

**Critical Review:  
Determining the oral language characteristics of children with selective mutism**

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The absence of oral language is one of the defining features in children with selective mutism making it difficult for the oral language of these individuals to be characterized. This critical review examines the published literature describing the oral language characteristics of children with selective mutism with the objective of defining these characteristics. The review is comprised of five articles with variable methodologies including: case studies, survey research, within-group repeated measures, and nonrandomized case-control studies. The current research provides equivocal to somewhat suggestive evidence that there are deficits in the expressive language abilities of children with selective mutism. Since these individuals are assessed by speech-language pathologists to determine the presence or absence of communication disorders, there is a need for more research to identify how a successful assessment of expressive language can be completed. Further research is also needed to define the specific oral language characteristics of children with selective mutism and determine the prevalence of communication disorders in this population.

***Introduction***

Selective mutism is defined as being a rare, complex, childhood anxiety disorder (Cleator & Hand, 2001). It is more common in girls, has an onset around three to five years of age, and requires a multidisciplinary team for diagnosis due to its complex nature (Cleator & Hand, 2001; McInnes et al., 2004). Selective mutism is primarily characterized by a consistent absence of speech in specific social situations despite speaking in other situations (American Psychiatric Association, 2013; Cleator & Hand, 2001). Other DSM-V criteria for diagnosis includes: the disturbance interfering with educational or occupational achievement or social communication, the disturbance lasting at least 1 month (not including the first month of school), the failure to speak is not due to a lack of knowledge or comfort with the spoken language required in the social situation, and the disturbance is not better explained by a communication disorder and does not occur exclusively during the course of autism spectrum disorder, schizophrenia, or another psychotic disorder (American Psychiatric Association, 2013).

It has been reported in the literature that children with selective mutism may have co-occurring communication disorders which is contradictory to the DSM-V criteria for diagnosing this disorder (Cleator & Hand, 2001; Klein et al. 2012). This contradiction requires the expertise of a speech-language pathologist since it falls within their specialized skill set to resolve. This contradiction could easily be resolved through a comprehensive speech and language assessment, but this assessment needs to include both receptive language measures (measures that look at a child's

understanding of language) and expressive language measures (measures that look at a child's use of oral language). Including both of these measures in a comprehensive assessment would determine the oral language characteristics of this population and clarify whether or not communication disorders are present. Since an absence of oral language is a defining feature in this population, it is difficult for the oral language characteristics of this group to be identified (Cleator & Hand, 2001). The difficulty obtaining data pertaining to the oral language characteristics of this population is reflected in the lack of documentation seen in the literature. Furthermore, this makes obtaining an accurate assessment of expressive language abilities in this population quite difficult, and thus makes determining whether there are co-occurring communication disorders a challenge (Cleator & Hand, 2001; McInnes et al., 2004).

Due to this critical review involving a topic where the literature is lacking, the information being used for this critical review is being drawn from studies that simply contain information about the oral language characteristics of this population.

***Objectives***

The primary objective of this critical review was to examine the existing literature pertaining to children diagnosed with selective mutism to determine their distinct oral language characteristics. The secondary objective was to propose clinical implications for speech-language pathologists assessing the expressive language of children in this population.

## *Methods*

### Search Strategy

Articles related to the topic of interest were discovered using the following search databases: Google Scholar, PubMed, and Western Libraries. The following search terms were used:

(((selective mutism) OR (selectively mute child)) AND (children) AND ((language disorders) OR (speech disorders) OR (language and academic abilities)) AND ((language assessment) NOT (treatment))).

### Selection Criteria

Articles included in this review had to contain measures of oral or expressive language obtained from participants with a diagnosis of selective mutism. Articles looking at multilingualism and selective mutism or detailing specific treatments of selective mutism were excluded from this critical review.

### Data Collection

Results from the literature yielded five articles congruent with the previously mentioned search strategy and selection criteria. Two of these studies involved a between groups, nonrandomized case-control design (McInnes et al. 2004 and Manassis et al. 2007), one study involved a within group (repeated measures) design (Klein et al. 2012), one paper involved multiple case studies (Cleator & Hand, 2001) and the last (Cohan et al. 2008) involved a survey research design.

