23

Assessment of Childhood Anxiety

KELLY ROBINSON

Historically, anxiety has been conceptualized as a circumstance of adulthood. Children were not thought to experience anxiety in any unique way, and scientific studies of anxiety disorders have, until recently, focused on adults. However, while the majority of theories about anxiety have focused on symptoms in adults, they have been based on limited empirical evidence in general and have been born of many diverse psychological perspectives. Yet, most theorists agree that there is not a single cause but multiple factors interacting with each other which lead to the development of anxiety disorders. While the quest for genetic links, family characteristics, environmental influences, and proximal antecedents that cause anxiety continues, it is likely that all of these elements act on and shape each other to form each person's individual anxiety experience. Therefore, the process of assessing anxiety must examine many aspects of an individual's functioning, such as physiological arousal, cognitions, behaviors, and subjective interpretations. The anxiety itself must also be assessed by measuring its severity, duration, and pervasiveness in the individual's life (Herbert, 1994).

THEORIES OF ANXIETY

Of the many models developed to explain anxiety, three seem to predominate. They include behavioral, cognitive, and biological models. Behavioral models are primarily based on classical and operant conditioning. According to classical conditioning, anxiety-provoking stimuli elicit physical sensations that alert the individual to the presence of danger (i.e., the feared stimuli). Pairing a neutral stimulus with the anxiety-provoking stimulus causes the individual to associate the physical symptoms of anxiety with the neutral stimulus. Once the individual has made this association, exposure to the neutral stimulus alone results in anxiety. This classical conditioning model coupled with reinforcement, such as what occurs when anxiety is reduced through avoidance, may further increase the likelihood that the anxiety response will persist. While the behavioral model has been used to explain the creation of phobias, clearly the model does not account for the vast majority of cases of anxiety. Even many phobic individuals cannot identify instances in which neutral stimuli were paired with

feared objects or situations (Kearney & Wadiak, 1999).

Cognitive theories of anxiety explain symptoms by identifying the normal processes by which children assimilate information in the world. Newly acquired information is placed within the cognitive structures of previously acquired information. People compare the new information with the old in order to make predictions about their environment. When individuals learn to expect negative consequences from situations they perceive as aversive or dangerous, they avoid those situations. Thus, when those aversive situations are unavoidable, and individuals must endure encounters that they perceive are threatening, they experience feelings of anxiety (Kearney & Wadiak, 1999).

Biological theories of anxiety focus on genetic studies. Though a single causal gene has not been found, results of several studies suggest that there are genetic links to anxiety disorders, particularly panic disorder, obsessive–compulsive disorder, and certain types of phobias (Kearney & Wadiak, 1999).

CHILDREN'S ANXIETY

Children who experience pathological levels of anxiety represent a category of individuals for whom assessment and diagnosis becomes particularly challenging. While it is still important to assess all the major areas of a child's life that were discussed previously. (proximal antecedents, family characteristics, physiological functioning, etc.), one must also bear in mind the developmental appropriateness of anxiety during stages of a child's life. In other words, a certain amount of anxiety is healthy, so it is important to determine if anxiety is present and if it is problematic for the child.

Anxiety is a normal and developmentally appropriate response that allows humans to adapt to their environment. From an evolutionary perspective it allows for survival in the "fight or flight" action a person takes when faced with danger, and in a performance capacity a limited amount of anxiety helps a person function at his or her best. Children progress through stages of normal anxiety throughout their lifespan. Therefore, it is important to be knowledgeable about these stages so as not to confuse normal developmental anxiety from abnormal anxiety that leads to dysfunction. Children tend to progress through the developmental anxiety trajectory beginning in infancy with fear of sudden noises and of being dropped or startled. At age 1 to 2, children begin feeling anxious when not in close proximity to caregivers. Then fear of strangers emerges, and when children reach the preschool years, fear of monsters, animals, and the dark are common. Finally, in early to middle childhood, children may develop specific fears of objects or situations, such as school, physical danger, and supernatural phenomena (Beidel & Stanley, 1993). Although these anxieties represent normal developmental stages, abnormal or pathological anxiety also follow these stages, with pathological anxiety differing in degree. Evidence that anxiety is a common part of normal development is suggested by studies of subclinical anxiety symptoms. These studies show that individuals who have identifiable anxiety symptoms but who do not meet diagnostic criteria for an anxiety disorder and individuals who are asymptomatic have similar functional outcomes. Qualitatively, clinical levels of anxiety may appear similar to normal developmental anxiety. However, pathological anxiety differs in that it is generally inappropriate to the situation, involuntary, irrational, and functionally limiting (Anderson, 1994).

Investigation into several areas may be useful in determining whether anxiety is at a level that may be considered problematic or pathological. First, context is important. Is the anxiety out of proportion to the feared stimulus, situation, or event? Given that children experience a progression of developmentally typical fears, the context may be wider than for adults (Herbert, 1994). However, it is still possible to assess the degree of the anxiety and its age appropriateness.

It is also prudent to examine the frequency and intensity of the child's anxiety. For example, is the child's level of anxiety within a range that is present in most other children within the same age range? Also, does the anxiety occur with more frequency and in regard to a wider range of stimuli than in most

other children of the same age? Whereas constant low levels of anxiety can be just as maladaptive as high levels of anxiety, examining the frequency and intensity should provide a clearer picture of how a child's anxiety impacts his or her functioning.

The intensity of children's anxiety often varies relative to situations, times, places, or people with whom the child engages. Therefore, scrutinizing the child's environment and also the child's perspective of his or her own anxiety is important. How the child makes sense of his or her anxiety may provide insight into any purpose that the anxiety may serve. Whereas conducting a functional analysis of antecedents and consequences may provide valuable information regarding the types of problems the child experiences due to anxiety, it will not provide information about how the child views the anxiety as a problem. Attempting to see anxiety from the perspective of the child may also help in developing treatment goals and strategies (Herbert, 1994).

ANXIETY DISORDERS

Many anxiety problems go undetected due to the difficulty that school personnel and parents have in identifying the disorder, as anxiety frequently results in only relatively mild behavioral problems. Furthermore, anxiety disorders in children have a high comorbidity rate with other disorders, such as depression and attention-deficit/hyperactivity disorder, which further obscures the presentation of symptoms and makes identification more difficult. This difficulty in identifying anxiety disorders in children is an important issue in regard to assessment, as most anxiety problems begin in childhood and progress to a chronic degree into adulthood, where they may have a profound and detrimental impact on the lives of the individuals affected (Albano, Chorpita, & Barlow, 1996). According to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DMS-IV; American Psychiatric Association, 1994), there are nine anxiety disorders with which a child may be diagnosed, including separation anxiety disorder (SAD), specific phobia, social phobia, generalized anxiety disorder (GAD) (previously referred to in the literature as overanxious disorder), panic disorder with or without agoraphobia, obsessive–compulsive disorder (OCD), posttraumatic stress disorder (PTSD), and acute stress disorder. SAD is the only disorder that is unique to children. Each disorder shares common features but may be differentially diagnosed based on the primary focus of the child's anxiety.

