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Modular Cognitive-Behavioral Treatment of an Adolescent Female With Selective Mutism and Social Phobia: A Case Study

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Abstract
Selective mutism (SM), a debilitating disorder usually appearing in childhood, is diagnosed when an individual capable of speaking fails to speak in social situations in which there is an expectation for the individual to speak. There is very little empirical research on the assessment and treatment of SM in adolescents and adults. The case presented in this article applies a developmental adaptation of a modular cognitive-behavioral therapy approach to treat an adolescent female with SM and social phobia. The treatment consisted of 61 sessions, including sessions on psychoeducation, cognitive restructuring, relaxation, exposure, social skills, and parent training. The presenting symptoms, assessment strategy, and treatment elements are covered in detail. The client’s symptoms were assessed via fear hierarchy ratings, self-report and parent-report measures, and client and parent clinical interviews.

Keywords
selective mutism, adolescent, cognitive-behavioral therapy, social phobia

I Theoretical and Research Basis for Treatment
Selective mutism (SM) is a rare psychiatric disorder most frequently diagnosed in young children, with an average age of onset between 2 and 5 years (American Psychiatric Association [APA], 2000; Sung & Smith, 2009). SM is diagnosed when an individual fails to speak in social situations where one is expected to speak (e.g., at school, with peers, in the community), despite speaking in other situations (APA, 2000). Although an individual with SM does not use verbal communication in certain social situations, she may rely on alternate forms of communicating (e.g., gesturing, shaking head) in these situations (Sharp, Sherman, & Gross, 2007). SM may last for anywhere between a few months to years, and rarely occurs in adolescence and adulthood (Sharp et al., 2007). Less than 1% of school-age children have SM, and it is exceedingly rare in...
adolescents and adults (Sharp et al., 2007). There is very little information on the assessment or treatment of SM in these age groups.

Social phobia has been noted as a characteristic of children with SM, and some current conceptualizations place SM as a symptom of social phobia instead of a distinct disorder (Cohan, Chavira, & Stein, 2006; Sharp et al., 2007). Thus, we use the term “SM” to refer to not speaking when speech is developmentally appropriate and expected, and “social phobia” to refer to the broader set of symptoms associated with impairing anxiety in social situations. Modern learning theories point to a variety of factors that likely interact and influence whether an individual will develop social phobia (Mineka & Zinbarg, 2006). These factors include genetic and temperamental factors (e.g., behavioral inhibition) that can sensitize individuals to or protect from environmental factors; traumatic experiences that can support the development of social phobia through classical and operant conditioning pathways; social learning, which can explain the development of social phobia without first-person traumatic experiences; and beliefs about the controllability of symptoms, social experiences, and threats (Mineka & Zinbarg, 2006).

Cognitive-behavioral therapy (CBT) and exposure-based treatments have the strongest evidence for treating anxiety in children (Chorpita et al., 2011) and adults (Barlow, 2008). Although no known randomized controlled trials (RCTs) of CBT for SM exist, systematic reviews including case studies and small group designs suggest that behavioral and CBT interventions may be effective in treating SM (Cohan et al., 2006; Viana, Beidel, & Rabian, 2009). Individuals presenting with SM and social phobia often have extremely heterogeneous clinical profiles and comorbid problems. A modular CBT approach to SM is recommended to allow for flexibility in addressing diverse presenting problems (Reuther, Davis, Moree, & Matson, 2011; Sung & Smith, 2009). Additional components of intervention may include contingency management, social skills training, and self-modeling (Cohan et al., 2006; Vecchio & Kearney, 2007, 2009).

The purpose of this article is to present the treatment of a case of SM in a female adolescent using an evidence-based CBT modular treatment for childhood anxiety disorders, Modular Approach to Therapy for Children With Anxiety, Depression, Trauma, or Conduct Problems (MATCH; Chorpita & Weisz, 2008). Empirical support for the modular CBT approach outlined in MATCH in treating childhood anxiety disorders has been demonstrated via single case studies and RCTs (Chorpita, Taylor, Francis, Moffitt, & Austin, 2004; Weisz et al., 2012).

A unique feature of this case is the developmental adaptation of the modular approach for use with an adolescent with long-standing symptoms of SM and social phobia. At least one case study reported that successful outcomes of modular CBT approaches treat a child with SM (Reuther et al., 2011); no known studies have applied modular CBT approaches to treat adolescent SM. Modular approaches have not yet been examined in late-adolescents (e.g., Weisz et al., 2012, included youth aged 7-13 years), and few studies on SM include adolescents (Viana et al., 2009). The modular approach allowed for flexibility to address additional presenting problems, including school refusal, and goals of fostering developmentally appropriate independence.

2 Case Introduction

Ava (all names and identifying information have been changed to protect confidentiality) was a 15-year-old Latina female in 10th grade referred to a university-based clinic specializing in the treatment of youths and adults with anxiety disorders and that uses a hierarchical, team-based approach to supervision. Therapy was provided by two therapists (initial and transfer) and supervised by peer and faculty supervisors. At intake, Ava did not speak across situations, except minimally with her family at home. Whereas SM usually results in dramatic decreases in verbal communication in specific settings (e.g., school), while verbal communication in other settings (e.g., home) is maintained (APA, 2000), Ava’s verbal communication was low in all settings.
She was almost entirely nonverbal outside the home, and spoke minimally inside the home. Yet Ava expressed that she was only anxious in social interactions outside of the home, indicating a level of comfort in the home. Ava, her mother, and the therapist attended the intake assessment session and all subsequent sessions. Sessions typically involved the therapist talking briefly with Mrs. C before meeting individually with Ava. As will be discussed in more depth, during early sessions, Ava did not speak to the therapist, communicating instead via writing or typing.

