



2017-04-01

# Measuring Subtypes of Withdrawal in Children with Language Impairment

Emma Maille Coombs  
*Brigham Young University*

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>

 Part of the [Communication Sciences and Disorders Commons](#)

---

## BYU ScholarsArchive Citation

Coombs, Emma Maille, "Measuring Subtypes of Withdrawal in Children with Language Impairment" (2017). *All Theses and Dissertations*. 6706.

<https://scholarsarchive.byu.edu/etd/6706>

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in All Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact [scholarsarchive@byu.edu](mailto:scholarsarchive@byu.edu), [ellen\\_amatangelo@byu.edu](mailto:ellen_amatangelo@byu.edu).

Measuring Subtypes of Withdrawal in Children with Language Impairment

Emma Maille Elizabeth Coombs

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

Martin Fujiki, Chair  
Bonnie Brinton  
David L. McPherson

Department of Communication Disorders  
Brigham Young University

Copyright © 2017 Emma Maille Elizabeth Coombs

All Rights Reserved

## ABSTRACT

### Measuring Subtypes of Withdrawal in Children with Language Impairment

Emma Maille Elizabeth Coombs  
Department of Communication Disorders, BYU  
Master of Science

Children with language impairment (LI) often demonstrate increased levels of withdrawal, specifically the reticent and solitary-passive subtypes. Although it is recognized that there are several subtypes of withdrawal, the relationship between withdrawal and children with LI is complex and unclear. The aim of this study was to examine items on the Teacher Behavior Rating Scale (TBRS) to better understand the nature of withdrawal in children with LI. A factor analysis of TBRS scores of 355 participants was conducted to ensure that individual items on each subscale were measuring the same construct. An invariance analysis was also performed to ensure items were equally valid for both groups. Finally, a Pearson chi-square test was performed to see which items had the greatest power to separate typical and atypical children. Factor analysis confirmed that items on each subscale grouped together. All four reticence items were invariant, however only 3 of the 5 solitary-passive items were invariant across groups. Item analysis of the Reticence Subscale revealed that participants showed the greatest differences in items related to on-looking, unoccupied, and fearful behavior. Item analysis of the Solitary Passive Subscale revealed an increase in behavior related to a preference for solitary play. In accordance with previous work, children with LI displayed higher levels of both reticence and solitary-passive withdrawal than their typical peers. This study confirms the validity of using the TBRS as a tool to investigate the complex relationship between language and reticent behavior in future research.

Keywords: language impairment, withdrawal, reticence, solitary-passive withdrawal, school-age children

## ACKNOWLEDGEMENTS

First and foremost, I would like to thank my thesis committee, Drs. Fujiki, Brinton, and McPherson for the time and effort they have put into working with me on this project. Particular thanks go to Dr. Fujiki and Dr. Brinton for years of continuous guidance and influence in my education. Thank you for having the patience to help me learn and being unfailingly supportive of all of my undergraduate and graduate research. I am also sincerely grateful for my parents and the many sacrifices they have made for my education. I am especially thankful for my wonderful mother, for being an example of life-long learning and teaching me the importance of being educated as a woman.

## TABLE OF CONTENTS

LIST OF TABLES .....	vii
LIST OF FIGURES .....	viii
LIST OF APPENDICES.....	ix
DESCRIPTION OF THESIS CONTENT .....	x
Introduction.....	1
Subtypes of Withdrawal.....	2
Reticence.....	2
Solitary-passive withdrawal.....	2
Social Outcomes Associated with Withdrawal.....	3
Motivations for Withdrawal.....	4
Relationship Between Language Impairment and Withdrawal .....	5
Purpose.....	7
Research Questions .....	7
Method .....	8
Participants.....	8
Children with language impairment.....	8
Typically developing children .....	9
Instruments.....	9
Language measure .....	9
Cognitive measure .....	10

