a measure of BIS functions, and the impulsivity scale, as a measure of BAS functions. The inhibition scale

measures withdrawal from new social situations, hesitance in approaching strangers, and cautiousness about engaging in activities in novel situations. The impulsivity scale is designed to measure the child's inability to control intense emotion, gross motor activity, and attention in three related scales: (1) negative emotionality (the tendency to engage in emotional behaviors such as crying, screaming, and temper tantrums resulting primarily from frustration or denial of wants); (2) activity level (gross motor activity and the inability to control gross motor behaviors); and (3) lack of task persistence (the inability of the child to continue to engage in learning new tasks or to maintain attention over relatively long periods of time). Normative data are available (Martin & Bridger). The caretaker or teacher rates the frequency of a context-specific item regarding the child's behavior.

The Temperament and Atypical Behavior Scale (TABS)
Age range: 11–71 months (i.e., almost 1 to almost 6 years)
Format: Parent or professional completion

TABS (Bagnato, Neisworth, Salvia, & Hunt, 1999) is a 55-item measure of dysfunctional behavior for infants and young children (Neisworth et al., 1999). TABS is intended to identify children at risk for, or already, developing atypically with regard to temperament and self-regulation. Learned and developmentally delayed behaviors are excluded. The 15-item TABS screener permits rapid identification of children in need of more thorough assessment. The TABS assessment tool contains a checklist of specific behaviors. One or both parents can record (Yes or No) whether the child in question exhibits a behavior and whether the parents need help with the behavior. Four subtests are *detached* (withdrawn, aloof, self-absorbed, difficult to engage, and disconnected from everyday routines involving adults or other children; commonly associated with autism spectrum disorder); *hypersensitive/active* (overreactive to even slight environmental stimulation, impulsive, highly active, negative, and defiant; commonly associated with attention-deficit/hyperactivity disorder); *underreactive* (unresponsive and requires intense environmental stimulation to elicit a response, limited awareness, low alertness, passivity, and lethargy; commonly associated with a variety of severe neurodevelopmental problems); and *dysregulated* (difficulty controlling or modulating neurophysiological behavior and oral-motor control) (Neisworth et al.).

Trait Anxiety

The Revised Children's Manifest Anxiety Scale (RCMAS)
Age range: 6–19
Format: Child completion with examiner present (individually or in a group setting for children 9 1/2 or older; individually for younger children)

RCMAS ("What I Think and Feel"; Reynolds & Richmond, 1978), a revision of CMAS, is a 37-item, self-report instrument designed to assess the level and nature of anxiety in children and adolescents. It is based on theories of trait anxiety (Taylor, 1951; Spielberger, 1972), which, in contrast to state anxiety, is a more lasting predisposition to experience anxiety in a variety of settings (Reynolds & Richmond, 2000). Statements are answered by circling "Yes" or "No" to indicate whether the item is descriptive of the child's feelings or actions. The scale yields a total anxiety score and four subscale scores: (1) physiological anxiety, (2) worry/oversensitivity, (3) social concerns/concentration, and (4) lie. A high score indicates a high level of anxiety or lie on that subscale (Reynolds & Richmond, 2000). The RCMAS is intended to assist the assessment of anxiety and should be used with other sources of information (e.g., clinicians, teachers, and parents). Normative data are available.

PERSONALITY TYPES

> Because temperament encompasses organized systems of emotional and attentional processes, rather than separate traits, studies of relationships among temperament variables allow a much richer view of development. (Rothbart, 2001, p. 15590)

Classifications of personality that identify categories of individuals based on configurations of traits (e.g., types, factors) may improve communication among researchers, provide a usable structure for assessment or analysis, help to generate hypotheses, and assist the integration of findings (Caspi, 1998). Personality taxonomies (e.g., the Big Five/Seven, Type) are too broad to capture all of the interesting variations in personality and relationships to other variables that may be obtained in examining more specific traits. However, as Caspi has pointed out, it is possible that trait dimensions and person typologies are complementary rather than competing systems. Examining the association between different types of personalities (to follow) and traumatic reactions also may help to prevent the canceling out of effects (Lipschitz, Morgan, & Southwick, 2002; chapter 2). As can be seen in the descriptions that follow, type theories share some of their components (Table 6.3). For example, Gray's BIS, Kagan's inhibited, Chess and Thomas' slow to warm, and Block's overcontroller all have aspects of Jung's introversion function.

Types Derived from the Preceding Studies and Theories of Traits

NYLS

The NYLS of temperament dimensions identified three types of infants representing a percentage of those studied (difficult, easy, and slow to

warm) (Carey, 1997; Carey & McDevitt, 1995b; Chess & Thomas, 1977, 1991; Kurcinka, 1998a; Rothbart, Chew et al., 2001). The *difficult* (*challenging* or *spirited*) child was characterized by low rhythmicity, high withdrawal, slow adaptation to change, intense reactions, and high frequency of negative mood. *Easy* children were the opposite. *Slow-to-warm* children had low-intensity negative reactions to new stimuli/situations but tended to adapt after repeated exposures. These temperament clusters when found in infancy (but not at age 3) have correlated with home and school adjustment at age 5 (Nelson et al., 1999). The difficult temperament is reportedly vulnerable to stress reactions (W. B. Carey, personal communication, 1999; Carey & McDevitt, 1995b).

