

Adapting Manualized CBT for a Cognitively Delayed Child With Multiple Anxiety Disorders

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Abstract: This study examined the effectiveness of a modified cognitive-behavioral therapy (CBT) program for the treatment of a cognitively delayed 8-year-old girl presenting with social phobia, selective mutism, and generalized anxiety disorder (GAD). Multimethod assessment, at pretreatment and posttreatment, included a semistructured diagnostic interview, self-reports, and parent and teacher reports. Cognitive delays were apparent at the initial assessment and confirmed on review of previous evaluations. CBT for anxious youth was implemented in a modified fashion to ensure that the methods built on the child's competencies and were compatible with her developmental capacities. Following 20 CBT sessions, posttreatment assessment indicated significant reduction in anxiety symptoms, as indicated by the diagnostic interview and self-report and other report of symptomatology. The child no longer met diagnostic criteria for GAD or selective mutism at posttreatment. The case study illustrates how CBT can be modified and applied flexibly in response to individual needs and limitations of the child.

Keywords: anxiety; cognitive development; treatment outcome

1 THEORETICAL AND RESEARCH BASIS

Several randomized clinical trials (RCT) support the efficacy of cognitive-behavioral therapy (CBT) in the treatment of anxiety in youth, both at posttreatment assessment (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall et al., 1997) and at follow-up periods of 1 to 7.4 years (Barrett et al., 1996; Kendall, Safford, Flannery-Schroeder, & Webb, 2004; Kendall & Southam-Gerow, 1996). Using criteria published by the APA Task Force on the Promotion and Dissemination of Psychological Procedures, CBT can be considered a "probably efficacious" treatment for anxiety disorders in children (e.g., Ollendick & King, 2000).

The main objectives of CBT for anxious youth (see Kendall, 2000a and 2000b) are to learn skills to recognize and manage unwanted anxiety and to generalize these skills to out-of-session, real-life situations. During the first half of the approximately 16-session therapy program, children are taught skills to identify and manage anxiety. The second 8 sessions provide children with opportunities to practice the newly acquired skills in increasingly anxiety-provoking situations. The CBT program is presented using the FEAR acronym to facilitate learning: (a) recognizing bodily symptoms of anxiety (i.e., Feeling frightened), (b) identifying maladaptive cognition in anxiety-provoking situations (i.e., Expecting bad things to happen), (c) developing a repertoire of coping strategies (i.e., Attitudes and actions that can help), and (d) behavioral reinforcement (i.e., Results and rewards). Various behavioral strategies are implemented during the therapy process and include modeling, role-play, contingent reinforcement, relaxation training, and imaginal and in vivo exposure tasks (for a practical discussion regarding the design and implementation of exposures, see Kendall et al., 2005). Finally, children complete "Show That I Can" tasks (referred to as STIC tasks) out of session each week to facilitate the generalization of skills learned in session to real-life situations.

Although CBT has been delegated probably efficacious status, most of the studies demonstrating the efficacy of the approach have been conducted with children exhibiting at least average-level cognitive abilities. These studies (e.g., Kendall, 1994; Kendall et al., 1997) have demonstrated the therapeutic gains that CBT can yield in youth displaying normative cognitive functioning. However, CBT often relies on procedures that may be beyond the developmental capacities of children exhibiting below-average intellectual functioning. For example, CBT often incorporates effort to help the child examine his or her own thoughts (requiring skills of metacognition), to assist the child in seeing events, conditions, and even himself or herself from the perspective of others (requiring perspective-taking skills), and to help the child see the connections between thoughts and mood or behavior (requiring causal reasoning skills). Accordingly, it has been suggested that the effectiveness of such programs may depend on the cognitive capacity of the child being treated (e.g., Kendall, Lerner, & Craighead, 1984; Shirk, 1999; Weisz & Weersing, 1999). How might CBT be applied for a child who evidences clinically impairing anxiety disorders but for whom the intellectual functioning of the participants in the aforementioned RCTs is not evident?

2 CASE PRESENTATION

Erica H. was an 8-year-old, Caucasian girl who was referred by her parents to the Child and Adolescent Anxiety Disorders Clinic at Temple University because of significant and interfering social anxiety. Mr. and Mrs. H. noted that Erica had

always been a shy child, except when around immediate family members. However, Erica's shyness had reportedly become increasingly problematic over time and was interfering with social relationships and engagement in classroom activities. Although Erica had not received any form of treatment for her anxiety in the past, previous evaluations indicated serious concerns about Erica's level of anxiety.

The complicating factor throughout the assessment process was Erica's cognitive limitations. Specifically, review of a prior psychoeducational evaluation of Erica indicated overall cognitive abilities in the borderline range (i.e., Full Scale IQ = 78) and learning difficulties in most academic domains. Erica demonstrated little insight into her difficulties, although she was quite obviously anxious throughout the assessment. Erica had great difficulty differentiating levels of anxiety. Specifically, Erica was presented with the Feelings Thermometer, which is a 9-point scale where 0 indicates that the child is *not at all* experiencing anxiety and 8 indicates *very, very much* anxiety. When Erica was queried about her level of anxiety in a particular situation, she most often quietly indicated that the situations did not make her anxious at all (i.e., 0) or made her extremely anxious (i.e., 8). The diagnostician questioned whether or not Erica actually experienced situations only at either extreme. However, in combination with other observations throughout the assessment (e.g., difficulty completing age-appropriate self-report questionnaires) and a review of a previous cognitive assessment, the diagnosticians concluded that Erica's self-reporting was most likely a reflection of her lack of understanding of the scale or of her emotional states.

Given Erica's limited cognitive functioning, her treatment plan was individualized to ensure that the CBT methods built on her competencies and were compatible with her developmental capacities. Specifically, her individualized treatment employed an increased focus on physical involvement (e.g., dancing and active games illustrating session content) and de-emphasized metacognitive content found to be appropriate for youth of average intellectual ability. Moreover, increased repetition provided Erica with a greater opportunity to grasp and retain treatment concepts, and drawing activities proved to be an effective manner in which to engage Erica in treatment. Erica participated in 20 sessions of CBT, and although she was not totally free of all anxiety at the end of treatment, she showed significant and meaningful improvement across multiple domains at posttreatment.