Behavioral measure.....	10
Procedure .....	12
Administration of language and cognitive measures .....	12
Administration of <i>TBRS</i> .....	12
Statistical Analysis.....	13
Results.....	13
Mean Ratings on Withdrawal Subscales of <i>TBRS</i> .....	13
Factor Structure Analysis .....	14
Full sample.....	15
Grouping: Gender .....	15
Grouping: Language status .....	15
Invariance Analysis.....	15
Reticence.....	16
Solitary-passive withdrawal.....	16
Item Analysis .....	16
Reticence.....	16
Solitary-passive withdrawal.....	17
Summary .....	18
Discussion.....	19
Factor Analysis .....	19
Invariance Analysis.....	20
Item Analysis .....	21

Reticent withdrawal .....	21
Solitary-passive withdrawal.....	22
Limitations .....	22
Summary .....	23
Future Research .....	24
References.....	25

## LIST OF TABLES

1. Mean Teacher Behavior Ratings of Withdrawn Behaviors for Groups with Language Impairment (LI) and Typical Language.....	14
2. Mean Teacher Behavior Ratings for Reticent Behavior Reported by Frequency of Occurrence for Groups with Language Impairment (LI) and Typical Language.....	59
3. Mean Teacher Behavior Ratings for Solitary Passive Withdrawn Behavior Reported by Frequency of Occurrence for Groups with Language Impairment (LI) and Typical Language.....	60

## LIST OF FIGURES

1. Mean ratings for items on the *Teacher Behavior Rating Scale (TBRS)* reticence subtype for the language impairment (LI) and typical groups.....17
2. Mean ratings for items on the *Teacher Behavior Rating Scale (TBRS)* solitary-passive subtype for the language impairment (LI) and typical groups.....18

LIST OF APPENDICES

Appendix	Page
A. Annotated Bibliography.....	31
B. TBRS Data.....	59

## DESCRIPTION OF THESIS STRUCTURE

This thesis, *Measuring Subtypes of Withdrawal in Children with Language Impairment*, integrates traditional thesis submission requirements and journal publication formats. While preliminary pages reflect requirements for submission to the university, the thesis report is presented as a journal article, in the style of submission for research reports in peer-reviewed journals in communication disorders. Appendix A includes an annotated bibliography. Appendix B contains additional tables reporting TBRS data by frequency of occurrence.

## Introduction

By definition, children with *language impairment* (LI) demonstrate difficulty with the structural aspects of language. Relatively recent research has documented that these children also experience a range of social deficits compared to children with typically developing language skills. For example, Conti-Ramsden and Botting (2004) found that children with LI were less accepted by their peers and reported higher rates of victimization than typically developing children. Horowitz, Jansson, Ljungberg, and Hedenbro (2005) found that preschool children with LI were less skilled at resolving conflicts with other children. Several studies have documented that children with LI have difficulty accessing, or entering on going play groups (Brinton, Fujiki, Spencer, & Robinson, 1997; Craig & Washington, 1993; Liiva & Cleave, 2005). It has also been repeatedly demonstrated that children with LI are more withdrawn than their typical peers (Fujiki, Brinton, Morgan, & Hart, 1999; Hart, Fujiki, Brinton, & Hart, 2004; Redmond & Rice, 1998). Social withdrawal is of particular concern because of its impact on the ability of children to have successful social relationships with others.

Withdrawal is one of two general categories of maladaptive behavior seen in children, the other being aggression. Traditionally, the term *social withdrawal* has been used to describe a collection of distinct behaviors, including reticence, behavioral inhibition, social isolation, neglect, and rejection (Rubin, Hymel, & Mills, 1989). These terms have often been undifferentiated, but recent attempts have been made to organize these varied constructs. Rubin, Coplan, and Bowker (2009) suggest that social withdrawal should best be understood as an overarching term for a construct that describes a child removing himself/herself from social interaction to reflect a variety of underlying causes. Because social withdrawal refers to a group

of considerably heterogeneous behaviors, researchers have made efforts to organize and define specific subtypes of withdrawn behavior.

### **Subtypes of Withdrawal**

Two major subtypes of withdrawal discussed in the recent literature of particular interest for children with LI are reticence and solitary-passive withdrawal. Reticence and solitary-passive withdrawal are also referred to as shyness and unsociability, respectively.