The prevalence of anxiety disorders in children and adolescents ranges from approximately 9 to 27% (Albano et al., 1996). However, there is wide variability in the reporting of prevalence rates, which is influenced by a number of factors such as diagnostic and referral processes, likelihood of participation in studies, use of general populations versus clinical samples, relationship of reporter of symptoms, and age of population. Differences in the reports of prevalence rates aside, anxiety disorders are the most common psychiatric disorder diagnosable in children and adolescents (Bell-Dolan & Brazeal, 1993). Anxiety disorders seem to increase in adolescence with phobic symptoms more prevalent in girls than in boys, with the exception of public-speaking phobias. The symptoms of anxiety peak earlier in girls than in boys, but boys lose specific fears more quickly than do girls, usually around age 10. Less gender variability is noted in younger children. The most common disorders comorbid with anxiety are depression and dysthymia, ADHD, conduct and oppositional disorders, and other specific anxiety disorders. There is little evidence that GAD, phobias, and SAD continue into adult life. Recovery rates for these anxiety disorders range from 60 to 75%, and those that do progress into adulthood may not continue with the same pattern of symptoms. OCD, on the other hand, has shown considerable stability into adulthood. Boys tend to demonstrate a younger age of onset, and the disorder also seems to be more prevalent among boys. While most individuals with OCD report no previous history of psychopathology, the disorder is sometimes comorbid with depression, other anxiety disorders, and Tourette syndrome (Anderson, 1994).

Separation Anxiety Disorder

A child may be diagnosed with SAD if he or she exhibits developmentally inappropriate

and excessive anxiety in regard to separation from home or an attached figure. SAD is diagnosed when the child exhibits three or more symptoms, such as worry about harm coming to attached figures, school refusal, or reluctance to go to sleep without an attached figure present. The symptoms must persist for at least 4 weeks, and onset must be before age 18 (American Psychiatric Association, 1994). The prevalence rate for children with SAD ranges from 3 to 5% in children, and may be a little less in adolescents. One-third of children with SAD have comorbid GAD secondary to SAD, and another third are diagnosed with a comorbid depressive disorder (Last, Strauss, & Francis, 1987).

The focus of SAD is fear associated with separation from home or an attached figure. It is important to remember when assessing for SAD that anxiety about being away from home and family members is a normal part of development from the age of approximately 7 months to 6 years (Bernstein & Borchardt, 1991). However, children with SAD differ from typical children in that they often experience fear of losing loved ones through catastrophic events. Children with SAD tend to demonstrate extreme avoidance behaviors and complain of somatic symptoms, including panic attacks. A key feature of the disorder that distinguishes children with SAD from children experiencing normal developmental anxiety is that SAD interferes with a child's daily functioning, such as friendships, participation in groups, and academics.

Specific Phobias

Specific phobias are characterized by marked and persistent fear or anxiety when exposed to, or when anticipating exposure to, a particular object or situation. Exposure to the feared stimulus results in an immediate anxiety response, which may include a panic attack. In children the anxiety response may take the form of crying, tantrums, freezing, or clinging. Adults must recognize the fear as excessive or unreasonable in order for a diagnosis to be made, but this recognition is not required for children (American Psychiatric Association, 1994).

The most important factor in differentially diagnosing specific phobias in children is identifying true phobias versus normal developmental fears. Common childhood fears include heights, darkness, thunder, injections, insects, and dogs (Albano et al., 1996). One feature that distinguishes phobias from typical fears is the degree to which the fear is maladaptive.

School phobia is a unique specific phobia because school phobia may look similar to SAD, social phobia, or truancy. While truancy may be an indication of oppositional behavior, the school phobic child's avoidance of school is involuntary. Anxiety about going to school may not even be in the child's conscious awareness, as symptoms frequently manifest through somatic complaints before or during the school day. The fear is typically associated with specific occurrences at school rather than with separation from home or attached figures (Blagg & Yule, 1994). To diagnose a specific phobia of school, social phobia, which centers around a fear of embarrassment or humiliation, must also be ruled out as a possible diagnosis. School phobia tends to surface shortly after beginning school for the first time (ages 5–6), following a transition from elementary to middle/high school (ages 11–13), and after age 14. However, school phobias experienced by older children and adolescents may be suggestive of a more severe developing pathology (Blagg & Yule, 1994).

Social Phobia

Social phobia is characterized by marked and persistent fear in social and performance situations. In children the anxiety must be present in peer situations, not just during interactions with adults, and children must demonstrate the capacity to form age-appropriate relationships with others. Exposure to feared situations provokes an anxiety response, which may include panic attacks, and in children, may also include crying, tantrums, and shying away from social situations. Adults must recognize that the fear is unreasonable or excessive in order to be diagnosed, whereas in children this criterion does not have to be met. Symptoms must be present for at least 6 months in order for social phobia to be diagnosed in individuals under the age of 18 (American Psychiatric Association, 1994).

Social phobia is rarely diagnosable under the age of 10, and has been diagnosed equally in males and females (Albano et al., 1996). Unlike SAD, social phobia is not a disorder specific to children. Therefore, much of the research examining the disorder has been taken from the adult literature.

The primary focus of fear in social phobia is fear of embarrassment. Children and adults with the disorder become excessively concerned about rejection, humiliation, and negative evaluation. Not surprisingly, children with social phobia tend to be shy and have few friends. Cognitions are overwhelmingly negative and self-deprecating (Albano et al., 1996). Symptoms of social phobia may include somatic complaints and obsessing about visible signs of embarrassment, such as blushing, shaking, and sweating. Although anyone in embarrassing situations may have these same worries, the difference between children with social phobia and typical children is the degree of worry. However, an apparent ability to perform during these social activities does not necessarily mean that the disorder is absent. Although social phobic individuals attempt to avoid situations in which they may become embarrassed, they will often endure these situations rather than draw attention to themselves. Despite an apparent ability to perform, they may experience an extreme degree of internal distress during these times (Albano et al., 1996). School refusal is not an uncommon feature of the disorder, and one must be careful to differentially diagnose social phobia, school phobia, and SAD by keeping in mind that the anxiety focus of social phobia involves fear of embarrassment in social situations rather than fear of more specific occurrences at school, or a separation from home.

Generalized Anxiety Disorder

GAD is diagnosed when an individual experiences excessive worry or anxiety more days than not, about a number of situations, and the worry is difficult to control. Anxiety symptoms may include restlessness, fatigue, difficulty concentrating, irritability, muscle tension, and disturbances in sleep. Children must demonstrate only one of these symptoms, whereas adults must experience three or more symptoms in order for a diagnosis to be made (American Psychiatric Association, 1994). Although GAD may begin any time during the school-age years, the mean age of onset appears to be between age 10 and 13 (Last et al., 1987). GAD is highly comorbid with depressive disorder and other anxiety disorders.

The presentation of GAD in children appears similar to that of adults except that children are more likely than adults to have somatic complaints. According to DSM-IV, a diagnosis of GAD is warranted in a child only if at least one physiological symptom is present. The focus of GAD is excessive worry about a number of life events, which may include past behavior, competence in sports, academics, peer relationships, or future events. Frequently children with GAD demonstrate perfectionist approaches in performing tasks and set exceedingly high standards for themselves. They are also quite hard on themselves when they do not achieve their goals or when they perceive that they have failed in some way (Albano et al., 1996).

Panic Disorder

Panic disorder is marked by recurrent and unexpected panic attacks followed by 1 month or more of worry about the future occurrence of attacks or the implications of attacks. Panic disorder may also include agoraphobia, which is anxiety about being in situations in which escape would be difficult or help unavailable if a panic attack should occur, such as in public places. Individuals with agoraphobia avoid these situations, likely resorting to extreme behavior in order to do so (e.g, refusing to leave the house) (American Psychiatric Association, 1994).