## *Results*

**Cleator & Hand (2001)** explored the prevalence of communication disorders in children with selective mutism using a multiple case studies design involving five monolingual, English-speaking children (ages three to eight). Three of their study participants were boys and two were girls and they were all required to have a DSM-IV diagnosis of selective mutism which excluded the criterion stating that their disturbance is not better accounted for by a communication disorder. Purposive sampling was used to recruit participants by contacting professionals known to come into contact with children with selective mutism and having them nominate participants. This study conducted an assessment battery at the participants' homes and collected data via audiotapes, observations, and standardized assessment measures. The assessment battery used to examine expressive language abilities consisted of the LARSP, social-conversational analysis, and systematic observation in order to analyze the child's oral language samples collected via audiotape or observation. They also used the Smit-

Hand Articulation and Phonology Evaluation (SHAPE) to look at the child's articulation and phonology from their recordings and observations. Statistical analyses were not provided but rather consisted of a summarized yes/no table and thus were unable to be deemed appropriate. It was found that 4 of the 5 participants had a communication disorder. These communication disorders were found to be variable in presentation from case to case involving deficits in speech, semantics, expressive syntax, prosody, and speech acts and followed no pattern. Notably, each participant's assessment involved variable measures to determine the presence of their communication disorder. The incidence of communication disorders in this population was deemed higher than previously thought. The incidence of speech problems was also high which was consistent with previous literature.

A strength of this study was the ability to collect expressive language data from this population due to the alteration of the traditional assessment process. However, this study consisted of a multiple case studies design, had a very small sample size, used a biased sampling method, did not provide details regarding the assessment results, did not define how they described a communication disorder, and tested in an uncontrolled assessment environment making it unsuitable to generalize their results to the larger population.

Overall, this study is equivocal due to the previously mentioned limitations. This study brings attention to the potential for a language assessment to be carried out successfully within this population by using a more dynamic assessment process, however, the statements regarding the prevalence of communication disorders in this population should be taken with caution. This paper provides no reliable insight into the oral language characteristics of children with selective mutism due to equivocal evidence that communication disorders involving speech, semantics, expressive syntax, prosody, and speech acts may be present in this population.

**Cohan et al. (2008)** used a survey research design to develop an empirically derived classification system for selective mutism. Their study analyzed parent report measures of social anxiety, behavior problems, and communication delays in 130 children (ages five to twelve) with a DSM-IV diagnosis of selective mutism. Forty-four of the children in the study were boys and eighty-six were girls and they excluded children with previously diagnosed communication disorders. Purposive sampling was used to recruit parents through electronic advertisements in the

SMG-CAN's newsletter. This study did an initial phone call screening and then collected data using a mailed parent-questionnaire. The questionnaire contained questions about their child's levels of social anxiety, behavior problems, communication delays, selective mutism-related functional impairment, expressive and receptive language, and internalizing and externalizing symptoms. The assessment measures used to examine language in these parent questionnaires included the speech and syntax subscales from the Children's Communication Checklist (CCC) and the Vineland-II Adaptive Behaviour Scales-Parent/Caregiver Rating Form (VABS-II). The CCC was used to look at developmental delays, and the VABS-II was used to look at expressive and receptive language. Statistical analysis (latent profile analysis) of the mean of all data collected was provided but the individual data itself was not provided, nor was it subject to statistical analysis. For these reasons the analysis in this study was deemed inappropriate. From the data collected it was concluded that a 3-class classification system was supported due to significant group differences between groups. They also concluded that children with selective mutism are likely to present with communication delays and/or mild behavior problems.