3 PRESENTING COMPLAINTS

Across reporters, the most problematic symptoms were those related to social anxiety. Specifically, Mr. and Mrs. H., Erica's parents, noted that although she

expressed a desire to interact with others, Erica was extremely hesitant to do so. Erica was reportedly inhibited in most settings including social situations and the classroom. She rarely talked to others outside of her immediate family, and when she did, it was only to people with whom Erica was very familiar. Mr. and Mrs. H. reported that they were not only concerned about Erica's social development but also believed strongly that her anxiety about communicating in the classroom was contributing to her academic difficulties. These same concerns were mirrored by Erica's teacher, who noted that Erica was fearful of answering questions in class, asking for help, and writing on the chalkboard. Erica's teacher also noted that she rarely initiated conversations with her peers in the school setting and communicated primarily in a nonverbal manner (e.g., nodding her head). Up to this point, Erica's teachers reported that they tried to "force" her to talk in the classroom by not accepting a nonverbal response (e.g., nodding or shrugging shoulders). They also transferred one of Erica's friends, who was previously in another classroom, to Erica's classroom to speak for her. Both of these strategies were ineffective in decreasing Erica's anxiety in the classroom. Mr. and Mrs. H. and Erica also reported that Erica worried about multiple domains, including her academic performance and keeping schedules (e.g., being on time for things such as school).

4 HISTORY

Mr. and Mrs. H. reported an unremarkable medical history and thought that Erica met developmental milestones within normal limits. They described Erica as always being a shy child, except at home, where she is quite loquacious and animated. The maternal side of Erica's family is positive for obsessive-compulsive disorder (OCD), and attention deficit/hyperactivity disorder, and the paternal side is positive for depression and suicide. At the time of treatment, Erica's older sister was also in treatment for OCD and a tic disorder. Reportedly, no one on either side of the family has exhibited social anxiety difficulties similar to Erica's, although learning difficulties are present on both sides of her family.

Erica lives at home with her biological parents and 12-year-old sister, whom Erica greatly admires. Erica's parents reported generally stable family relationships and denied significant stressors in the family. Erica is currently a second grader at a charter school, where she receives special services for reading and math. She repeated first grade because of her failure to make expected progress. Mr. and Mrs. H. first had Erica evaluated through a speech and language clinic when she was in first grade because of concerns about her expressive language abilities. Results of that evaluation indicated expressive and receptive language abilities within normal limits and conceptualized Erica's lack of verbal behavior as "severe social anxiety." Approximately 1 year later, she underwent a psychoeducational evaluation through

her school at the request of Mr. and Mrs. H., as they believed that her fear of communicating in the classroom was interfering with her learning. Results of the Wechsler Intelligence Scale for Children—third edition (Wechsler, 1991) indicated overall cognitive skills in the borderline range (i.e., 78) and verbal and perceptual-organizational abilities in the low average (i.e., 85) and borderline ranges (i.e., 74), respectively. Furthermore, Erica was found to have significant learning difficulties in most academic domains (i.e., achieving at the 10th percentile or lower in math, reading, and spelling) based on the Wide Range Achievement Test (Wilkinson, 1993). The evaluation also concluded, however, that Erica's anxiety was likely contributing to her academic difficulties. Erica had not received any prior psychological treatment.

5 ASSESSMENT

The pre- and posttreatment multimethod assessment battery included parent-, teacher-, and self-report and took approximately 3 hours to complete. Two diagnostically reliable graduate students in Temple University's clinical psychology doctoral program, who did not subsequently serve as the child's therapist, conducted the assessments. Diagnostic status was determined by the Anxiety Disorders Interview Schedule for Children (ADIS-C/P-IV). The ADIS-C/P-IV (Silverman & Albano, 1996) consists of child (ADIS-C) and parent (ADIS-P) semistructured interviews that assess anxiety, mood, and behavior disorders according to the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association, 1994). In scoring the ADIS-C/P-IV, a diagnosis is considered present if either the child- or parent-report meets diagnostic criteria for that disorder, the symptoms cause significant interference in functioning, and the clinician subsequently assigns a severity rating of 4 or greater (i.e., clinician severity rating, CSR—see Albano & Silverman, 1996). Based on the degree of interference the anxiety has caused in the child's life, CSRs range from 0 (*not at all*) to 8 (*very, very much*).

The ADIS-C/P has displayed excellent test-retest reliability for separation anxiety disorder (SAD), social phobia (SOP), specific phobia (SP), and generalized anxiety disorder (GAD) for the child and parent interviews (intraclass correlations ranging from .78 to .95 and from .81 to .96, respectively; κ ranging from .63 to .80 and from .65 to .88, respectively; Silverman et al., 2001). The ADIS-C/P for DSM-IV also has shown excellent test-retest reliability for SAD, SOP, SP, and GAD for the child and parent interviews (intraclass correlations ranging from .78 to .95 and from .81 to .96, respectively; Silverman et al., 2001).

Mr. and Mrs. H. also reported on Erica's anxiety using a 25-item parent version (STAIC-P; Strauss, 1987) of the trait scale of the State-Trait Anxiety Scale for

Children (STAIC; Spielberger, 1973). The items on this scale, which are endorsed using a 3-point scale, were modified from the original STAIC to assess parents' perceptions of the child's anxiety. The STAIC-P-Trait version demonstrates adequate psychometric properties. Southam-Gerow, Flannery-Schroeder, and Kendall (2001) reported Cronbach's alpha of .84 and good test-retest reliability of .62 for 8 weeks and .63 for 1 year. This measure also demonstrates concurrent and predictive validity. The STAIC-P-Trait version is highly correlated ($r = .46-.69$) with parent reports of youth internalizing symptomatology (as reported in the Child Behavior Checklist for Children, CBCL; Achenbach, 1991a, Anxious/Depressed Scale) but has low to medium correlations with child-report anxiety measures (e.g., the RCMAS, $r = .09-.33$) and teacher-report of child internalizing symptoms (e.g., Teacher Report Form, TRF, Anxious/Depressed Scale, $r = .05-.18$).