Panic disorder has gone largely undiagnosed in children until fairly recently, and as such there is a paucity of literature in regard to specific epidemiological information such as age of onset and gender predominance. However, the disorder appears to be more common in females than in males, and there may be a link between pubertal onset and panic attacks (Kearney & Allan, 1995). Cognitive and language limitations may make it difficult for children to adequately describe the physical sensations

that accompany panic attacks, making the disorder difficult to diagnose. Furthermore, children often lack the specific detail that adults use in describing these sensations. For example, children frequently use vague terms to describe panic attacks. They may express a fear of getting sick, whereas adults tend to describe fears of dying, going crazy, or losing control. As children reach adolescence, their fears become more specific, as they can describe feeling a sense of breathlessness, rapid heartbeat, and dizziness and feeling as if they are not in their own body, and some describe a fear of dying. Differential diagnostic concerns are related to the similarity in appearance between panic disorder and separation anxiety disorder, as many children and adolescents cope with their panic attacks by staying close to a family member or friend who makes them feel safe. The focus of the anxiety should be used to differentiate between the diagnoses (Albano, Chorpita, & Barlow, 1996).

Obsessive–Compulsive Disorder

For a diagnosis of OCD to be made, a person must experience either obsessions or compulsions. Adults must realize that the obsessions or compulsions are excessive or unreasonable in order to be diagnosed, but children do not have to meet this criteria. The obsessions or compulsions must consume 1 hour or more per day, cause the individual extreme distress, and interfere with normal functioning (American Psychiatric Association, 1994). OCD is commonly comorbid with depression, Tourette syndrome, and other anxiety disorders (Albano et al., 1996).

The expression of OCD in children is similar to that of adults. However, the content of children's obsessions and compulsions most often changes over time (Albano et al., 1996). Common themes include contamination, sexual themes, religiosity, aggressive or violent images, recurring songs or rhymes, and fear of illness. Children's compulsive behavior tends to involve handwashing, checking, and arranging items in particular orders, with washing being the most common ritual (Last & Strauss, 1989). However, children frequently engage in developmentally appropriate rituals that are not compulsions, such as arranging toys or dolls and saying goodnight to family members. These rituals do not seem excessive and are typically different in content than compulsions. Typical childhood rituals tend to dissipate at about 10 years of age and are not paired with obsessive thoughts (Swedo, Rapoport, Leonard, Lenane, & Cheslow, 1989). Again, the degree of distress a child experiences, particularly when unable to perform the ritual, is a useful indicator of pathology (Albano et al., 1996).

Posttraumatic Stress Disorder

For an individual to be diagnosed with PTSD, he or she must have been exposed to a traumatic event, during which a serious threat to the safety of self or others was present. The individual's response to the experience must have been one of fear, helplessness, or horror or in children, disorganized or agitated behavior. Reexperiencing of the event must also take place and may take the form of repetitive play, dreams, flashbacks, distress when exposed to reminders of the event, and physiological symptoms upon exposure to internal or external cues of the event. A number of avoidance or numbing behaviors and increased arousal must also be identified, and the duration of the symptoms must be at least 1 month (American Psychiatric Association, 1994). The symptoms of PTSD usually, but not always, arise within 3 months of the traumatic event. Bad dreams are particularly common in young children and may take the form of general nightmares about monsters, etc., rather than about the traumatic event. Children do not tend to reexperience the event in the same way that adults do, instead reliving the event through play. Children may not be able to report many of their symptoms, so observations by parents and teachers are crucial to evaluate hopelessness and loss of interest in previously enjoyed activities. Children may demonstrate a sense of foreshortened future by believing that they will not be around to perform adult activities. Physical symptoms, such as aches and pains, irritability, and angry outbursts, are also common features. PTSD may also be linked to the development of other anxiety disorders (American Psychiatric Association, 1994).

Acute Stress Disorder

Acute stress disorder is diagnosed when a person has been exposed to a traumatic event in which physical harm was threatened and the individual's response included fear, hopelessness, or horror and is followed by several dissociative symptoms. The symptoms last at least 2 days but do not linger beyond 4 weeks. A primary feature of the disorder is a lack of emotional responsiveness and a loss of ability to experience pleasure. The person with acute stress disorder may experience amnesia related to the traumatic event (American Psychiatric Association, 1994).

DIAGNOSTIC PROCEDURES

Each of the anxiety disorders just described is based on a categorical diagnostic system, DSM-IV. DSM provides discrete categories based on a symptom checklist. If a person has the requisite symptoms listed in the manual, a disorder can be diagnosed. No consideration is given to individuals who fall short of the criteria by only one symptom. Although the criteria are general and allow for some variation in symptoms, individual differences that cause the presentation of the disorder to look different from one person to the next are not included in DSM descriptions. Another drawback of DSM and other categorical systems of diagnosis is that neither the singular presentation of childhood symptoms nor developmental issues are given special consideration. The criteria for adults and children are virtually identical. Due to these factors, overlapping symptoms across diagnoses and the heterogeneity of symptom manifestation, the usefulness of categorical systems for diagnosing children has been called into question.

Dimensional systems, developed by clustering symptoms that commonly occur together, are used with increasing frequency. Rating scales are the primary means of measurement in dimensional systems, as they produce profiles of an individual's symptoms across a broad spectrum. For example, a child may score high on one scale (e.g., anxiety) and low on another scale (e.g., aggression), providing a more complete picture of the child's functioning. In addition to allowing for individual differences in symptom expression, developmental variables may be accounted for in dimensional systems (Albano et al., 1996).

Despite dimensional systems' growing popularity, DSM is the most widely used and recognized classification system among mental health professionals and allows for ease of discussion about general psychiatric disorders. Therefore, future diagnostic systems appear to be moving toward a combined approach that ties together assessment and treatment goals (Albano et al., 1996).

Rating Scales

Rating scales are used for a variety of purposes, such as to aid in diagnosis, screen for possible pathology, gather information about behavior across settings, uncover personality traits, and measure treatment progress. Rating scales are also used by many types of professionals in schools, hospitals, and clinical settings. To determine which scale to use in a particular situation, it is important to consider the goal of obtaining information and the setting in which the information will be used. Self-report rating scales are the most common method used to assess anxiety and depression in children in clinical and research settings (Silverman & Rabian, 1999). Whereas children and adolescents are thought to be the most accurate reporters of their own feelings and internal states, parents and teachers are better recorders of observable behaviors (Silverman & Rabian, 1999).

Rating scales are popular because they are inexpensive and easy to use. One of their many purposes is to screen and/or diagnose groups of children, in which case the instrument must differentiate children with clinical levels of anxiety from those who are asymptomatic. One factor that may affect the validity of rating scales is the tendency for individuals to answer items in such a way as to make themselves appear in the most positive light. To limit this effect, administration of directions should be carefully worded to encourage honest responding, such as telling children that there are no right or wrong answers. When screening children using rating scales, the clinician must be mindful that a scale may reveal more false-positive responses than true-

positive responses, meaning that children may appear more anxious than they really are (Costello & Angold, 1988). Therefore, once a rating scale has identified a child as having clinical levels of anxiety, further investigation into the child's cognitive and socioemotional functioning, by way of interviews or other diagnostic procedures, must be conducted to support or disconfirm the results of the rating scale.

Diagnosing anxiety disorders should be accomplished through diagnostic interviews, with rating scales used as a means of obtaining severity of symptoms. Rating scales may be used to identify and quantify symptoms and behaviors once the presence of an anxiety disorder has been established (Silverman & Rabian, 1999).

A potential problem with using rating scales to measure anxiety is that rating scales do a relatively poor job of differentiating anxiety and depression, which is further complicated by the disorders' high comorbidity rates. However, it may be beneficial to look for patterns of responses that point more to worry than to depressive symptoms, such as loss of interest in pleasurable activities, lack of motivation, and low self-esteem.

