Selective Mutism.
What is it and how does it affect those that have it?

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I have neither given nor received help on this work, nor am I aware of any infraction of the honor code.

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Selective Mutism.
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The collective definition of Selective Mutism (SM) that is defined by all six peer reviewed articles chosen as well as the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) is the consistent failure to speak in certain situations or settings such as school. SM was originally referred to as a childhood disorder, then changed to elective mutism, and now selective mutism (Tobbell & Walker, 2015). Just recently, SM has been classified as an anxiety disorder in DSM-5 (Muris & Ollendick, 2015). It is not well researched leaving lots of gaps in studies completed as well as leaving room for a lot of further research to be conducted. Though minimal research, etiology, academic abilities, and positives and negatives towards specific medications are able to be identified.

# How Selective Mutism came to be classified as an anxiety disorder

With the revision and newest edition of the DSM, SM was placed under the title of an anxiety disorder. It took so long to be under this title because many people believed that it is an extreme symptom of anxiety and/or it is an early childhood type of social phobia, but not an anxiety disorder (Muris & Ollendick, 2015). While there is criticism, there are several reasons that justify the classification. Often times children with SM fulfill the diagnostic criteria of a comorbid anxiety disorder. The etiology factors, which will be discussed later, are also common in other childhood anxiety disorders. Also, specific treatments such as behavioral and cognitive-behavioral therapies and pharmacotherapy that have been used to treat SM have also been very commonly used in children with other anxiety disorders (Muris & Ollendick, 2015).

## SM and Anxiety

There have been many things that have linked SM to anxiety. For one, studies. Many studies have shown that children with SM exhibit symptoms that resemble anxiety or even symptoms that are correlated with anxiety. A particular study by Steinhausen and Juzi showed that 66% of children classified with SM showed comorbid symptoms of anxiety (Muris & Ollendick, 2015). Those symptoms of anxiety included shyness, withdrawal, and avoidance. Another study completed that used the Diagnostic Interview Schedule for Children and the Schedule for Affective Disorders and Schizophrenia found that “almost all children with SM (97 and 100%, respectively) met DSM-III-R criteria of social phobia/avoidant disorder” (Muris & Ollendick, pg. 156, 2015). The Diagnostic Interview Schedule for children is a tool used to assess thirty-four common psychiatric diagnoses. The Schedule for Affective Disorders and Schizophrenia, also referred to as SADS, is a psychiatric diagnostic criteria and symptom rating scale for affective, or mood, disorders and schizophrenia. Social phobia is a classified anxiety disorder. In contrast, a study done by Vecchio and Kearny (2005) found that within their study 100% of children with SM met diagnostic criteria for social phobia as well as 50% met criteria for a second anxiety disorder (Boyle & Cunningham & Edison & Evans & McHolm & Nowakowski & Pierre & Schmidt, 2009). One last study done by Dummitt found that 48% of children that were diagnosed with SM also had one or more anxiety disorders (Muris & Ollendick, 2015). Children with SM showed behaviors that mimicked anxiety often overlapping with one another. The characteristics of those children diagnosed with SM alone help describe why many believed that SM should be classified as an anxiety disorder before it was classified. There is one study that counteracts these ideas. It was a study done by Steinhausen and Juzi (1996) that found that SM is associated with “higher rates of expressive language difficulties and developmental delays” than anxiety disorders (Boyle & Cunningham & Edison & Evans & McHolm & Nowakowski & Pierre & Schmidt, 2009).