Mr. and Mrs. H. completed the CBCL (Achenbach, 1991a), and Erica's teacher completed the parallel teacher version, the TRF (Achenbach, 1991b). The 113-item scales yield broadband measures of children's internalizing and externalizing difficulties and social and academic functioning. The checklists have been extensively studied and demonstrate strong psychometric properties (Achenbach, 1991a). Achenbach (1991a) found the CBCL to demonstrate high retest reliability (with stability correlations ranging from .65 to .87), interparent agreement, and construct validity (with correlations ranging from .52 to .86). It was highly correlated with similar parent measures of child behavior, and critical cutoffs discriminated between referred and nonreferred youth.

Erica completed the Coping Questionnaire (CQ), which asks the child to generate three anxiety-provoking situations and rate his or her own perceived ability to manage the situations. The child indicates his or her perceived ability to cope with the anxiety-provoking situation using a 7-point scale (1 = *not at all able to help myself*, 7 = *completely able to help myself feel comfortable*). Previous research has used the CQ and found the measure to be sensitive to treatment-produced changes (e.g., Kendall, 1994; Kendall et al., 1997).

For a summary of the assessment results, see Tables 1 and 2. At pretreatment, Erica met *DSM-IV* criteria for three diagnoses (i.e., SOP, GAD, and selective mutism), all of relatively equal severity. Parent and teacher reports were relatively consistent; both noted that Erica "would rather be alone," "won't talk," and is "shy." Both reports also indicated that Erica is "nervous," "fearful," and "self-conscious." Erica herself indicated difficulty coping when around bugs but perceived herself as able to help herself when talking to other kids or worrying about her family finances. Erica's report that she was "completely" able to help herself feel less nervous when talking to other kids is highly inconsistent with all other information collected and likely reflects Erica's inability to understand the scale, her lack of insight into her difficulties, or her desire to present a less troubled picture of herself.

TABLE 1
Composite Diagnostic Profile Based on the Anxiety Disorders Interview Schedule for Children

	<i>Pretreatment Clinician Severity Rating (CSR)</i>	<i>Posttreatment Clinician Severity Rating</i>
Social phobia	6	5
Generalized anxiety disorder	5	— ^a
Selective mutism	5	— ^a

a. A CSR was not assigned because the child did not meet criteria to assign a CSR.

TABLE 2
Parent-, Teacher-, and Self-Report of Symptoms

	<i>Pretreatment</i>	<i>Posttreatment</i>
Mother		
Child Behavior Checklist for Children ^a		
Internalizing	62	54
Externalizing	32	32
Total	51	42
State-Trait Anxiety Scale for Children (STAIC-P) ^b	21	7
Father		
STAIC-P	8	5
Teacher: Teacher Report Form ^a		
Internalizing	66	64
Externalizing	42	42
Total	57	55
Child: Coping Questionnaire ^c		
Around bugs	1	5
Talking to other kids	7	7
Worried about family finances	7	4

a. Results are reported in *T*-scores, with higher scores indicating higher levels of symptomatology.

b. Results are reported in raw scores, with higher scores indicating higher levels of symptomatology.

c. Results are reported in raw scores, with higher scores indicating higher levels of self-efficacy.

6 CASE CONCEPTUALIZATION

Several models for the development of anxiety disorders exist (see Vasey & Dadds, 2001, for a summary). The developmental psychopathology perspective (Cicchetti & Cohen, 1995; Sroufe & Rutter, 1984) posits that there are a number of pathways by which a psychological disorder may develop (i.e., “equifinality”) and that a disorder is likely the result of an interaction among multiple factors. Likewise, the developmental psychopathology perspective states that variables (e.g., risk factors) do not always have the same outcome (i.e., “multifinality”). Consequently, examination of contextual factors is necessary to understand the development of a disorder.

Within a developmental psychopathology perspective, Erica's anxiety may be understood. In terms of the development of Erica's anxiety, Mr. and Mrs. H. described her as always being shy except when around immediate family members. Erica was slow to engage with others or in activities and needed encouragement to interact. This description appears consistent with an inhibited temperamental style, which has been identified as a risk factor for the development of anxiety disorders (e.g., Biederman, Rosenbaum, Chalouf, & Kagan, 1995; Garcia-Coll, Kagan, & Reznick, 1984). Another factor to consider in the etiology of Erica's anxiety is her family history of OCD and depressive disorder, which may suggest a biological or familial predisposition toward the development of internalizing psychopathology. Lastly, Erica's learning difficulties need to be considered. It is not uncommon for children with learning difficulties to experience increased self-consciousness and anxiety in the classroom (Dekker, Koot, van der Ende, & Verhulst, 2002). Erica's teachers described her as very shy and self-conscious in the classroom setting. Although none of these variables (i.e., inhibited temperamental style, genetic or familial predisposition, learning difficulties) may have led individually to clinical levels of anxiety, their combination and interaction likely contributed to the development of Erica's anxiety disorders.

With respect to the maintenance of Erica's anxiety, there appears to be a behavioral reinforcement system in Erica's environment that serves to increase, as opposed to decrease, her elevated levels of anxiety. For instance, Erica's teachers reported that at times, they attempted to force Erica to speak. This method was likely ineffective because Erica did not yet have the skills to adequately manage her anxiety about speaking in front of others. Second, accommodating Erica's anxiety about speaking in the classroom by transferring Erica's friend to her classroom to talk for her and allowing other students to speak for her also likely served to maintain her anxiety. That is, allowing other students to speak for Erica may have sent an implicit message to her that she indeed needed others to speak for her. Allowing another child to speak for Erica fosters avoidance of speaking in front of others. Such avoidance of anxiety-provoking situations likely maintains her anxiety by denying her the opportunity to develop a gradual sense of mastery in anxiety-provoking situations.