**Reticence.** *Reticence* refers to a child being unwilling or unable to engage with others, despite being motivated to interact (Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Reticent children are described as being unoccupied in social company when there is plenty to do, standing off to the side of an activity without joining in, and watching other children interact without attempting to join the play. Children displaying reticence are often characterized as being fearful or uncertain about social interaction. Harrist, Zaia, Bates, Dodge, and Pettit (1997) have also referred to reticence as “passive anxious” withdrawal.

**Solitary-passive withdrawal.** *Solitary-passive* withdrawal is the other subtype of interest in this study. Solitary-passive withdrawal refers to a child who quietly completes a constructive activity in solitude (Asendorpf, 1991). Solitary-passive withdrawal is also referred to as “passive solitude” and “passive isolation” in the social psychology literature (Ruben et al., 1989).

Solitary-passive withdrawal frequently involves the exploration of objects. A child demonstrating solitary-passive withdrawal may be seen quietly completing a puzzle, building a tower with blocks, or reading by himself/herself. Rather than being actively excluded by other children, it appears that these children remove themselves from the group, due to lack of motivation to interact with their peers.

## **Social Outcomes Associated with Withdrawal**

All subtypes of withdrawal impact social adjustment, however, not all subtypes are viewed as equally negative. There is a great deal of evidence to document the negative social outcomes associated with reticence. Reticence leads to peer rejection, peer neglect, and active victimization (Rubin et al., 2009). Reticence is also often associated with anxiety, emotion dysregulation, and cautiousness in novel situations and environments (Coplan et al., 1994). Solitary-passive withdrawal, however, has been associated with both positive and negative outcomes. In some instances, parents and teachers view it favorably, because the child is involved in a constructive activity and is not disturbing or disrupting other children. Rubin (1982) found that children who engaged in nonsocial play performed well in tasks judging problem-solving skills and was positively associated with peer popularity. Coplan and Rubin (1998) studied withdrawal in preschoolers and found that solitary-passive withdrawal was not associated with any indices of maladaptation (e.g., shyness, negative emotionality, internalizing, and externalizing problems). These findings support the conclusion that solitary-passive withdrawal may represent children being disinterested in social behavior, rather than unable to participate in social interaction (Coplan et al., 1994).

However, there is also evidence of social risks associated with solitary-passive withdrawal. Several researchers suggest that solitary-passive withdrawal, like reticence, may lead to low positive emotion and low regulation over time, especially in boys (Nelson, Rubin, & Fox, 2005; Spinrad et al., 2004). Rubin, Coplan, Fox, and Calkins (1995) studied emotion regulation in children who were frequently withdrawn, through observation and maternal ratings. Ruben et al. found that good emotion regulation mitigated the negative socioemotional consequences of solitary-passive withdrawal, but poor emotion regulation during peer interaction

corresponded to externalizing behaviors. Recent studies also provide an indication that solitary-passive withdrawal may merge with reticence later in life. Rubin et al. (2009) suggest the children who are reticent cope with their feelings of fear and uneasiness by engaging in solitary, constructive activities. Henderson, Marshall, Fox and Rubin (2004) speculated that the peer rejection and victimization experienced by children displaying reticent behavior is compounded and eventually children adapt by choosing to play alone. Children learn that reticent behavior has negative consequences and mask their social reservations through quiet exploration of objects in activities away from peers.

### **Motivations for Withdrawal**

More recent research of withdrawal has recognized that different types of withdrawal reflect different underlying motivations. There has been particular emphasis on determining the causes of the different types of withdrawal. In looking at the causes of withdrawal, the two major constructs that have been examined are shyness and unsociability. Approach-avoidance models of social withdrawal are helpful in understanding shyness and unsociability (Asendorpf 1990, 1991). Approach-avoidance models suggest shy individuals are motivated to seek out peer interaction (approach motive), but are too afraid, anxious, or uncertain about doing so (avoidance motive) in novel situations and during perceived social evaluation (Coplan, Girardi, Findlay, & Frohlick, 2007). The wariness and anxiety experienced by shy children results in reticent behavior. In contrast, unsociability refers to a proclivity towards solitude. Children displaying unsociability are characterized as having a low approach and high avoidance tendency (Asendorpf, 1990; Coplan, Prakash, O'Neil, & Amer, 2004). They do not withdraw out of fear, but have a preference for playing alone. Solitary-passive withdrawal is a resultant behavior of unsociability. Therefore, when necessary to do so, children who are unsociable will engage with

