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# Solitary-Pretend Play in Children with Language Impairment and Their Typically-Developing Peers

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Solitary-Pretend Play in Children with Language Impairment  
and Their Typically-Developing Peers

Mallory Paige Scofield

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Master of Science

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## ABSTRACT

### Solitary-Pretend Play in Children with Language Impairment and Their Typically-Developing Peers

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Master of Science

Children with language impairment (LI) are more likely to be socially withdrawn than their typically-developing peers. This withdrawal can lead to negative outcomes later in life. This study focuses on a subtype of withdrawal labeled as solitary-pretend play, which involves parallel play and solitary-dramatizing. The effectiveness of the Teacher Behavior Rating Scale (TBRS) to measure the construct of solitary-pretend play was considered in a group of 256 children. First, confirmatory factor analysis was used on the entire sample to assess the TBRS questions. The TBRS ratings of 128 children with LI and 128 typically developing peers were then compared, with group and gender as variables. The analyses revealed that the TBRS items intended to measure solitary-pretend play grouped together to measure a single construct. Additionally, significant differences were observed between the groups of children with LI and their typically-developing peers. There was also a significant difference between boys and girls. The interaction between these variables was not significant. These results demonstrated that the TBRS is a viable measure of solitary-pretend play in children and that children with LI are rated as demonstrating higher levels of solitary-pretend play than their typical peers. Boys were also rated as demonstrating more instances of solitary-pretend play compared to girls. This study suggests that the TBRS is an effective way to quickly identify instances of solitary-pretend play in children and that children with LI and boys are more likely to demonstrate instances of solitary-pretend play, which will lead to the needed referrals and interventions to help manage these behaviors. Further research is required to determine the extent to which the influence of group and age has on solitary-pretend play and the extent to which each of the subtypes of withdrawal relate one to another.

Keywords: language impairment, social withdrawal, solitary-pretend play

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## DESCRIPTION OF THESIS STRUCTURE

This thesis is part of a larger research project, and portions of this thesis may be published as part of articles listing the thesis author as a co-author. The body of this thesis is written as a manuscript suitable for submission to a peer-reviewed journal in speech-language pathology. Appendix A includes a list of the withdrawal items used from the Teacher Behavior Rating Scale (TBRS). Appendix B contains the results from the analysis of variance (ANOVA) comparing group and gender. Appendix C contains an annotated bibliography.

## Introduction

Children with language impairment (LI)<sup>1</sup> are likely to have social difficulties, including social withdrawal, which can persist into adolescence and adulthood. There are several subtypes of withdrawal that have been identified and researched in children with LI, including shyness, social disinterest, and solitary-active withdrawal. Solitary-active withdrawal has been further divided into solitary-pretend play and solitary-functional play. The focus of the current investigation is solitary-pretend play, which is characterized by parallel forms of functional play and pretend/dramatic play (Fujiki, Brinton, Isaacson, & Summers, 2001). This study examines the effectiveness of measuring solitary-pretend play behaviors in children and compares instances of solitary-pretend play between children with LI and their typically developing peers.

### Language Impairment

Leonard (2014) defines LI as a diagnostic label for children who demonstrate significant deficits in language ability in the presence of unremarkable neurological, audiological, and nonverbal cognitive performance. Usually detected in childhood, LI can persist into adolescence and adulthood (Clegg, Hollis, Mawhood, & Rutter, 2005). Leonard, Caselli, Bortolini, McGregor, and Sabbadini (1992) found that children with specific language impairment (SLI) tend to have a mild to moderate deficit in a variety of language areas (including specific deficits with lexicon and syntax) and a more severe deficit in morphology. These deficits include difficulty producing and comprehending morphologically complex words (Joanisse &

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<sup>1</sup> In this thesis, the terms language impairment (LI) and specific language impairment (SLI) are used synonymously to refer to children who have language problems in the face of relatively typical growth in other areas of development.

Seidenberg, 1998). However, these are not the only problems that are commonly associated with LI.

**Social difficulties in children with LI.** Over the last two decades, research has revealed that children with LI are also likely to have social problems. Children with problematic speech and language skills are rated by teachers as having more behavior problems than their typically developing peers (Fujiki, Brinton, & Todd, 1996). Hart, Fujiki, Brinton, and Hart (2004) found that limitations in both language comprehension and expression may hinder the development of outgoing, friendly behaviors that are significant in forming peer relationships. Brinton, Fujiki, Spencer, and Robinson (1997) found that children with LI are more likely to have difficulty entering on-going interactions with their peers, which may lead to negative social consequences.

**Long-term consequences of social difficulties.** The social difficulties exhibited by children with LI are concerning because of their long-term consequences. Adolescents and adults with a history of LI are likely to have fewer closer relationships and generally poorer peer relations than typically developing peers (Wadman, Durkin, Conti-Ramsden, 2011). Beitchman et al. (2001) performed a 14-year study that followed children originally identified as having language problems at age 5. Results showed that participants that were diagnosed with LI had significantly higher rates of anxiety disorder and social phobia compared to the control group. This study also revealed that young adults with a history of childhood LI had one of the highest rates of psychiatric disorder in the community. Many children with early language problems develop psychopathology associated with speaking to others and social interactions (Beitchman et al., 2001). Summarizing a large number of studies, Toppelberg and Shapiro (2000) reported that the co-occurrence of language problems and socioemotional behavior disorders is near 50%. These social and psychological issues can persist into adulthood and prove to be problematic.

## Social Withdrawal

One such social problem that is commonly identified in children with LI and can persist into adulthood is social withdrawal, which is the general subject of this study. Rubin and Asendorpf (1993) defined withdrawal as “the act of being alone” (p. 11). Rubin, Burgess, and Coplan (2002) defined social withdrawal as the consistent display of forms of solitary behavior when interacting with familiar and/or unfamiliar peers. This includes exclusion, isolation, and/or solitary activity (Hart et al., 2004). It is well established that children with LI are likely to withdraw from their peers and avoid both initiations and interactions with peers (Fujiki, Brinton, Morgan, & Hart, 1999; Redmond & Rice, 1998, 2002; Stanton-Chapman, Justice, Skibbe, Grant, 2007). For example, Redmond and Rice found that teachers reported significantly higher levels of social withdrawal in children with LI. In addition, Fujiki et al. and Hart et al. reported that teachers rated children with LI as being more withdrawn and having poorer social skills than their typical-aged peers.

The notion that not all withdrawal is the same has been recognized for some time (Coplan & Rubin, 1998; Coplan, Rubin, Fox, Calkins, & Stewart, 1994; Harrist, Zaia, Bates, Dodge, & Pettit, 1997). Three particular subtypes of withdrawal have been studied in children with LI: solitary-active withdrawal (including solitary-pretend play and solitary-functional play), social disinterest, and shyness (Fujiki et al., 1999; Hart et al., 2004). The focus of this investigation is specifically on solitary-pretend play.

**Social disinterest.** Social disinterest or unsociability (also referred to as solitary-passive withdrawal) is defined as a child’s preference for solitude (Coplan, Girardi, Findlay, & Frohlick, 2007; Fujiki, et al., 1999). Hart et al. (2004) further explained that these children who demonstrate social disinterest may play quietly with toys or appear to be involved in another type

of constructive activity while playing alone. Some children who engage in these types of behaviors experience difficulties in social settings (Nelson, Rubin, & Fox, 2005). Social disinterest is the most common form of nonsocial play in early childhood (Coplan & Ooi, 2013).

**Shyness.** Shyness is also referred to in the literature as reticent behavior. Coplan and Armer (2007) defined shyness as the anxiety associated with social novelty and perceived social evaluation. Reticence is evident when a child wants to interact with other children but is afraid to do so (Asendorpf, 1991). Asendorpf described reticent behavior as an “approach-avoidance” (p. 1460) motive, in which the child would like to approach others, but is fearful of doing so. Shyness can reflect social fear and anxiety during social interactions (Nelson et al., 2005). Children who demonstrate shyness spend a lot of time watching others playing without joining the interaction and may also be unoccupied during play (Hart et al., 2004).

**Solitary-active withdrawal.** Solitary-active withdrawal is characterized by “repeated sensorimotor action with or without objects and/or...solitary dramatizing” (p. 130; Coplan et al., 1994). It consists of solitary and parallel forms of functional play as well as pretend/dramatic play (Fujiki, et al., 2001). For example, a child who exhibits solitary-active withdrawal may pretend to be a police officer in the midst of other children pretending to be police officers, however the child does not interact with the other children (Hart et al., 2004). This type of withdrawal is not as common in free play. Coplan et al. estimated that it is present in free play about 3% of the time, but it is easy to identify when it does occur (Coplan et al., 1999; Hart et al., 2004).

Solitary-active withdrawal has been further broken down into two subtypes of behavior—solitary-functional behavior and solitary-pretend behavior (Nelson, Hart, & Evans, 2008).

Solitary-functional behavior is characterized by repetitive sensorimotor actions that occur with

and without objects (i.e., skipping, banging blocks together; Coplan & Ooi, 2013; Nelson et al., 2008). Coplan et al. (1994) defined solitary-pretend play, which is also known in the literature as solitary-dramatic play, as when the child is engaged in a pretense and plays make believe alone. Solitary-pretend play is reflective of social immaturity (Nelson et al., 2008). There is recent evidence that these two types of play (solitary-functional and solitary-pretend) are not actually related and that solitary-functional behaviors are more closely related to solitary-passive withdrawal behaviors (a child's preference to engage in constructive activities alone). Thus, it has been suggested that these two behaviors should not be conceptually and methodologically combined to form solitary-active withdrawal and should remain separate (Nelson, et al., 2008).

The body of literature for solitary-pretend play as a type of withdrawal is not as broad as that for social disinterest and shyness. However, it is important to study this particular type of withdrawal because of the negative consequences associated with it, as well as the fact that it is observed in higher than expected levels in children with LI (Fujiki et al., 1999). This type of play is problematic because of the negative attention it elicits (Fujiki et al., 1999). Because of the nature of solitary pretend play, children who frequently exhibit such behaviors are actively excluded by their peers (Nelson et al., 2008). Nelson and colleagues reported that solitary pretend-play is positively associated with distractibility, reactive physical aggression to bullying, victimization, and active exclusion by peers. Further, this type of play is reflective of impulsivity and immaturity (Coplan et al., 1994).

Isolation, which is often associated with solitary-pretend play, has negative consequences due to the fact that children who are isolated are not accepted by their peers. Parker and Asher (1987) found that children who are rejected by their peers are more likely to drop out of school and have problems later in life. In addition, children who demonstrate solitary-pretend play are



often more likely to display rough play, higher levels of aggression and acting out, and have poorer social and social-cognitive skills (Coplan & Ooi, 2013).