7 COURSE OF TREATMENT AND ASSESSMENT OF PROGRESS

TREATMENT SESSION 1 (2 HOURS)

Erica was randomly assigned to a male therapist, an advanced graduate student in clinical psychology. Erica was visibly anxious at the beginning of her first session, refusing to speak and avoiding eye contact. The session began with a game that Erica selected. By the end of the game (30 minutes), Erica made a few one-word utterances to her therapist. Erica and her therapist then played a "personal facts" game within a fun context.

The therapist provided an orientation to the treatment, stressing that the program would be a joint effort between the therapist and the child. The reasons for the program were highlighted (e.g., "This program helps some kids with . . ."), and the specific goals of Erica's treatment were discussed. Erica seemed confused by this discussion. The therapist encouraged verbalizations regarding any potential confusion, but Erica chose to remain silent. The therapist emphasized that Erica would have fun in the program and get to play games. Erica seemed to respond well to this. When asked what activities she would enjoy most during treatment, Erica indicated "drawing" and "dancing." Erica's like for dancing, and the clinician's subsequent use of dancing, would later become an important therapeutic tool when teaching Erica to recognize bodily symptoms of anxiety and relaxation skills.

In accordance with the CBT manual (Kendall, 2000a; see also Kendall & Hedtke, 2006a), the idea of STIC tasks was discussed. The CBT workbook (Kendall, 2000b; see also Kendall & Hedtke, 2006b) was provided for Erica, within which she could complete her STIC tasks. Erica was told that she would be expected to complete a STIC task each week and that completion of STIC tasks would result in rewards (i.e., two stickers each week, which could be used to purchase larger rewards). Erica seemed to grasp this, perhaps because a similar reward system was being implemented in her classroom at school. Erica and her therapist constructed a "reward menu" so that personally meaningful rewards could be provided. Given Erica's interests, her reward menu consisted of age-appropriate girl accessories (e.g., lip gloss, exotic hair elastics, nail polish). The STIC task assigned for the first week was two-fold: (a) bring her workbook back the following week and (b) write briefly about a time in which she felt very good (not upset or worried). Given Erica's learning difficulties, her therapist explained the assignments to her parents in the waiting room so that they would be able to assist her with the completion of the tasks during the week. Updating her parents after each session on the assigned STIC task was an approach employed throughout treatment. Involving her parents in these take-home assignments likely helped to increase compliance, as Erica completed all of her assigned STIC tasks (albeit with frequent age-inappropriate errors in spelling and grammar).

TREATMENT SESSION 2 (1 HOUR)

The objectives of this session were to review the goals of treatment, help Erica identify different types of feelings, normalize feelings of fear and anxiety, and begin to develop a hierarchy of her anxiety-provoking situations.

Erica appeared nervous and reserved at the beginning of the session, again avoiding eye contact with her therapist and limiting her verbal communication to one-word utterances. Erica returned with her workbook and a written summary of a time in which she felt very good and was consequently rewarded with two stickers and a smile. Erica was unable to recall the goals of treatment (perhaps because of both her anxiety and her cognitive limitations). The goals were reviewed, using repetition

to facilitate learning. A game was also used to help Erica to remember the goals. In the game, Erica and her therapist took turns introducing situations that may or may not have been anxiety provoking for her (e.g., going to a carnival, asking the teacher a question in class). After each situation, Erica and her therapist did a silly dance if it was a situation that made Erica nervous. The therapist explained that one goal of treatment would be for Erica and her therapist to identify situations that made them nervous.

The rest of the session was spent discussing the idea that different feelings have different physical expressions. Erica and her therapist searched magazines and took turns guessing what emotions people in the pictures might be feeling. A game of "feelings charades," in which Erica and her therapist took turns guessing emotions that the other would act out, was played. Erica seemed to have fun (e.g., smiling, laughing, moving around a lot) and was able to grasp the concepts (although still using only one-word utterances). Erica was able to correctly identify almost all of the emotions acted out by her therapist, and her therapist was able to guess all of the emotions that she acted out. Erica and her therapist then created a "feelings dictionary," in which pictures of individuals were cut out of magazines and mounted on construction paper. Below each picture, the probable feeling that the pictured individual was experiencing (based on facial expressions) was written.

To help normalize the experience of fear and anxiety, the therapist recounted a time when he felt anxious, including details about how the anxiety felt and how he responded. Erica was also asked to recount a time when the lead character on her favorite television show seemed fearful or nervous. An attempt was made to begin to construct a hierarchy of anxiety-evoking situations (for later use in the exposure tasks section of treatment). However, Erica failed to report any personal anxiety. So as not to rush treatment and potentially hinder the development of a solid therapeutic relationship (see Creed & Kendall, 2005), this goal was temporarily abandoned. A STIC task of writing about two experiences during the week (a nonanxious experience and an anxious experience) was assigned.

TREATMENT SESSION 3 (1 HOUR)

The primary goal of this session was to distinguish anxious feelings from other types of feelings. A further goal was to help Erica learn more about somatic responses to anxiety and to identify her own specific somatic responses to anxiety.