**3 Presenting Complaints**

At intake, Mrs. C’s primary concern was that Ava was silent in and avoided almost all social situations away from home, and was very quiet at home. This problem intensified in recent years but had been present to some extent since Ava was 4 years old. During intake and early sessions, Ava was mostly silent, speaking only one to two words to the therapist per session (i.e., responding “yes” or “no” to questions; see Figure 1); however, she communicated nonverbally using writing or typing. She presented with deficits in social skills, including averting her gaze.

Ava endorsed significant physiological (e.g., heart racing, upset stomach) and cognitive (e.g., “I will say something wrong and won’t be able to recover”) symptoms of anxiety in social situations. She said she “froze up” when talking to others and often felt like she could not respond despite wanting to, which she found distressing. Ava reported that when she reached this point of paralyzing anxiety, her mind went “blank” and she would stop trying to talk. She would listen to what the other person was saying while focusing on her inability to speak. She endorsed a history of panic attacks (e.g., shortness of breath, heart palpitations, trembling) when talking about her own thoughts or feelings. She endorsed initially (via writing) that speaking during therapy sessions was extremely anxiety provoking for her. For example, on a Subjective Units of Distress Scale (SUDS) from 0 to 10, with 10 being the highest anxiety, she rated the task of reading words from a whiteboard to the therapist as a 7 and talking to the therapist as a 9.

Ava used compensatory behaviors (e.g., writing, pointing, nodding) to communicate across settings. In addition, her parents often performed verbal tasks for her (e.g., ordering food for her at restaurants) if she appeared to be “just standing there” and not talking for herself. Despite significant anxiety in social interactions, she expressed a desire to make friends. At home, she only talked to her family members to express her needs (e.g., requesting a snack) or when they

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**Figure 1.** Number of words spoken in treatment sessions: Sessions 1 to 6, 9, and 11
initiated communication; she never verbalized thoughts and feelings to her family. At times, she wrote notes to her mother regarding her thoughts and feelings, but never spoke aloud about internal experiences. Interactions with her family at home were rare, due to competing demands on family time (e.g., parent’s jobs) and Ava’s lack of initiating communication.

Mrs. C described the family’s home environment as “very busy.” Both of Ava’s parents worked full-time. Ava’s younger sister was described as talkative and outgoing. Her brother had an intellectual disability (ID). Ava reportedly rarely interacted with her siblings. Mrs. C found that Ava’s younger sister took up much of her time (e.g., helping with schoolwork) and that Ava’s brother required a great deal of individualized care at home due to his disabilities. Ava enjoyed spending one-on-one time with Mr. C; however, this time was rare as he spent much of his time at work. Mrs. C said that she tried to provide each of her children attention but found it challenging when the whole family was home each day. Frequently, Ava retreated to her room rather than compete for attention with her siblings. Given Ava’s proclivity for solitude, depression was thoroughly assessed at intake and throughout treatment. She denied any current or past symptoms of depression or anhedonia.

Until receiving complaints from the school, Mrs. C said that she did not notice the extent to which Ava’s SM affected her daily functioning. This was likely due to the competing demands of a full-time job, a young outgoing child, and a child with a severe disability. Often, SM is not diagnosed until impairments are noted in school settings, as speech may be normal at home (Sharp et al., 2007). Ava did speak at home, although minimally. Mrs. C said that at home, she felt frustrated with Ava for not “helping out” with the family’s multiple demands (e.g., talking to teachers about missed homework assignments, ordering her own food when at restaurants, etc.). Building Mrs. C’s awareness of Ava’s anxiety, SM, and resulting social impairment was an important component of treatment.

Although secondary to concerns about SM, Mrs. C also had concerns regarding school refusal and noncompliance with parental instructions. Ava found school to be a consistent stressor due to its social demands and refused to go 2 days per week at intake. On days when she refused school, she did not speak and avoided eye contact with her family members, retreating to her room. On days that she attended school, she cried and held onto her mother in the guidance counselor’s office. Despite having an Individualized Education Program (IEP) that permitted her to write responses instead of speaking in class, Ava experienced significant anxiety at school particularly related to interacting with others (e.g., asking questions of teachers, talking to peers, completing group work, etc.). Ava denied any teasing or bullying, and her guidance counselor stated that the other students were very supportive of Ava (e.g., initiating conversations with her). On days when Ava refused school or went to school but refused to separate from her mother, Mrs. C said she allowed Ava to stay home and watch movies or read in her room. In addition to difficulties functioning at school, Ava exhibited noncompliance with instructions given by her parents at home (e.g., to complete chores). Mrs. C expressed frustration that Ava required many reminders to complete everyday tasks (e.g., get ready for bed, shower, etc.). To convey her frustration, Mrs. C raised her voice at Ava but stated that Ava would ignore her and usually retreated to her room. Then, Mrs. C completed the chores herself.