### **Research Questions**

This study examined the use of the Teacher Behavior Rating Scale (TBRS; Hart & Robinson, 1996) to measure instances of solitary-pretend play in children with LI and their typically developing peers. A confirmatory factor analysis was used to validate the solitary-pretend play subscale of the TBRS as a measure of this behavior. The groups were then compared in order to determine if there were differences. Gender was also examined, in that there is literature to suggest that boys with LI exhibit higher levels of solitary active withdrawal than girls. The following research questions were addressed:

1. Do the TBRS items designed to measure solitary-pretend play group together, indicative of a single underlying factor?
2. Do children with LI differ from their typically-developing peers in demonstrating instances of solitary-pretend play according to identified items on the TBRS?
3. Do boys and girls differ in the frequency at which they demonstrate instances of solitary-pretend play according to identified items on the TBRS?

### **Method**

#### **Participants**

This study examined the TBRS ratings of 256 school-aged children ranging from the ages of 5;1 and 12;6 years. The TBRS data for each of the participants were previously collected and were part of larger research projects that have been published, including studies conducted by: Fujiki et al. (1999); Fujiki et al. (2001); Fujiki, Brinton, and Clarke (2002); Fujiki, Spackman, Brinton, and Hall (2004); Brinton, Spackman, Fujiki, and Ricks (2007); and Brinton, Fujiki,

Hurst, Jones, and Spackman (2015). All of the participants of the current work were children who were enrolled at local elementary schools. Parental consent was obtained for all children studied and included children with LI and children with typical language development.

Of the 256 participants, 128 participants were identified as having LI based on enrollment in language intervention services, scores over a standard deviation below the average on a standardized language test (e.g., the Comprehensive Assessment of Spoken Language (CASL), the Clinical Evaluation of Language Fundamentals (CELF)), and teacher reports indicating language deficits. The remaining 128 participants were identified as typically-developing children, who had no significant language impairments or deficits based on teacher report and additionally did not have any neurological and hearing problems. Each typically-developing child was matched to a child with LI based on chronological age and gender.

The 128 participants with LI ranged in age from 5;1 to 12;6, with an average age of 8;10 years. The group with LI included 58 females and 70 males. Of the 128 participants with typically-developing language, the age range was 5;3 to 12;6, with an average of 8;10 years. The typically-developing group included 58 females and 70 males.

### **Teacher Behavior Rating Scale**

**Description.** The Teacher Behavior Rating Scale (Hart & Robinson, 1996; TBRS) is a questionnaire designed to assess a child's social behavior. It is completed by the child's teacher and consists of 161 items that focus on several behavioral subtypes, including withdrawal, aggression, impulsivity, and sociability. For example, the teacher would be presented with a statement such as, the child "talks aloud or sings dramatically around peers" (Hart & Robinson, 1996) and asked to rate the frequency of the behavior using a three point scale (0 = never, 1 = sometimes, and 2 = often).

**Psychometric properties.** While the TBRS is an unpublished rating scale, it has shown strong psychometric properties. Parts of the TBRS have been used to successfully measure behavioral subtypes in studies of preschoolers across different cultures (Hart et al., 2000). Further, Fujiki and colleagues (1999) determined both the reliability and validity of the TBRS as an instrument for school-aged children, which is particularly important for present purposes as older children are included in the sample.

**Validity for school-aged children.** In order to establish the validity of the TBRS as a measure of withdrawn behavior for elementary school-age children, Fujiki and colleagues (1999) examined teacher ratings for a large sample of typically-developing children. Elementary school teachers completed the TBRS on 382 typically-developing school-age children ranging from the ages of 6;4 to 12;6. A final principal components analysis produced three reliable factors that effectively measured withdrawal. Of particular interest for the current study, this analysis demonstrated that the TBRS is a valid measure of solitary-active withdrawal behavior in school-aged children.

**Reliability for school-aged children.** In order to assess test-retest reliability, teachers in the study completed the TBRS for 94 of the children twice, approximately four weeks apart (Fujiki et al., 1999). The correlations for each of the withdrawal subscales the TBRS attempted to measure were strong, with an average Pearson correlation of .73, with a correlation of .76 for solitary-active withdrawal specifically.

**Specific withdrawal items.** The teacher rating scores from specific items that were intended to measure the three subtypes of withdrawal were analyzed.

**Solitary-active withdrawal items.** Hart et al. (2000) found that in terms of solitary-active withdrawal items, newer subscales of teacher measures have included only solitary-pretend play

items as solitary-functional play items have cross-loaded on the solitary-passive factor or the solitary-active factor. Thus, in this study the items that intend to measure solitary-active withdrawal relate specifically to solitary-pretend play.

The following items were used in the analysis: *animates toys near peers without interacting (e.g., pretends doll or a stick is alive); talks aloud or sings dramatically by peers; pretends to be something alone (e.g., fireman, airplane); does pretend/dramatic play alone, but near peers* (Hart & Robinson, 1996).

***Solitary-passive withdrawal/social disinterest items.*** The following items were used in the analysis: *reads books alone away from peers; does constructive activities alone (e.g., blocks, legos, puzzles); builds things by self rather than with other children; likes to play alone; plays with toys by self rather than with other children* (Hart & Robinson, 1996).

***Reticent/shyness items.*** The following items were used in the analysis: *stares at other children without interacting; reserved around other children; unoccupied even when there is plenty to do; fearful when approaching other children* (Hart & Robinson, 1996).

## Data Analysis

**Confirmatory factor analysis.** This study examined the effectiveness of the TBRS in identifying instances of solitary-pretend play in school-aged children by observing to what extent the TBRS items share an underlying factor. A confirmatory factor analysis was performed for the full sample of children with LI and children with typically-developing language. The analysis was performed using Mplus latent variable modeling software. Given that the TBRS data was binary, Weighted Least Squares estimation was used to estimate model parameters. The Mplus software generated an expected distribution as an appropriate model of fit that was compared to the TBRS data used in this study. Model fit for the results was evaluated using the

following indices: chi-square test, root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI). Each of these measures suggest whether or not the TBRS model for solitary-pretend play is appropriate.

**Group comparisons.** This study also examined the difference between children with LI and typically-developing children on their solitary-pretend play ratings. A two-way analysis of variance (ANOVA), including group (children with LI and children with typically-developing language) and gender (male and female), was conducted in order to determine whether or not there were significant differences related to these variables.

## Results

### Analysis with the Full Sample

The factor loadings for the three subtypes of withdrawal are presented in Table 1. The primary behavior of interest was solitary-pretend play. However, TBRS items from the other two subtypes of withdrawal were included to determine the extent to which the items were related across subcategories.

The items loaded as expected on the three subtypes of withdrawal, with only one item (solitary passive – *reads books away from peers*) loading below .5. In terms of solitary-pretend play items, only one item (*talks aloud or sings dramatically by peers*) loaded below .8. The remaining three items were strongly, positively correlated with the factor underlying solitary-pretend play. The results of the confirmatory factor analysis suggest that the model presented by the TBRS provided acceptable fit for the current sample.

The resulting values for CFI (.96) and TLI (.95) suggest good fit for the TBRS items that attempt to identify instances of solitary-pretend play in both children with LI and their typically developing peers. The RMSEA (.085) was below Hu and Bentler's (1999) standard for optimal

Table 1

*Factor Loadings for Confirmatory Factor Analysis for Teacher Behavior Rating Scale  
Withdrawal Subtype Items*

Withdrawal Items	Factor Loading
<b>Reticence items</b>	
Stares at other children without interacting	.878
Reserved around other children	.740
Unoccupied even when there is plenty to do	.715
Fearful when approaching other children	.803
<b>Solitary-pretend items</b>	
Animates toys near peers without interacting (e.g., pretends doll or a stick is alive)	.928
Talks aloud or sings dramatically by peers	.558
Pretends to be something alone (e.g., fireman, airplane)	.903
Does pretend/dramatic play alone, but near peers	.823
<b>Solitary-passive items</b>	
Reads books alone away from peers	.494
Does constructive activities alone (e.g., blocks, legos, puzzles)	.626
Builds things by self rather than with other children	.914
Likes to play alone	.857
Plays with toys by self rather than with other children	.947

values of .06, but it was near this threshold and thus still suggests an acceptable fit for this model. The chi-square test was significant ( $176.513$ ,  $df = 62$ ,  $p = .000$ ), which was expected because of the size of the sample. The chi-square test results indicated that the TBRS model is an appropriate fit and distribution.

The factor correlations suggest the degree to which each subtype of withdrawal relates to another. The correlation between the solitary-passive and solitary-pretend play factors was high (.811), indicating that these may not be unique factors, or that they may both be related to a superordinate factor. The correlation between solitary-pretend play behaviors and reticence (.592), although large, does not suggest a lack of discrimination between the factors. These two items can be discriminated and suggests that they have different underlying factors. Figure 1 presents a summary of the factor loadings and factor correlations between the 3 different subtypes of withdrawal.

### **Analysis of Group Differences**

A two-way ANOVA was used to test for group by gender differences. The average score (with standard deviation in parentheses) for the solitary-pretend items for typically developing children was .068 (.27). The average score (with standard deviation in parentheses) for solitary-pretend play items for children with LI was .21 (.47). The children with LI, according to the TBRS ratings, demonstrated significantly more solitary-pretend play behaviors than their peers with typical language skills  $F(1, 302) = 22.5$ ,  $p = .000$ .

The main effect for gender was also significant, with boys being rated as engaging in solitary-pretend play more frequently than girls  $F(1, 302) = 6.78$ ,  $p = .01$ . The interaction between variables was not statistically significant  $F(1, 302) = 2.95$ ,  $p = .087$ . The two-way ANOVA table is presented in Appendix B.