A strength of this study was its large sample size. However, this study had numerous limitations. The study design itself allowed for conclusions pertaining to the communication abilities of this population to be drawn solely from parent questionnaires which raises concerns regarding reliability of the data. The researchers did not give individual data from the parent questionnaires so no information pertaining to the oral language characteristics of this population was obtained. Detailed information pertaining to the support behind their conclusion that children with selective mutism are likely to present with communication delays was not given. A gender bias was also present in the demographic ratio of their sample with almost double the number of female study participants to male participants reducing the ability for the results to be generalized. Another bias introduced from their study design was that almost all the questionnaires were completed by mothers. This introduces another gender bias due to the lack of diversity in the parent population from which the questionnaires were being completed, also reducing the ability for the results to be generalized.

Overall, this study is equivocal due to the previously mentioned limitations alongside the study's low replicability, bias sampling method, and inappropriate statistical analyses. This study provides no insight into the oral language characteristics of children with

selective mutism and the results of this study should be interpreted with caution.

**Klein et al. (2012)** utilized a within group (repeated measures) design with the goal of obtaining valid assessments of receptive and expressive language abilities in thirty-three monolingual, Caucasian children (ages five to twelve) with a DSM-IV diagnosis of selective mutism, of which nineteen were girls and fourteen were boys. Purposive sampling was used to recruit study participants from a practice that specialized in the treatment of selective mutism. In this study children were assessed by both their parents and the examiner separately but using the same test battery. This test battery consisted of the Peabody Picture Vocabulary Test-4 (PPVT-4), the Expressive Vocabulary Test-2 (EVT-2), the Test of Narrative Comprehension (TNL-C) and Test of Oral Narration (TNL-O). Appropriate statistical analyses (z-scores, chi-squared, ANOVA) were carried out. It was found that children performed significantly better on tasks requiring verbal output when parents administered testing information. This suggests that standard clinician delivered assessments may underestimate the prevalence of true language competence in this population as these clinicians would fall into the category of strangers in the eyes of these children. As a result of this study, no differences were found between receptive and expressive vocabulary, however, a decrease in abilities when moving from a receptive narrative task to expressive narrative task was observed. This suggests an underlying expressive narrative deficit may be present in this population.

Strengths of this study include its replicability, randomization for the groups the children were assigned to (examiner assessment first followed by parent assessment or vice versa), and a testing environment that controlled more extrinsic variables. Some limitations of this study were its small sample size and the fact that it included only mothers as parent test administrators and only Caucasian participants which introduced bias due to lack of diversity in these areas.

Overall, due to the previously mentioned strengths, few limitations, and appropriate statistical analyses, this study is somewhat suggestive that children with selective mutism have deficits in their expressive narrative abilities (the ability to tell stories and share ideas). This study also brings to light the importance of involving parents in the assessment process in order to obtain more accurate measures of the oral language characteristics of this population.

**Manassis et al. (2007)** used a between groups, nonrandomized case control trial to determine if differences in oral language characteristics, working memory, and social anxiety differentiate children with selective mutism from children with anxiety and normal controls. Participants consisted of twenty-eight children with anxiety, forty-four children with selective mutism, and nineteen controls (all ages six to ten). Purposive sampling was used by recruiting study participants from three clinics that specialized in anxiety disorders. This study involved multiple measures of receptive language, anxiety measures, and working memory, however, did not explicitly test oral language abilities as stated in the purpose of the study. Appropriate statistical analyses of the data were carried out and it was found that children with selective mutism scored significantly lower on standardized language measures than both controls and children with anxiety while also scoring lower on measures of working memory. Age and receptive grammar ability were found to predict less severe mutism, while social anxiety predicted more severe mutism.

Strengths of this study include its design and appropriate statistical analyses, however, there are several limitations. These include the bias sampling method, small sample size of the groups, low replicability, and inappropriate use of receptive language tasks to measure oral language characteristics. Overall, this study is equivocal and contains no information pertaining to the oral language characteristics of children with selective mutism.