Block's Q-Sort Types

Block (1971; cited in Caspi, 1998) used a Q-sort technique (sorting personality attribute cards in order from those least like to those most like an individual) and an inverse factor analysis to identify clusters of individuals with similar profiles. Three of the five personality types Block identified have remained stable across adolescence into adulthood, been replicated for males and females, and found for Finnish, Icelandic, and U.S. youths (as well as among five New Zealand youth types). The three types are *ego-resilients* or *resilients* (well-functioning cognitively, emotionally, and interpersonally; most prevalent); *vulnerable overcontrollers* or *overcontrollers* (few interpersonal skills, shy, inward); and *unsettled undercontrollers* or *undercontrollers* (hostile, disagreeable, show little concern for others). Differences in these types or traits found in very young children have been linked to particular kinds of problems (e.g., internalizing, externalizing) in later childhood and adolescence (Caspi).

Resilients score moderately high on all Big-Five personality factors (Caspi, 1998; van Lieshout, 2000). *Undercontrollers* score high on extraversion, low on conscientiousness, very low on agreeableness, and average on stability and openness. *Overcontrollers* score low on extraversion and emotional stability, and average on agreeableness, openness, and conscientiousness. For infants, Rothbart & Bates (1998) identified two kinds of negative affectivity: (1) fearful distress and anxiety when confronted with novelty and (2) angry distress and irritability when confronted with limitations and frustration. *Overcontrollers* tend to show fearful distress and anxiety (van Lieshout). Undercontrollers tend to show angry distress and irritability. Researchers have found differences among cultures in the tendency toward overcontrolled or undercontrolled problems (Mash & Dozois, 2003). For example, in separate study comparisons with U.S. youths who were rated higher on undercontrolled problems, Jamaican, Thai, and Kenyan youths were rated higher on overcontrolled problems.

Kagan's High and Low Reactive Infants

Kagan (1997) described a modest correlation between temperamental reactivity in infancy and behavior style in toddlers (e.g., inhibited, unin-

hibited). He also found an association between reactivity and physiological qualities (e.g., high reactive: narrower faces; higher resting heart rate for 4-year-old boys; more allergies; heritability) and psychological dispositions (e.g., inhibited: more social phobias). High reactive infants (about 20% of healthy European American samples) assessed at 4 months displayed vigorous motor activity combined with distress in response to stimulation (auditory, olfactory, and visual) (Kagan et al., 1995). Low reactive infants (about 40% of healthy European American samples) responded to stimulation with minimal motor activity and distress. Low reactives were most likely to become uninhibited in the second year; high reactives, more prone to be inhibited. Inhibited children reacted with initial avoidance, distress, or subdued emotions.

It is common for temperamentally high or low reactive infants to develop a less extreme profile (Kagan et al., 1995). It is less likely for the environment to create a consistently uninhibited style in a high reactive infant or a consistently inhibited profile in a low reactive. Whether children classified in infancy (4 months old) as high reactive or low reactive become inhibited or uninhibited at age 4 is influenced by environment (e.g., parenting). For example, high reactive infants raised by overprotective mothers in a nontraumatic environment have been rated more inhibited as toddlers.

Kagan (1997) suggested that most youths and adults who think about committing a crime are restrained by anticipatory anxiety, shame, or guilt. Accordingly, children with a less excitable amygdala or a less responsive ventromedial surface would not have the typical intensity of the restraining feelings. If they grow up in neighborhoods and homes that deter antisocial or delinquent behavior, they may become leaders. If not, they may become candidates for a violent delinquent career (Kagan). From studies that found that low resting heart rates in children correlated with antisocial and aggressive behavior, Lipschitz et al. (2002) observed that youths with chronically underaroused autonomic nervous systems may be biologically prone to thrill-seeking behavior and less responsive to punishment. Greater skin conductance and higher heart rates in noncriminal adults with histories of delinquency or family histories of criminality may mean that either increased autonomic responsiveness serves as a protective factor against criminal outcomes or there are two biological subtypes of conduct disturbances. Lipschitz et al. suggest that early and severe childhood trauma that alters the stress-sensitive neurobiological systems may be among the factors that explain differences in autonomic reactivity and its relationship to conduct disturbances.

Biederman et al. (1990) found that compared to controls and "not inhibited" (but not uninhibited by Kagan's definition) children, a small sample of inhibited children were more likely to have all evaluated disorders (major depression, attention-deficit, oppositional, overanxious, phobic, separation anxiety, and avoidant disorders) and significantly more often had overanxious disorder. From the Kagan et al. (1995) longitudinal cohort

(mean age approximately 8), Biederman et al. found oppositional disorder was significantly lower, phobic disorder significantly higher, and multiple anxiety disorders substantially higher for the inhibited than the uninhibited children.