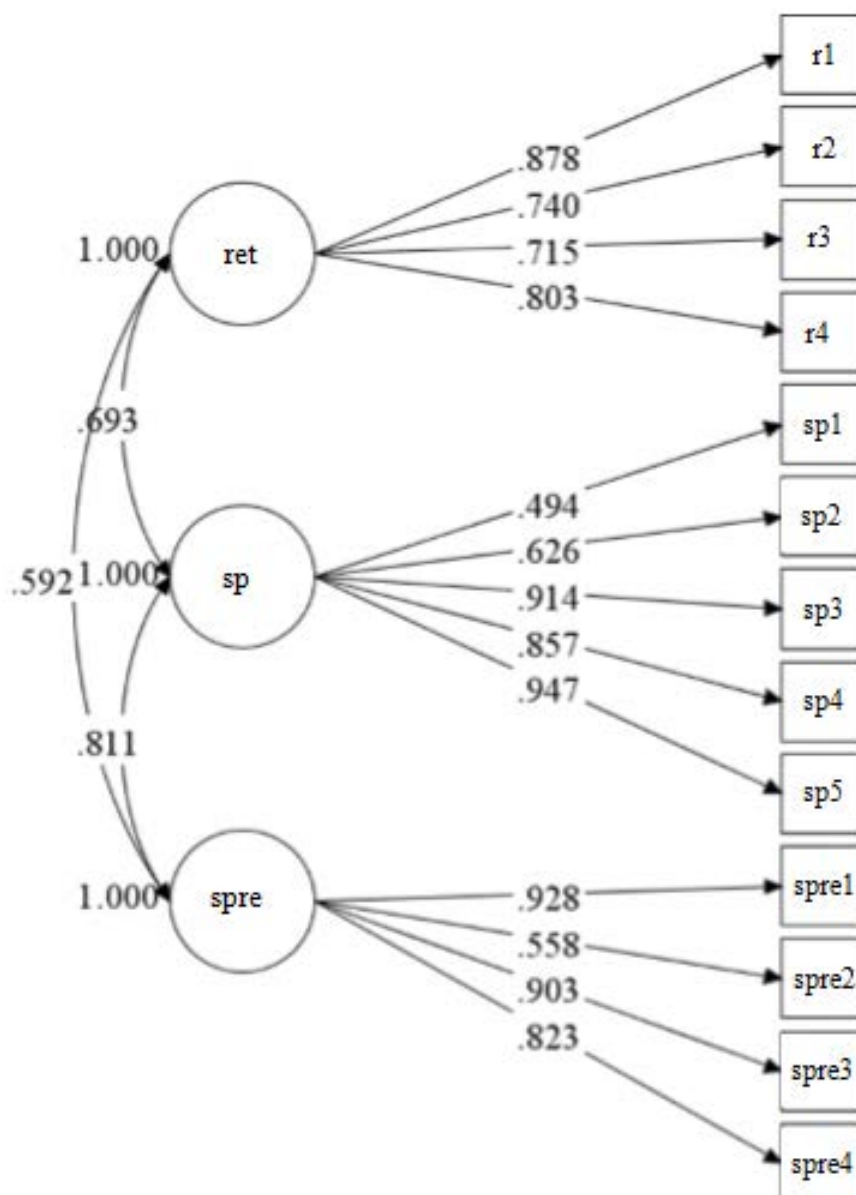


Figure 1. Summary of confirmatory factor analysis results: Factor loadings and correlations

Note: “Ret” stands for reticence, with “r1 –r4” indicating which TBRS reticence item the factor loading refers to. “Sp” stands for solitary-passive withdrawal, with “sp1-sp5” indicating which TBRS solitary-passive item the factor loading refers to. “Spre” stands for solitary-pretend play withdrawal with “spre1-spre4” indicating which TBRS solitary-pretend play withdrawal item the factor loading relates to. A full list of TBRS items is presented in Appendix A.



## Summary of Results

Briefly, the confirmatory factor analysis revealed that the TBRS items that intended to measure solitary-pretend play loaded highly with this construct of withdrawal. The solitary-pretend play items were grouped together based on an underlying factor. There was a high factor correlation between solitary-pretend play and solitary-passive withdrawal, but not between solitary-pretend play and reticence.

The two-way ANOVA revealed that there were significant differences between the groups of children with LI and children with typically developing language development in terms of instances of solitary-pretend play. Additionally, the analysis also revealed that there were significant differences between boys and girls in terms of instances of solitary-pretend play.

## Discussion

The purpose of the current work was to determine whether or not the TBRS items that intend to measure solitary-pretend play behaviors have an underlying factor, allowing them to be grouped together following analysis. An additional goal was to compare the frequency that group (children with LI and their typically developing peers) and gender (boys and girls) demonstrated instances of solitary-pretend play.

### Relationship between Withdrawal and Solitary-Pretend Play Items on the TBRS

The first question that was addressed was whether or not the four TBRS items could be grouped together to measure the underlying construct of solitary-pretend play. The confirmatory factor analysis supported this grouping. Three of the items had strong, positive correlations above .8: *animates toys near peers without interacting (e.g., pretends doll or a stick is alive)*; *pretends to be something alone (e.g., fireman, airplane)*; *does pretend/dramatic play alone, but near peers*. The item *talks aloud or sings dramatically by peers* loaded at .558. This lower factor

loading suggests that this item may not be as effective at identifying instances of solitary-pretend play as the other items. However, even this correlation of .558 was moderately high. These high factor loadings show that the TBRS items are highly correlated, suggesting that they are measuring a single construct. The TBRS items that intend to measure solitary-pretend play were able to be grouped together by a common, underlying factor for this type of withdrawal. Together, these items can be considered as an accurate measure of solitary-pretend play in children.

The correlation between solitary-passive withdrawal and solitary-pretend play withdrawal was particularly high (.811), indicating weaker discriminant validity between the two. This suggests that the underlying factors for these subtypes may be more closely related more than previously assumed. It is also possible that there may be a superordinate factor from which both types of withdrawal stem. The connection between solitary-passive withdrawal and solitary-pretend play is interesting in that solitary-passive withdrawal is often viewed as relatively benign, whereas as solitary-pretend play is associated with a number of negative outcomes, including distractibility, physical aggression, isolation and resulting exclusion by peers (Coplan & Ooi, 2013; Nelson et al., 2008). There is some speculation that solitary-passive withdrawal merges with more negative types of withdrawn behavior as children age. The close association between these subtypes of withdrawal may be indicative of this connection. Rubin (1985) found that a high frequency of solitary-passive behaviors in childhood led to negative self-perceptions of social competence. Further, Coplan et al. (1994) suggested that solitary-passive type behaviors in middle childhood are likely to result in peer rejection. Each of these negative outcomes are also associated with solitary-pretend play behaviors and may be evidence of the close relation between the two types of withdrawal.

### **Nature of Solitary-Pretend Play in Children with LI**

The second research objective was to determine if there were significant differences between the groups of participants (children with LI and their typically developing peers). The group comparison revealed that children with LI were rated by teachers as engaging in solitary-pretend play behaviors significantly more often than children with typically developing language skills. This finding was not surprising in that there are numerous reports in the literature that children with LI demonstrate higher levels of withdrawn behavior than their typical peers (Redmond & Rice, 1998; Wadman, Durkin, & Conti-Ramsden, 2008).

The fact that children with LI engaged in more instances of solitary-pretend play than typical children is concerning. Solitary-pretend play is a primary component of solitary-active withdrawal, a behavior that has been associated with a range of negative social consequences (Nelson et al., 2009). Although solitary-active withdrawal does not occur as frequently as other forms of withdrawal, when it does occur it is highly noticeable by peers and often leads to peer rejection.

Since solitary-pretend play is likely to occur infrequently, it will be important for teachers, special educators, speech-language pathologists, and others who work with children with LI to recognize this type of withdrawal when it does occur. Although treatment for this type of withdrawn behavior for children with LI has not been discussed often in the literature, there are examples of successful intervention. For example, Guerra (2014) reported the results of a social communication intervention for five children with LI that focused on emotional understanding. Of the five participants, three were rated by their classroom teachers as demonstrating notable reductions in solitary-active withdrawal after 20 sessions of intervention.

### **Comparison of Solitary-Pretend Play in Boys and Girls**

The final research objective was to determine the difference between boys and girls in terms of solitary-pretend play. The analysis of the solitary-pretend play data revealed a significant difference between genders, with boys being rated by their teachers as demonstrating significantly more solitary-pretend play behavior than girls.

It was of note that the interaction between the two variables (group and gender) was not significant. This result differed from those reported by Fujiki et al. (1999), who found that boys with LI were rated as demonstrating solitary-active withdrawal significantly more often than girls with LI, and typical children of both genders. Recognizing that the Fujiki et al. data were included in the current analysis, this difference may be due to differences in sample size. The Fujiki et al. study involved a total of 82 participants. With the added participants studied in this investigation (a total of 256 participants) it might be expected that the outcome would be more conclusive.

### **Clinical Impressions**

Social competence can be difficult to assess in children with LI. Effective screening instruments may be particularly useful for speech-language pathologists in order to determine if a more detailed evaluation should be conducted for children who struggle with social withdrawal. Teacher reports can be particularly useful in this regard, as they have fairly consistent and constant interaction with the children in their classrooms. This study demonstrated the efficacy of the TBRS, an informal, unpublished questionnaire completed by teachers, in measuring solitary-pretend play behaviors in children. While solitary-pretend play behaviors are not as common as the other subtypes of withdrawal in children, these findings did indicate that it occurs significantly more frequently in children with LI than in typical children.

Additionally, these findings also indicated that solitary-pretend play occurs more in boys compared to girls. Due to the long-term negative associations associated with solitary-pretend play, it is important that speech-language pathologists and teachers have a measure that will allow them to identify these behaviors in children. Solitary pretend play is associated with numerous negative social outcomes. For example, the presence of solitary-pretend play is an indication that a child may be more likely to be distracted and physically aggressive (Nelson et al., 2008). It may also indicate, due to active peer exclusion, that these children are more likely to drop out of school and have psychological problems later in life (Coplan & Ooi, 2013; Nelson, et al., 2008; Parker & Asher, 1987). Early identification will lead to needed referrals and interventions that will help children with LI manage these behaviors. The four TBRS items that measure solitary-pretend play offer a quick, succinct way of screening for instances of solitary-pretend play.

### **Limitations of the Study**

The current study does have a few limitations. While Fujiki and colleagues (1999) demonstrated that the TBRS is a reliable and valid tool, the ratings of the children may vary from teacher to teacher. Teachers may demonstrate biases when rating certain children. If a child is diagnosed with LI, the teachers may observe that child at a greater frequency or view the child's behavior differently. The ratings may also differ depending on the setting in which the teachers observe the children and each of the teacher's unique, individual impressions.

Further, this study involved a sample of the TBRS scores without distinguishing between children with LI and their typically-developing peers. It is possible that the TBRS items identify instances of solitary-pretend play differently in children with LI than their typically developing peers. While this study does demonstrate that the TBRS can effectively identify instances of

solitary-pretend play in children, it is limited in that the confirmatory factor analysis did not differentiate between the two groups.

Finally, while this study included a large sample size in order to provide an accurate representation of children, the scores from participants had previously been collected and used in older research projects, beginning in 1999 with Fujiki and colleagues. It would be important to have current data to confirm the present results.