As in previous sessions, Erica did not make eye contact with her therapist and kept her verbal communication to a minimum. However, she did smile frequently throughout the session, indicating that she was having fun spending time with her therapist. At the beginning of session, Erica's completed STIC task was reviewed, and she was rewarded with two stickers. Following this, a variety of somatic feelings associated with anxiety (e.g., butterflies in stomach) were introduced. Her therapist then made up a story about her favorite television character in an anxiety-provoking

situation and described how that character might have felt in her body (e.g., headache, sweating). The therapist told a story of when he was in an anxiety-provoking situation and how his body felt (e.g., dizziness, fast-beating heart). To engage Erica, she was asked to draw a large character on paper and name this character. She was then asked to depict all of the different somatic experiences associated with anxiety (e.g., drawing an actual butterfly in the character's stomach, drawing wavy lines around the knees to indicate trembling). Erica seemed to very much enjoy this activity, smiling frequently and acting silly throughout (e.g., indicating that the character is nervous because he draws too many polka dots everywhere). Following this project, Erica was asked to tell a story about a time when she herself felt nervous and to describe how she felt in her body. Erica recounted a time at school when she began trembling. In telling this story, her verbal communication increased from single-word utterances to phrases composed of four or five words. Although she was unable to verbalize what made her anxious, she was able to verbalize the somatic experience associated with the anxiety. She referred to this trembling as the "nervous dance," which provided a palatable and personally meaningful reference term for how her body acted when she was nervous. She taught the nervous dance to her therapist and seemed to have fun doing so. Her therapist emphasized how such bodily sensations can serve as clues that we are experiencing anxiety.

A "feelings thermometer" with ratings (ranging from 0-8) indicating Subjective Units of Distress (SUDS) was introduced to allow Erica to indicate how nervous she was in different situations. Another attempt was made to begin to develop a fear hierarchy. Despite Erica's report at intake, Erica's parents' report at intake, and numerous physical indicators of anxiety observed by the therapist, Erica still demonstrated difficulty reporting anxiety in session (although she did report that haunted houses made her nervous). To normalize the experience of anxiety and model the construction of a fear hierarchy, Erica's therapist (as a coping model) discussed a number of situations in which he tended to feel nervous and talked about which ones were worse than others. As a STIC task, Erica was asked to pay attention to her body's reaction to anxiety during one day and evening and to record in her workbook what she felt when she was nervous. As Erica seemed to have difficulty grasping the goal of the STIC task, Erica's therapist role-played the completion of the task by discussing how he might feel when taking a test (e.g., butterflies in stomach) and writing this down. The task was also explained to her father in the waiting room so that he might be able to assist her during the week.

TREATMENT SESSION 4 (1 HOUR)

This session was conducted with Erica's parents to encourage their cooperation in her treatment outside of the therapy setting. Time was spent addressing any questions or concerns they had about Erica and/or her treatment. Because Erica demonstrated difficulty during the first three sessions verbalizing her anxieties, this session

was also spent obtaining more information from her parents about the situations that cause Erica the most anxiety. As Erica was demonstrating difficulty understanding some of the treatment content (e.g., using the feelings thermometer, constructing a fear hierarchy), Erica's therapist and parents agreed that a somewhat longer treatment duration may be beneficial. It was decided that the 16-week, manualized CBT program would be extended to 20 weeks to afford additional time to address potential difficulties that may arise. It was also agreed that session content would be discussed in great detail with the parents after each session to maximize their ability to reinforce the material throughout the week. Erica's parents indicated that Erica was having fun in treatment and looked forward to coming each week. Erica's parents also noted that Erica had surprised them during the week by speaking to them in front of one of their friends (something that she had not previously done). They attributed this public verbalization to treatment.

TREATMENT SESSION 5 (1 HOUR)

The goal of this session was to introduce relaxation training and its use in controlling tension associated with anxiety. Throughout the session, Erica exhibited greater verbal communication than in the previous sessions, perhaps because of this session's increased focus on physical involvement and less cognitive focus. The session began with a review of the assigned STIC task, the awarding of two stickers, and the introduction of the idea that anxiety is associated with muscle tension. Erica was asked to discuss how her muscles feel when she is nervous and to contrast that with how they feel when she is relaxed. Erica was unable to grasp this contrast, so the idea was explored in an alternative manner. Erica was asked to make a tight fist and then to describe how it felt. She indicated that her fist felt "tight and tired." When asked to relax her hand, she indicated that it felt "loose." Her therapist compared the tightness that she felt to the tightness of a robot's posture. This was contrasted with the looseness that she felt when relaxing her hand, which was compared to the posture of a rag doll. Erica and her therapist then played a game, in which Erica had to walk around like a stiff robot until her therapist called out "rag doll." After hearing "rag doll," Erica had to quickly change her posture to that of a loose rag doll. This would be continued until Erica's therapist suddenly called out "robot," which would signal that she must quickly return to walking like a stiff robot. Erica seemed to enjoy herself during this game, appearing more engaged than in previous sessions.

Erica was asked whether she felt more like the robot or the rag doll when doing the nervous dance, to which she replied "the robot." This provided a fitting opening for the introduction of relaxation training. Her therapist emphasized how tight muscles can feel when we are nervous and that the two of them were going to learn ways to feel less tight when they find themselves doing the nervous dance. The therapist dimmed the lights in the room and asked Erica to find a comfortable position. Erica was first instructed on deep breathing. After closing her eyes, Erica was asked to take a deep breath and try to make her stomach expand. Then she was asked to slowly let

the air out, focusing on how her body feels as the air comes out. This procedure was repeated three times. Progressive muscle relaxation, in accordance with Ollendick and Cerny (1981), was taught to Erica, and she was instructed that recognizing when she is feeling frightened and relaxing her body was the first step (i.e., the *F* step, feeling frightened?) to feeling less nervous. Erica and her therapist invited her father in from the waiting room to learn the relaxation exercises. Erica demonstrated for her father how to relax each of the muscle groups. From Erica's teaching of the relaxation, it was apparent that she comprehended the exercises. She also seemed to enjoy showing her father what she had learned.

Erica was then able to cash in the stickers that she had earned thus far for a reward, and, finally, a STIC task was assigned. She was to practice her relaxation training exercises each day and to write about these experiences in her workbook. In addition, she was to teach the relaxation exercises to her mother. Erica was also asked to write about two anxiety-provoking situations and to record her thoughts and somatic cues (bodily reactions) that helped her identify that she was nervous.