4 History

Ava was the second of three children, all of whom lived at home with Mr. and Mrs. C. There were no complications during pregnancy, labor, or delivery; early developmental milestones were within normal limits. Ava had one grandparent with anxiety and one grandparent with depression. No significant medical history was noted. Ava’s parents both worked full-time in highly demanding professional careers. Ava was born in the United States; her first language was English and she spoke English at home.
Although neither Mrs. C nor Ava reported direct experience of a traumatic event during her childhood, Ava’s older brother was hospitalized for approximately 3 months following a car accident when she was 4 years old. During this period, Mrs. C recalled that she and her husband spent most of their time at the hospital while Ava stayed with friends. Ava’s brother was discharged with severe intellectual and physical disabilities and required a home nursing staff. From this point on, Mr. and Mrs. C spent a great deal of time caring for Ava’s brother. Mrs. C found it hard to recall details about Ava from that period of time; however, she remembered changes occurring in Ava’s personality and behavior. Before her brother’s injury, she remembered that Ava was outgoing, independent, and enjoyed playing with peers. Following the hospitalization, Ava became more clingy, quiet, and withdrawn.

Ava’s quiet and withdrawn behavior became more severe in third grade, per Mrs. C’s recollection. Mrs. C denied any aversive events occurring at this time but identified that this was around when Ava’s younger sister was born. As a newborn, Ava’s sister required much of Mrs. C’s attention. In fifth grade, Ava’s school initiated an evaluation for an IEP, as Ava’s anxiety symptoms and SM began to interfere with her education. This is roughly consistent with the average age at which children with SM tend to be referred for formal assessments in school settings (6.5–9 years; Sharp et al., 2007). Ava demonstrated at or above grade-level achievement but did not participate verbally in class or group activities. There were no concerns about her intellectual abilities. Mrs. C noted no difficulty with Ava’s language fluency and attributed Ava’s limited speech to “low motivation.” Her IEP included diagnoses of anxiety and SM and accommodations such as writing responses rather than speaking in class.

Mrs. C was concerned and brought Ava to see a therapist for 2 months following fifth grade for individual “talk therapy.” Mrs. C stated that this was not effective as it was “very hard to get Ava to talk in session.” The therapist asked Mrs. C how to make Ava talk in sessions, but otherwise did not involve Mrs. C in therapy. Little is known about the content of treatment. Mrs. C stated that, in contrast to this previous therapy, for the current course of therapy, she preferred a therapist who used a CBT approach (that she had recently read about), involved Mrs. C more in what was happening in therapy, and had strategies for encouraging Ava to talk. Mrs. C also wanted to learn parenting skills to further help Ava. In the past, Mrs. C reported no other attempted interventions at home or in school. Ava’s symptoms continued to worsen throughout middle school (increasing anxiety, speaking less frequently). In high school, Ava rarely spoke in social situations, but her symptoms did not seem to worsen.

5 Assessment

Ava’s initial assessment included semistructured diagnostic interviews, a clinical interview, questionnaires, and self-monitoring. Parent- and child-report on a semistructured clinical interview (Kiddie Schedule for Affective Disorders and Schizophrenia–Present and Lifetime Version; Kaufman et al., 1997) indicated that Ava met Diagnostic and Statistical Manual of Mental Disorders (4th ed., text rev.; DSM-IV-TR; APA, 2000) criteria for a diagnosis of social phobia. She reported other symptoms consistent with panic and generalized worry, but her panic attacks and worries were primarily in the context of social situations.

Ava’s intake scores were in the clinical range on a number of measures related to anxiety and SM. Parent- and child-report on the Revised Children’s Anxiety and Depression Scale (RCADS; Chorpita, Moffitt, & Gray, 2005) indicated clinically elevated subscales for Separation Anxiety (T = 79, parent-report), Depression (T = 75, parent-report), and Panic (T = 66, client-report; T = 65, parent-report). The Social Phobia subscale of the RCADS was in the borderline elevated range (T = 63, client-report). Mrs. C also completed the Selective Mutism Questionnaire (SMQ; Bergman, Keller, Piacentini, & Bergman, 2008). The SMQ was developed for use in children younger than Ava (9-11 years and below). According to Bergman et al. (2008), the mean score
for children with SM is 12.99 (SD = 7.23), compared with a mean of 46 (SD = 5.94) in controls. Little research exists on SM in adolescents, and there is no known standardized SM measure for adolescents. Thus, the SMQ was used as a proxy for measuring Ava’s SM-related behaviors. On the SMQ, Mrs. C’s ratings of Ava yielded a score of 13, which was consistent with the mean for children with SM (Bergman et al., 2008).

Data from the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001), Child Behavior Checklist (CBCL), and Youth Self-Report Form (YSR) were also consistent with these findings. By Mrs. C’s report, there were clinical elevations on the Internalizing Problems (T = 73, >98th percentile), Withdrawn/Depressed (T = 96, >97th percentile), Affective Problems (T = 72, >97th percentile), and Anxiety Problems (T = 70, >97th percentile) scales; the Total Problems (T = 63, 90th percentile, parent-report) scale approached the clinical range. Mrs. C rated her daughter in the normal range for Activities and School Competence, but in the clinical range for Social Competence (T = 26, <3rd percentile), indicating poor social competence. By Ava’s report, all YSR scales were in the normal range except for Anxiety Problems (T = 70, >97th percentile).

Ava met diagnostic criteria for social phobia (generalized type) and SM (DSM-IV-TR; APA, 2000). Her mother endorsed depressive symptoms on the RCADS and CBCL. However, symptoms of SM can present as similar to depression symptoms on these measures (e.g., being withdrawn, shy, not talking, preferring to be alone, etc.). Careful evaluation of differential diagnostic criteria and of Ava’s report on depression-relevant subscales revealed that Ava did not meet DSM-IV-TR (APA, 2000) criteria for a mood disorder. Throughout treatment, Ava consistently denied two of the requisite symptoms for depression: sadness or depressed mood and loss of interest or pleasure in activities that she used to enjoy.