### **Further Research**

This introductory study provided information concerning the measurement of solitary-pretend play in children with LI and children with typically developing language. There are several related issues that would benefit from additional research.

The confirmatory factor analysis conducted in this study did not distinguish between children with LI and their typically developing peers. It could be valuable in the future to determine if analyses run on each group would provide different outcomes. In performing this analysis, it would be useful to run an invariance analysis to determine if teachers were rating both groups in a similar manner, or if the teacher responses were biased against one of the groups.

It might also be relevant to examine the influence of age on solitary-pretend play in the two groups of children. It would be important for speech-language pathologists to know whether or not solitary-pretend play is more or less severe in younger children compared to older children. This information would be of interest for both theoretical and clinical reasons.

Further research would also be beneficial in order to explore the correlation between the TBRS items relating to solitary-pretend play and solitary-passive withdrawal. Such an investigation might be structured to consider whether there is an additional factor causing the

high correlation between the two types of withdrawal. The high correlations observed in the present study suggest that the two may be closer related than previously thought. Further study might be undertaken to determine the extent of the relation between these behaviors. Since solitary-passive withdrawal is often viewed as benign, it would be useful to determine if it is more closely related to solitary-pretend play, which is associated with peer rejection and later negative outcomes in life (Hart et al., 2004). If these two behaviors are related, those children displaying solitary-passive withdrawal may have problems later in life (Hart et al. 2004).

### **Conclusion**

The current study investigated the effectiveness of the TBRS in measuring instances of solitary-pretend play in children with LI and their typically developing peers. It also compares teacher ratings of solitary-pretend play in children with LI to similar ratings in typically developing peers and teacher ratings of solitary-pretend play in boys and girls. The results indicated that the TBRS is an effective measure of solitary-pretend play, with the items making up this construct being highly correlated. The model of the TBRS is an appropriate model and demonstrates goodness of fit for this model. Children with LI showed more solitary-pretend play behaviors compared to their typically developing peers and boys showed more solitary-pretend play behaviors than girls.

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## APPENDIX A

## Teacher Behavior Rating Scale (TBRS) Withdrawal Items

## Reticence/shyness

- Stares at other children without interacting
- Reserved around other children
- Unoccupied even when there is plenty to do
- Fearful when approaching other children

## Solitary-active withdrawal (solitary-pretend play)

- Animates toys near peers without interacting (e.g., pretends doll or a stick is alive)
- Talks aloud or sings dramatically by peers
- Pretends to be something alone (e.g., fireman, airplane)
- Does pretend/dramatic play alone, but near peers

## Solitary-passive withdrawal/social disinterest

- Reads books alone away from peers
- Does constructive activities alone (e.g., blocks, legos, puzzles)
- Builds things by self rather than with other children
- Likes to play alone
- Plays with toys by self rather than with other children

## APPENDIX B

## ANOVA Results (Group x Gender)

*ANOVA Results (group x gender)*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.507 <sup>a</sup>	3	10.502	9.762	.000
Intercept	81.506	1	81.506	75.759	.000
Group	24.207	1	24.207	22.500	.000
Gender	7.294	1	7.294	6.780	.010
Group * Gender	3.176	1	3.176	2.952	.087
Error	324.911	302	1.076		
Total	428.000	306			
Corrected Total	356.418	305			

<sup>a</sup> R squared = .088 (Adjusted R squared = .079)

## APPENDIX C

## Annotated Bibliography

Asendorpf, J. (1991). Development of inhibited children's coping and unfamiliarity. *Child Development, 62*, 1460-1474.

**Summary:** Children become inhibited when they are confronted with unfamiliar peers and adults. This inhibited behavior is due to an approach-avoidance conflict. Children often hesitate and require time to move from an initial state of inhibition into social interaction. Some children may respond by engaging in parallel play or beginning to interact. Other children may give up on social interactions. Whatever the reaction, children develop different ways to cope with unfamiliarity. Studies regarding inhibition towards unfamiliar persons have revealed lack of social performance in the presence of strangers, but not a general lack of social competence. This inhibition has been found to lead to neglect and rejection by classmates. This study investigated the association between types of inhibition and social withdrawal and looked at three subtypes of solitude: solitary-passive, solitary-active, and inhibited behavior.

**Method:** The sample consisted of 87 children (46 boys and 41 girls) who attended 20 preschools in the Munich area and whose first language was German. These children participated in three play sessions with an unfamiliar peer at the ages of 4, 6, and 8 years old. These play sessions were then coded using Rubin's Play Observation Scale, including identifying instances of group play, solitary play, etc. The child's main caregiver answered a questionnaire that contained eight questions referring to their child's dispositional inhibition towards strangers.

**Results:** Correlational analyses showed that observed inhibited behavior as well as parental judgements of inhibition were associated with solitary-passive activity. The inhibited children showed a developmental shift toward spending longer periods of time engaged in solitary-passive activity, but this was not evident with the control group of children.

**Relevance to the current work:** This article shows the development of solitary-passive withdrawn type behaviors and how it is positively correlated with inhibition in children. This explains the idea behind the "approach-avoidance" motive of inhibition and reticence.

Beitchman, J. H., Wilson, B., Johnson, C. J., Atkinson, L., Young, A., Adlaf, E., ... Douglas, L. (2001). Fourteen-year follow-up of speech/language-impaired and control children: psychiatric outcome. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*, 75-82. doi:10.1097/00004583-200101000-00019

**Summary:** Research has revealed that children with speech and language impairments have an increased risk of having psychiatric and behavioral problems. The authors of this study hypothesized that early childhood speech and language impairment would be associated with increased frequencies of antisocial personality disorder, substance use disorders, and anxiety and depression.

**Method:** In 1982, English speaking children in the Ottawa-Carleton region of Ontario, Canada were administered the first stage of a three stage speech and language screening procedure. Schools were randomly selected from regions in order to ensure a fair representation of the children. Children who failed the screening procedure were selected for a second stage of testing and eventually third stage of testing. There were 142 children who agreed to participate in



the third stage of testing, demonstrating speech/language impairments. Of the 142 children in this group, 103 children had language impairments and 39 had speech only impairments. There was a control sample of 142 typically developing children (with a total of 284 children participating in the study). The children were assessed using the Test of Language Development (TOLD). In 1989, participants from the third stage of the assessment were re-contacted and invited to participate in the first follow up study. In 1995-1997, investigators re-contacted 264 participants from 1982 and 258 agreed to take part in the second follow up study. The psychiatric status of the participants at age 19 was assessed using the Composite International Diagnostic Interview and the Global Assessment of Functioning scale.

Results: Adolescents in the group with language impairment had significantly higher rates of anxiety disorder, specifically social phobia, compared to the control group. Males who were language-impaired had higher rates of antisocial personality disorder compared to the males from the control group. Children with only speech impairment did not differ from the control group.

Relevance to the current work: This study showed that children with LI are more likely to exhibit anxiety disorders in later life. This shows that social problems associated with LI persists into adulthood.

Brinton, B., Fujiki, M., Hurst, N. Q., Jones, E. R., & Spackman, M. P. (2015). The ability of children with language impairment to dissemble emotions in hypothetical scenarios and natural situations. *Language, Speech, and Hearing Services in Schools, 46*, 325-336. doi:10.1044/2015\_LSHSS-14-0096

Summary: Emotional intelligence is the ability to perceive and express emotions and in turn understand and use them. Children with LI have difficulties with recognizing and perceiving emotions. Additionally, children with LI may have trouble with hiding emotional reactions when it is socially appropriate to do so.

Method: Participants in this study included 22 children with LI and 22 of their typically developing peers. The children ranged in age from 7;1 to 10;11. Each of the participants were given a hypothetical social situation where the child would need to dissemble or hide their true emotions. Children then were presented with four chances to hide their emotions.

Results: Typically developing children were better able to determine when emotional dissemblance was appropriate compared to children with LI. However, there was little difference between the two groups in the four opportunities to dissemble their emotions when the cost was relatively low. In high cost situations, typically developing children were better able to hide disappointment.

Relevance to the current work: This study included participants that were used in the current work.

Brinton, B., Fujiki, M., Montague, E. C., & Hanton, J. L. (2000). Children with language impairment in cooperative work groups: A pilot study. *Language, Speech, and Hearing Services in Schools, 31*, 252-264. doi: 0161-1461/00/3103-0252

Summary: Children with disabilities are educated in the least restrictive environment (LRE). For children with language impairment, the LRE is a regular classroom setting, which may require adaptations and accommodations. Cooperative learning models intend to integrate

students with a variety of abilities in the learning process. Studies have shown that this model, which groups diverse students together, improves and enhances the self-esteem, motivation, and academic achievement of students. However, these groups may also ignore or exclude other group members, including children with language impairment (LI).

**Method:** Six children with LI were identified using a formal language test, enrollment in speech-language pathology services, normal hearing, and normal psychological assessment to rule out a developmental disability or disorder. The participants, including five girls and one boy, ranged from the age of 6;1 to 7;6. Teachers of the children with LI filled out the Teacher Behavior Rating Scale (TBRS) for the children in order to determine their social profiles. The children with LI then participated in four cooperative learning groups. In each, a child with LI interacted with two typically developing partners. Children in the groups were instructed to work together on a product. The children were instructed about their individual accountability during the group. Roles were assigned on the second group interaction, including materials manager, checker, and leader. This was done to provide each child with a meaningful role. The interactions were then coded to analyze the nature of the interactions.

**Results:** Children with LI produced a range of behaviors, ranging from aggression to withdrawal, when interacting with their typically-developing peers during collaborative group work. The researchers discovered that social profile was a good predictor of how the child would participate in the group interactions.

**Relevance to the current work:** This study provides details regarding the subtypes of withdrawal and psychometric properties found within the TBRS. It demonstrates that the social behaviors of children with LI may predict how they will interact and work with others.

Brinton, B., Fujiki, M., Spencer, J. C., & Robinson, L. A. (1997). The ability of children with specific language impairment to access and participate in an ongoing interaction. *Journal of Speech, Language, and Hearing Research, 40*, 1011-1025.

**Summary:** Children with impaired speech and/or language skills are more likely to have social difficulties. Children with specific language impairment (SLI) are generally rated to be less popular compared to their typically-developing classmates. Typically-developing children tend to use language more skillfully in social interactions. Children with SLI have a harder time accessing an ongoing interaction and being accepted and included in the group.

**Method:** Six children in each of three different groups (SLI, typical age matched, typical language matched) were observed entering an interaction. These participants were referred to as the target child. Each target child was introduced to two children who were already playing (but did not know each other before the study). The average age of the children with SLI was 10;3. Children were evaluated on their ability to access the group and then to the extent that they were integrated in the group.