TREATMENT SESSIONS 6 TO 8 (1 HOUR EACH)

As part of the STIC task for the previous week, Erica wrote about two situations that made her nervous and was rewarded with two stickers. Interestingly, Erica did not indicate any situations that were reported at intake by both herself and her parents (e.g., social situations). However, when asked specifically about speaking to strangers and adults, asking the teacher for help, and worrying about her school performance, she nodded her head, indicating that these things did indeed make her nervous. Given that a goal of CBT is to expose anxious youth to increasingly anxiety-provoking situations, it is generally expected that the child will be able to differentiate levels of anxiety. Erica was unable, however, to rank the situations in order of the extent to which they provoked anxiety. Given Erica's growing comfort and familiarity with her therapist, it seems likely that this difficulty was not the result of self-consciousness but rather of an inability to grasp the continuous nature of anxiety.

Relaxation training was reviewed, and Erica continued to enjoy these exercises. To allow Erica to demonstrate her understanding of the appropriate use of relaxation exercises, Erica and her therapist played a game. In this game, Erica's therapist announced various situations. If the situation mentioned was one in which Erica tended to "do the nervous dance," Erica would have to do a quick relaxation exercise. If the situation mentioned was not one in which Erica tended to do the nervous dance, Erica would have to sit still and smile. In addition to allowing Erica to demonstrate her understanding, such a game also allowed for repetition—a technique that seemed to help Erica grasp and retain these concepts.

The goal of Session 6 was to introduce the role of personal thoughts and their impact on response in anxiety-provoking situations. Given Erica's cognitive limitations, it was expected that she might experience particular difficulties, and it was noted that coverage of the content of Session 6 (as detailed in the CBT manual) might need to

be extended across multiple sessions. In Session 6, the concept of thoughts and how they may affect the anxious experience was introduced by presenting to Erica cartoon situations with empty thought bubbles over various characters' heads and asking her to fill in possible thoughts for the various cartoon characters. The therapist then served as a coping model and described an anxious situation that he had been in and described the thoughts that were in his own thought bubbles at the time (e.g., "People might laugh at me.").

Erica was instructed to think of a time when she felt nervous about asking the teacher a question and to indicate what thoughts she was having at the time (i.e., "What was in your thought bubble?"). Erica was unable to grasp this concept. Her therapist suggested a number of potential thoughts that she may have had when asking the teacher a question (e.g., "I'll look stupid."), but she did not endorse any of them. Consequently, the focus was turned to the thoughts of the cartoon characters. Erica was presented with a cartoon character who was ice skating with an empty thought bubble over his head. She was asked what might be a thought that would make him feel nervous and what might be a thought that would make him feel happy. It was hoped that Erica would see how a thought such as, "I am a great skater," would make him feel happy and a thought such as, "I could fall," would make him feel nervous. However, Erica was not able to offer thoughts that might be linked to differential emotions.

Education and discussion regarding the interaction between thoughts and feelings continued across two more sessions, with the expectation that with repeated opportunity Erica might be able to comprehend. Erica was instructed that recognizing when she is expecting bad things to happen is the second step (i.e., the *E* step; expecting bad things to happen) toward feeling less nervous. Unfortunately, Erica's cognitive limitations seemed to present a particular obstacle in her comprehending the content of these sessions (i.e., thoughts). In contrast, previous sessions focusing on feelings (e.g., Sessions 3 and 5) did not seem to be as difficult for her. Erica seemed to present with particular difficulties in the domain of metacognition, or thinking about thinking. Given her limited cognitive abilities, it was noted that future sessions might benefit from a reduced focus on thoughts and increased attention to somatic reactions.

At the closing of each of Sessions 6 to 8, Erica was assigned the STIC task to record her most anxious experience during each of 2 days. As before, Erica's therapist was a coping model of the recording of an anxious experience by discussing a recent experience in which he felt anxious and talking out loud as he wrote down how his body felt during the situation.

TREATMENT SESSION 9 (1 HOUR)

Erica's STIC task was reviewed, and two stickers were awarded. Although Erica had recorded two situations that made her nervous (i.e., asking the teacher a question

and calling a friend on the phone), she wrote question marks in her notebook next to the thoughts headings for each situation.

The goal of this session was to introduce the concept of changing anxious self-talk into coping self-talk and to emphasize adaptive problem solving in managing anxiety. The idea of gathering evidence for anxious thoughts was introduced (e.g., asking self, "Do I know for sure that this is going to happen?"; "How many times has this happened before?"). As in previous sessions with metacognitive content, Erica experienced difficulty. Although Erica was unable to generate coping thoughts that were connected to her distorted anxious thoughts (e.g., "Kids haven't laughed at me before," in place of, "Kids might laugh at me."), Erica was able to recognize that thinking of an image of her dog when she is in anxious situations may help her feel less anxious. Given Erica's cognitive limitations, and so as not to frustrate and discourage her (and potentially disrupt her active participation in treatment), the complexities of coping self-talk were abandoned in favor of an increased focus on recognizing bodily cues of anxiety, relaxation, problem solving, and rewards.

Relaxation exercises were reviewed. In addition, her father was brought back in from the waiting room so that she could teach him relaxation exercises that she had learned for new muscle groups. Erica was then introduced to the third step of the FEAR plan for coping with anxiety (i.e., the A step; actions and attitudes that can help). Erica was introduced to a two-step plan to problem solving by asking herself, "What are all of the things that I can do to make this situation less fearful?" and "Which is the best thing to do?"

To demonstrate, Erica and her therapist first explored a simple, nonstressful problem (i.e., "You've lost your shoes."). First, her therapist listed a number of potential solutions (e.g., wear your mom's shoes, go to school barefoot) to model the generation of a variety of solutions, despite their apparent value. Erica seemed to enjoy this and came up with a number of creative and silly responses. The therapist and Erica then evaluated which of the generated solutions seemed to be best; they both agreed that "asking Mom and Dad to help me look for the shoes" (which had been originally generated by Erica) was best. This same problem-solving process was practiced for scenarios of minimal anxiety and then situations of greater anxiety (e.g., "I have to go to the bathroom but I do not want to raise my hand."). Erica seemed to have fun generating creative alternative responses. A STIC task, in which Erica was asked to try to use her new skills to begin to cope with anxious situations as they occur and to record her experiences in her workbook, was assigned for the following week.