Etiology. It is reported that SM originates from several key factors. Those being genetic, environmental, neurodevelopmental, and temperamental factors (Muris & Ollendick, 2015). All of these factors are also a part of the etiology of anxiety disorders which helps strengthen the view of SM being categorized as an anxiety disorder. There is also the thought that these factors could be overlapping which would also increase the probability of one being diagnosed with SM. Although DNA testing and behavioral genetic studies need to be done to prove that genetics is a factor of the origin of SM, there are still studies that have been completed to help gain approval of this factor. One study done by Remschmidt that consisted of forty-five children, showed that of those children, 9% of the fathers, 18% of the mothers, and 18% of the siblings also had a history of SM. Not only that, 51% of fathers and 44% of mothers also “showed signs of extreme reticence,” (Muris & Ollendick, pg. 157, 2015). There is one study that has been done that connects the genetic origin of SM to anxiety disorders. This study was conducted by Stein in 2011. In this study, Stein focused on contactin-associated protein-like 2-gene being the cause of anxiety. The study showed that there was a genetic variation of SM relating to social anxiety in this gene for those diagnosed with SM (Muris & Ollendick, 2015). As for the origin being environmental influences, family dysfunction, traumatic or stressful life events, parental control, negative experiences at school, and immigrant status are all examples of these environmental influences. One downfall to much of the research regarding environmental influences is the lack of research. Although there are a few studies that support this claim, there are not enough to justify it. For example, in one specific study done by Haden in 1980, 97% of 68 children with SM came from divorced families (Muris & Ollendick, 2015). Other studies done do not support this claim. Claims like this one also not only provide evidence to the family dysfunction example, but the four other examples presented as well. In rebuttal to environmental issues being a factor, there was one study done by Black and Uhde in 1995 that found four out of thirty people with SM reported having traumatic events occur to cause the SM and that most of the research is based solely on observations (Tobbell & Walker, 2015). However, this may not be the most recent study regarding environmental factors. Like environmental influences, neurodevelopmental factors also have specific examples that can lead to the origin of SM. Those being language and speech problems, general developmental delay, and neurological anomalies. Language and speech problems will be discussed in depth later. Study done by Kristensen showed that 17% of children studied had developmental coordination disorder, 32% had disorders relating to urination or removal of wastes, 8% had mild mental retardation, and 7% had autism spectrum disorder, all of which were higher than the control groups (Muris & Ollendick, 2015). This study focuses on the general developmental delay example. As for neurological anomalies, is has been found that the middle-ear acoustic reflex functions less well in children with SM which results in negative experiences regarding the voice (Muris & Ollendick, 2015). This can be related back to SM and anxiety in the essence that children are self-conscious of their voice causing social anxiety. Temperament was the last key factor for the etiology of SM. This factor will also further be discussed later, however it is found that certain temperaments or behavior inhibition is positively correlated with anxiety early on which further relates anxiety to SM.

Functioning and Abilities. There are multiple studies done that look at the functioning and abilities of those with SM. From behavioral and socio-emotional functioning to language and academic abilities. More often than not children with SM are being compared to other children with mixed anxiety, social anxiety, and control groups. However, there are studies that do cover and compare other disorders to SM. A study done my seven researchers in 2010 before SM was classified as an anxiety disorder by DSM-IV concluded that

Children with SM appear less socially competent and more prone to internalizing behavior compared to controls as reported by primary caregivers and teachers. More specifically, children with SM were rated significantly lower than controls on teacher-reported social assertion, self-control and total social skills and on primary reported social responsibility and total social skills. Furthermore, consistent with findings by Cunningham et al. (2006), children with SM were rated by both primary caregivers and teachers lower on verbal social skills compared to both the mixed anxiety and control groups (Boyle & Carbone & Cunningham & Edison & McHolm & Pierre & Schmidt, pg. 1065, 2010).

Essentially stating that SM children were rated lower in many social aspects by their teachers and primary caregivers. Relating this back to anxiety, these researchers founds evidence to children with SM having a greater level of social anxiety. Although, this article was produced before DSM-IV established SM as an anxiety disorder, the researchers helped defend why it should be classified as an anxiety disorder. To defend their statement, a study was completed using the Computerized Diagnostic Individual Schedule for Child. This tool asses thirty-four common psychiatric diagnoses that are found in DSM-IV by an interview process. The study found that 63.6% or twenty-eight out of the thirty-seven children with SM tested, were diagnosed with one or more anxiety disorders. Specific phobia was the more prominent with 29.5% of children. Social phobia was next in line with 18.2% of children. Following was agoraphobia with 15.9% of children, generalized anxiety disorder with 2.3% of children, obsessive-compulsive disorder, and post-traumatic stress disorder also with 2.3% of children (Boyle & Carbone & Cunningham & Edison & McHolm & Pierre & Schmidt, 2010). Looking back at the etiologies of SM, the prevalence of post-traumatic stress disorder can fit into the environmental category. Comparing the research done by these seven researcher, there was another study done by another group of researchers focused solely on language and academic abilities of children with SM. In their study they compared those with SM to other children with mixed anxiety and community controls as well to remain unbiased. They found that girls with SM and mixed anxiety had lower receptive vocabulary scores than the control group, but boys showed no differences in scores. Also found that those with SM, both girls and boys, and other children with several anxiety disorders in general had lower math scores than the control group. There was a catch about these findings. Although those with types of anxiety disorders, including SM, scored less on both receptive vocabulary skills and math, they children still preformed at “age-level norms,” whereas the control preformed above level. Another aspect of this study involved spelling and reading skills. Although there were differences in receptive vocabulary and math, there were no significant differences in small and reading skills between children with SM and the control group (Boyle & Cunningham & Edison & Evans & Nowakowski & Pierre & Schmidt, 2009).