peers (Asendorpf, 1991). Coplan and Armer (2007) found, unlike shy individuals, children displaying unsociability did not experience high levels of social anxiety in situations involving interaction with others.

Shyness and unsociability may outwardly seem similar because both result in solitary activity in children. However, it is important to view them as different constructs, with different causes and socioemotional consequences (Ash, Rice, & Redmond, 2014). Shyness has been uniquely related to indices of maladjustment in regard to internalizing issues (e.g., sadness, loneliness, depression, anxiety, low self-esteem) and problems with relationships (e.g., rejection, bullying) with peers and teachers (Nelson, 2013). These outcomes have been documented in children with LI in childhood, adolescence, and emerging adulthood (Bowker & Raja, 2011; Nelson, 2013; Wadman, Durkin, & Conti-Ramsden, 2008). Unsociability is seen as a relatively benign form of social withdrawal in early childhood. To the contrary, Rubin et al. (1989) argue that unsociability may become increasingly maladaptive as a child gets older. These authors suggest lack of social interaction may result in a child missing out on opportunities to develop important social and social-cognitive skills. Other studies have shown that children displaying unsociability do not have significant problems with internalizing behaviors (Bowker & Raja, 2011; Nelson, 2013), but still exhibit social deficits when compared to typical peers (Coplan & Armer, 2007). Overall, these findings suggest that both shyness, resulting in reticence, and unsociability, resulting in solitary-passive withdrawal, have risks for negative social consequences.

### **Relationship Between Language Impairment and Withdrawal**

All children display some degree of withdrawal, but those with LI show higher levels than expected. Redmond and Rice (1998) found that teachers rated children with LI as

displaying significantly higher levels of withdrawn behavior than typical peers. Recognizing that withdrawal is better viewed in respect to specific domains of behavior, a number of studies have examined the subtypes of withdrawal to compare the performance of children with LI and typical peers. Researchers have found that children with LI are rated by teachers as being highly reticent (Fujiki et al., 1999; Hart et al., 2004). In regard to solitary-passive withdrawal, the evidence is less clear. Contradictory outcomes have been documented in studies examining solitary-passive withdrawal. Hart et al. found that when considering specific subtypes of withdrawal, children with LI exhibited significantly higher levels of solitary-passive withdrawal than typical peers. Conversely, Fujiki et al. (1999) found that children with LI were not perceived as displaying more solitary-passive withdrawal than peers with typically developing language skills. Similarly, Fujiki, Brinton, Isaacson, and Summers (2001) observed children with LI and typically developing children during playground interactions. These authors reported that children in both groups only spent a relatively short amount of time engaged in solitary-passive withdrawal, and did not note any significant differences between children with LI and children with typical language skills.

The connection between the social problems and the language difficulties in children with LI is complex. The view that children with LI perform poorly in social situations due to having poor language production and comprehension skills may be overly simplistic. Hart et al. (2004) investigated the relationship between severity of LI, measured by the *Clinical Evaluation of Language Fundamentals—Revised (CELF-R)*; Semel, Wiig, & Secord, 1987) and social profile, measured by the *Teacher Behavior Rating Scale (TBR)*; Hart & Robinson, 1996). These researchers found that severity of linguistic deficit did not significantly influence the level of reticence for children with LI. Children identified as having more severe LI did not exhibit

higher levels of reticence than children identified with moderate LI. Although a somewhat indirect indication of withdrawal, Conti-Ramsden and Durkin (2007) examined social success in adolescents with LI using ratings of friendship quality. These researchers found that all of the 16-year-olds in the typical group, and 61% of teens in the group with LI, reported one or more friends. The results of the group with LI were highly variable. Although many individuals with LI had few friends, there were some individuals who still did well socially. The results of the Hart et al. (2004) and Conti-Ramsden and Durkin (2007) studies suggest that there are other factors besides limited language skills that contribute to the reticence observed in children with LI.

