

Selective Mutism and Anxiety:

A Review of the Current Conceptualization of the Disorder

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Abstract

Selective mutism (SM) is a rare and interesting condition that has been associated with a wide variety of childhood psychiatric conditions. Historically viewed as more of an oddity than a distinct diagnostic entity, early conceptualizations of the condition were based largely on case studies that tended to link SM with oppositional behavior. More recently, a number of controlled studies have enhanced our understanding of SM. This review summarizes the current conceptualization of SM, highlighting evidence supporting the notion that SM is an anxiety-related condition.

Introduction

Selective mutism (SM) is a well-established diagnostic entity, with descriptions of the condition dating back to the 19th century (Dummit et al., 1997; Kopp & Gillberg, 1997). Although well documented, SM is still not clearly understood, and debate continues regarding its classification and etiology. In general, this misunderstanding can be attributed to the relative infrequency of SM in comparison to other childhood disorders (Standart & Couteur, 2003). Specifically, SM's rarity has limited the number of large-scale studies investigating the disorder, with most early reports of the condition limited to case studies (Dummit et al., 1997). Many of these early case studies tended to emphasize an underlying oppositional and defiant etiology, often characterizing children with SM with such descriptors as manipulative, dominating, negative, stubborn, and/or aggressive. More recently, a number of studies have investigated the etiology of SM, with a particular emphasis placed on determining if SM is better conceptualized as an anxiety-related disorder. The purpose of the current paper is to review the clinical conceptualization of SM, including its diagnostic criteria, prevalence, and etiology, as well as briefly highlight evidence regarding social adjustment and potential treatment strategies.

Diagnostic Criteria and Epidemiology

The persistent failure to speak in specific social situations in which speech is typically expected (e.g., at school, with playmates), despite speaking in other situations, is the cardinal characteristic of SM (APA, 1994). For example, children with SM typically engage in normal rates of conversation with parents and siblings in the home

setting, but do not speak to teacher or peers when they enter the school system. Other DSM-IV diagnostic criteria specify that the disorder should: 1) Not be the result of an organic inability to understand language or a lack of knowledge of, or comfort with, the spoken language in the social situation; 2) Interfere with education or occupational achievement or with social communication; 3) Last at least 1 month, not including the first month of school (during which the child may be shy and reluctant to speak); 4) Not be better accounted for by embarrassment related to a Communication Disorder, such as Stuttering, or does not exclusively occur during Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder. Finally, although the use of verbal communication is absent in certain social situations, the diagnosis does not exclude other forms of communication, such as gesturing, shaking the head, pulling or pushing, or grunting. This is an important distinction, given that children with SM often rely on alternative forms of communication to function in the school or community environment.

Although debate continues regarding exact prevalence figures, it is generally agreed that SM is a rare disorder, with estimates ranging from .03 to .2%. Early community-based epidemiological studies reported fairly consistent prevalence rates, with less than 1% of school age children meeting diagnostic criteria. For example, Brown and Lloyd (1975) reported a rate of .03% among 5- and 6-year old students, while Kolvin and Fundudis (1981) reported a rate of .08% in a survey of 7-year-olds. More recently, slightly higher prevalence rates have been noted, with estimates ranging from .18% among school-aged children in Sweden (Kopp & Gillberg, 1997) to .2% among second graders in Finland (Kumpulainen, Rasanen, Raaka, & Somppi, 1998). It has been hypothesized that the variability among these estimates may be a function of differing

diagnostic criteria used in each study and the age at which the children were sampled (Kumpulainen, 2002).

The setting in which SM is sampled also appears to influence reported rates, with prevalence estimates obtained in the school setting typically higher than those cited in clinical samples. As noted by Standard and Couteur (2003), this may be due to the identification of children who present with “hidden SM” detected during school-wide screening studies. These children are likely not identified in studies using clinical samples because children with SM are typically not a “behavior problem” (e.g., aggressive; defiant) in the classroom setting and, therefore, are often not referred for mental health services at the same rate as children presenting with externalizing disorders. As such, school and community based studies, which tend to report higher prevalence rates, may provide a more comprehensive picture regarding the rate of mutism found in children outside psychiatric care.