Behaviors that mediate anxiety may be identified through rating scales. For example, a child's responses may indicate that he or she avoids situations that lead to anxiety. It may also be possible to use rating scales to assess other variables that are secondarily affected by anxiety, such as peer or familial relationships (Silverman & Rabian, 1999). However, the validity of using rating scales to assess treatment progress is questionable, as improved scores may not represent a reduction in anxiety but rather reduced reporting of symptoms, or normal fluctuations in anxious thoughts and feelings (Silverman & Rabian, 1999).

Interviews

The most common method used to assess child psychopathology is the interview. There are structured, semistructured, and unstructured interviews with structured interviews requiring the least training and diagnostic experience to administer. In most cases, interviews are designed to detect symptoms consistent with DSM criteria. Many interviews include both child and parent versions. Interviews are crucial in diagnosing anxiety disorders because the more information a clinician has to make a diagnostic decision, the more reliable the decision should be. However, inherent problems with interviewing children can lower the reliability of diagnosis. Perhaps the biggest problem with using interviews to assess children is the reliance of the interviews on DSM structure. As stated previously, DSM criteria do not adequately detect developmental differences in the expression of symptoms, and most DSM criteria are based on adult symptomatology. Consequently, wide variation in children's answers to interview questions may occur, which clinicians may interpret differently (Kearney & Wadiak, 1999). Another DSM-related issue affecting the reliability of interviews is that child anxiety disorders and their criteria change with each new publication of DSM (Kearney & Wadiak, 1999). Furthermore, diagnosing specific types of anxiety disorders is less reliable than diagnosing the presence of an anxiety disorder, generally.

Behavioral Observations

Behavioral observations are critical in the assessment of anxiety for several reasons. First, assessment through the use of rating scales and interviews is limited by the desire of respondents to appear in a positive light or to please the administrator. In addition, anxiety symptoms are often expressed differently across settings, with some symptoms only appearing in certain environments or situations. A critical component of diagnosing anxiety disorders is determining the pervasiveness and severity of symptoms. Therefore, functional behavioral analyses should be conducted and antecedent and consequent events to the anxiety explored. Behavioral observations may also be helpful in developing appropriate and practical treatment goals for the anxious child.

In addition to functional behavior analyses, behavioral observations may take the form of behavioral approach tests (BATs), observational ratings, role-play tests, and self-monitoring. BATs are more frequently employed when specific phobia, social phobia, or generalized anxiety is suspected. A typical BAT includes brief stages, during

which the child is exposed to a feared stimulus, and response measurements are taken. An example of a five-stage BAT includes an initial adaptation stage, during which the child is placed in an environment and permitted time to adapt to the setting. Next, during the baseline stage, the clinician records the child's level of fear (e.g., by measuring heart rate), then the same procedure is conducted while the child is walking and moving during the walking baseline stage. The child is then exposed to a feared stimulus for a brief period, or until the fear subsides. Finally, the child is placed in the original setting with the feared stimulus absent, and the length of time to reach baseline levels is measured. The stages of a BAT may be conducted in simulated or natural settings. Natural settings are preferred, although external validity in either setting has not been well established.

Observational rating systems primarily measure motor behaviors that are consistent with anxious responding, such as verbalizations, trembling, avoiding, poor eye contact, and body rigidity. The Behavior Assessment System for Children (BASC)—Student Observation System is one example of an observational rating system. However, further research regarding reliability and validity of these measures is required.

Role-play tests are typically used with children diagnosed with social phobia and are administered by asking the child to respond during role plays as if they were in anxiety arousing situations. The test may include videotaping so that the child's responses may be analyzed. However, reliability and validity of role-playing tests have not been demonstrated.

Self-monitoring requires the child to record his or her own anxious responses by keeping diaries of antecedents, anxiety-producing events, and consequences or by recording thoughts that are associated with the anxiety. However, self-monitoring approaches may be limited by the child's language and cognitive capabilities and his or her willingness to comply with the procedure (Kearney & Wadiak, 1999).

Physiological Assessment

Due to the increase of physiological arousal in individuals with anxiety disorders, physiological assessment may be a particularly informative and useful tool. This relatively new area of study involves the measurement of bodily responses and vital functions in the assessment of anxiety, such as measuring heart rate, blood pressure, respiration, blood volume, skin temperature, and electrical activity in tense muscles (Kearney & Wadiak, 1999). However, to date, methodology regarding the use of physiological assessment of anxiety has not been well established. Normative, reliability, and validity data on physiological assessment have not been established.

INSTRUMENTS

The following section discusses a number of instruments commonly used to measure symptoms of anxiety. Although not a comprehensive list, this section provides examples of general behavior rating scales, anxiety scales, and interviews. The instruments listed vary with respect to format and respondent, and psychometric properties of each are reviewed.

Behavior Assessment System for Children

The Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) is a comprehensive diagnostic system for use with 4- to 18-year-olds, which includes a Structured Developmental History, Student Observation System, Teacher Rating Scales (TRS), Parent Rating Scales (PRS), and Self-Reports of Personality (SRP). The SDH and SOS do not have norms and cannot be readily integrated with information gathered from the rating scales but are an important inclusion in making differential diagnosis of emotional and behavioral disorders based on multiple sources of information. The TRS, PRS, and SRP provide scores based on national norms, gender within the norm group, or in comparison to a group of seriously emotionally disturbed children. In addition to clinical scales and composite scores for Internalizing and Externalizing behaviors, an Adaptive Scale is provided. The Adaptive Scale was constructed using items in concordance with current literature and is beneficial in assessing the mentally retarded. Use of the scale in its entirety is

helpful in profiling strengths as well as weaknesses.

The BASC was developed using exceptional standardization procedures, as item analyses were carefully conducted to ensure adequate discrimination and assessed for discrepancies in performance by gender or ethnicity. Where the sample did not match the population on ethnicity, maternal education, geographical region, and special education placement, weighting was used to create unbiased norms. While the BASC also includes a clinical sample, the largest component of which included behavior disorders and attention-deficit/hyperactivity disorder, this sample was not adjusted, and white males were overrepresented.

Internal consistency estimates were good for all scales with alphas ranging in the .80s and .90s, and the clinical sample has similar internal consistencies. However, alphas for individual scales were lower than for composites. For example, the PRS revealed average coefficients in the mid to upper .70s (Jones & Witt, 1994). Test–retest reliabilities, with a 1-month interval between administrations, were also in the mid-.80s to mid-.90s with the exception of some in the .70s for the PRS for adolescents. Interrater reliabilities for the TRS were somewhat low for the preschool form of the BASC, but composite correlations ranged from .69 to .89. Moderate correlations were found between the PRSs for all age groups. Latent trait analyses and factor analyses were conducted to establish the scales and composites ensuring good construct validity, and the three-factor structure of Internalizing, Externalizing, and Adaptive Skills was supported. Correlations between the TRS and several other teacher rating scales were high. The PRS was also correlated highly with the Child Behavior Checklist and moderately with the Personality Inventory for Children—Revised and the Conners Parent Rating Scales. The SRP correlations with other self-report inventories varied and indicate that the BASC-SRP may measure something different than some of the other scales. Validity of the BASC was also supported by the performance of many groups of children with previously acquired diagnoses of conduct disorder, behavior disorder, depression, emotional disturbance, attention-deficit/hyperactivity disorder, learning disability, mild mental retardation, and autism. Convergent and discriminant validity was demonstrated. While the correlations were relatively high between the TRS and PRS, with the exception of those at the preschool level, they were only low to moderate between the SRP and PRS and between the SRP and TRS. In summary, the BASC's easy-to-use format, well-constructed manual, and sound psychometric properties make it an excellent choice in assessing a child's behavioral and emotional functioning. While the reliability and validity of the TRS and PRS are highest, the SRP is adequate, but the reading level required of 8- to 11-year-olds may limit its use with this age group (Sandoval, 1998).