### **Purpose**

There is ambiguity surrounding the relationship between LI, social difficulties, and the resulting display of withdrawn behavior. The purpose of the present study was to examine the nature of withdrawal exhibited by children with LI. Analysis of items measuring withdrawal on the TBRS provided insight in to the motivations of withdrawn behavior in children with LI. A final purpose of this study was to report normative performance for each group.

### **Research Questions**

This study addressed the following research questions:

1. Are the items included in the Reticence Subscale of the TBRS measuring the same construct? Is the same true for items comprising the Solitary Passive Subscale?
2. Are the TBRS subscales of reticence and solitary-passive behavior invariant across children with LI and their linguistically typical peers?
3. Which items of the Reticence and Solitary Passive Subscales have the greatest power to separate typical and atypical children?

## Method

### Participants

The data for this study was taken from several previous studies of withdrawal in children with LI, conducted by Drs. Martin Fujiki and Bonnie Brinton. These include Brinton, Spackman, Fujiki, and Ricks (2007), Brinton, Fujiki, Hurst, Jones, and Spackman (2015), Fujiki et al. (1999), Fujiki et al. (2001), Fujiki, Brinton, and Clarke (2002), and Hart et al. (2004). The sample consisted of 173 children with LI and 182 children with typically developing language skills, for a total of 355 participants. Gender distribution of the participants was 203 male and 152 female. The children in the study attended elementary school at twenty-seven schools in three different school districts in northern and central Utah.

**Children with language impairment.** There were 173 children in the group with LI, 98 male and 75 female. The participants ranged in age from 5;0 to 13;11 (years; months) and were categorized by age into “Older” and “Younger” groups. The “Younger” group ranged in age from 5;0-9;11 for both males ( $M = 7;10$ ,  $SD = 1;3$ ) and females ( $M = 7;9$ ,  $SD = 1;4$ ). The “Older” group ranged in age from 10;0-12;11 for both males ( $M = 10;11$ ,  $SD = 0;7$ ) and females ( $M = 10;10$ ,  $SD = 0;8$ ).

School speech-language pathologists recommended students on their caseloads for inclusion in the various studies. Students selected for the group with LI had formal diagnoses of LI and were receiving speech and language services on a pullout basis. Participants included in the group with LI were further qualified by scoring more than one standard deviation below the mean on a standardized language test. These children were also required to have a score on a nonverbal intelligence test within the typical range, and to have passed a hearing screening administered by school personnel.

Typically developing children. After the participants in the group with LI were located, typical children were identified to provide a peer group comparison. There were 182 children in the typically developing peer group, 105 male and 77 female. The participants were categorized by age into “Older” and “Younger” groups. The “Younger” group ranged in age from 5;0-9;11 for both males ( $M = 7;11$ ,  $SD = 1;1$ ) and females ( $M = 7;10$ ,  $SD = 1;5$ ). The “Older” group ranged in age from 10;0-12;11 for both males ( $M = 10;10$ ,  $SD = 0;8$ ) and females ( $M = 10;9$ ,  $SD = 0;7$ ). Children were selected to be in this group on the basis of (a) being in the same classroom as the participant with LI, (b) being the same gender as the participant with LI, (c) being within 7 months in age as the participant with LI, and (d) being considered to be typically developing. The judgment of whether a child was typically developing was based on expected school placement (with no special services), unremarkable hearing status, typical performance on a standardized language test (scoring within one standard deviation of the mean), and teacher judgment.

