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Case Report

## Selective Mutism Interventions: What Works?

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### Abstract

Selective Mutism, like many disabilities, is often misunderstood in the educational setting. Due to a lack of understanding, educators have mislabeled children who struggle with Selective Mutism as “stubborn.” Despite this, research shows us that Selective Mutism is not due to “stubbornness,” but is more related to challenges with anxiety. This paper provides a personal reflection on the topic of Selective Mutism, both in practice and the literature, examines the impacts of six Selective Mutism interventions, and discusses overall effective interventions.

**Keywords:** Selective Mutism; Disabilities; Anxiety.

### Selective Mutism Interventions

In my experience at the schools, I noticed that there are many misunderstandings regarding disability and mental health. One of the most recent misunderstandings I observed from my teachers and administrators is related to Selective Mutism. Now, mind you, I previously had many of my own misunderstandings regarding Selective Mutism. Yet, after becoming informed about what Selective Mutism is from my training, I am able to address not

only many of my misunderstandings, but also address many of my teachers' and administrators' misunderstandings. Share the knowledge, right? In this paper, I will reflect briefly on what I know about Selective Mutism, share six research studies that examined the impact of interventions geared toward children and youth with Selective Mutism, and reach a personal conclusion about what interventions seem to work.

There are people who are Selective Mutism experts. I am not one of those people. However, I learned that children and youth with Selective Mutism are rare [1-4] and they often fail to speak in specific social situations, despite speaking in other situations [5]. Their failure to speak has been shown to be associated with social anxiety [6-10]. The latest edition of the APA Diagnostic and Statistical Manual of Mental Disorders (DSM-5) lists Selective Mutism as a disorder that falls under the category of Anxiety Disorders, along with more commonly recognized anxiety disorders such as Separation Anxiety Disorder, Social Anxiety Disorder, and Generalized Anxiety Disorder.

Various studies have examined the relationship between Selective Mutism and anxiety. In a sample of 57 non-clinical children aged 3– 6 years old, Muris et al. [9] found that elevated levels of parent-reported Selective Mutism were predominantly associated with elevated levels of social anxiety indicators. Similarly, in a clinical sample of 57 youth diagnosed with Selective Mutism, Diliberto et al. [10] found that these youths displayed an anxious behavioral profile, which consisted of social anxiety disorder symptoms, social problems, and aggressive behaviors (i.e., attention-seeking, sullenness, and mood changes). In Steinhausen and Juzi's study [2], 100 children with Selective Mutism were analyzed. Clinicians noted that a large majority (66 %) of these children showed comorbid symptoms of anxiety.

Despite growing literature regarding the relationship between Selective Mutism and social anxiety, Muris et al. [8] asked practitioners to also consider other factors such as family resemblance, genetics, temperament, environmental influences, and avoidant function of not speaking (i.e., emotion regulation strategy to reduce anxiety or other negative emotions in stressful or challenging scenarios). They indicated that research has documented a disproportionately high rate of Selective Mutism and associated symptoms within families of children with Selective Mutism. Remschmidt et al. [11] confirmed Muris and Ollendick's argument for considering family resemblance in their study of 45 children with Selective Mutism. Remschmidt et al. [11] found that 9% of the fathers, 18% of the

mothers, and 18% of the siblings of the children in their sample also had a history of Selective Mutism. They also found that 51% of the fathers and 44% of the mothers displayed signs of extreme shyness.

In another study investigating the relationship between Selective Mutism and genetics, Stein et al. [12] discovered that one of the polymorphisms in the contactin-associated protein-like 2-gene (CNTNAP2) - rs2710102- was significantly related to Selective Mutism. The CNTNAP2 had previously been associated with social challenges, which included challenges that children with Autism Spectrum Disorders exhibited [8]. To further investigate the polymorphisms rs2710102, Stein et al. sampled 1028 young adults and subjected their DNA to analysis. The young adults were also asked to complete questionnaires that measured social anxiety symptoms and socially anxious traits. Again, Stein et al. found that the polymorphism rs2710102 was related to social anxiety and its presence increased odds for having elevated scores on measures of social anxiety symptoms and socially anxious traits.

When it comes to temperament, Selective Mutism shares traits with behavioral inhibition, which Kagan [13] defined as a tendency to show fearfulness and avoidance during confrontations with new and unfamiliar people, situations, and objects. Accumulating evidence has shown that this temperament trait in early childhood is associated with greater risk for the development of anxiety disorders in later childhood [14-16]. Despite such findings, I find that the available evidence is limited and circumstantial. Moreover, I worry that this implication can be taken out of context, be overgeneralized, and lead to further misunderstandings about Selective Mutism.