Treatment/Medication. Treatment for SM, like many other disorders, is still being researched and studied in order to find the most efficient medication. Ever since SM has been classified as an anxiety disorder, some may be tempted to treat children with SM with common anti-anxiety medication. Because SM has an early age onset, typically before the age of five, or before they start school, and a low prevalence rate of 0.03% to 0.2%, doctors often don’t have excessive experience on medicating these young children, therefore psychosocial treatment is tried before prescribing medication (Boyle & Carbone & Cunningham & Edison & McHolm & Pierre & Schmidt, 2010) and (Manassis & Oerbeck & Overgaard, 2015). Cognitive behavioral therapy is another type of treatment that doesn’t involve medication in which 78% of children responded positively to (Manassis & Oerbeck & Overgaard, (2015). There was a follow up study conducted by several researchers in 2015 that viewed the recovery rate of thirty-six children with SM after receiving modular cognitive behavioral therapy (MCBT). MCBT is a specific type of cognitive behavioral therapy. In the follow up study, it was found that 84.2% recovered from SM, thus adding strength to the idea of medication only being used after the failure of cognitive behavioral therapy (Domachevsky & Ginton & A. Gothelf & D. Gothelf & Kushnir & Lang, 2015). However, there is evidence that shows certain medications do reduce SM symptoms in children who do not react to psychosocial treatment. Those medications being selective serotonin reuptake (SSRIs) and monoamine oxidase inhibitors (MAOIs) (Manassis & Oerbeck & Overgaard, 2015). A study completed by Manassis, Oerbeck, and Overgaard tested the results of ten different medications on roughly 100 children with SM. Some of those medications included fluoxetine, sertraline, citalopram, fluvoxamine, paroxetine, SSRIs, phenelzine, moclobemide, MAOIs and one other. The number of patients per medication did differ possibly skewing the results if looking solely on percentages and not the number of subjects. Nonetheless, the results are as followed, 87% that took fluoxetine showed symptomatic improvement, 78% that took sertraline showed symptomatic improvement, 100% that took citalopram showed symptomatic improvement, 84% that took SSRIs showed symptomatic improvement, 100% that took phenelzine showed symptomatic improvement, 100% that took MAOIs showed symptomatic improvement, and 84% that took any of the medications listed above showed symptomatic improvement (Manassis & Oerbeck & Overgaard, 2015). Because SM is often diagnosed when children are young, there is a better outcome of recovery for the children if they are also receiving a type of treatment when they are young (Domachevsky & Ginton & A. Gothelf & D. Gothelf & Kushnir & Lang, 2015). Without treatment, one may become isolated further sustaining SM long term. A study was done interviewing three adult individuals that sufferer form SM. The study focused on two different themes. Those being “Selective Mutism and the Self” and “Existential Concerns” (Tobbell & Walker, 2015). In the first theme, SM was described as “distressing, uncomfortable, and separate from their sense of self” making them feel “frustrated, abnormal, and inferior” and unable to speak making them conform to being silent. The second theme focuses on isolation and how time has been wasted. One of the interviewees, Hannah said

The longer it goes on the more things I miss out on. Sometimes I feel ashamed because of that, and relying on my parents too much because it’s not normal. I’m 26 and cant do any of the things I should be doing. Even things like going to a store are too much. I have no money on my own, how am I supposed to get a job when I can’t talk to people. I don’t like to think about the future, or the past. I can never go back and do those things, thinking about life before I had selective mutism is hard too, it just reminds me how bad my life is now (Tobbell & Walker, 2015).

The way these three interviewees feel help emphasize the importance of trying treatment options such as cognitive behavioral therapy or a specific type of medication like SSRIs early on. Based on research that has been conducted, it may change the whole outlook of SM on children.

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