Personality Inventory for Children—Revised

This rating scale, to be completed by the child's guardian, preferably the biological mother, is to be used for children ages 3–16 (PIC; Wirt, Lachar, Klinedinst, & Seat, 1984). The test was designed in the late 1970s to elicit 33 scaled scores, 16 profile scores, and 17 experimental scores describing a child's behavior, emotional and cognitive processes, and family characteristics. While the entire Personality Inventory for Children (PIC) contains 600 true/false items, it is possible to administer only certain sections of the test (e.g., eliminating the supplemental experimental scales). The format of the test is easy to understand and follow, and only a sixth- to seventh-grade reading level is required of the respondent.

As the PIC was normed using biological mothers, validity may be affected if someone other than the biological mother completes the scale. Also, the form should be completed in one sitting, if possible, so that answers are not contaminated if the respondent talks to someone else about the items between test sessions. Despite the length of the PIC, clinicians should not be discouraged from administering additional instruments to other family members or to those individuals familiar with the child in order to obtain a comprehensive picture of the child's functioning.

The area of primary concern in administering the PIC relates to the test's outdated norms. The original test was normed be-

tween 1958 and 1962 in a relatively small geographical area. Although new scale items were developed in the 1970s, the old norms were applied. Furthermore, the manual lacks specific age and gender norm differences, which do not coincide with the effects of development on the characteristics that the scales purport to measure. The revised manual lists studies from the 1977 manual to support reliabilities for each scale, which ranged from .46 to .94 for a psychiatric outpatient sample, from .50 to .89 for a sample of normal children, and from .68 to .97 with another sample of normal children. One internal consistency study conducted with a heterogeneous clinic sample estimated alpha between .57 and .86 for the scales. A vast array of validity studies conducted on the PIC indicated excellent results. However, a national restandardization of the PIC is needed to determine its current diagnostic utility (Knoff, 1989).

Piers–Harris Children's Self-Concept Scale

The Piers–Harris Children's Self-Concept Scale (CSCS; Piers & Harris, 1969) was originally designed to measure children and adolescents' self-concepts. The scale, which can be used with children in grades 4–12, and requires a third-grade reading level, includes 80 yes-or-no questions about how the child feels about him or herself in a self-report format. The Piers–Harris produces six cluster scores (Behavior, Intellectual and School Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction), an overall self-concept scale, a Response Bias Index, and an Inconsistency Index. The comprehensive manual, revised in 1984, is easy to follow and does a good job of cautioning the user against interpreting the scale without support from other instruments and in listing its weaknesses.

Although the Piers–Harris has not been renormed since the original standardization sample, which included 1,183 students in Pennsylvania, several recent reliability and validity studies have supported its continued use. Internal consistency estimates for the Total Score ranged from .73 to .81, and test–retest reliabilities ranged from .42 to .96. Validity studies comparing the Piers–Harris with other measures of self-concept, personality, and behavior revealed moderate relationships. Factorial validity studies have resulted in conflicting results. Some studies supported the six-factor structure, but others found additional factors or indicated factor instability. Therefore, interpretation of cluster scores may not be valid.

The ease of use, brevity, and sound reliability and validity make the Piers–Harris an attractive option for assessing self-concept and provide a base for the further investigation of anxiety related issues. However, the outdated norms and the limited geographical region in which the test was originally normed are areas that require future investigation (Epstein, 1985).

State–Trait Anxiety Inventory

The State–Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1969), for ages 9–16 and adults, assess anxiety on two levels, state and trait anxiety. State anxiety is represented by the authors as an immediate sense of how one is feeling, whereas trait anxiety is a more permanent condition. Each level is measured by 20 items in counterbalanced order. The theory behind the state and trait anxiety distinction is well-outlined in the manual, which is also easy to read and interpret.

The STAI was normed on 377 high school juniors, 982 college freshman, 484 introductory psychology course students, 461 male neuropsychiatric patients, 161 general medical and surgical patients, and 212 state prisoners. Separate norms are provided for males and females. Normative means and standard deviations are provided for particular psychiatric diagnoses, medical patients, and prisoners.

Internal consistency coefficients range from .83 to .92 for high school and college students' state scores and from .86 to .92 for trait scores. Test–retest reliabilities were reported as follows: State Anxiety with a 1-hour interval between test administrations was .33 for males and .16 for females, with a 20-day interval was .54 for males and .27 for females, and with a 104-day interval was .33 for males and .31 for females. Trait anxiety was .84 for males and .76 for females after 1 hour, .86 for males and .76 for females after 20 days, and .73 for males and .77 for females after 104 days. Criterion-

related validity studies indicated that the STAI college women were highly correlated with other measures. Factor analyses generally supported the distinction between state and trait anxiety (Dreger, 1978).

Revised Children's Manifest Anxiety Scale

The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985) was designed to assess the level of children's anxiety across five scales; Physiological Anxiety, Worry/Oversensitivity, Social Concerns/Concentration, Total Anxiety, and Lie. The test can be used with children and adolescents from the ages of 6–19, requires a third-grade reading level, and is formatted into a 37-item self-report. The extremely well-organized manual contains information regarding the theory of anxiety on which the test is based and several case studies that demonstrate how the test was used as part of a larger psychoeducational battery. The RCMAS manual is easy to use and contains the necessary information for interpretation of each of the five scores; however, the authors caution against using the three individual anxiety scaled scores for more than hypothesis generation due to their low reliability. They do recommend using the separate norms provided according to age, sex, and ethnicity (Gresham, 1989). The large standardization sample of 4,972 included 44% white males, 44% white females, 5.8% African American males, and 6% African American females and covered a variety of geographic regions throughout the United States.

Internal consistency studies revealed alpha levels for Caucasian and African American males and females for each age level for the Total Anxiety Score in addition to standard errors of measurement for the Total Anxiety Score. Coefficient alphas ranged from .42 to .84, so interpretation for groups with lower reliability estimates should be made cautiously. Internal consistency for each of the anxiety subscales was lower than optimal for direct interpretation. Test–retest reliability estimates were reported for the Total Anxiety Score at .68 and for the Lie Scale Score at .58 with an interval of 9 months, but when the interval was 3 weeks, test–retest reliability was reported at .98. No test–retest coefficients were provided for groups older than the seventh grade. The authors' claim that the RCMAS is a measure of trait, as opposed to state, anxiety was supported by a validity study that indicates that the Total Anxiety Score is more highly correlated with a measure of trait anxiety than state anxiety on the STAIC (Revised Children's Manifest Anxiety Scale; Stewart, 1989). The factor analysis produced a five factor solution, but theoretically invalid rotation procedures reported in the manual may render the five-factor structure uninterpretable (Grisham, 1989).

Child Anxiety Scale

The Child Anxiety Scale (CAS; Gillis, 1980) is a self-report questionnaire that was derived from the Early School Personality Questionnaire (ESPQ) developed by Coan and Cattell in 1959. The 20-item scale can be administered to children from ages 5–12 and is easy for young children to understand due to its dichotomous response method of choosing either a red or blue circle in response to pictorial and audiotaped items. Young children may still have difficulty understanding the nature of the task, and neither a lie nor social desirability scale is provided. However, the bright and colorful nature of the scale, in addition to its brevity, make it an appealing choice for use with children.