### 6 Case Conceptualization

Using a cognitive-behavioral conceptualization and applying a functional analytic approach, it was hypothesized that Avaa’s social phobia and subsequent silence in anxiety-provoking situations was driven by a complex interaction of variables. First, the role of distal/historical factors was considered. A positive family history of anxiety and depression may indicate a genetic predisposition to development of such symptoms. In addition, Ava may have exhibited behavioral inhibition in response to separation from her parents for a number of months, leading to what Mrs. C noticed as a “change” in Ava’s personality (becoming more withdrawn) following her brother’s accident. Behavioral inhibition (i.e., fearfulness or shyness) is a style of temperament shown by some young children in response to unfamiliar people and situations (Fox, Henderson, Marshall, Nichols, & Ghera, 2005), and has been identified as a predictor of social anxiety in adolescence (Mineka & Zinbarg, 2006). Furthermore, Ava’s disrupted home environment during and after her brother’s injury may have contributed to development of cognitive schemas that the world, and speaking in it, was unsafe. Although no evidence for traumatic events or social learning of anxious behaviors were described, it is likely that Ava experienced distressing social interactions. Overall, Ava’s learning history may have shaped her tendency to avoid speaking. In addition, Ava developed a generalized fear of social situations. Negative reinforcement may have played an important role in maintaining Ava’s symptoms. If Ava experienced anxiety in social situations and coped by escaping, the resulting reduction in anxiety would reinforce her avoidance.

Next, social and cultural factors may have also contributed to Ava’s symptoms. Siblings of children with disabilities are at increased risk of stress and psychological disorders (e.g., Lobato et al., 2011). After Ava’s brother’s injury, the household was somewhat chaotic and Ava’s parents felt challenged to meet the needs of each of their children while balancing full-time jobs. Lack of consistent routines due to daily needs of Ava’s brother may have further contributed to her symptoms
Within these environmental conditions, Ava’s efforts to engage with her parents verbally may have been met with less responsiveness than in a family with fewer challenges and increased resilience (Giallo & Gavida-Payne, 2006), resulting in decreased frequency of talking at home. Through this operant conditioning process, decreases in Ava’s verbal communication may have generalized to other settings. As an adolescent, she primarily engaged in solitary activities (e.g., reading), allowing few opportunities for social experiences to develop age appropriate social skills and normative social experiences with peers. This lack of experience likely intensified deficits in social skills.

Considering the role of culture, research has found that siblings of Latino children with ID are at increased risk of internalizing symptoms, difficulty in personal adjustment and relationships, and reluctance in expressing emotions than non-Latino siblings of children with ID, and Latino and non-Latino siblings of typical children (Lobato et al., 2011). For Latino children, there may be cultural sanctions against expressing emotions and discussing problems with individuals outside the family (Lobato et al., 2011). Furthermore, Latino family dynamics may be characterized by cohesion and self-reliance (Vecchio & Kearney, 2007). Ava experienced significant anxiety outside the family system. Cohesion and self-reliance may have been protective factors in some regards but may also have contributed to patterns of avoidance. Promoting self-reliance may have decreased the family’s engagement of Ava in interactions, whereas cohesion may relate to the family stepping in and communicating for her in public settings and failing to seek treatment when she was younger. These distal/historical factors provide a context within which to better understand the present drivers of her anxiety.

Current/present contributors to Ava’s anxiety included cognitive, physiological, and parenting factors. Examples of cognitive factors include when feared events (e.g., social catastrophe) did not take place, Ava may have falsely concluded that the event did not happen because she avoided the social situation. This may have also served to strengthen her belief that socializing was dangerous and mutism was safer. In addition, Ava was perfectionistic and reported that if she could not perform perfectly, she would avoid speaking entirely. This may have contributed to a cycle wherein Ava’s perfectionism led to avoidance of social situations. The lack of opportunities to practice interactions further decreased her competence, therefore increasing her belief that she was unable to perform perfectly. Furthermore, she was finely attuned to her experiences of physical symptoms of anxiety in social situations, leading to anxious predictions about her performance and increased physiological symptoms. She experienced her symptoms as uncontrollable, and cited that she would “freeze up” and be unable to respond. Perceived uncontrollability has been linked to individual differences in development of social anxiety (Mineka & Zinbarg, 2006). Her experience of panic attacks during social interactions may have further extinguished her motivation to interact with others. Her cognitive and physiological reactions to social situations tended to rapidly increase unless she escaped. This led her to avoid social interactions entirely rather than challenge her anxious thoughts with more realistic beliefs and expose herself to social interactions. Ultimately, Ava’s avoidance served to increase rather than decrease her anxiety, contributing to extreme distress in social situations.

Finally, parenting behaviors may have maintained Ava’s social phobia. For example, her mother and father permitted Ava to use compensatory behaviors (e.g., pointing or writing to communicate) and spoke for her in social situations, thereby reinforcing her avoidance of speaking. Her parents may have been negatively reinforced through reduced frustration and relief from uncomfortable feelings when they allowed compensatory behaviors and spoke for her. As Ava’s anxiety worsened, it is likely that her parents’ expectations for her behavior decreased. She refused to go to school when she was particularly anxious about social interactions. Thus, school refusal was conceptualized as form of avoidance. In addition, her school refusal may have been reinforced through extra attention from her mother and permission to watch movies or read at
7 Course of Treatment and Assessment of Progress

Overall Approach

An evidence-based modular approach to childhood anxiety disorders was selected to treat this case (MATCH; Chorpita et al., 2004; Chorpita & Weisz, 2008; Weisz et al., 2012). Importantly, within the modular approach, the order and duration of treatment modules can be tailored to meet the needs of the individual with SM based on case conceptualization (Reuther et al., 2011; Sung & Smith, 2009). Tailoring can also occur to make the materials and content appropriate for adolescents and to address additional presenting problems.