### **Instruments**

**Language measure.** Two formal measures of language were used. Most of the children were qualified for inclusion using the *Comprehensive Assessment of Spoken Language (CASL;* Carrow-Woolfolk, 1999). The CASL is a standardized language test that assesses a variety of language processing skills (e.g., language expression, comprehension, and retrieval) and provides normative data for individuals aged 3 to 21 years old. Language behaviors are organized into four general domains: lexical/semantic, syntactic, supralinguistic, and pragmatic. The CASL consists of 15 subtests that are designed for specific age groups. The subtests are additionally classified as either a core subtest, measuring the most representative aspect of each category, or a supplementary subtest, providing additional diagnostic information. For the

purposes of this study, children were only given the core subtests that matched their age range to derive a composite standard score. Composite standard scores were derived to provide a global measure of language ability for each participant. Children who scored at least one standard deviation below the mean ( $M = 100$ ,  $SD = 15$ ) were qualified for the group with LI.

The *Clinical Evaluation of Language Fundamentals—Revised* (CELF-R; Semel et al., 1987) was also used to provide of measure of language ability. The CELF-R is a standardized language test with normative data for children aged 5 to 21 years of age. The CELF-R consists of 11 different subtests. As with the CASL, the core CELF-R score was used to qualify participants. The mean for this test was 100 with a SD of 15. Scores below 85 qualified children for the group with LI.

**Cognitive measure.** Three tests of nonverbal cognitive abilities were used. The *Wechsler Intelligence Scale for Children: Third Edition* (WISC-III; Wechsler, 1991) was used for 129 participants, the *Universal Nonverbal Intelligence Test* (UNIT; Bracken & McCallum, 1998) was used with 206 of the participants, and the *Test of Nonverbal Intelligence, Second Edition* (TONI-2; Brown, Sherbenou, & Johnsen, 1982) was used to qualify 12 participants. The *Stanford Binet Intelligence Scale: Fourth Edition* (SBIS-4; Thorndike, Hagen, & Sattler, 1986) and the *Matrix Analogies Test* (MAT; Naglieri, 1985) were each given to 4 participants. These tests were used to rule out intellectual disability as a primary contributing factor to LI.

**Behavioral measure.** The *Teacher Behavior Rating Scale* (TBRS; Hart & Robinson, 1996) was used to provide a measure of the child's social behavior. The TBRS is an informal questionnaire with a rating scale format. The TBRS consists of subscales to measure various types of internalizing and externalizing social behaviors (e.g., impulsivity, aggression, withdrawal, and sociability). Teachers were asked to rate each child while "thinking about the

child's present behavior relative to others in this age group that you know or have known" (Hart & Robinson, 1996, p. 1). Teacher ratings of two subtypes of withdrawn behavior, reticence and solitary-passive withdrawal, were examined. The reticence subscale was comprised of behaviors indicating that the child would like to interact, but was afraid to do so. It also contained items indicating that the child was reserved or unengaged around others. The four specific items on the Reticent Subscale of the TBRS are as follows:

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

The second subscale of the TBRS focused on solitary-passive withdrawal. This subscale included items describing a child engaging in constructive activities in solitude. It also included behaviors indicating that the child did not seek out interactions with others, but preferred playing alone. The five specific items on the Solitary Passive Withdrawal Subscale of the TBRS are as follows:

- 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.

The psychometric properties of the TBRS for elementary-age children were described in detail in Hart et al. (2004). Teachers completed TBRS questionnaires for 382 school-age children ranging in age from 6;4 to 12;6 ( $M = 8;10$ ,  $SD = 1;6$ ). After dropping several withdrawal items

with relatively little variance, substantial cross-loadings ( $> .40$ ), or low-item total correlations for factors derived in preliminary analyses, a final principal components analysis produced three reliable factors for withdrawal with eigenvalues greater than 1, accounting for 55% of the item variance. A total of 16 items reflecting withdrawal were selected based on this evaluation.

Two versions of the TBRS were completed in this study; a full-length version (160 items) and a shortened version (70 items). The 160-item version of the TBRS was used to assess 273 participants, while 82 participants were assessed with 70-item version of the TBRS. The items of interest in the study were randomly dispersed throughout the questionnaire, as to minimize rater bias. Additionally, classroom teachers were not educated about the specific purposes of the study before completing the TBRS.