The author gives separate age and grade norms but does not separate norms by gender, claiming that the tendency for females to score higher than males was not strong enough to warrant separate norms. The 2,105 children sample is described in the manual according to geographic region and ethnicity. The one area of concern regarding the norming sample relates to the small number of children from urban areas that were included in the norming sample. Seventy-five percent of the children were sampled from areas with populations less than 50,000, indicating that use of the instrument with children from urban settings should be interpreted cautiously. Test–retest and internal consistency coefficients were good. Test–retest coefficients for first- through third-graders ranged from .82 to .92, and a Kuder–Richardson 20 coefficient for internal consistency was .81. However, validity studies are severely lacking, as the

manual reports no correlations between the CAS and other measures of anxiety. However, factorial validity is supported by factor analyses conducted on the ESPQ (Maxwell, 1985).

Multidimensional Anxiety Scale for Children

The Multidimensional Anxiety Scale for Children (MASC; March, 1997) is a self-report measure that can be used to assess anxiety in children and adolescents ages 8–19. The MASC is a brief measure consisting of items rated on a 0- (never true about me) to 4-point (always true about me) Likert scale, with 4 indicating the most severe emotional problems. The MASC produces a total of four factor scales, a total scale, and a validity scale, which amount to 13 subscales, including Physical Symptoms (Tense Symptoms Subscale, Somatic Symptoms Subscale, Total), Harm Avoidance (Perfectionism Subscale, Anxious Coping Subscale, Total), Social Anxiety (Humiliation Fears Subscale, Performance Fears Subscale, Total), Separation/Panic, Total Anxiety, Anxiety Disorders Index, and an Inconsistency Index. Total testing time is 15 minutes (Caruso, 2001).

Although reliability and validity of the scale were generally acceptable, the reliability of some specific subscales were questionable. For example, the Perfectionism and Anxious Coping Subscales of the Harm Avoidance Scale, the Performance Fears Subscale, and the Anxiety Disorders Index all had internal consistency reliability coefficients of less than .65 in the normative sample. However, the Anxiety Disorders Index consists of items tapping several types of anxiety disorders, which may account for the heterogeneity of test items. Validity was demonstrated through confirmatory factor analysis, which supported the four factor structure. The four general scores and the Anxiety Disorders Index effectively discriminated between a random subset from the normative sample and a separate group of children with DSM-IV diagnosed anxiety disorders. Caution should be used in diagnosing OCD, however, because children with OCD were not included in the group used to develop the Anxiety Disorder Index Scale. Further validity studies are warranted to determine if the scale can differentiate between different types of anxiety disorders (Christopher, 2001).

The norming sample consisted of 2,698 children and adolescents but lacked an adequate representation of minorities, particularly Hispanic children, in relation to census proportions. The racial distribution of the sample was as follows: 53.3 % Caucasians, 39.2 % African Americans, 7% Hispanic/Latin Americans, 1.4 % Asian Americans, 2.4% Native Americans, and 3 % other. Separate norms are provided for males and females in 4-year intervals but not for racial groups. The test has a fourth-grade reading level, and items may be read to young test takers, but no validity data regarding the ability of nonnative English speakers to respond to test items is provided (Caruso, 2001).

The MASC-10 is a short version of the original test providing a single score to be used for screening purposes. The validity of this measure was less than optimal, and internal consistency coefficients were also questionable. Overall, the MASC appears to be a useful screening tool. However, further validity studies are required to support its diagnostic value (Caruso, 2001).

Anxiety Scales for Children and Adults

The Anxiety Scales for Children and Adults (ASCA; Battle, 1993) was developed to measure the presence and level of anxiety in individuals via a self-report form. There are two forms, form Q for children and form M for adults. Both forms list items that, according to the authors, correspond to common symptoms of anxiety. The child form contains 25 dichotomously scored items, while the adult form contains 40 items from 1 (*never*) to 5 (*always*).

No mention of item analysis, internal consistency analysis, or factor analysis is made in the manual. Due to a lack of information that one would expect in the manual in regard to development of the test items, the basis on which the items were chosen (e.g., according to DSM criteria) is not apparent (Merenda, 1995). According to a review by Oehler-Stinnett (1995), no distinction is made by the authors between real or imagined anxiety-producing stimuli, state or trait anxiety symptoms, and fear, worry, or panic. Test–retest reliability is reported at

.82 to .96, but time between testing was 1 week for the child's form and 2 weeks for the adult form. Furthermore, the manual is lacking in empirical evidence for construct validity so it is unclear how closely the test measures anxiety and if there are any specific types of anxiety that the test measures better than others. Predictive validity is not discussed in detail. Studies of concurrent validity revealed that the ASCA Form Q was correlated with the State–Trait Anxiety Inventory for Children at $r = .64$ and the Nervous Symptoms subtest of the California Test of Personality at $r = .66$. Form M was correlated with the Taylor Anxiety Scale for Adults at $r = .75$ and the Nervous Symptoms subtest of the California Test of Personality at $r = .63$ (Oehler-Stinnett, 1995). However, the ASCA was also highly correlated with several depression inventories, calling into question interpretability of the scores as used to measure anxiety. The manual also lacks studies regarding performance on the ASCA by age, socioeconomic status, race, or clinical populations. In summary, one should use caution in using this form for diagnostic or treatment decisions due to the lack of empirical support for the test's validity (Merenda, 1995).

Social Phobia and Anxiety Inventory

The Social Phobia and Anxiety Inventory (SPAI; Turner, Beidel, & Dancu, 1996) is a self-report rating scale that assesses the presence of social phobia characteristics in individuals 14 and over. The test produces three scores, a Social Phobia Score (SP), Agoraphobia Score (Ag), and a Difference score (SP minus Ag), from a 6-point Likert scale assessing how frequently the test taker experiences anxiety in response to given circumstances. A sixth-grade reading level is required to take the test without assistance.

Although the SPAI is easy to score, the rationale for scoring methods is not fully explained in the manual. Furthermore, the authors endorse the use of clinical judgment in interpreting the pattern of responses given by examinees. For example, the test does not delineate a separate score for anxiety in particular situations, such as with strangers, but a trained clinician may glean this information by reviewing the pattern of item scores.

Of the 308 college students used in test development, 182 were used to calculate test–retest reliability, which resulted in the following scores: $r(173) = .85$ for SP, $r(173) = .74$ for Ag, and $r(173) = .86$ for Difference scores, suggesting adequate stability across test administrations. Internal consistency scores were also high, as Cronbach's alpha was estimated at .96 for SP and .85 for Ag scores. Validity studies supported the use of the SPAI for identifying social phobia in individuals. Although factor analysis was performed, factor structures varied from group to group. However, confirmatory factor analyses performed by the authors supported the two-factor (SP and Ag) solution (Walcott, 2001). Furthermore, the authors' claim that the Difference score produces a purer measure of social phobia has been debated. The apparent redundancy of test items may cause concern over the validity of interpreting scores based on these items. The authors do provide information regarding interpretation of the SPAI for different genders, ages, and races, although sample sizes on which this information was based were relatively small (Engelhard, 2001). Although the SPAI has primarily been used with adults, a newer version for children, the SPAI-C, has been developed (Walcott, 2001).