**Results:** All of the typically developing children were able to successfully enter the ongoing social interactions and did so quickly (in less than three minutes). Two of the children from the group with SLI did not access and the 4 remaining subjects required more time in order to enter the social interaction. Those children with SLI who did access the group talked and collaborated less than their typically-developing peers. Children in the established dyad consistently addressed fewer utterances to target children. In the other groups, children were occasionally left out of the interaction, but it was not consistently the target child.

Relevance to the current work: This article shows the significant differences of social interactions of children with SLI compared to their typically-developing peers. Children with SLI had a harder time entering social interactions and actively participating after entry, showing different social skills than typically-developing children.

Brinton, B., Spackman, M. P., Fujiki, M., & Ricks, J. (2007). What should Chris say? The ability of children with specific language impairment to recognize the need to dissemble emotions in social situations. *Journal of Speech, Language, and Hearing Research, 50*, 798-811. doi: 10.1044/1092-4388(2007/055)

Summary: Children with specific language impairment (SLI) have social difficulties. These may include problems with regulating emotions. It has yet to be determined what the exact relationship between SLI and emotional competence. Children with SLI may have more difficulty dissembling or hiding their emotions. There are rules that typically-developing children understand early on that suggest that the experienced emotion differs from the expressed emotion, which children with SLI show difficulties with.

Method: This study included 19 children with SLI (11 girls and 8 boys) with ages ranging from 7;9 to 10;10. Participants also included 19 of their typically developing peers (11 girls and 8 boys). These children were given hypothetical social situations (that intended to elicit the emotions of happiness, sadness, fear, anger, and disgust) which involved a main character who felt an emotion that needed to be concealed for social purposes.

Results: Children with SLI and their typically developing peers both were able to comprehend the stories and identify the emotion that the story would likely elicit. Children with SLI responded that this emotion should be hidden significantly less than their typically developing peers.

Relevance to the current work: This study included participants that were included in the current work.

Clegg, J., Hollis, C., Mawhood, L., & Rutter, M. (2005). Developmental language disorders—A follow-up in later adult life. Cognitive, language and psychosocial outcomes. *Journal of Child Psychology & Psychiatry, 46*, 128–149.

Summary: Children with receptive and expressive language impairments tend to have problems that persist into childhood, adolescence, and adulthood. Studies have revealed that those children with persisting language disorders have limitations associated with phonological processing. They also are likely to have difficulty with processing and the comprehension of inferential meaning. Children with developmental language disorders (DLD) are likely to develop social, emotional, and behavioral problems, as well as psychiatric disorders in childhood.

Method: Seventeen male adults with a history of childhood DLD were included in this study. They were assessed in early childhood, middle childhood, and early adult life. Members of this group had 16 siblings who did not have any language disorders. These 16 siblings were compared to the 17 adults with the history of DLD. The 17 males with a history of DLD were then compared to 17 typically developing males. Finally, there was a general population comparison group that was identified using the National Child Development Study (NCDS).

Each subject was assessed for cognitive skills, language skills, social skills, and intelligence and literacy measures. In addition, participants were assessed for theory of mind skills.

Results: The men with DLD showed severe and persisting language disorders and severe literacy impairments. The subjects with DLD in childhood had impaired language skills, including cognitive skills, theory of mind skills, spelling skills, and phonological processing skills. Those children with DLD who had higher levels of childhood intelligence and language had better language and cognitive abilities as adults. Individuals with DLD had worse social skills in adulthood compared to the groups without DLD.

Relevance to the current work: This study shows that children with LI have social and language problems that persist into adulthood. This shows that there are severe implications for children with LI and proves the importance of language intervention for these children.

Coplan, R. J. & Armer, M. (2007). A multitude of solitude: A closer look at social withdrawal and nonsocial play in early childhood. *Childhood Development Perspectives, 1*, 26-32. doi: 10.1111/j.1750-8606.2007.00006.x

Summary: Social withdrawal in early childhood has been associated with socioemotional problems later in life. Recent studies have indicated that social withdrawal can be separated into subtypes of shyness (children who have anxiety in the face of new social interactions), social disinterest (children who prefer to play alone), and social avoidance (children who desire solitude and seek to avoid social interaction). These behaviors can interact and some combinations can be more problematic (high shyness and high sociability) than others. Social withdrawal has different meaning in other cultures. Further research needs to be conducted in order to learn more about the construct of social disinterest and social avoidance.

Relevance to the current work: This provides an overview of social withdrawal, including the most current terminology associated with the subtypes of withdrawal.

Coplan, R. J., Girardi, A., Findlay, L. C., & Frohlick, S. L. (2007). Understanding solitude: Young children's attitudes and response toward hypothetical socially withdrawn peers. *Social Development, 16*, 390-409. doi: 10.1111/j.1467-9507.2007.00390.x

Summary: Young children's perceptions and interpretations of the behaviors of others determine whether they will reject other children as playmates. As children grow older, they begin to notice withdrawn and aggressive behavior in children. These behaviors draw negative attention to those children who demonstrate such behaviors. Social withdrawal has been further divided into shyness and social disinterest. Shyness is defined as social fear and anxiety, while social disinterest is defined as a child's preference to play alone rather than with others.

Method: This study explored young children's understanding and perceptions of solitude. Participants included 137 kindergartners and first graders from Ottawa Canada. Parents completed the Child Social Preference Scale (CSPS), which attempts to assess young children's shyness and unsociability. The children were then interviewed and were given a version of the interview attributions for aggressive and withdrawn behavior. They were given social situations and were asked questions to assess their perceptions and attitudes towards each behavior, including shyness and unsociability.

Results: Children were able to distinguish between shyness and unsociability. The children were able to attribute behavioral intent to other children. Unsociable children showed a lesser desire to interact with their peers than their shy and sociable peers.

Relevance to the current work: This study attempted to study the subtypes of withdrawal and see how children understood and reacted to these types of withdrawal. It shows that children who are socially withdrawn are more likely to have negative interactions with their peers and can lead to peer rejection. This study also provides the updated terminology for the subtypes of social withdrawal.

Coplan, R. J. & Ooi, L. (2013). The causes and consequences of “playing alone” in childhood. In R. J. Coplan & J. C. Bowker (Eds.) *Handbook of solitude: Psychological perspectives on social isolation, social withdrawal, and being alone* (pp. 111-128). Hoboken, NJ: John Wiley & Sons. doi: 10.1002/9781118427378.ch7

Summary: Nonsocial play is defined as the display of solitary activities and behaviors in the presence of play partners. Researchers have discovered that socially withdrawn children are likely to have socio-emotional problems. Many forms of social withdrawal are observed on the playground and include looking at children playing, unoccupied behavior, and solitary play. There are various subtypes of social withdrawal. Reticent behavior includes watching other children without joining in and unoccupied behaviors. Reticence serves as a transition between playing alone and playing with others and is commonly seen in younger children. Solitary-active play is characterized by parallel play and solitary dramatizing. Solitary-active withdrawal is not as common, but it does lead to peer rejection. Solitary-passive withdrawal is the most common type of play and is characterized by creating something alone. Social withdrawal and nonsocial play is problematic in middle and later childhood and peers view it as deviant.

Relevance to current work: This article gives an overview of the different types of social withdrawal.

Coplan, R. J., & Rubin, K. H. (1998). Exploring and assessing nonsocial play in the preschool: The development and validation of the preschool play behavior scale. *Social Development, 7*, 72–91.

Summary: There are three subtypes of nonsocial behaviors. The first is solitary-passive behavior, which is the solitary exploration of objects and constructive activity while playing. The second is reticent behavior, which involves looking at others without playing and being unoccupied. The final is solitary-active behavior, which is characterized by repeated sensorimotor actions and solitary dramatizing. The goal of this study was to establish the construct validity of the Preschool Play Behavior Scale (PPBS).

Method: This study involved 39 preschool children. Each of the children was observed from behind a one-way mirror. These children were observed during free play and their behaviors were coded using Rubin’s Play Observation Scale. The teachers of the children also completed the PPBS for the children. The child’s parents then completed the Colorado Child Temperament Inventory (CCTI), which assesses shyness, emotionality, and activity level.

Results: A factor analysis was used and revealed a five factor solution. The results suggested that the PPBS has high construct validity. The teachers’ ratings of and observed

nonsocial and social behaviors of children were significantly associated. Further, this study confirmed the psychometric properties of the PPBS.

Relevance to the current work: This study reviews the literature regarding the various subtypes of social withdrawal.

Coplan, R. J., Rubin, K. H., Fox, N. A., Calkins, S. D., & Stewart, S. L. (1994). Being alone, playing alone, and acting alone: Distinguishing among reticence, and passive and active-solitude in young children. *Child Development, 65*, 129–137.

Summary: Three types of social withdrawal have been studied in children, including solitary-passive play (exploration or constructive activity alone), solitary-active play (solitary dramatizing/repeated sensorimotor actions), and reticence (inhibition towards social novelty).

Method: Participants of this study included 48 children who were four years old. Children were observed in social situations. Mothers of the children completed the Colorado Temperament Inventory.

Results: This study found that the three subtypes of withdrawal (solitary-passive, solitary-active, and reticence) were not significantly associated. Reticence was found to be stable and was associated with anxiety and the act of hovering near social situations. Reticence was also associated with poor performance in social situations. Solitary-active behaviors were associated with maternal ratings of impulsivity, while reticence was associated with maternal ratings of shyness.

Relevance to the current work: This study demonstrates that children who demonstrate solitary-active withdrawal are likely to be rated as being impulsive.

Fujiki, M., Brinton, B., & Clarke, D. (2002). Emotion regulation in children with specific language impairment. *Language, Speech, and Hearing Services in Schools, 33*, 102-111. doi: 10.1044/0161-1461

Summary: Children with specific language impairment (SLI) are at risk for having social difficulties and these social difficulties persist throughout the school years. Emotional regulation refers to the controlling of one's emotions. Emotional regulation affects the way that children interact with others. Language plays a key role in these interactions. This investigation attempted to determine if emotional regulation is a factor that influences the social outcomes of children with SLI.

Method: Participants included 41 children with SLI and 41 typically developing children. Teachers completed the Emotional Regulation Checklist (ERC). The ERC identifies affective lability, intensity, valence, flexibility, and appropriateness of emotional expressions.

Results: Children with SLI received significantly lower ratings on the ERC by teachers compared to their typically developing peers. Girls were rated as having higher scores than boys overall. Further, boys SLI had lower ratings compared to any of the other groups on the emotion regulation subscale of the ERC.