Considering the conceptualization of this case, the MATCH modules used in Ava’s treatment included providing psychoeducation on anxiety, developing a fear hierarchy, teaching cognitive and relaxation strategies, facilitating exposure to feared situations, teaching new skills (such as social skills), teaching parent-training strategies (e.g., one-on-one time, giving effective instructions), and providing education about maintaining gains and new skills. These components are prominent in many evidence-based treatments for child anxiety (Chorpita, 2007; Weisz et al., 2012) and SM, although much of the SM literature is limited by small sample sizes or lack of comparison groups (Cohan et al., 2006). Exposure-based therapy (with the goal of increasing the child’s audible speech in public places via anxiety reduction) and contingency management (modification of inappropriate attention-seeking or compensatory behaviors by systematically reinforcing desired behaviors, such as talking or verbal approximations) have been evaluated empirically using single case study designs for children with SM (Reuther et al., 2011; Vecchio & Kearney, 2007, 2009). In addition, social skills training was an important treatment component. Children with SM are generally rated as having poorer social skills than their peers (Cunningham, McHolm, Boyle, & Patel, 2004), and Ava exhibited certain social skills deficits. Contingency management strategies with Ava’s parents and teachers were applied, particularly to address compensatory behaviors and school refusal. Parent-training components of MATCH (one-on-one time, effective instructions, etc.) were implemented with Mrs. C to address her concerns regarding Ava’s adaptive skills and increase the amount of time that Ava spent with her family to practice skills learned in session.

Specific Treatment Sequence

Treatment consisted of an intake assessment session, treatment sessions in the clinic, and in vivo exposure treatment sessions in the community. The majority of sessions included a 10- to 15-min parent component or review of treatment with Mrs. C followed by individual therapy with Ava. Over the course of treatment with two therapists, Ava and her mother attended an initial intake session and 60 treatment sessions occurring over 21 months.

Sessions 1 to 10. The early sessions of treatment focused on implementing MATCH modules covering psychoeducation about anxiety and SM, CBT, and providing a rationale for exposure. Ava’s SM posed some specific challenges for implementing these components of treatment. A core component of CBT treatment for anxiety is graded exposure exercises. This allows the person to experience habituation to low-anxiety items before advancing to more anxiety-provoking items. For Ava, simply attending a therapy session and engaging with the therapist induced significant anxiety and was an “exposure.” CBT treatment approaches rely heavily on client participation and Socratic interaction to stimulate learning (Chorpita, 2007); these are challenging to implement if a client does not speak. In early sessions, Ava presented as visibly anxious (e.g., shaking) and home rather than attend school. Her parents also reinforced her lack of compliance with completing chores by allowing her to avoid these tasks.

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withdrawn. She communicated with the therapist only by writing or nodding/shaking her head and rarely made eye contact. There was sometimes a latency of 1 to 2 min between when Ava was asked a question and when she responded verbally, with a number of “false starts” (i.e., her mouth would form words and sound would come out, and then she would stop trying).

Given Ava’s high level of anxiety initially in speaking in sessions, the therapist and Ava created an early fear hierarchy related to speaking with the therapist (moving from lower-level items such as writing responses, to whispering words, to speaking at an increased volume). In early sessions, the therapist allowed Ava to write or type her responses. This lower anxiety option for communicating was helpful as she was exposed to speaking to the therapist in a graded fashion. Using writing and typing allowed for gathering of necessary intake information and engaged her during the psychoeducation and, later, in the cognitive retraining process. Despite not speaking at times, she was engaged in session activities. Over Sessions 1 through 11, the number of words that she said aloud in session increased substantially (Figure 1).

SUDS ratings measured during interactions dictated progression through the fear hierarchy related to talking in session. After she was able to speak in session, Ava, her mother, and the therapist created a hierarchy of additional social situations (e.g., answering questions when called on, reading aloud, asking for directions). Diaphragmatic breathing and progressive muscle relaxation techniques were also introduced. Cognitive retraining techniques (e.g., education about anxious thoughts and coping thoughts, how to challenge anxious thoughts, and common thinking traps) were presented and practiced during sessions. Given her anxiety while talking about thoughts/feelings, much initial cognitive work was conducted with Ava having the option to write or type; this approach facilitated rapport building, collaboration, and learning.

The therapist also introduced an intervention to address Ava’s “false starts” in speaking. Ava described that often when she began to speak, her mind went blank, her throat tightened, and she became very aware of her physiological symptoms. This often resulted in her abandoning efforts to speak and engaging in self-blame. Thus, Ava and the therapist developed a “coping card” for use during speaking in sessions, and later during exposures, when she experienced a “false start.” The coping card included the following steps: (a) take a deep breath, (b) identify a positive or encouraging thought (i.e., “You can do this!”), and (c) try again to respond. The coping card was shared with Mrs. C for use at home when she noticed that Ava had a difficult time speaking in lieu of speaking for her or allowing her to escape giving a response.