Test Anxiety Profile

The Test Anxiety Profile (TAP; Oetting & Deffenbacher, 1980) provides a measure of test anxiety in a variety of different testing situations for individuals in grades nine through college. Two components of anxiety are assessed across six different testing situations, (multiple choice test, time-limit test, "pop" quiz, essay test, giving talk, and math test) providing 12 scores. In addition, two anxiety scores may be used to assess a student's anxiety feelings and thoughts in unique testing situations. The Feeling Anxiety (FA) score purports to measure self-perceived emotions and physiological responses to particular testing situations, and the Thought Interference (TI) score was constructed to measure a person's cognitions that may interfere with thought processes required to perform efficiently on an exam.

Although the authors have studied test anxiety extensively, and the TAP appears to

have adequate psychometric properties, the manual does not describe in detail the norming sample and the procedures used to construct individual items. It appears that the sample consisted of 600 Colorado State University students with reliability and validity studies based on this sample and a sample of 61 high school students. However, the internal consistency estimates reported for the college student sample ranged from .88 to .96. Furthermore, a test–retest reliability study with a 7- to 10-week interval between tests revealed coefficients ranging from .66 to .81. Criterion validity studies resulted in correlations from .28 to .59. Discriminant validity studies appeared to conform to patterns of perceived thoughts and emotions before and after test taking in the anxiety literature; however, no evidence was provided to support that the FA and TI scales measure what they are intended to measure (Brown, 1985). In summary, the TAP appears to have adequate psychometric properties to be a useful diagnostic tool, but other factors, such as study skills and test-taking strategies should be examined as possibly influencing scores on this measure.

Schedule for Affective Disorders and Schizophrenia, Third Edition

The SADS (Endicott & Spitzer, 1978) is a semistructured interview developed in the mid-1970s primarily as a research tool to identify groups of patients with the same psychiatric symptoms. The SADS was designed to decrease the unreliability of diagnostic practices by providing questions in a sequential format based on the Research Diagnostic Criteria, a forerunner to DSM-III (RDC; Spitzer, Endicott, & Robins, 1975). The SADS takes approximately 1½ to 2 hours to administer and is divided into two parts, focusing on the current episode and past history, respectively. However, not all DSM diagnoses can be obtained by using the SADS, most notably PTSD. The interview results in a total of 24 scales including a Global Assessment Scale. The SADS has been reliable in diagnosing many disorders, but the reliability depends on the validity of measurement with each specific disorder. Concurrent validity studies comparing the diagnoses of the SADS with those of the Diagnostic Interview Schedule were weak, indicating that using the SADS for diagnostic purposes rather than as it was intended, as a research instrument, may not be useful. Intensive training and practice is recommended to use the SADS, as the format is somewhat confusing and assumes a certain level of knowledge of the subject area. Furthermore, the terminology may be outdated and translation into current symptom terminology may be necessary.

The Kiddie-Schedule for Affective Disorders (K-SADS; Kaufman, Birmaher, Brent, Ryan, & Rao, 2000) has been modified from the SADS to be used with school-age children (Carmer, 1995). The K-SADS addresses most anxiety disorders through parent and child interviews, and like the SADS, continues to focus on past and present episodes of psychopathology. Due to the unreliability of diagnosing the specific anxiety disorders, several different versions of the K-SADS have also been developed in attempts to address structural inadequacies of the interviews (Silverman, 1994).

Anxiety Disorders Interview Schedule for DSM-IV: Child Version

The Anxiety Disorders Interview Schedule for DSM-IV: Child Version (ADIS for DSM-IV:C) was revised from the ADIS-C in 1996, which was revised from the original 1983 version of the ADIS (Silverman & Albano, 1996). The interview can be used with children ages 7–17, who are suspected of having any of the anxiety disorders listed in DSM-IV. The semistructured interviews were developed to be consistent with DSM-IV criteria, and include a child version as well as a detailed parent version. In addition to sections devoted to the anxiety disorders, separate sections that assess mood and externalizing disorders, school refusal behavior, and screening sections for substance abuse, psychosis, selective mutism, eating disorders, somatoform disorders, and learning disorders are included. According to the authors, the ADIS for DSM-IV:C is an effective instrument for use with research and clinical populations. It is recommended that both the child and parent interviews be administered to obtain a comprehensive diagnosis. All diagnostic questions can by answered dichotomously (e.g., yes/no), and interference scores that rate the degree to

which symptoms interfere with the child's life may be given on a 0–8 scale. The child interview begins with an explanation of the "Feelings Thermometer," which allows the child to visually rank his or her feelings of anxiety by choosing the appropriately filled thermometer.

The manual reports internal reliability estimates of between .64 to 1.00 for each of the specific anxiety disorders with an overall kappa of .75. Test–retest reliability coefficients obtained from a sample of 50 outpatients with a 10–14-day interval between test administrations ranged from .64 to .84 for individual anxiety disorders and .75 overall. The authors report that criterion validity for symptom scale scores and for symptom summary scores is good for both the parent and child interviews (Albano & Silverman, 1996.)

CONCLUSION

To more fully understand the way in which children and adolescents experience anxiety, further research must investigate the nature of worry in typically developing children versus children who develop symptoms at clinically significant levels. Thus far, most of the literature regarding the assessment of anxiety has been developed through investigations of adult symptoms. Even the prevalence of specific anxiety disorders and the frequency of occurrence of anxiety symptoms in children are largely unknown, and to date, extensive investigation into the progression of anxiety symptoms from childhood into adolescence and adulthood is lacking (Albano et al., 1996). Consistent with these future studies are continued explorations into optimal diagnostic methods for children and adolescents, which may include alternatives to categorical systems.

In addition to further inquiry into anxiety assessment, advances in treatment methods, including pharmacological developments, will follow new research. Currently, adrenergic, seratonergic, and GABA(4-aminobutyrate)ergic neurotransmitter systems have been explored in regard to anxiety (Bernstein, 1994). Yet once again, a paucity of literature exists that focuses on the use of anxiety medications with children and adolescents. The effectiveness of medications used to treat different childhood anxiety disorders has also not been well studied. These issues are particularly important given the increasingly high rate of anxiety disorders detected in school children. While attention and behavior problems were once thought to be the most serious childhood disturbances in school, recent research has uncovered that internalizing problems, such as anxiety disorders, may be even more prevalent. Thus, school-based approaches will be new areas of practice and research in psychology, and new advances in assessment, as well as treatment, will surely follow.

REFERENCES

Albano, A. M., Chorpita, B. F., & Barlow, D. H. (1996). Childhood anxiety disorders. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 196–241). New York: Guilford Press.

Albano, A. M., & Silverman, W. K. (1996). *Anxiety Disorders Interview Schedule for DSM-IV: Clinician manual.* San Antonio, TX: Psychological Corporation.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Anderson, J. C. (1994). Epidemiological issues. In T. H. Ollendick, N. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 43–65). New York: Plenum Press.

Battle, J. (1993). *Anxiety scales for children and adults.* Austin, TX: Pro-Ed.

Beidel, D. C., & Stanley, M. A. (1993). In C. G. Last (Ed.), *Anxiety across the lifespan: A developmental perspective* (pp. 167–203). New York: Springer.

Bell-Dolan, D., & Brazeal, T. J. (1993). Separation anxiety disorder, overanxious disorder, and school refusal. *Child and Adolescent Psychiatric Clinics of North America, 2,* 583–580.

Bernstein, G. A. (1994). Psychopharmocological interventions. In T. H. Ollendick, J. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 169–186). New York: Plenum Press.