Relevance to the current work: The participants in this study whose ERC scores were used were also participants that were included in the current work.

Fujiki, M., Brinton, B., Isaacson, T., & Summers, C. (2001). Social behaviors of children with language impairment on the playground: A pilot study. *Language, Speech, and Hearing Services in Schools, 32*, 101-113. doi: 0161-1461/01/3202-0101

**Summary:** This study looks at children with language impairment (LI) and their typically developing peers in social interaction on the playground. A good deal of research has been conducted focusing on the social competence of school-aged children with LI in very structured contexts. This pilot study extended this work by observing children with LI on the playground.

**Method:** Eight children with LI and their age-matched peers were recorded for 45 minutes during recess. The behaviors observed were coded and organized into six categories which included: peer interaction, adult interaction, withdrawal, aggression, victimization, and other behaviors. These categories were then analyzed.

**Results:** Typically-developing children spent more time interacting with peers than children with LI. Children with LI engaged in more withdrawn behaviors than their typically-developing peers.

**Relevance to current work:** This study confirmed that children who have LI are more socially withdrawn than their typically-developing peers. Additionally, the participants included in this study were also included in the current work.

Fujiki, M., Brinton, B., Morgan, M., & Hart, C. H. (1999). Withdrawn and sociable behavior of children with language impairment. *Language, Speech, and Hearing Services in Schools*, 30, 183-195. doi: 10.1044/0161-1461.3002.183

**Summary:** Children with language impairment (LI) are perceived as less desirable playmates and are rated by teachers as having poorer social skills and more problem behaviors. Most of the interactions that children with LI have with other children are characterized by exclusion, isolation, or solitary activity. This study examined withdrawal and sociability in children with LI and their typically developing peers. Subtypes of withdrawal, including solitary-active withdrawal (active exclusion from peers), solitary-passive withdrawal (children who enjoy solitude), and reticence (the desire to interact with others but fear of doing so) were studied. Sociable behaviors include playing cooperatively, comforting or nurturing others, and acting in a socially assertive, yet friendly manner.

**Method:** This study involved 41 children with LI and 41 typically-developing peers between the ages of 5 and 13 years old. The Teacher Behavior Rating Scale (TBRS) was completed by each child's teacher in order to measure withdrawal and prosocial behaviors.

**Results:** Teachers rated children with LI as having higher levels of reticent behavior when compared to their typically-developing peers. Teachers rated boys with LI as having significantly higher ratings of solitary-active withdrawal compared to girls with LI and typically-developing boys and girls. There were no differences between groups in terms of solitary-passive withdrawal, though boys did demonstrate more of these behaviors than girls in general. Children with LI were rated by teachers as having lower levels of impulse control/likability and prosocial behavior.

**Relevance to the current work:** This study demonstrates that children with LI are rated by teachers as demonstrating significantly higher levels of withdrawal, and significantly lower levels of sociable behavior than their typical peers. Additionally, participants from this study were included in the current investigation.

Fujiki, M., Brinton, B., & Todd, C. M. (1996). Social skills of children with specific language impairment. *Language Speech and Hearing Services in Schools, 27*, 195. doi:10.1044/0161-1461.2703.195

**Summary:** This study examined the social competence of children with specific language impairment (SLI) interact and their typically developing peers.

**Method:** Participants included children with SLI between the ages of 8 and 12 who were placed in mainstream classrooms and were enrolled in therapy for speech and language problems. In addition, a group of typically developing children, matched for age and gender, was also studied. The Social Skills Rating System-Teacher Form (SSRS-T) is used as an assessment instrument. This behavior rating scale was completed by the child's teacher. The SSRS-T evaluates cooperation, assertion, and self-control of the child. An informal picture task was used in which the child was shown 10 pictures of common activities and was asked if he/she ever participated in such activities (i.e., playing on the swing set). The Williams and Asher (1992) Loneliness Questionnaire was also administered to assess the child's feelings of loneliness and social satisfaction. The same researcher administered all the assessment instruments to the child and their classroom teachers.

**Results:** The scores from the SSRS-Ts were compared across groups. Typical children performed significantly better than children with SLI on all three subscales of the social skills domain. In the behavioral domain, typical children were rated higher than children with LI on the hyperactivity and internalizing problems subscales. For the number of peer contacts, children with SLI had a lower average number of peer contacts compared to their typically developing peers. Children with SLI were significantly less satisfied with their peer relationships when compared to their peers. Those with SLI differed in the number of peers with whom they interacted compared to their peers.

**Relevance to the current study:** This study revealed that teachers rated children with SLI to have more behavior problems compared to their typically-developing peers.

Fujiki, M., Spackman, M. P., Brinton, B., & Hall, A. (2004). The relationship of language and emotion regulation skills to reticence in children with specific language impairment. *Journal of Speech, Language & Hearing Research, 47*, 637-646. doi: 10.1044/1092-4388(2004/049)

**Summary:** Children with specific language impairment (SLI) have social difficulties, including peer rejection, inability to establish reciprocal friendships, and poor social skills. Emotional regulation may contribute to withdrawal in children with SLI. Emotional regulation is hard to define, however includes a collection of processes and strategies that take place at different levels of input and output.

**Method:** Participants included 86 children, 43 children with SLI and 43 typically-developing children. The age of the children ranged from 5-8 (younger children) and 9-12 (older children). Each of the child's teacher completed the Emotion Regulation Checklist (ERC) and the Teacher Behavior Rating Scale (TBRS). Children were selected based on scores of the Comprehensive Assessment of Spoken Language (CASL).

**Results:** Researchers found that emotion regulation scores and CASL scores were significant predictors of reticence.



Relevance to the current work: Data collected for and used in this published study was also included in the present study.

Guerra, J. G. S. (2014). *The efficacy of social communication intervention on teacher report of sociability for children with language impairment* (Master's thesis). Retrieved from BYU Scholars Archive: All Theses and Dissertations. (Paper 4132)

Summary: Children with language impairment (LI) are more likely to have difficulties with social communication. Research has shown that children with LI are more likely to have behavior problems and poorer social skills and are more likely to be socially withdrawn. These children are not well accepted by their peers. This study implemented a social communication intervention to see how it impacted teacher perceptions of social withdrawal in children with LI.

Method: Five children were included in this study, with ages ranging from 6;1 to 10;1. This group included 4 girls and 1 boy who had been identified as having LI. Children participated in social communication intervention (which targeted emotion understanding) over the course of 20 sessions. Teachers completed the Teacher Behavior Rating Scale (TBRIS) before and after intervention.

Results: There was a reduction in teacher ratings of solitary-active withdrawal for 3 participants and a reduction in instances of reticence for 3 of the participants following intervention.

Relevance to the current work: This thesis demonstrates that this type of social communication intervention (focusing on emotion understanding) lead to a reduction in solitary-active withdrawal behaviors. This provides a potentially promising type of intervention for solitary-pretend play.

Harrist, A. W., Zaia, A. F., Bates, J. E., Dodge, K. A., & Pettit, G. S. (1997). Subtypes of social withdrawal in early childhood: Sociometric status and social-cognitive differences across four years. *Child Development*, 68, 278–294.

Summary: Children who exhibit socially withdrawn behavior are of concern to parents, teachers, and clinicians. These children have a likelihood of having future adjustment problems. Studies have shown that there are significant differences in the subtypes of withdrawal, including passive-anxious, unsociable, and what the authors called active-isolates. Passive-anxious children avoid playing with their peers due to their fear of interacting. Unsociable children prefer to play alone. Active-isolate children have a high approach motivation and low avoidance motivation—they want to play but cannot find those willing to do so. This study attempted to determine if these subgroups could be seen in a large sample of children.

Method: This study sampled 567 kindergartners who were observed during free play, assessed using questionnaires completed by the teachers (the Teacher's Report Form of the Achenbach Child Behavior Checklist), and sociometric interviews that were answered by the children. One-hundred and fifty of these children were classified as socially withdrawn and were then followed over a period of 4 years.

Results: A cluster analysis revealed 4 clusters, which labeled 96 children as unsociable, 23 as passive-anxious, and 19 as active-isolates. This outcome was expected based on the literature. However, it also yielded another cluster, called sad/depressed (12 children). Further

analysis revealed that unsociable children were neglected more than their typically-developing peers and active-isolates had higher rates of peer rejection.

Relevance to the current work: This study shows that children who are socially withdrawn are more likely to be neglected and rejected by their peers.

Hart, C. H., & Robinson, C. C. (1996). *Teacher Behavior Rating Scale*. Unpublished teacher questionnaire. Brigham Young University.

Summary: This unpublished survey consists of 161 items that are filled out by teachers that assess a child's social behavior. It includes items specific to withdrawal (reticence, solitary-passive, and solitary-active), aggression, impulsivity, and sociability.

Relevance to the current work: Items from this survey were used for the analyses to determine the validity of the solitary-pretend play questions and to compare the groups of gender and children with language impairment vs. typically-developing children.

Hart, K. I., Fujiki, M., Brinton, B., & Hart, C. H. (2004). The relationship between social behavior and severity of language impairment. *Journal of Speech Language and Hearing Research, 47*, 647-662.

Summary: This study examined various subtypes of withdrawn and sociable behavior in children with SLI. The three subtypes studied were solitary-active, solitary-passive, and reticent withdrawal. Solitary-active withdrawal is characterized by "repeated sensorimotor action" and "solitary dramatizing" (Copland, 1994). Solitary-passive withdrawal occurs when children engage in play or constructive activity alone. Reticence is characterized by children who have a desire to interact, but are afraid to do so. The two types of sociability were likeability (conforming and friendly behavior) and prosocial behavior (helping, sharing, etc.). This study compared children with specific language impairment (SLI) to their typical peers on these subtypes of behavior. Additionally, it also attempted to determine if the severity of SLI influenced these behaviors.

Method: This study evaluated 41 children with SLI and 41 typically developing children. The classroom teachers completed the Teacher Behavior Rating Scale (TBRS; Hart & Robinson, 1996). In addition, the Clinical Evaluation of Language Fundamentals (CELF-R) was administered to the children with SLI to assess their language abilities.

Results: The scores for the withdrawal and sociable subtypes for the children with SLI and their typically-developing peers were compared. Teachers rated children with SLI as demonstrating higher levels of reticence and solitary-passive withdrawal and demonstrating lower levels of sociable behavior (including playing cooperatively, comforting or nurturing others, acting in a socially assertive but friendly manner, controlling emotions, participating in social conversation, and being responsive to others) compared to their typically-developing peers. The children with SLI were then further separated depending on the level of severity of LI. Those children who were less severe were more proficient in demonstrating both types of sociable (likeability and prosocial) behaviors. Severity of LI did not generally appear to be related to severity of withdrawal or sociable behavior.