I believe that a call to explore environmental influences may give us further insight into Selective Mutism. In an observational study by Edison et al. [17], parents of children with Selective Mutism appeared more controlling and overprotective when compared with clinical and non-clinical control children. Specially, they were rated as granting less autonomy and making more power remarks. Notably, the study discovered that increased anxiety was associated with higher levels of control. Additionally, because most children do not speak at school, Muris et al. [8] suggested that the condition might partially be due to particular problems existing in the school setting. They argued that since school is related to academic performance and most activities are verbal in nature (e.g., responding to teacher questions, reading aloud), children with learning challenges or lower intelligence may perceive school as difficult and thus are less likely to verbally engage [8].

Wherein environmental factors appear stressful or threatening, avoidant functions of not-speaking serve as internal ways of coping with such stress or threats [8]. Scott and Beidel [18] argued that “non-speaking behavior” of children with Selective Mutism should be viewed as an emotion regulation strategy. To illustrate, consider the stressful school setting for a child with Selective Mutism. Her non-speaking behavior acts as a method for reducing her anxiety and allows her a form of control over what may appear as a threatening or beyond-her-control type of situation.

Young et al. [19] found tentative support for this functional understanding of Selective Mutism. They sampled 35 children between the ages of 5 and 12 years who either had Selective Mutism (n = 10), social phobia (n = 11), or no diagnosis (n = 14). These children participated in two social interaction activities. The first activity was a role-play in which the child had to respond to statements and questions shared by a same-aged peer. The second activity was a read aloud in front of a small audience, which consisted of an adult and a same-aged peer. Child and observer ratings of anxiety and psychophysiological measures such as electrodermal activity, heart rate, etc. were conducted. Behavioral observations revealed that the Selective Mutism group exhibited the highest anxiety levels during the interaction tasks. These levels were significantly higher than those in the social phobia group. From these findings, Young et al. [19] proposed that the failure to speak in children with Selective Mutism reflects an avoidant strategy to diminish emotional and psychological distress.

With consideration of the different factors that lead to the development of Selective Mutism, one can make informed decisions regarding interventions, specifically what interventions can adequately address the root cause of the child’s failure to speak and promote their verbal expression in situations where they previously did not speak. In general, Muris et al. [8] stated that treatment of Selective Mutism can be accomplished in two ways: either through psychosocial interventions or via pharmacotherapy. The most popular psychosocial intervention is behavioral/cognitive behavioral methods such as contingency management, shaping, prompting and fading, systematic desensitization, social skills training, and modeling [20]. Pharmacotherapy treatments such as Selective Serotonin Reuptake Inhibitors (SSRIs) have proven effective in treating children with anxiety disorders [21]. The most frequently used SSRI for treating children with Selective Mutism has been Fluoxetine [22].

Similar to Cohan et al. [20] findings, I also found that the majority of the Selective Mutism interventions for children and youth were largely behavioral/ cognitive behavioral [23-27]. Only one of the interventions I found utilized pharmacotherapy in its treatment of children with severe Selective Mutism [28]. Table 1 depicts short summaries of the interventions I found.

Study	Sample/ Design	Target Behavior(s)	Intervention	Outcome Measure	Effect Size
Lang et al. [23]	9-year-old girl with selective mutism	Increase speaking in community settings	Role play and video self-modeling	Observations	Responses per session increased from 0 in baseline to means of 5 for ordering in a restaurant, 6 for meeting adults, and 16 for playing with peers. Initiations increased from 0 in baseline to means of 0.3 for ordering in a restaurant, 4 for meeting adults, and 5 for playing with peers
Manassis and Tannock [28]	Children with SM (n = 17) and their mothers, seen in a previous study, attended follow-up appointments with a clinician	“Significant symptomatic”	School consultations and for children with severe SM selective serotonin reuptake inhibitors (SSRI) (n = 10)	Brief parent-report questionnaires (Selective Mutism Questionnaire and Clinical Global Improvement Rating) and a semi-structured parent interview (Anxiety Disorders Interview Schedule) administered by a trained child psychiatrist blind to treatment status	SMQ school and other (6 to 8 months) 4.06 (1.13) (sample) 4.24 (1.25) (medicated) 3.79 (0.97) (un-medicated) 4.17 (1.22) (therapy) 3.90 (1.08) (no therapy); CGI 2.94 (sample) 2.50 (0.97) (medicated) 3.57 (0.98) (un-medicated) 3.10 (0.99) (therapy) 2.71 (1.25) (no therapy)
Oerbeck et al. [24]	Seven children (three–five years old) with SM (five girls;	Increase speaking levels, from I (“Speaks to the	Cognitive behavioral intervention	Teacher-reported School Speech Questionnaire	Mean SSQ score was 0.59 (SD = 0.51) at baseline compared with 2.68 (SD = 0.35) at the