Past research suggests that SM is slightly more common among girls than boys (Kumpulainen, 2002; Standart & Couteur, 2003). Reported female to male ratios range from 2.6:1 to 1.5:1 (Garcia, Freeman, Francis, Miller, & Leonard, 2004). In general, the sex-ratio difference found with SM reflects a more general trend between gender and anxiety-related conditions, with females generally experiencing more symptoms of anxiety in comparison to males (Standart & Couteur, 2003).

SM is typically not diagnosed until a child enters the school system, following a period of engaging in normal conversation with family members in the home setting. Of concern, there is typically a lag between the age at referral and the time the child first enters the school system, with estimates suggesting that the average age when a child is

formally referred for an assessment may range from 6.5 to 9 years of age (Ford, Sladeczek, Carlson, & Krochwell, 1998; Kumpulainen et al., 1998; Standard & Couteur, 2003). As noted by Hayden (1980), this lag may be due to family members not recognizing SM as a behavioral condition in need of treatment due to normal rates of speech in the home setting and/or families living in social isolation. Regardless of the cause, with most children entering the school system at 5 years of age, this suggests that a child with SM may spend upwards of 4 years exhibiting restricted speech in the classroom setting before being referred. Clearly, there is a need for better screening and identification of children with SM as they enter the school system, particularly with evidence suggesting that many symptoms of SM occur before a child is of school age. For example, parents of children with SM tend to report that their child has always behaved in a shy or withdrawn manner (Garcia et al., 2004). Developmentally, SM has been linked with a slow-to-warm and shy temperament, suggesting that behavioral inhibition may represent a precursor to the onset of the condition (Ford et al., 1998). Furthermore, recent epidemiological studies indicate that the age of onset occurs before the age of 5, with estimates ranging from 2.7 years to 4.1 years (Garcia et al., 2004; Giddan, Ross, Sechler, & Becker, 1997).

Once present, SM typically lasts for a few months, but may persist for several years (APA, 1994). Prevalence rates of SM are typically higher among children than adults (Kumpulainen, 2002). Extreme cases of SM in adults are rare, although speech inhibition often accompanies social anxiety in adults (Garcia et al., 2004). As noted by Garcia et al. (2004), the lack of mutism in adults may be related to the fact that adults can more readily control their environment and avoid situations where they would be required

to speak. In addition, even in cases where mutism is apparently “cured”, individuals often continue to struggle with symptoms of shyness and social anxiety into adolescence and adulthood (Joseph, 1999). For example, a follow-up study of a sample of 41 young adults who were diagnosed with SM as children reported that 60% of the sample continued to struggle with self-confidence, independence, achievement, and social communication skills (Remschmidt, Poller, Herpertz-Dahiman, Hannighausen, & Gutenbruner, 2001)

History and Classification

Kusmall first described the characteristic symptoms of SM in 1877 when documenting a condition in which individuals did not speak in certain situations, despite the capacity to speak (Krysanski, 2003; Standart & Couteur, 2003). Kusmall referred to the condition as “aphasia voluntaria” in order to emphasize the idea that it was a voluntary decision by the individual not to speak (Krysanski, 2003). In 1934, Tramer used the term elective mutism to describe the same symptoms in a case study of an 8-year-old boy (Kopp & Gillberg, 1997). Similar to Kusmall’s view that SM is a volitional condition, Tramer’s new label reflected the belief that children with SM were “electing” not to speak in certain situations (Dow et al., 1995). With the publication of the DSM-IV (APA, 1994), the term SM replaced elective mutism in order to emphasize that the refusal to speak is selectively dependant on the social context (Standart & Couteur, 2003). The new terminology also marked a general shift from conceptualizing the disorder as oppositional in nature to a context-based condition (Anstendig, 1999). However, remnants of this view remain, as elective mutism remains the diagnostic label

in the ICD-10 (World Health Organization, 1992). An outline summarizing SM's DSM diagnostic history is presented in Table 1.