Relevance to the current work: This study showed that children with SLI demonstrated higher amounts of withdrawal when compared to their typically-developing peers.

Hart, C. H., Yang, C., Nelson, L. J., Robinson, C. C., Olsen, J. A., Nelson, D. A., ... Wu, P. (2000). Peer acceptance in early childhood and subtypes of socially withdrawn behaviour in China, Russia, and the States. *International Journal of Behavioral Development*, 24, 73-81. doi:10.1080/016502500383494

Summary: Social withdrawal can be defined as a pervasive pattern of behavioral solitude in which a child consistently avoids peer group interactions in familiar settings. Three subtypes of withdrawal have been identified. Solitary-passive withdrawal is the quiet exploration of objects and/or a constructive activity while playing alone. These children are more interested in objects rather than people. Solitary-active withdrawal describes children who engage in repeated sensorimotor actions with or without objects and solitary dramatizing. Reticence characterizes children who frequently engage in onlooking and unoccupied behavior, reflecting social fear and anxiety.

Method: This study involved 642 children ranging from age 4 to 6. These children were from mainland China, Russia, and the United States. Teacher ratings and peer sociometric data were obtained for each of the children. The teacher ratings focused on measuring the three subtypes of withdrawal by indicating the frequency of the withdrawn behaviors on a 3-point scale (never, sometimes, or often).

Results: There were greater similarities between the US and Russian cultures than between the US and Chinese cultures. Teachers in the US and Russia made finer distinctions between the subtypes of withdrawal compared to Chinese teachers. The results showed that reticence behaviors were more predictive of peer sociometric ratings than solitary-active and solitary-passive behaviors.

Relevance to the current work: This study shows that across cultures, children with social withdrawal tend to have social problems and difficulties making mutual friends.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55. doi: 10.1080/10705519909540118

Summary: This article included the most conventional cutoff criteria for several tests, including the Tucker-Lewis index (TLI), comparative fit index (CFI), and root mean squared error of approximation (RMSEA) and examined their adequacy.

Relevance to the current work: This article asserts what the conventional cutoff criteria are for the fit indices used following the confirmatory factor analysis in the current study. The interpretations of the various fit indices are based on these cutoffs.

Joanisse, M. F., & Seidenberg, M. S. (1998). Specific language impairment: A deficit in grammar or processing? *Trends in Cognitive Sciences*, 2, 240-247. doi:10.1016/s1364-6613(98)01186-3

Summary: Specific language impairment (SLI) is a diagnosis for children who fail to develop age-appropriate language in the absence of other problems. Children with SLI typically have impaired grammar. Children with SLI have particular difficulties producing and comprehending morphologically complex words. These children understand the concepts of

pastness and number but are unable to express these concepts. These children also may have impairments in speech perception. Studies have also revealed difficulties in the discrimination of phonological features in speech. In addition, children with SLI have abnormal phonological skills, based on poor repetition of nonsense words, misarticulating or deleting phonemes, difficulty identifying words with similar phonemes, and poor phonological awareness. These children also have syntactic deficits and deficits with working memory.

Relevance to the current work: This gives an overview of the definition of and problems associated with SLI.

Leonard, L. B. (2014). Introduction. In L. B. Leonard's (Eds), *Children with Specific Language Impairment, 2<sup>nd</sup> ed.*. Cambridge, MA: MIT Press.

Summary: This introductory chapter gives an overview of the history of the definition of specific language impairment (SLI). The prevalence of SLI in children is approximately 7%. There are several criteria for the current diagnosis of SLI, including normal nonverbal intelligence, normal hearing, and normal neurological status. In addition, these children also have unremarkable oral structure and function. While this definition does have some limitations, it is widely used and accepted. SLI is associated with problems that persist into adolescence and adulthood.

Relevance to the current work: This chapter gives a working definition of SLI and includes the criteria for diagnosis.

Leonard, L. B., Caselli, M. C., Bortolini, U., McGregor, K. K., & Sabbadini, L. (1992). Morphological deficits in children with specific language impairment: the status of features in the underlying grammar. *Language Acquisition, 2*, 151-179.  
doi:10.1207/s15327817la0202\_2

Summary: Specific language impairment (SLI) is a term used for children who have problems with language in the face of normal hearing, normal motor development, and age-appropriate nonverbal intelligence. Children with SLI have language problems that vary in severity. However, there is a common profile among children with SLI. Most children with SLI are weak in their use of morphosyntax. There are three hypotheses that attempt to explain why children with SLI have such significant problems with morphology. The first is that the surface characteristics of English morphology play a role (the surface hypothesis). The second hypothesis relates to the relative sparseness of morphology (sparse morphology hypothesis). The final hypothesis focuses on underlying grammar rather than processing factors (the missing feature hypothesis).

Method: This study included 30 English-speaking children, including 10 children with SLI and 20 typically-developing children. Six grammatical morphemes were examined in this study, which included: articles, plurals, third person singular inflections, regular past inflections, irregular past, and copula forms. An additional study was conducted with forty-five Italian speaking children.

Results: For English children, the researchers hypothesized that children with SLI would have more difficulty than the other children in the use of articles, however this difference was not observed. The majority of errors for children with SLI who spoke English involved the use of present tense instead of the irregular past. For the Italian children, the most frequent error was

the use of third person singular inflection rather than the correct third person plural inflection. Some of the results were consistent with the missing feature hypothesis, but not all.

Relevance to the current work: This study confirms that children with SLI across cultures have specific limitations, including morphology.

Nelson, L. J., Hart, C. H., & Evans, C. A. (2008). Solitary-functional play and solitary-pretend play: Another look at the construct of solitary-active behavior using playground observations. *Social Development, 17*, 812-831. doi:10.1111/j.1467-9507.2008.00470.x

Summary: Social withdrawal is the consistent display of forms of solitary behavior while interacting with familiar and/or unfamiliar peers. Researchers have identified three types of withdrawn behaviors, which include reticence (onlooking and unoccupied behaviors), solitary-passive withdrawal (solitary constructive behaviors), and solitary-active behavior (sensorimotor and/or dramatic activity in the company of others). The question stands whether solitary-active pretend play should further be divided into solitary-functional play (repeated sensorimotor actions) and solitary-pretend play (parallel, dramatizing play). It has been suggested that children who demonstrate solitary-active withdrawn behaviors are reflective of immaturity and impulsivity. Conceptually, these types of play reflect different cognitive levels. Methodologically, there is little research to suggest the two should be combined into one construct. This study attempts to reveal the relation between solitary-functional play and solitary-pretend play behaviors.

Method: This study looked at 357 children attending early childhood programs in the United States. Children were observed in interactions and behaviors were coded that related to solitary-functional play, solitary-pretend play, and reticence. Additionally, teachers completed the Teacher Behavior Rating Scale (TBRS) in order to assess forms of withdrawal for both positive and negative social behaviors. Sociometric rating procedures were used to measure popularity within peer groups.

Results: The results from the study showed that solitary-functional and solitary-pretend play were not related. The authors conclude that solitary-functional and solitary-pretend play should not be combined to form the construct of solitary-active behavior. Solitary-functional behavior is indicative of withdrawing from social situations, while solitary-pretend behavior is indicative of social immaturity, aggression, and peer rejection.

Relevance to current work: This study gives definitions of solitary-passive and solitary-active withdrawn behaviors. This study also indicates that children who demonstrate solitary-pretend play behaviors can lead to social immaturity, aggression, and peer rejection.

Nelson L. J., Hart, C. H., Evans, C. A., Coplan, R. J., Roper, S. O., & Robinson, C. C. (2009). Behavioral and relational correlates of low self-perceived competence in young children. *Early Childhood Research Quarterly, 24*, 350-361.

Summary: In children who are aged 4-5 years old, it is common for them to have positive and even over-inflated self-perceptions. Not all preschool aged children are like that, however, and some may have low self-perceptions. Research has indicated that children who think and feel poorly about themselves are likely to have negative outcomes. Social withdrawal plays a role in negative self-perceptions.

**Method:** This study included 199 children whose ages ranged from 49-71 months. The children's perceived competence was assessed using the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. Sociometric ratings were conducted in order to measure how popular the participants were in the peer group. Children were asked to place a picture of their peers into one of three boxes that indicated whether they liked to play with them a lot, they kind of like to play with them, or they do not like to play with them. Finally, the teachers completed the Teacher Behavior Rating Scale in order to measure the children's sociable, aggressive/immature, and withdrawn behaviors.

**Results:** The results of this study indicate that children in early childhood who have lower self-perceptions of their abilities when compared to their peers tend to be more withdrawn, including engaging in more reticence, solitary-passive withdrawal, and solitary-active behavior.

**Relevance to the current work:** This study indicates that children who are not socially competent are likely to be more socially withdrawn and rejected by their peers.

Nelson, L. J., Rubin, K. H., & Fox, N. A. (2005). Social withdrawal, observed peer acceptance, and the development of self-perceptions in children ages 4 to 7 years. *Early Childhood Research Quarterly, 20*, 185-200.

**Summary:** Children who think poorly about themselves are at risk for negative outcomes that can persist into adolescence and adulthood. These negative outcomes include depression, eating disorders, and even suicide. Children who interact with and are accepted by peers tend to have positive self-perceptions and those who are socially withdrawn and rejected by peers have more negative self-perceptions. Nonsocial behaviors, including solitary-passive withdrawal and reticence, have been studied in children. This study looked at the relations between reticence and solitary-passive withdrawal and observed peer acceptance and self-perception in boys and girls.

**Method:** This study included 163 children who were observed at the age of 4 and then at the age of 7. Children were placed in a playroom and the behaviors were coded using the Play Observation Scale (POS). Children's perceived competence was assessed at the age of 7 using the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children.

**Results:** Results revealed that in girls, both reticence and solitary-passive withdrawal were negatively related to peer acceptance at ages 4 and 7 and influenced self-perceptions at the age of 7. For boys, reticence at age 7 was negatively associated with peer acceptance. Solitary-passive withdrawal at age 4 predicted positive self-perceptions at 7. Solitary-passive withdrawal at age 4 for boys predicted negative peer acceptance at age 7.

**Relevance to the current work:** This study shows that children who are withdrawn are less socially competent and more likely to be rejected by their peers when compared to their typically-developing peers.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*, 357-389.