**McInnes et al. (2004)** used a between groups, nonrandomized case-control trial to explore the differences in anxiety and nonverbal cognition, receptive language, and expressive narrative abilities between seven children with selective mutism and seven children with social phobia (ages seven to fourteen). Participants were selected from a previous study in which purposive sampling was used. Measures of direct assessment as well as parent questionnaires were used to examine language in this study, however, only the Children's Communication Checklist (CCC) filled out by parents was used to examine oral language characteristics. Appropriate statistical analysis was conducted. It was found that the children with selective mutism had normal nonverbal cognition skills and receptive language abilities but produced significantly shorter expressive narratives than children with social phobia.

Strengths of this study include its design and appropriate statistical analysis; however, the sample size was quite small. Other limitations include the bias

sampling method and the use of a parent questionnaire as the sole measure from which they drew their conclusions pertaining to oral language. Overall, this study is suggestive, due to the strengths and limitations previously mentioned, that children with selective mutism may have expressive language deficits specific to their narrative language abilities.

### *Discussion*

The following critical analysis sought to define the oral language characteristics of children with selective mutism as way to provide precise information to practicing speech-language pathologists. Overall, the articles reviewed provide equivocal to somewhat suggestive evidence that there are deficits in the expressive language abilities of children with selective mutism. The articles provided very limited data in describing the oral language characteristics of this population. Three studies provided equivocal evidence while two studies were suggestive to somewhat suggestive that there may be deficits in the expressive narrative abilities of children with selective mutism.

Throughout the literature there were some consistent limitations surrounding the research of this population.

- Many researchers used parent report measures in order to determine the oral language characteristics of this group which poses a problem due to parental bias when using observational reporting. Direct observation and assessment by a speech-language pathologist is needed in order to evaluate expressive language in a more standardized, reliable manner. Solely relying on parent report measures to diagnose expressive language deficits or define oral language characteristics is not a reliable enough measure. Questionnaires should be used to support the direct or recorded language samples and standardized testing measures done by speech-language pathologists.
- Selective mutism is more prevalent in females and thus many of the studies had almost double the number of female participants than male participants. This creates a bias due to gender differences and limits the generalization of these studies to the larger population.
- There are a limited number of studies done by speech-language pathologists in this subject area. Many studies are carried out by psychologists. There seems to be a lack of clarity and a lack of interdisciplinary communication regarding who should be assessing and treating this population. Selective mutism is defined in the DSM-IV as an anxiety-based disorder, falling in the domain of a

psychologist, however, selective mutism is characterized by a lack of speech and the diagnosis depends on the absence of communication disorders which would fall into the domain of a speech-language pathologist. This demonstrates the need for a strong interdisciplinary team with defined roles that involves the speech-language pathologist in the assessment process but then limits their involvement in the treatment of this anxiety-based disorder unless communication disorders are in fact present.

### **Conclusion**

There is a need for further exploration into the specific oral language characteristics of this population and the determination of whether these individuals are likely to have co-occurring communication disorders. There is also a need for more robust, evidence-based research into how speech-language pathologists can successfully complete an accurate assessment of expressive language in these individuals. Speech-language pathologists should be cautious when making assumptions about the presence or absence of expressive language deficits in this population due to limited knowledge pertaining to the oral language characteristics and prevalence of communication disorders in this population.

### **Clinical Implications**

Due to the seemingly impossible task of assessing a child with selective mutism's expressive language abilities when being viewed as a stranger to the child, there is a need for further research into how a successful assessment can be carried out. Some of the studies in this critical review examined the potential ways in which parents could carry out assessments, however, more research is needed to provide evidence that this is an accurate and reliable option. Identifying oral language characteristics is of utmost importance into determining whether the child has a communication disorder. Therefore, speech-language pathologists may need to adopt a more dynamic assessment approach with this population. This may include involving the parents of these children in the assessment process since they are more familiar to the child and may yield more accurate results, going into the homes of these children so that there is less anxiety surrounding the testing environment, and combining assessment measures so that not only standardized expressive language assessment measures are used but language samples are also collected. These samples

could be collected from interactions that the parents or caregivers videotape or from indirect observation done by the speech-language pathologist. This may increase the amount of work needed to be done by speech-language pathologists, however there is a need to be more creative in the ways that this assessment process is carried out.

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