Although described more than a century ago, there is still considerable confusion regarding SM's classification and etiology. This confusion is highlighted by the fact that SM, like its diagnostic predecessor elective mutism, is currently classified in a miscellaneous section of the DSM-IV entitled "Other Disorders of Infancy, Childhood, and Adolescence" (APA, 2004). As cogently argued by Dummit et al. (1997), placing SM under this DSM-IV label tacitly implies that SM is somehow unrelated to other common conditions. This categorical ambiguity may be attributed to two interrelated factors. First, a number of early case studies attributed the condition to differing etiologies. Various etiological theories have linked SM to psychodynamic factors, family dysfunction, neurodevelopmental problems, childhood social phobia, and oppositional behavior (Anstendig, 1999). Second, SM's infrequency and the subsequent lack of large-scale empirical evaluations have hindered our understanding of the disorder. However, a growing body of descriptive and comparative studies is helping to provide impetus for diagnostic clarity and reclassification.

Currently, two of the most widely-cited etiological theories attribute the condition to either oppositional behavior or social anxiety. As reflected in diagnostic labels (e.g., aphasia voluntaria, elective mutism), many early clinicians asserted that children with SM were electing not to speak due to an underlying defiance and/or a desire to manipulate people and the environment (Manassis et al., 2003). From this perspective, SM is viewed as a volitional and oppositional behavior. However, this characterization of the disorder lacks strong empirical support, resting primarily on evidence from case

studies describing children with SM as disobedient, stubborn, controlling, manipulative, and passive-aggressive (Dummit et al., 1997). More recently, a growing number of studies have investigated whether SM may be better characterized as a symptom or variant of an anxiety disorder. Studies investigating both etiological theories, as well as a review of additional comorbid conditions, are presented in detail below.

Selective Mutism and Anxiety

A growing body of evidence from both descriptive and comparison studies suggests that SM and anxiety disorders are closely related (See Table 2 for summary). For example, findings from a number of large-scale descriptive studies suggest that anxiety disorders and SM occur simultaneously in the majority of SM cases. Using a structured diagnostic parent interview form based on DSM-IV criteria, Kristensen (2000) found that a significant proportion (74.1%) of a sample of 54 SM children met DSM-IV criteria for an anxiety disorder. Dummit et al. (1997) reported that their entire sample of 50 children with SM met the criteria for social phobia or avoidant disorder based on information obtained through a modified version of the Diagnostic Interview Schedule for Children (DISC) and parent and self-report questionnaires. Dummit et al. also noted that nearly half of the children (47%) also met the criteria for additional anxiety disorders, including separation anxiety and simple phobias.

Steinhausen & Juzi (1996) investigated the developmental characteristics, clinical presentation, and background factors associated with a sample of 100 children with elective mutism (based on ICD-10 diagnostic criteria). Measures included in this study included a comprehensive background questionnaire, a standardized interview assessing

elective mutism and related issues (e.g., premorbid speech and language problems; behavioral problems), and the Child Behavior Checklist (CBCL; Achenback, 1991). Based on information collected with these measures, Steinhausen & Juzi reported that 85% of children in the sample presented with shyness, while 66% of the sample demonstrated significant symptoms of anxiety (e.g., separation anxiety). Steinhausen & Juzi noted that symptoms of externalizing disorders were less frequent among the sample, with rates of oppositional-defiant, aggressive, or hyperactivity present in less than a fifth of the total sample.

A number of controlled studies have also focused on the relationship between SM and anxiety, as well as the role of oppositional behavior in the disorder. For example, Kristensen (2000) compared the rates of internalizing and externalizing problems in children with SM to those of matched controls as reported by teachers, parents, and children through the use of behavioral questionnaires. Kristensen reported that children with SM experience significantly higher levels of internalizing problems when compared to controls as reported by both teachers and parents. More importantly, levels of externalizing behavior were low among SM children and no child with SM was found to exhibit only externalizing behavior.

Similar findings have been reported by other authors (Cunningham et al., 2004; Ford et al., 1998). Using a battery of parent and teacher questionnaires, Cunningham et al. reported that a sample of 52 children with SM was more anxious, obsessive, and prone to somatic complaints in comparison to a sample of 52 community controls. Parents reported that children with SM demonstrated higher rates of obsessive-compulsive symptoms and more somatic complaints when compared to same age peers. Cunningham

et al. also noted that parents of SM children did not report higher rates of externalizing conditions, including attention deficit/hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), or conduct disorder (CD), when compared to parental report among non-SM children. Further, teachers reported that children with SM exhibited *fewer* ODD and ADHD symptoms in the school setting when compared to matched controls, suggesting that youngsters with the condition may present as more inhibited in the classroom setting.