Berstein, G. A., & Borchardt, C. M. (1991). Anxiety disorders of childhood and adolescence: A critical review. *Journal of the American Academy of Child and Adolescent Psychiatry, 30,* 519–532.

Blagg, N., & Yule, W. (1994). School refusal. In T. H. Ollendick, J. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 169–186). New York: Plenum Press.

Brown, S. D. (1985). Test Anxiety Profile. In *The ninth mental measurements yearbook* (Vol. 2, pp. 1543–1545). Lincoln: University of Nebraska Press.

Carmer, J. C. (1995). Schedule for Affective Disorders and Schizophrenia, Third Edition. In *The twelfth mental measurements yearbook* (pp. 918–919). Lincoln: University of Nebraska Press.

Caruso, J. C. (2001). Multidimensional Anxiety Scale for Children. In *The fourteenth mental measurements yearbook* (pp. 799–800). Lincoln: University of Nebraska Press.

Christopher, R. (2001). Multidimensional Anxiety Scale for Children. In *The fourteenth mental measurements yearbook* (pp. 801–803). Lincoln: University of Nebraska Press.

Coan, R. W., & Cattell, R. B. (1959). The development of the Early School Personality Questionnaire. *Journal of Experimental Education, 28,* 143–152.

Costello, E. J., & Angold, A. (1988). Scales to assess child and adolescent depression: Checklists, screens, and nets. *Journal of the American Academy of Child and Adolescent Psychiatry, 27,* 726–737:.

Dreger, R. M. (1978). State–Trait Anxiety Inventory. In *The eighth mental measurements yearbook* (Vol. 1, pp. 1094–1096). Lincoln: University of Nebraska Press.

Endicott, J., & Spitzer, R. L. (1978). *A diagnostic interview: The Schedule for Affective Disorders and Schizophrenia.* New York: Department of Research Assessment and Training, New York State Psychiatric Institute.

Engelhard, G. (2001). Social Phobia and Anxiety Inventory. In *The fourteenth mental measurements yearbook* (pp. 1161–1163). Lincoln: University of Nebraska Press.

Epstein. H. (1985). Piers–Harris Children's Self-Concept Scale. In *The ninth mental measurements yearbook* (Vol. 2, pp. 1168–1169). Lincoln: University of Nebraska Press.

Gillis, J. S. (1980). *Child Anxiety Scale.* Champaign, IL: Institute for Personality and Ability Testing Inc.

Gresham, F. (1989). Revised Children's Manifest Anxiety Scale. In *The tenth mental measurements yearbook* (pp. 695–697). Lincoln: University of Nebraska Press.

Herbert, M. (1994). Etiological considerations. In T. H. Ollendick, N. J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 3–20). New York: Plenum Press.

Jones, K. M. & Witt, J. C. (1994). Rating the ratings of raters: A critique of the Behavior Assessment System for Children. *Child Assessment News, 4,* 10–11.

Kaufman, J., Birmaher, B., Brent, D. A., Ryan, N. D., & Rao, U. (2000). K-SADS-PL. *Journal of the American Academy of Child and Adolescent Psychiatry, 39,* 1208.

Kearney, C. A., & Allan, W. D. (1995). Panic disorder with or without agoraphobia. In A. R. Eisen, C. A. Kearney, & Schaefer (Eds.), *Clinical handbook of anxiety disorders in children and adolescents* (pp. 251–281). Northvale, NJ: Jason Aronson.

Kearney, C. A., & Wadiak, C. (1999). In S. D. Netherton, D. Holmes, & C. E. Walker (Eds.), *Child and adolescent psychological disorders: A comprehensive textbook* (pp. 282–303). New York: Oxford University Press.

Knoff, H. M. (1989). Personality Inventory for Children, Revised Format. In *The tenth mental measurements yearbook* (pp. 625–630). Lincoln: University of Nebraska Press.

Last, C. G., & Strauss, C. C. (1989). Obsessive–compulsive disorder in childhood. *Journal of Anxiety Disorders, 3,* 295–302.

Last, C. G., Strauss, C. C., & Francis, G. (1987). Comorbidity among childhood anxiety disorders. *Journal of Nervous and Mental Disease, 175,* 726–730.

March, J. (1997). *Multidimensional Anxiety Scale for Children.* Tonawanda, NY: Multi-Health Systems.

Maxwell, S. (1985). Child Anxiety Scale. In *The ninth mental measurements yearbook* (Vol. 1, pp. 297–298). Lincoln: University of Nebraska Press.

Merenda, P. F. (1995). Anxiety Scales for Children and Adults. In *The twelfth mental measurements yearbook* (pp. 78–79). Lincoln: University of Nebraska Press.

Oehler-Stinett, J. (1995). Anxiety Scales for Children and Adults. In *The twelfth mental measurements yearbook* (pp. 79–81). Lincoln: University of Nebraska Press.

Oetting, E. R., & Deffenbacher, J. L. (1980). *Test Anxiety Profile.* Fort Collins, CO: Rocky Mountain Behavioral Science Institute.

Piers, E. V., & Harris, D. B. (1969). *Piers–Harris Children's Self-Concept Scale (The Way I Feel About Myself).* Los Angeles, CA: Western Psychological Services.

Reynolds, C. R., & Kamphaus, R. W. (1992). *Behavior Assessment System for Children.* Circle Pines, MN: AGS.

Reynolds, C. R., & Richmond, B. O. (1985). *Revised Children's Manifest Anxiety Scale.* Los Angeles, CA: Western Psychological Services.

Sandoval, J. (1998). Behavior Assessment System for Children. In *The thirteenth mental measurements yearbook* (pp. 128–131). Lincoln: University of Nebraska Press.

Silverman, W. K. (1994). Structured diagnostic interviews. In T. H. Ollendick, N. J., King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 293–315). New York: Plenum Press.

Silverman, W. K., & Albano, A. M. (1996). *The Anxiety Disorders Interview Schedule for DSM-IV—Child and Parent Versions.* San Antonio, TX: Psychological Corporation.

Silverman, W. K., & Rabian, B. (1999). Rating Scales for Anxiety and Mood Disorders. In D. Shaffer & C. P. Lucas (Eds.), *Diagnostic assessment in child and adolescent psychopathology* (pp. 127–166). New York: Guilford Press.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. (1970). *State–Trait Anxiety Inventory.* Palo Alto, CA: Consulting Psychologists Press, Inc.

Spitzer, R. L., Endicott, J., & Robins, E. (1975). *Research Diagnostic Criteria (RDC).* New York: Biometrics Research, New York State Psychiatric Institute.

Stewart, K. J. (1989). Revised Children's Manifest Anxiety Scale. In *tenth mental measurements year-*

book (pp. 697–699). Lincoln: University of Nebraska Press.

Swedo, S. E., Rapoport, J. L., Leonard, H., Lenane, M., & Cheslow, D. (1989). Obsessive-compulsive disorder in children and adolescents: Clinical phenomenology of 70 consecutive cases. *Archives of General Psychiatry, 46,* 335–341.

Turner, S. M., Beidel, D. C., & Dancu, C. V. (1996). *Social Phobia and Anxiety Inventory.* Tonawanda, NY: Multi-Health Systems.

Walcott, D. D. (2001). Social Phobia and Anxiety Inventory. In *The fourteenth mental measurements yearbook* (pp. 1163–1164). Lincoln: University of Nebraska Press.

Wirt, R. D., Lachar, D., Klinedinst, J. K., & Seat, P. D. (1984). *Multidimensional description of child personality: A manual for the Personality Inventory for Children.* Los Angeles, CA: Western Psychological Services.