TREATMENT SESSION 10 (1 HOUR)

Following a review of the relaxation exercises, her STIC tasks were reviewed, and stickers were awarded. The goals of this session were to introduce the concept of evaluating or rating her performance and rewarding herself accordingly. The concept of self-rating and self-reward was introduced (the R step; rewards). The training

of Erica's dog was used to illustrate how being rewarded can help us learn things (e.g., giving dog biscuits and pats on the head were used to reward her dog for doing the things that they wanted to teach the dog). This concept was extended to children via discussion of parental evaluation and rewards and punishment for chores. It was then introduced that people actually rate themselves and reward or punish themselves for their own behavior. Erica and her therapist generated a list of possible rewards that Erica might be able to do for herself. Together, a number of feasible rewards were generated, including talking with her mom about her accomplishments, giving herself a pat on the back, or saying to herself, "I did a nice job." The importance of giving a reward for effort, as opposed to outcome, was emphasized.

To allow Erica to demonstrate her understanding of the concept of self-reward, Erica and her therapist played a game. In this game, Erica's therapist would mention potential rewards (e.g., getting candy, eating broccoli), and if Erica liked the reward, she would get up, and she and her therapist would switch seats. As evident throughout treatment, physical activity in session seemed to be a particularly effective manner in which to engage Erica.

A STIC task, in which Erica was to explain the FEAR plan to her parents and also to record two anxious situations that she experienced while taking special note of her experiences with self-rating and reward, was assigned.

TREATMENT SESSION 11 (1 HOUR)

This session consisted of another parent meeting intended to encourage parental cooperation and to provide additional information. Erica's therapist outlined her treatment program and explained that the second half of treatment would involve exposure tasks. Mr. and Mrs. H. were also encouraged to discuss concerns regarding Erica. They indicated that they were very happy with how things were going and that they were already noticing that Erica was becoming somewhat more comfortable around adults. In one situation, Mr. H. was pleasantly surprised that when he picked her up from school, she asked him a question in front of other students and her teacher (she had previously never done that). They also noted that Erica had begun speaking to friends of the family and that their friends had been commenting that Erica was really "coming into her own." Furthermore, Erica's parents reported that she had been speaking to unfamiliar people with increased verbal communication. They also noted that Erica's teachers had commented to them that her communication in the classroom had improved.

TREATMENT SESSION 12 (1 HOUR)

Erica's completed STIC tasks were reviewed, and stickers were awarded. Following this, relaxation was reviewed. The bulk of Session 12 was spent preparing Erica for the exposure tasks, in which she would apply the skills that she had learned

(i.e., the FEAR plan) to situations that elicit anxiety for her. Erica and her therapist revisited the construction of a hierarchy of anxiety-provoking situations by integrating that which Erica had reported in her pretreatment assessment and STIC tasks and that which her parents had reported in the pretreatment assessment and in the two parent meetings. The feelings thermometer presented in Session 3 was reintroduced, and Erica was asked to rate the extent to which she was nervous in each identified situation. Erica exhibited difficulties using the feelings thermometer, assigning a rating of 8 to all situations. To better illustrate the full continuum presented on the feelings thermometer, Erica and her therapist performed the nervous dance to varying degrees (e.g., "Let's do a really big nervous dance."; "Let's do a tiny nervous dance."), and each dance was assigned a number from the thermometer. The situations were then reintroduced in the context of, "How big is your nervous dance when you _____," and Erica was better able to use a continuum of ratings and assign ratings that indicated differences in the degree of anxiety experienced across these situations. Figure 1 presents the resultant fear hierarchy that was constructed.

Erica was informed that the rest of treatment would involve practicing the skills that she had learned thus far in some of the situations that cause her anxiety. It was emphasized that the practice would be carried out in a gradual way—that they would start practicing in situations lower on her hierarchy (easier) and only move on to more stressful situations after the less stressful ones had been mastered. Erica was informed that she may experience anxiety when practicing these skills but that the more she practiced, the better she would feel. Although this discussion appeared to make her somewhat nervous, discussing how she would be rewarded for her practice (e.g., prizes) seemed to have a calming effect.

TREATMENT SESSIONS 13 TO 20 (1 HOUR EACH)

The goal of Sessions 13 to 20 was to apply and practice the four-step FEAR plan in those situations identified as anxiety provoking for Erica. Each session began with practicing the relaxation exercises. As outlined in the CBT manual, the sequence of treatment began with imaginal, in-office exposure tasks to situations lower on the constructed fear hierarchy (Sessions 13 and 14). During these sessions, the four lowest situations on the fear hierarchy were role-played with the therapist, using several props and toys to make these exposure tasks as much fun as possible for Erica. For example, when play acting the calling of a friend on the telephone, bananas were used to simulate the telephones. Following each exposure task, the experience was processed by Erica and her therapist via discussion about how she was feeling and how she chose to cope. Factors that made the task easy or difficult, and whether she would respond the same way in the future, were also discussed. So as not to frustrate Erica, features of the exposure task that involved metacognition (e.g., "What thoughts were you having?") were not incorporated into the discussions. After each



Figure 1. Erica's Social Fear Hierarchy

exposure, Erica's therapist praised her, and prizes from the constructed reward menu were awarded for her efforts. Erica was also encouraged to provide herself with self-rewards (e.g., a pat on the back) to maximize her sense of accomplishment.

Throughout the exposure tasks, attempts were made to obtain SUDS ratings (i.e., immediately before, during, and after exposures) using the feelings thermometer. Such ratings could be used to illustrate for Erica how her anxiety may be greatest before entering such situations, that her anxiety declines as she habituates to the situation, and that her anxiety is lowest after she has completed the experience. Unfortunately, Erica continued to have difficulty using the feelings thermometer in a continuous manner. That is, despite her therapist's perceptions that her discomfort decreased as she habituated to the experiences, her SUDS ratings remained at 8 throughout the exposure tasks. Furthermore, following each exposure task, she still appeared to her therapist to be somewhat anxious, although Erica consistently reported that she was "at a 0."