Taken together, evidence from comparison studies including control groups indicates that children with SM exhibit higher rates of anxiety-related disorders, but do not demonstrate higher rates of oppositional behavior in either the home or school setting. As noted by Cunningham et al. (2004), some children with SM may engage in impulsive or oppositional behavior in the home setting, but tend to be inhibited outside the home. Further, rates of oppositional behaviors observed among children with SM in both the home and school settings tend to be commensurate with those found in the general population.

Selective Mutism and Social Phobia

Diagnostically, SM shares many overlapping characteristics with social phobia (SP), including an intense fear associated with social and performance situations in which embarrassment may occur, the avoidance of the situation (e.g., talking in public for SM; attending certain social situations for SP) to reduce anxiety, and frequently a lack of inhibition and anxiety observed in the home setting (APA, 1994). The similarity between these taxonomically “distinct” entities has been highlighted by a number of

previous authors (Anstendig; 1999; Black & Uhde, 1992). Black and Uhde (1992) argued that SM should be viewed as a subtype of SP found in children, rather than a separate diagnostic entity.

Support for this position is based on three converging lines of evidence. First, high rates of shyness, social phobia and social avoidance have been found in children with SM. For example, Black and Uhde (1995) reported that 97% of a sample of 30 SM children were diagnosed with social phobia or avoidant disorder of childhood or adolescence or both, and 30% with simple phobia. Second, research suggests that, although no longer mute in public situations, individuals diagnosed with SM in childhood often continue to struggle with symptoms of shyness and social anxiety into adolescence and adulthood, suggesting that some level of social anxiety continues despite the disappearance of mutism (Joseph, 1999). Finally, research indicates that the relatives of children with SM experience anxiety disorders at a higher rate than do individuals in the general population, leading to the hypothesis that SM is a familially transmitted anxiety disorder (Kumpulainen, 2002). For example, Black and Uhde (1995) reported that 70% of first degree relatives of children with SM have a history of social phobia, and 37% have a history of selective mutism. While this line of research demonstrates the close relationship between SM and SP, the high rates of language impairments and other developmental delays summarized below suggest that SM, if conceptualized as a subtype of SP, may represent the combination of social anxiety plus the contribution of a number of precipitating vulnerabilities and/or events (e.g., an underlying language impairment; teasing by peers).

Comorbid Disorders

Complicating the clinical picture of SM is the fact that children with SM present as a heterogeneous group which, in addition to anxiety, has been linked with a number of additional childhood conditions. Notably, there is a growing body of research linking SM with language impairment or broader developmental delays. For example, in an analysis of 100 cases of SM, Steinhausen & Juzi (1996) reported that many children with SM (38% of the sample) have pre-morbid speech and language problems, such as articulation problems, expressive language disorders, or stuttering as defined by ICD-10 criteria. Ford et al. (1998) reported that, in a sample of 153 individuals with SM, 19% had been identified as having speech and language problems and 34.6 % had worked at one time with a speech and language clinician. These findings are in line with early hypotheses that suggested some children with SM avoid speaking out of a fear of being teased for mispronouncing a word (Standart & Couteur, 2003).

Other lines of research suggest that children with SM display more language impairment in comparison to children with SP. For example, in a study utilizing a standardized assessment protocol measuring anxiety, nonverbal cognitive skills, receptive language, and expressive narrative abilities, McInnes et al. (2004) reported that a group of 7 SM children presented with normal receptive language and cognitive skills, but produced shorter, linguistically simpler, and less detailed narratives compared with the performance of a group of 7 children with SP. Based on these findings, the authors concluded that SM may involve subtle expressive language deficits not observed in children with similar socially anxious presentations.