Parent training was a crucial component of initial sessions. At intake, Ava’s mother reported that Ava spent most of her time alone in her room. The therapist and Mrs. C discussed the importance of Ava increasing her time spent with the family. In addition, the MATCH module covering “one-on-one” time with her parents was introduced, during which Ava received positive feedback for engaging in verbal interactions. Mrs. C often reported frustration with Ava when she would not talk. The therapist trained Mrs. C to use specific praise statements (adapted from another MATCH module) for effort related to speaking, including approximations of verbal communication. Furthermore, the therapist discussed the importance of giving Ava adequate response time during social interactions so avoidance of speaking was not reinforced.

Sessions 11 to 34. The MATCH module on exposure became the core focus of treatment in Session 11. Early exposures included verbally responding to questions about preferred topics and reading aloud in front of the therapist, as well as answering questions that relatives might ask her. As Ava began to speak more, her speech was fluent but of low volume. Social skills training (e.g., increasing volume of voice and eye contact, focus on body language) was incorporated into exposures. More advanced cognitive strategies were also introduced, such as the MATCH module for a cognitive coping STOP plan (evaluate what you are Scared of, consider your anxious Thoughts, use Other thoughts, and Praise yourself for good effort at coping), as well as probability estimation (rating the realistic odds of her anxious thoughts coming true).
During this period of in-session exposures, Mrs. C became increasingly concerned about Ava’s school refusal (approximately 2 days per week) and responsiveness to parental instructions. Also at this time, Ava began taking Zoloft prescribed by her pediatrician, after Ava’s mother described her social fears in school in a medical visit. MATCH modules relevant to behavioral management (e.g., Learning About Behavior, Giving Effective Instructions, etc.) were adapted for use with an adolescent and implemented with Mrs. C. The therapist and Mrs. C examined antecedents (anxiety) and consequences (watching movies and reading at home) of Ava’s school refusal, and applied positive reinforcement strategies for attending school. With Ava and Mrs. C’s permission, the therapist shared psychoeducation about anxiety and core strategies (e.g., taking SUDS ratings, relaxation) with Ava’s resource teacher at school for use in the classroom. In addition, the therapist and Mrs. C discussed how to give effective instructions and setting expectations for completing chores and other tasks at home, and applied previously learned behavioral principles to this problem area. Mrs. C demonstrated use of these strategies at home and reported on progress weekly.

Attendance in therapy became inconsistent for a period in the sixth and seventh month of treatment due to family illness, vacation, and holidays. Engagement strategies (e.g., appointment reminders via phone, collaborative problem solving, etc.) were implemented. Upon returning to the clinic, treatment consisted of continuing exposures and cognitive work to replace anxious thoughts with coping thoughts. Exposures increased in difficulty and involved confederate therapists before advancing to in vivo exposures. For instance, “ordering at a restaurant” was first role-played with the therapist acting as a restaurant server, then additional confederate therapists acted as servers, and finally progressing to going to a local restaurant where Ava ordered food for herself and her mother. She carried a log in which she recorded SUDS ratings prior to, throughout, and after each exposure. Her mother investigated peer activities for Ava, and she subsequently became involved in activities after school (e.g., Driver’s Ed), which allowed for more in vivo practice with developmentally appropriate peer interactions.

**Sessions 35 to 61.** After a year of treatment, Ava’s case was transferred to a new therapist because the initial therapist left the clinic. Given the social nature of Ava’s difficulties, a great deal of thought was given to the transfer process. Ava was told about the transfer 2 months in advance, and it was framed as an exposure for her. The initial therapist and transfer therapist met with Ava together for a session to facilitate the transition and to support Ava in considering the transition within a “graded exposure” framework. Given that the initial therapist was a feared stimulus at the beginning of treatment, when the transfer therapist began working with Ava alone, rapport building was a core focus of initial sessions.

At the time of the transfer, Ava was 16 years old, and she and her mother wanted to refocus exposures to tasks that would facilitate Ava’s growing independence and transition to taking on adult responsibilities. One of these tasks that Ava and her mother wanted to work on was getting a job. Continuing with the MATCH modular approach, Ava and the therapist created a new fear hierarchy specifically oriented to obtaining a summer job. This hierarchy included items including phone and in-person components such as calling a store to ask whether they were hiring, completing job interviews over the phone and in-person, greeting customers at a store, and talking with potential customers.

Beginning with phone calls, Ava and the therapist addressed each item on the hierarchy in a stepwise manner. First, the therapist and Ava role-played the task using a script. Next, she completed the task with the therapist without a script. Finally, Ava completed the exposure in a realistic context (e.g., actually calling a store to see whether they were hiring). In vivo exposures were completed at home (e.g., Ava visited a local store to fill out a job application). Sessions then focused on in-person job interviews in which exposures progressed toward Ava completing mock interviews wherein different clinic therapists pretended to be potential employers. Social
skills were the continued focus of in-person exposures. The final phase of job-related exposures was related to working in a store. For these sessions, the therapy room was converted into a mock store. Exposures began with the therapist being a customer and progressed to having confederate therapists serve as additional customers. Items higher on this hierarchy included difficult interactions with customers, such as handling a merchandise return outside the store policy.

**Assessment of Progress**

In clinical interviews, Ava and her mother reported treatment gains, including increased speech in community settings and with her family, and reduced anxiety in social interactions. There also was increased speech in therapy sessions (Figure 1). After focusing on social skills, Ava began to use more eye contact and talk at a higher volume during exposures. Ava rerated items on her fear hierarchy approximately every 2 months, and these decreased notably across treatment. Ava’s average fear hierarchy ratings on her job-related fear hierarchy also decreased as exposures addressed these items in Sessions 37 to 61. Figure 2 depicts her ratings on her general fear hierarchy and her job-related hierarchy, averaged across items.