**Summary:** This review of literature looks at the association between peer-relationship difficulties in childhood and serious adjustment problems later in life. A common theme in literature is that the stronger the peer interactions, the better a child's social competence. Research has also shown the positive influence that peer interaction has on cognitive and social-cognitive skills. Children who are not as accepted by their peers experience fewer opportunities

to interact socially and are deprived of opportunities to learn normal, adaptive modes of social conduct and cognition. The literature needs to be reviewed, specifically in regards to later adjustment. It is important to distinguish if the child is liked compared to what the child is like (acceptance compared to behavior). Another aspect to distinguish in studies is whether or not the ratings and assessments are conducted by peers or teachers.

Results: The literature was reviewed to determine the roles of acceptance, aggressiveness, and shyness/withdrawal as predictors of outcomes later in life. These outcomes included dropping out of school, juvenile and adult criminality, and adult psychopathology. The literature supported the conclusion that children with poor peer adjustment are at risk for later difficulties in life. Research specifically supports the outcomes of dropping out of school and criminal activity and that low acceptance and aggressiveness are predictors of these outcomes.

Relevance to the current work: This review of literature demonstrates that in general, children who are rejected by their peers are likely to have later difficulties in life. Since children with LI are more likely to have poor peer acceptance, this means that they too are at risk of difficulties that persist into adulthood.

Redmond, S. M., & Rice, M. L. (1998). The socioemotional behaviors of children with SLI: social adaptation or social deviance? *Journal of Speech, Language, and Hearing Research, 41*, 688-700. doi: 10.1044/jslhr.4103.688

Summary: There are two models that attempt to describe the relationship between socioemotional behavior and verbal abilities. The Social Adaptation Model (SAM) considers the behavioral differences between children with specific language impairment (SLI) and their typically-developing peers. The differences are a result of an interaction between the child's language limitations, social context, and the biases people associate with the child. The second model is called the Social Deviance Model (SDM). This model looks at the differences between children with SLI and their typically developing peers as manifestations of differences in underlying socioemotional traits.

Method: This study looked at 37 children—17 children had SLI and 20 were age-matched, typically developing children. The children with SLI had limitations of morphosyntax. Fourteen of the 17 children with SLI received speech and language services. Teachers and parents filled out the Child Behavior Checklist (CBCL) and the Teacher Report Form (TRF) when the children were in kindergarten and again in first grade.

Results: Teachers, but not parents, rated the children with SLI as having more social and internalizing behavioral problems when compared to their typically-developing peers. The outcomes from reports and analysis support the Social Adaptation Model of the relationship between socioemotional problems and language impairment. Additionally, there was little stability of ratings over time.

Relevance to the current work: This study confirms that children with SLI are more likely to be rated by their teachers than parents as having more socioemotional problems and that ratings of withdrawal levels were consistent across time.

Rubin, K. H. (1985). Socially withdrawn children: An "at risk" population? In B. H. Schneider, K. H. Rubin, & J. E. Ledingham (Eds.), *Peer relationships and social skills in childhood: Issues in assessment and training* (pp. 125-139). New York: Springer-Verlag. doi: 10.1007/978-1-4684-6325-5\_8

**Summary:** Children who do not interact with their peers have been studied extensively. Some researchers have suggested that children who are socially withdrawn are at risk of having negative consequences later in life. Children who are socially withdrawn also do not have as many opportunities to engage in social interactions with their peers.

**Method:** This summarized two studies. The Waterloo Longitudinal Project included 111 kindergartners and then 72 of the children were reevaluated in first and second grade. Children were asked which children they "like a lot", "kind of like", or "don't like". Children were also presented with social situations and asked how they would respond. The second study involved 85 children engaging in free play.

**Results:** The results of the first study found that negative peer status is not associated with social withdrawal. There were not any significant results regarding the association between social withdrawal and later risks. However, second grade children who were isolated did have lower self-perceptions of social competencies. The second study indicated that children who were isolated were less likely to be dominant in their social roles.

**Relevance to the current work:** This study revealed that children who were actively isolated were likely to feel less socially competent than their typically developing peers and are not likely to be actively involved in social interactions.

Rubin, K. H., & Asendorpf, J. B. (1993). Social withdrawal, inhibition, and shyness in childhood: Conceptual and definitional issues. In K. H. Rubin & J. B. Asendorpf (Eds.), *Social withdrawal, inhibition, and shyness in childhood* (pp. 3-28). Hillsdale, NJ: Erlbaum.

**Summary:** The developmental research regarding social withdrawal has its origins focused on the importance of social exchange for normal growth and development. The works of Piaget and Sullivan are pivotal regarding the idea of the importance of social interaction in development. Social withdrawal can also be called inhibition and shyness. Social withdrawal refers to the act of being alone and not interacting with others.

**Relevance to the current work:** This article defines social withdrawal and reviews the origins of such behaviors.

Rubin, K. H., Burgess, K. B., & Coplan, R. J. (2002). Social withdrawal and shyness. In P. K. Smith, & C. H. Hart (Eds.), *Handbook of childhood social development* (pp. 329-352). Oxford: Blackwell.

**Summary:** This chapter discusses social withdrawal and shyness in children. Inhibition is exhibited when children are fearful when encountering a new situation. Fearful shyness refers to inhibition in response to a new social situation. Self-conscious shyness is the display of inhibition in response to social-evaluative concerns. Social withdrawal is defined as the consistent display of all forms of solitary-behavior with family and/or unfamiliar peers. Solitary-



passive withdrawal is observed solitary behavior that involves constructive activities. Reticence is solitary, wary behavior. Researchers have wondered where social withdrawal originates—whether it is psychological, neurological, or a behavioral problem. Social withdrawal begins in early childhood and persists into adulthood and can lead to social rejection, low self-esteem, low social competence, and insecurity. Girls are often rated as being shyer in preschool and childhood and shyness is likely to be discouraged in boys.

Relevance to the current work: This chapter shows that children who are socially withdrawn are more likely to have difficulties with their peers. The authors also define the different subtypes of withdrawal.

Stanton-Chapman, T. L., Justice, L. M., Skibbe, L. E., & Grant, S. L. (2007). Social and behavioral characteristics of preschoolers with specific language impairment. *Topics in Early Childhood Special Education, 27*, 98-109.

Summary: There is significant evidence that shows difficulties in establishing positive peer relationships can lead to negative outcomes later in life. Children with specific language impairment (SLI) demonstrate difficulties with social skills and are at a disadvantage in forming positive peer relationships. This study looks at the social and behavioral differences between children with SLI and typically developing children.

Method: This study included 95 children (53 boys, 42 girls) who passed a hearing screening, had no developmental problems, and passed a cognitive screening. They were also given the Test of Language Development-3: Primary (TOLD-P:3). There were 43 children who were considered to have SLI based on test results. Parents filled out the Social Skills Rating System-Parent Form (SSRS) in order to measure social skills. Children's behavioral competencies were measured using the SSRS and the Child Behavior Checklist.

Results: The analysis found that there were significant differences between the children with SLI and their typically developing peers in all areas of social behavior examined, except for externalizing behaviors. Children with SLI had more problems in social skills, but not necessarily behavioral problems. These results confirmed that SLI has a strong association with social development. It is suggested that SLI leads to social-communication challenges which leads to exclusion from peers. Children with SLI do not have the opportunities to gain additional social skills.

Relevance to the current work: This study confirms that the children with SLI have more social problems than their typically-developing peers. It also suggests that these children with SLI are at a disadvantage because they are actively excluded from their peers and do not have as many opportunities to learn social skills in as many contexts.

Toppelberg, C. O., & Shapiro, T. (2000). Language disorders: A 10-year research update review. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 143-152.

Summary: The study of language development has been divided into the following areas: phonology (ability to produce and discriminate sounds in a language), grammar (the underlying rules that organize a language), semantics (the study of meaning), and pragmatics (social and communicative competence). This review of literature studies language development and disorders in children.

**Method:** This study reviewed 22 articles that pertained to language development, specifically phonology, grammar, semantics and pragmatics.

**Results:** The literature indicated that disorders of grammar, semantics, and pragmatics (but not phonology) were associated with childhood psychiatric disorders. Those children with receptive language disorders are commonly undiagnosed. Both language disorders and delays are risk factors for psychiatric problems and merit therapy and more research.

**Relevance to the current work:** This study confirms that children with language disorders and delays are at risk of having psychiatric problems and disorders.

Wadman, R., Durkin, K., & Conti-Ramsden, G. (2008). Self-esteem, shyness, and sociability in adolescents with specific language impairment (SLI). *Journal of Speech, Language, and Hearing Research, 51*, 938-952. doi: 1092-4388/08/5104-0938

**Summary:** Children with specific language impairment (SLI) may be at risk of having lower self-esteem due to their difficulties with language and social skills. Self-esteem is defined as the overall feeling of self-regard or the extent to which one values oneself. This study looks at lower self-esteem, shyness, and low sociability (sociability is a preference for being with others) are associated with SLI in adolescence.

**Method:** This study examined 54 adolescents with SLI and 54 of their typically developing peers with ages ranging from 16-17 years old. The Rosenberg Self-Esteem Scale (RSES) is a self-report that was used to assess the self-esteem of the adolescents. The Revised Cheek and Buss Shyness Scale was also used.

**Results:** The group of adolescents with SLI had significantly lower overall self-esteem compared to their typical peers. Those with SLI were also shyer than their peers, however there were no significant differences between the two groups in terms of sociability. Analysis revealed that shyness was more predictive of language ability than self-esteem was.

**Relevance to the current work:** This study shows that adolescents with SLI are more likely to be withdrawn and demonstrate shyness compared to their typically developing peers.

Wadman, R., Durkin, K., & Conti-Ramsden, G. (2011). Social stress in young people with specific language impairment. *Journal of Adolescence, 34*, 421-431. doi: 10.1016/j.adolescence.2010.06.010

**Summary:** Social interactions can be a source of great stress for adolescents. Social stress refers to feelings of discomfort or anxiety that are associated with social situations. This study looked at how adolescents with specific language impairment (SLI) feel when they are interacting.

**Method:** This study included 28 adolescents with SLI and 28 of their typically developing peers. The Social Avoidance and Distress Scale was used to measure social stress. The Teenage Inventory of Social Skills was used to assess social skills for each of the participants. The Self-Perception Profile for Adolescents was used to determine global self-worth.

**Results:** Both groups of adolescents judged themselves as having adequate social skills and positive social acceptance. Expressive language ability was negatively associated with social stress, however it was not a predictor of social stress. Social skills and social acceptance cores predicted social stress (poorer scores meant more social stress).

Relevance to the current work: This shows that adolescents with SLI interact differently than their peers and that they are likely to have feelings of stress associated with social interactions.