Manassis et al. (2003) compared a group of 14 SM children to that of a comparison group of 9 SP children on standardized anxiety rating scales, cognitive and academic tests, and speech and language measures. Manassis et al. reported that, although children with SM were similar to SP children in terms of anxiety and academic achievement, SM children showed significant language impairments. While findings from these studies help highlight important distinctions between the clinical presentation of SM and SP, caution is warranted in interpreting the exact nature of the relationship between language impairment and SM. Specifically, children with SM are, by definition, uncomfortable talking in public which, in turn, may lead to less experience and practice with expressive language.

Results from a large-scale study conducted by Kristensen (2000) indicate that SM may be associated with broader developmental delays. As noted above, Kristensen found that 74.1% of a sample of 54 children with SM met the criteria for an anxiety disorder. In addition, a large percentage of these children (68.5% of the sample) also met the criteria for a developmental disorder or delay (e.g., cognitive, speech-language, or motor delay), suggesting that SM may be associated with developmental delays nearly as often as anxiety disorders. Similar findings have been reported in both large clinical samples and case studies (Cleater & Hand, 2001; Kolvin & Fundutis, 1981). Although the exact causal relationship between these conditions is still unknown, Kristensen argued that the findings suggest that many children with SM may experience developmental problems that may be initially concealed by their silence.

SM has also been associated with a wide variety of additional childhood psychiatric conditions. For example, a number of studies have reported that children with

SM experience high rates of elimination problems (Kolvin & Fundudis, 1981; Kristensen, 2000). Other conditions linked with SM include depression, panic disorders, dissociative disorders, obsessive-compulsive behavior, and Asperger's disorder (Cunningham, McHolm, Boyle, & Patel, 2004; Krysanski, 2003; Kumpulainen, 2002). In general, these conditions occur much less frequently in SM children compared with the aforementioned developmental delays and anxiety problems.

Summary and Future Directions

The reviewed evidence suggests that SM and social anxiety may be etiologically linked. This notion is supported by a number of converging lines of research. Research indicates children with SM typically present as shy, behaviorally inhibited, withdrawn, and/or socially anxious *before* the onset of mutism in the school or community setting. This suggests that SM may represent an extension of shyness or a slow-to-warm temperament (Hadley, 1994). Notably, past research suggests that children with a shy, behaviorally inhibited temperament tend to become quiet, retreat, and/or withdraw when faced with an unfamiliar situation, which represents a presentation that parallels SM (Ford et al., 1998).

SM tends to co-occur at a high frequency with a number of anxiety-related conditions, most notably social phobia. This trend has been reported in both descriptive and comparison studies reviewed above, with social anxiety often cited as a prominent characteristic of the condition. Finally, SM and SP share many diagnostic similarities, including behavioral inhibition, poor eye-contact, and reticence. As highlighted above, the similarity of SM and SP lends credence to the view that SM may be a subtype of SP

found in children, rather than a separate diagnostic entity. However, as noted by Bergman et al. (2002), there is a marked discrepancy between the age of onset for the two conditions (i.e., SP = 10 years; SM = 5 years). Therefore, it may be more reasonable to view SM as a developmental precursor to SP, given its earlier age of onset than other characteristics of SP. Evidence from adults who were once affected by SM supports this developmental view, with most individuals with SM continuing to suffer from social anxiety once the SM resolves.

These data also suggest that that SM may be more accurately conceptualized as an internalized fear response, rather than an oppositional behavior (Anstendig, 1999). Much of the oppositional characteristics, such as stubbornness or disobedience, described in early case studies may be better understood as behavioral responses to fearful situations (e.g., reading out loud in class; speaking to unfamiliar adults or peers). This argument seems reasonable based on evidence suggesting that children with SP without SM often display corresponding “oppositional” behaviors (Kristensen, 2001). Furthermore, this view of SM offers a possible explanation for the high prevalence of speech, language, other developmental problems seen in children with SM, suggesting that children who have the biological and environmental vulnerabilities for social anxiety are more likely to develop SM if they have co-occurring speech, language, or developmental issues (Anstendig, 1999).