In addition to these idiographic measures, nomothetic measures were used. Mrs. C routinely rated her daughter’s speaking behaviors on the SMQ (Bergman et al., 2008), with higher numbers indicating more speech. As noted previously, Ava was older than the ages for which this measure was developed, but as there were no known assessment instruments for SM in adolescents, the SMQ was used to track Ava’s SM behaviors over time. Mrs. C’s scores for her daughter indicate increases in speaking behaviors over time (Figure 3). A relative decrease in her scores on this measure in later sessions may be explained by her mother’s habituation to the measure after multiple measurements. Alternatively, these scores may be due to an increase in Mrs. C’s expectations for Ava’s speaking over time; it may be that Ava was speaking more, but was also putting herself into more challenging situations as she moved up her exposure hierarchy. Finally, the relative decrease may be explained by the content of the items. As this measure was developed for use in children younger than Ava, it may be that as Ava got older across the course of treatment, certain items on the SMQ (e.g., “Speaks to babysitter”) became less and less relevant.

Ava and Mrs. C also routinely rated Ava’s anxiety and depression scores using the RCADS (Chorpita et al., 2005), child and parent versions. The RCADS is designed for use with children and adolescents in 3rd through 12th grades. Ava’s T-scores on this indicate steady declines on symptoms of anxiety (Figure 4). By Session 41, RCADS scores were significantly below the nonclinical mean, although Ava continued to report symptoms of social phobia. It is possible that Ava and her mother habituated to the RCADS after multiple measurements and were underreporting Ava’s anxiety. As such, starting in Session 44, Ava and her mother reported on her social

![Figure 2. Average fear hierarchy ratings across treatment](image-url)
phobia symptoms using the child and parent versions of the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher, Khetarpal, Cully, Brent, & McKenzie, 1995). SCARED scores indicated significant social phobia symptoms that decreased over time.

Based on these measures and client- and parent clinical interviews, Ava made gains in speaking to others across situations and she no longer meets DSM-IV-TR diagnostic criteria for SM. She also made gains toward independence (e.g., getting her driver’s license and driving herself to sessions). Although she experienced reductions in anxiety (via fear hierarchy ratings and self-report measures), Ava still reports symptoms of social phobia and continues to address these symptoms in individual CBT sessions.

8 Complicating Factors

There were several factors complicating Ava’s course of treatment. Her developmental stage at the onset of treatment represents a complicating factor. As an adolescent, her parents made the assumption that she had control over her behavior and “should” simply change the way she was acting. Parental motivation to seek help was lower given their attributions about Ava’s abilities at her developmental stage. In addition, the literature on assessment and treatment of SM is geared toward younger children. Assessment and intervention was adapted for use with Ava, an adolescent. For example, the SMQ was used with Ava, although she was older than the normative sample on which it was developed, and it proved to be a helpful measure for assessing changes in her SM over time. In addition, many exposures were oriented around interests that were developmentally advanced compared with typical treatment for SM, such as seeking a summer job.

There were many competing demands on the parents’ time, including Ava’s brother’s disability, academic problems that arose with her sister, full-time jobs, and Ava’s treatment. Ava’s family struggled with adherence to the out-of-session treatment plan. Family dynamics have previously been discussed as challenges to implementing a comprehensive approach to treatment, including in- and out-of-session activities (Fisak, Oliveros, & Ehrenreich, 2006). Other
literature has shown that family (e.g., family time, routines, and communication) and parent (e.g., parent stress) factors are more predictive of the adjustment of siblings of children with disabilities than siblings’ experiences of stress (Giallo & Gavida-Payne, 2006). Although Ava’s parents made a strong effort to balance competing demands, these likely impacted their ability to fully engage in treatment.

Other complicating factors were related to missed sessions. Given her early anxiety about attending sessions, missed sessions represented a major challenge to treatment continuity, and following each missed session, time was spent regaining rapport. Careful assessment and functional analysis of missed sessions revealed competing demands of Mrs. C from her other children and forgetfulness. Problem solving with Ava and her mother resulted in a collaboratively generated solution (presession reminder phone calls), which increased attendance for some time. When attendance again became a concern later in treatment, the therapist proposed that Ava drive herself to sessions. This not only targeted attendance but also fostered independence. Ava was anxious about driving alone so the therapist assisted in developing a plan in which her mother rode as a passenger for a series of sessions, before Ava drove herself to treatment routinely. Ava’s driving

**Figure 4.** Social phobia and total anxiety T-scores on the RCADS-P (top panel) and RCADS-C (bottom panel) across the first year of treatment

Note: RCADS = Revised Children’s Anxiety and Depression Scale; RCADS-P = RCADS–Parent; RCADS-C = RCADS–Child.
behavior was reinforced with a reward system designed by Mrs. C and Ava. The therapist helped Ava to set goals for confirming appointments via phone. Eventually, Ava was confirming appointments and attending sessions independently.

Ava’s family also had difficulty completing homework assignments due to competing demands at home. The therapist worked with Mrs. C and Ava to design at-home exposures and provided tracking forms; however, these forms were rarely returned. Mrs. C reported that while exposures were sometimes attempted at home, many assignments were not completed due to being “busy.” Time constraints have been noted previously as a challenge to facilitate exposure tasks at home in SM cases (Fisak et al., 2006). Thus, reminders regarding exposure assignments were provided during session reminder phone calls, and Ava’s feedback was solicited to make forms easier to fill out at home.