Jung's Mental Functions

One set of theorists base personality types on Carl Jung's idea that people favor one from each of two kinds of mental functions (Table 6.2): (1) perception: sensation versus intuition (S vs. N; focus on concrete vs. abstract realities) and (2) judgment: thinking versus feeling (T vs. F; use objective vs. subjective judgment criteria). Jung described eight types characterized by the predominance of one of the functions expressed in either an extroverted (E) or introverted (I) way (Berens & Nardi, 1999; Berens, 1985, 1998; Lawrence, 1993; Jung, 1971; Myers & McCaulley, 1985). Myers added an additional dichotomy to Jung's set (J vs. P; judging vs. perceiving—wanting things settled vs. keeping options open), resulting in 16 personality profiles (Myers & McCaulley; Table 6.3). Keirsey and Bates (1978) outlined four main types (sensing-judging, SJ; sensing-perceiving, SP; intuitive-feeling, NF; intuitive-thinking, NT), each including 4 of the 16 personality types. A dominant type is believed to emerge between ages 6 and 14 (Meisgeier & Murphy, 1987). Well-balanced type development includes unequal but adequate (1) development of a judging function/process and perceiving function/process with superior skill in one of the two processes and (2) facility in using both the extraverted and the introverted attitudes, with one predominating (Myers & Myers, 1995; Otis & Louks, 1997). As in left- or right-handedness, people are happier and perform better when they are able to use their preferred personality style (Oakland, Glutting, & Horton, 1996). Moreover, function preferences are associated with differences in information processing, needs, and value judgments as well as with differences in brain wave patterns and hemispheric bias in response to stimuli (Alcock & Murphy, 1998).

Theoreticians suggest that extreme and prolonged stress may result in exaggeration of a function, dominance of a less refined function, or the extension of a function to inappropriate domains (Quenk, 1985; Otis & Louks, 1997). Studies of type and PTSD are few and have generally examined adults. Two studies of veterans (Dalton et al., 1993; Otis & Louks) suggest a strong tendency toward introversion in the PTSD samples. Both studies found more practical analyzer (ISTP) and inquisitive analyzer (INTP) types (Tables 6.2, 6.3) among those with PTSD. Because symptoms of PTSD can change personality characteristics, it is not known whether the traits measured precede or follow from trauma. For example, social isolation may be a result of PTSD and has been associated with the probability of PTSD (Dalton et al.). Lack of social support has been a risk factor for children (Udwin et al., 2000). At least after combat, not all INTPs or ISTPs develop PTSD. Other factors (e.g., family environment), therefore, also play a part in the results (Dalton et al.).

Rather than to label or categorize children, proponents of Jungian type theory strongly encourage that type assessment be used to accurately describe preferences and to (1) identify talent, (2) adjust for possible weaknesses, (3) enhance personal and social development, (4) promote an understanding of others, (5) assess learning styles, (6) promote educational development, (7) explore prevocational interests, and (8) facilitate research and evaluation studies (Oakland et al., 1996).

The Murphy-Meisgeier Type Indicator for Children (MMTIC)
Age range: 7–14
Format: Child completion, group completion

MMTIC (Murphy, 1986; Murphy & Meisgeier, 1987) is a 70-item measure that assesses the same four preference scales as the Myers-Briggs Type Indicator for Adults (Myers & McCaulley, 1985). It is a self-report instrument designed to assess individual type differences in children. It examines a child's report of how he or she best perceives and processes information and prefers to interact socially and behaviorally with others. The manual provides a description of the 16 types and the characteristics of the dichotomies as well as suggestions for how type may be applied in the classroom (Meisgeier & Murphy, 1987).

The Students Style Questionnaire (SSQ)
Age range: 8–17
Format: Child completion, individually or in groups

SSQ (Oakland et al., 1996) includes 69 items to measure individual differences in students' preferences for eight styles as well as temperaments and personal styles (Oakland et al.; Horton & Oakland, 1997). SSQ includes the following styles: extroverted or introverted (i.e., ways students prefer to gain energy and direction; E-I), practical or imaginative (preferred manner of generally orienting their lives; instead of S-N), thinking or feeling (preferred ways of making decisions—based on thinking or on feeling; T-F), and organized or flexible (preferred timing/manner of making decisions—as soon or as late as possible; instead of J-P). SSQ is intended to identify personal preferences that constitute strengths (Oakland et al.).

CONCLUSIONS

In the assessment of traumatic reactions, age and developmental level help to dictate a youth's ability to respond to self-report measures or to instructions (for diagnosis or treatment), the nature of symptoms and reactions, the character and focus of memories, and the normalcy of behaviors. Temperamental differences also affect youths' traumatic reac-

tions, reporting styles, vulnerabilities, and needs in treatment. A number of traits or trait combinations have been associated with vulnerability to traumatic reactions or to outcomes that occur over time that also have been linked to trauma. In order to clearly understand the effects of these variables and their outcomes, detailed information is needed regarding children and adolescents' characteristics (e.g., temperament, worldview, behaviors, level of inhibition) before, during, and after traumatic events and into adulthood.