Going forward, considering reclassifying SM as an anxiety condition in future taxonomical systems offers a number of potential benefits. Theoretically, the reclassification would not only remove the aforementioned diagnostic ambiguity noted by categorizing SM under “Other Disorder of Childhood” in the DSM-IV, but also more

accurately reflect the current clinical conceptualization of the condition which associates the disorder within the spectrum of anxiety disorders and highlights the pervasiveness of anxiety among children with SM. In doing so, future taxonomical systems would refocus research concerning the etiology of SM more directly on questions regarding the developmental trajectory of behavioral inhibited children with and without mutism. For example, as noted above, one current hypothesis being investigated is that SM represents a more severe form of SP that develops earlier in childhood (McInnes et al., 2004). Given that language-related difficulties may represent a significant risk factor for developing the disorder, it will be important to continue to elucidate the role that language patterns and deficits play in the development of SM. Understanding the role of language difficulties in the developmental etiology of SM will help determine if certain developmental vulnerabilities may predispose a child with a social anxious and inhibited predisposition to develop mutism. Additionally, it will be important for research in this line of inquiry to address why children with SM develop anxiety related specifically to speaking, while children with SP experience high anxiety and avoidance related to social contact on a more general level.

In turn, linking SM taxonomically with other anxiety disorders would help guide and focus future assessment, research, and treatment efforts. From an assessment standpoint, Ford et al. (1998) cogently argued that there is a strong need for the development of an assessment protocol specific to SM that incorporates information regarding SM's relationship to social anxiety, common temperamental qualities, and comorbid or differential conditions (e.g., speech/language disorders; developmental delays). In turn, the use of a more accurate and comprehensive diagnostic foundation

would facilitate research efforts focusing specifically on establishing treatment efficacy. Despite progress made in understanding the etiology of SM, a major theme throughout the clinical literature is that SM is difficult to treat (Standart & Couteur, 2003). As noted by Krysanski (2003), noted treatment difficulties may be related to the fact that the mute behavior is often negatively reinforced by the withdrawal of repeated requests for speech (e.g., a teacher allows another student to answer a question after a child with SM does not respond). Many current treatment strategies that have been demonstrated effective with other anxiety disorders have been adapted for SM. Most notably, behavioral approaches, such as reinforcement, stimulus fading, systematic desensitization, and token procedures, have been successfully applied to treating SM (Standart & Couteur, 2003). In addition, pharmacotherapy, mostly with drugs demonstrated to alleviate symptoms of SP, has been increasingly applied to SM (Krysanski, 2003). Although promising, more research is needed to investigate the efficacy of both treatment approaches, given that the support for their application with SM is based largely on case studies. For example, an appropriate direction for future treatment would be developing and evaluating manualized SM interventions based on behavioral treatments already in existence for other anxiety conditions.

Additional research is also needed to determine the impact that mutism has on social and emotional development. Given that children with SM typically present as anxious, shy and/or withdrawn, a common area of concerns among parents and other caregivers of children with SM is development of appropriate relationships with peers. Intuitively, it would seem reasonable to expect some level of social maladjustment among SM children given their behavioral presentation, as well as evidence from

research involving other forms of childhood anxiety indicates indicating a link between elevated anxiety and impaired social functioning (Wood, 2006). However, while data regarding SM is limited, the available research suggests that children with SM may not experience higher rates of victimization or related social concerns in comparison to same age peers. For example, Kumpulainen et al. (1998) reported that 16% of a sample of SM children was rejected by peers, while only 5% were bullied. Both rates are consistent with, if not slightly lower than, those identified in non-SM populations. Cunningham et al. (2004) reported that, while children with SM tended to score lower on a measure of social assertiveness (e.g., introducing themselves; starting conversations; inviting friends to their house), they were not victimized more than controls. While findings from these studies are promising, more research is needed in this area. For example, exploring how children with SM differ from non-mute shy and withdrawn peers in their development and maintenance of social relationships given their absent verbal interactions may help elucidate the impact of mutism on social and emotional development.

Expanding our knowledge base regarding SM is not without hurdles. As illustrated in the current review, children with SM present as a heterogeneous group, often demonstrating varying levels of co-occurring developmental and/or behavioral concerns. As noted by McInnes et al. (2004), the high rate of comorbidity among SM sample complicates the etiological picture of SM, as well as the assessment and treatment of the condition. Although progress has been made in understanding the prominent role that anxiety plays in SM, the historical and persistent view of children with SM as oppositional highlights the need to increase the knowledge base regarding the disorder among mental health professionals. In turn, it will also be important for mental health

promotion personnel to increase awareness among parents, teachers, and other caregivers regarding common signs and symptoms of the condition to reduce the noticeable lag time between symptom onset and treatment referral noted above. In the school setting, early identification could be promoted through the use of a brief screener addressing mute and/or variant talking behaviors provided to teachers after a child enters the school setting. Once identified, children can be referred for the appropriate treatment and the education process can begin with family members, as they often do not recognize SM as a behavioral condition.