A final challenge in Ava’s treatment was that she had few opportunities for interacting with peers. Aside from interacting with her family, Ava did not engage with peers regularly outside of school, giving her few opportunities to practice her skills. The therapists emphasized the importance of practicing these skills with peers outside of session. In addition to school, her mother took initiative to involve her with additional peer social and instructional groups.

9 Access and Barriers to Care

A few factors are worth considering when replicating this treatment plan with other clients with SM. Ava’s case required intensive and long-term exposures that involved options available at our clinic, such as the participation of other clinic therapists, clearance to conduct out-of-clinic exposures, and time to consult with individuals in the school systems. Any of these elements may be challenging to implement in private practice or in some community clinic settings. For example, therapy sessions and exposures occurring out of the office may be against policies of some clinics or may not be reimbursed (Vecchio & Kearney, 2007), discouraging use in some settings. Although the length of treatment (61 sessions) may not be feasible in every setting, preliminary work has shown that evidence-based treatment approaches may be successfully adapted for community mental health settings (Southam-Gerow, Hourigan, & Allin, 2009). Further work may focus on increasing the intensiveness of the approach, as has been done with other interventions (e.g., Angelosante, Pincus, Whitton, Cheron, & Pian, 2009). This was initially suggested to Ava’s family, but they were unable to come to treatment more than once per week due to other demands on their time. A take-away point is also the importance of early intervention for SM while behavioral patterns are relatively new (Cohan et al., 2006). Ava was 15 years old at intake and had developed severe impairment as well as extensive routines and strategies for avoiding social interactions. Other case studies in younger children with SM have completed modular CBT treatments with successful outcomes in fewer sessions (e.g., 21 sessions for an 8-year-old boy; Reuther et al., 2011).

10 Follow-Up

Research has indicated that individuals with SM may often continue to struggle with social anxiety symptoms in adolescence and adulthood even after their SM symptoms have ameliorated (Sharp et al., 2007). As we wrote this article, Ava’s treatment for social phobia was ongoing and she moves closer to applying for a part-time job. She converses in full sentences with the therapist at a normal volume, communicates with other clinic therapists and members of the community in exposures, and speaks with her family and peers, although she still becomes anxious in social settings. Goals for ongoing treatment include continuing to work on exposure tasks geared toward facilitating independence. As Ava nears the completion of high school, therapy
will focus on building skills that will help her with this transition. She has expressed the desire
to go to college, and treatment will need to incorporate further goals supporting independent
living in college (e.g., making new friends in the dorm). As she continues to struggle with social
phobia, new challenges may arise in treatment after transitioning to college.

11 Treatment Implications of the Case

This case demonstrates that a modular CBT approach can be effective when dealing with mul-
tiple presenting problems (social phobia, SM, behavioral concerns, school refusal) and when
adapted to an adolescent. As discussed (Reuther et al., 2011; Sung & Smith, 2009), the hetero-
genous clinical profiles of children and adolescents with SM pose significant challenges to
their treatment. Due to the high likelihood of comorbid diagnoses and problems, a single
approach may not be adequate. For Ava, tailoring the modular treatment allowed the therapists
the flexibility to address her particular constellation of presenting problems in a developmen-
tally sensitive fashion. Adapting treatment to Ava’s specific needs also helped to maintain her
engagement in therapy. Primary examples of this included creating a fear hierarchy related to
speaking in session and allowing Ava to write or type responses initially so she could be gradu-
ally exposed to speaking with the therapist. Beginning with lower anxiety interactions in therapy
(e.g., communicating via writing) and gradually working up to speaking built up her confidence,
maintained her engagement, and improved her social skills over time.

This case also highlights the importance of collaborative care. The school formally identified
Ava’s SM in fifth grade, but after an initial failed attempt at “talk therapy” in fifth grade, Ava’s
family did not reinitiate therapy until she was 15, largely due to being unaware of other therapeu-
tic approaches. As SM is largely diagnosed in school settings, it is important for schools to be
aware of treatment approaches that may be most effective in treating SM and to provide families
with this information and collaborate on interventions. In addition, many adults in Ava’s life
were unintentionally reinforcing her social avoidance and mutism. By involving her mother and
teachers in treatment, Ava was challenged to practice her communication skills outside of ther-
apy sessions. Practicing skills outside of therapy sessions facilitates social skill building and
habituation to anxiety-provoking situations across multiple contexts, something that is not as
likely if these interventions only occur in treatment sessions.

12 Recommendations to Clinicians and Students

A few lessons emerge from this case that may apply to other clients with SM. First, rapport
building at the beginning of treatment is important to reduce anxiety and increase engagement.
We benefitted from taking things slowly to facilitate the client’s engagement in treatment. For
youth who have either remained silent or who have relied on others to speak for them for most
of their lives, taking gradual steps to help them become comfortable with speaking in session
will build their confidence and reduce anxiety before more challenging aspects of therapy are
undertaken. Finally, assessment and treatment can be particularly difficult with an individual
who does not talk. We found that flexibility in this regard was valuable. Initially allowing a cli-
ent with SM to write or type responses may be helpful, gradually removing this assistance as the
client moves throughout treatment. Conceptualizing initial therapy sessions as “exposures” is a
helpful framework, understanding that communicating with the therapist may be extremely
anxiety provoking at the onset of treatment. Creating fear hierarchies related to speaking to the
therapist in session (e.g., beginning with gesturing/writing and ending with speaking out-loud to
therapist) may aid progress toward verbal cognitive work in session, demonstrate the concept of
graded exposure, and build rapport between client and therapist.
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