	mean age = four years, four months, standard deviation (SD) = nine months)	therapist in a separate room with a parent present”) through to VI (“Speaks in all kindergarten settings without the therapist present”)		(SSQ) and the treatment goal obtained (I–VI) six months after the onset of treatment, and the SSQ and Clinical Global Impression Scale (CGI) at one-year follow-up	six-month evaluation and 2.26 (SD = 0.93) at one-year follow-up. The mean CGI score at baseline was 4.43 (SD = 0.79) compared with 1.14 (SD = 0.38) at follow-up
Oerbeck et al. [25]	24 children with SM, 3–9 years of age [16 girls, mean age 6.5 years (SD = 2.0), 9 children in preschool; age 3–5 years, 15 school children; age 6–9 years]	Increasing speaking behaviors	21 sessions by the therapist over a 3-month period.	The School Speech Questionnaire (SSQ) rated by the teacher	Prescore = 0.68, postscore = 1.22 (0.54, 95% CI 0.19–0.89, T22 = 3.22, p = .004)]
Oon [26]	Gladys, age 5	Increase spontaneous speech	Behavioral treatment with drama therapy	Observations, familial input, and teacher input	By the end of the 18 therapy sessions, Gladys was speaking to the researcher spontaneously; she initiated activities, directed play scenes, and spoke loudly. She also had spoken to her aunt after session 5 and her uncle after session 8. In school, her teacher expressed that she had initiated speaking to her at around the eighth therapy session and had spoken in front of her classmates during a “Simon Says” game at session 12. She was also observed speaking to a few friends around session 15
O'Reilly et al. [27]	Two sisters, aged 5 and 7	Any speech that was recognized by	Social problem-solving	Observations	12 out 17 observations, sister 1 answered teacher questions; sister 2

	years	the observer as a word, phrase, or sentence at normal conversational volume in response to a request from the teacher to the student during classroom activities	intervention in an elementary school setting		answered all five questions in the classroom after the first problem-solving session. Her classroom performance was somewhat variable for the next seven sessions, but from Session 9 onward, she answered all teacher questions during classroom observations
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**Table 1:** Short summaries of the interventions on Selective Mutism.

All of the interventions showed significant outcomes in helping children with Selective Mutism speak more in situations that they previously did not speak. I believe that one of the reasons why the interventions worked so well is that it desensitized the anxiety associated with speaking, and, at the same time, normalized the aspect of speaking, thus making the child feel more at ease when speaking. Furthermore, as evidenced in the interventions, consistency played a vital role in promoting the children’s speech. The interventions were implemented accordingly and regularly over a particular amount of time. Referencing Young et al. [19] postulation that non-speaking behavior serves as a strategy for reducing stress, it is logical to believe that these interventions provided the children with more appropriate stress-reducing strategies in place of the inappropriate non-speaking behavior strategy.

In reflection of my own experience working with a child with Selective Mutism, I have come to realize that in addition to all the other important elements indicated by Muris et al. [8] the relationship between the person providing the intervention and the intervention’s fit with the child are essential for the intervention’s success. I find that there is a relational aspect lacking in the studies I have read not only for Selective Mutism interventions but also other interventions such as academic, mental health, etc. I truly wonder whether an intervention’s effectiveness is enhanced via the relationship between the person providing the intervention and the child receiving the intervention. Considering that a therapist administered some of the interventions listed above over an extended amount of time, some sort of relationship had to have been developed. Additionally, recognizing that most therapists would want to see their clients improve, it makes sense that they would place value into developing a relationship with the client to

understand the client's preferences in order to individualize any interventions implemented.

Overall, like Cohan et al. [20] findings, the majority of Selective Mutism interventions were largely behavioral/ cognitive behavioral [23-27]. Only one of the interventions found used medication [28]. It is clear that behavioral/ cognitive behavioral methods are dominating Selective Mutism interventions. Unclear, however, is whether the therapist's relationship with the client contributed to the intervention's effectiveness. Although we have come a long way in treating Selective Mutism, there is still room for improvement and areas to explore. Future research should examine whether improving relationships, whether in the family, between student and teacher, and student to peers can reduce perceived anxiety/ stress and ameliorate Selective Mutism symptoms.

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