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Table 1

The Diagnostic History of SM

<u>DSM Edition</u>	<u>Diagnostic Label</u>	<u>Essential Diagnostic Criteria</u>
DSM-III (1980)	Elective Mutism	Continuous refusal to speak in almost all social situations.
DSM-III-TR (1987)	Elective Mutism	Persistent refusal to speak in 1 or more social situations. Refusal to talk is not related to symptoms of social phobia.
DSM-IV (1994)	Selective Mutism	Persistent failure to speak in specific social situations.
DSM-IV-TR (2000)	Selective Mutism	Failure to talk should not be the result of an organic inability to understand language or a lack of knowledge of, or comfort with, the spoken language in the social situation.

Table 2

Summary of findings from descriptive and comparison studies relating SM and anxiety

Author (s)	Design and Participants	Key Findings
Bergman, Piacentini, & McCracken (2002)	Comparison Study: 12 children with SM identified in school sample vs. age-and gender-matched unaffected children	<ul style="list-style-type: none"> • Compared with peers, children with SM spoke less than their peers, appeared more socially anxious and presented with more internalizing symptoms. • When evaluated in a 6 month follow-up, the SM group showed improvements, but remained impaired in terms of speaking behavior and social anxiety when compared to non-SM children.
Cunningham et al. (2004)	Comparison Study: 52 children with SM vs. 52 community controls	<ul style="list-style-type: none"> • Parents and teachers rated children with SM as more anxious than controls • Children with SM exhibited higher rates of obsessive-compulsive symptoms and more somatic complaints • Children with SM did not demonstrate elevated rates of externalizing conditions
Dummit et al. (1997)	Descriptive Study: 50 children with SM	<ul style="list-style-type: none"> • Entire sample met the criteria for social phobia or avoidant disorder. • Nearly half of the sample (47%) also meeting the criteria for additional anxiety disorder
Ford et al. (1998)	Descriptive Study: Conducted surveys with 153 people (aged 2-72 yrs) who had experience with SM	<ul style="list-style-type: none"> • Relationship reported between SM and social anxiety • Results support the existence of variant talking behaviors (talking with less frequency, volume, and spontaneity than usual), in addition to mutism • Evidence that individuals with SM have characteristics similar to slow-to-warm children, suggesting a potential link between temperament and SM.
Kristensen (2000)	Comparison Study: 54 children with SM vs. 108 control children	<ul style="list-style-type: none"> • Criteria for any anxiety diagnosis were met by 74.1% in the SM group versus 7.4% the control group • In the SM group, 46.3% of the children met the criteria for both an anxiety diagnosis and a diagnosis reflecting developmental disorder/delay versus 0.9% in the controls
Manassis et al. (2003)	Comparison Study: 14 children with SM vs. 9 children with SM	<ul style="list-style-type: none"> • The two groups did not differ significantly on anxiety ratings completed by caregivers using standardized questionnaires, although there was a trend towards greater separation, physiological, and social anxiety among SP children • Children with SM scored significantly lower on a standardized measure of discrimination of speech sounds, and there was a trend for lower scores on a standardized measure of receptive language among the SM group
McInnes et al. (2004)	Comparison Study: 7 children with SM vs. 7 children with SP	<ul style="list-style-type: none"> • Children with SM and SP presented with similar anxiety levels on standardized questionnaires completed by parents and teachers • Children with SM produced significantly shorted narratives than children with SP, suggesting that SM may involve subtle language deficits.
Steinhausen & Juzi (1996)	Descriptive Study: Examined the cases of 100 children with elective mutism	<ul style="list-style-type: none"> • Comorbid diagnoses were found to be quite frequent among SM children • Shyness, anxiety, and other internalizing behavior problems were the most common characteristics of the condition