The next sessions (Sessions 15 and 16) again involved imaginal, in-office exposure tasks to situations lower on the hierarchy, but these exposure tasks were followed

by actual, in vivo experiences in these situations. For example, after imaginal practice of asking an unfamiliar person a question, Erica called a video store and asked them if her favorite movie was in stock. Following this, she went to the video store and asked them about the movie in person. Subsequent sessions (Sessions 17-20) involved exposure tasks to situations higher on her fear hierarchy—again, first in imaginal settings and, once mastered, in real situations.

In Session 20, in addition to practicing the FEAR plan in situations highest on the fear hierarchy, closure was brought to the treatment program by discussing Erica's overall progress with her parents. The FEAR plan was reviewed with Erica's parents to encourage them to reinforce its use at home. Erica also made a "commercial" (with the support of her therapist) about learning to cope with anxiety, providing her with an opportunity to share what she had learned with others. In addition, Erica and her therapist had an ice cream party to celebrate Erica's hard work and to reward her effort and progress.

8 COMPLICATING FACTORS

Because of Erica's cognitive limitations, it was necessary to make several modifications to the CBT, though staying consistent with the principles of the approach (flexibility within fidelity, see Kendall & Beidas, in press). The therapist presented concepts concretely and reviewed the concepts several times to help Erica grasp them. Some concepts were emphasized (e.g., physiological symptoms of anxiety), whereas others were de-emphasized (e.g., identifying maladaptive cognitions). Furthermore, much more practice in using the concepts and skills was required than is typical with a child who is functioning in the cognitively average range. Although her cognitive limitations required creative modification to the treatment, the treatment proceeded relatively smoothly. No other complicating factors were noted.

At the end of the 20-session treatment program, as judged by an independent evaluator, Erica no longer met diagnostic criteria for selective mutism or for GAD. In fact, GAD dropped from Erica's diagnostic profile. Erica continued to meet diagnostic criteria for social phobia, although the CSR decreased, indicating a reduction in the interference associated with the disorder. As noted previously, the CSR rating is assigned by the therapist after considering the child's and parents' report of the degree of interference caused by the anxiety. For Erica, although the social anxiety continued to be a problem, both her and her parents' reports indicated slightly less interference from the anxiety as compared to pretreatment.

Erica's self-report on the CQ at posttreatment reflected her continued difficulty with ratings. She indicated that her perceived ability to cope with her worry about her family's financial situation decreased following treatment, despite the diagnostic absence of GAD at posttreatment. Although Erica reported that she continued to worry about her family's finances, her overall worry decreased in both frequency and

intensity. She also reported an improved ability to cope when around bugs and maintained her perceived ability to cope when speaking to other children. The former was interesting given that exposure to bugs was not included in the treatment program.

With respect to teacher-report measures, no significant differences from pre- to posttreatment were indicated on the TRF. Of note, however, is that the teacher who filled out the form at pretreatment was not able to fill out the form at posttreatment. However, we believed it was still important to obtain a measure of Erica's functioning in school, even if by different informants. Therefore, a different teacher, who spends less time with Erica, filled out the posttreatment TRF. It could be that if the same teacher filled out the form at both assessment points, more change would have been indicated. In contrast, it could also be that Erica's improvements in anxiety management did not generalize to the school setting. Although possible, we believe the latter explanation is unlikely, however, given that Erica's parents indicated that she gave a number of oral presentations at school with ease and was socializing more with other children at school. Such behavior suggests substantial school-based treatment gains but may go unrecognized by a teacher less familiar with the extent of Erica's pretreatment level of impaired functioning.

Although Erica improved significantly across a number of domains, her therapist believed that with more treatment, Erica could continue to improve. For logistical reasons, Erica's therapist was unable to continue, and she was transferred to another therapist, with whom she continues to meet and has made additional treatment gains.

9 TREATMENT IMPLICATIONS OF THE CASE

This case illustrates how a manualized program for anxious youth can be used successfully with a child evidencing cognitive difficulties. For such individuals, abstract concepts may be quite difficult to grasp. Indeed, Erica was not able to grasp the more abstract concepts, and consequently her therapist modified the presentation of these concepts for her. Children with cognitive delays or difficulties will require more time to process information that is presented and to consider how to generalize it to out-of-session contexts. For Erica, additional sessions provided her with further opportunities to practice. Moreover, although Erica's cognitive delays presented unique challenges to treatment, we call attention to the notion that all younger children (i.e., youth younger than approximately 9) may exhibit difficulties in the areas of metacognition (see Schneider & Lockl, 2002, for a review) and/or abstract thinking (see Siegler, 1998, for a review). Such cognitive difficulties at earlier ages may result in difficulties in the child's ability to conceptualize anxiety and anxiety ratings. This underscores the need to apply empirically supported approaches that have been specifically designed to address the developmental capacities of children

across development (rather than approaches that are simply downward extensions of adult-based treatments).

10 RECOMMENDATIONS TO CLINICIANS AND STUDENTS

A potential misperception among some clinicians is that manualized CBT must be implemented rigidly and is potentially effective only for high-functioning children. This case study documents how a manual can be modified successfully based on the individual needs of the child. Clinicians and students are encouraged to become familiar with treatment manuals (and the theoretical models on which the manuals are based) to maximize their comfort with applying the manual in a way that is both flexible and consistent with CBT principles (i.e., flexibility within fidelity; Kendall, 2001; Kendall & Beidas, in press). This case further highlights the need to conduct a multi-informant, multimethod assessment to gain the most accurate picture of the anxious child's functioning (for a review of assessment measures for child anxiety, see Langley, Bergman, & Piacentini, 2002). Importantly, the recommendation of a broad assessment applies not only to children with cognitive challenges but also to children of all levels of cognitive, social, and emotional functioning.

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