## **Procedure**

**Administration of language and cognitive measures.** After obtaining IRB approval and written consent to participate, graduate students in the Communication Disorders program at Brigham Young University administered standardized language tests to most participants. The tests were administered in a quiet setting at the child's school. Tests were scored and interpreted using the guidelines and normative data provided in the test administration manual. For some participants, language and nonverbal intelligence testing provided by the school speech-language pathologists and psychologists were used.

**Administration of TBRS.** Each child's classroom teacher completed the TBRS. Initially, all teachers completed the TBRS for both a child with LI and a typical child. There were a few cases, however, in which the data for one member of a pair could not be used. Teachers rated all items using a three-point scale (0=child never displays this behavior, 1=child sometimes displays this behavior, 2=child very often displays this behavior). Individual scores for each of the items

were combined and averaged, to derive a mean score for both reticence and solitary-passive withdrawal. Teachers were asked to compare the child's behavior against behavior they would expect to see from a typically developing child. Inter-rater reliability was not evaluated because only the classroom teacher completed the TBRS. It was assumed that the primary classroom teacher would provide the most accurate judgment of the child's overall social functioning. All ratings were taken at least two months into the school year to give the teachers a chance to get to know the children they were rating.

### **Statistical Analysis**

Preliminary analyses indicated that age and gender differences were not significant. Thus, the categories of "Younger" and "Older," and male and female were collapsed in the analyses. The two categories analyzed were children with LI and typical children. A factor structure analysis was performed on the Reticence Subscale to ensure that the individual items within the scale were measuring the same construct. A similar procedure was completed for the Solitary Passive Withdrawal Subscale. Following factor analysis, a Multiple-Indicators-Multiple-Causes analysis was conducted to analyze invariant across items within each scale. Finally, an item analysis was performed to determine which specific TBRS items had the greatest power to separate typical and atypical children. A Pearson chi-square was test used for this analysis.

## **Results**

### **Mean Ratings on Withdrawal Subscales of TBRS**

Individual teacher ratings for the four items of the Reticence Subscale and five items of the Solitary Passive Subscale were scored and averaged for children with LI and children with typical language skills. The mean ratings and standard deviations for the groups on the Reticence and Solitary Passive Subscales of the TBRS, separated by group, are reported below in Table 1.

Table 1

*Mean Teacher Behavior Ratings of Withdrawn Behaviors for Groups with Language Impairment (LI) and Typical Language*

Subscale	LI <i>M (SD)</i>	Typical <i>M (SD)</i>
<b>Reticence</b>		
R1	.60 (.75)	.12 (.35)
R2	.89 (.76)	.40 (.59)
R3	.88 (.81)	.22 (.45)
R4	.48 (.60)	.15 (.38)
<b>Solitary Passive</b>		
SP1	.54 (.65)	.58 (.64)
SP2	.64 (.61)	.57 (.67)
SP3	.64 (.68)	.33 (.51)
SP4	.66 (.64)	.29 (.49)
SP5	.60 (.69)	.18 (.42)

*Note.* All ratings fall between 0 to 2.0. Higher scores indicate higher levels of withdrawn behavior.

### **Factor Structure Analysis**

Factor analysis of the TBRS data generated by a group of 355 elementary school-age participants produced a two-factor model: reticence and solitary-passive withdrawal, which formed the basis of the two subscales of the TBRS. The reticence factor consisted of four items examining on looking, fearful, and unoccupied behavior. These items included (a) “Stares at other children without interacting,” (b) “Reserved around other children,” (c) “Unoccupied even when there is plenty to do,” (d) “Fearful when approaching other children.”

The solitary-passive factor consisted of five items examining disinterested, unsociable

behavior. Items included (a) “Reads books alone away from peers,” (b) “Does constructive activities alone (e.g., blocks, legos, puzzles),” (c) “Builds things by self rather than with other children,” (d) “Likes to play alone,” (e) “Plays with toys by self rather than with other children.”

**Full sample.** The initial two factor model for withdrawal showed good model fit on three fit indices (RMSEA = .076, CFI = .967, TLI = .960) but poor fit on the WRMR (1.152). The construct of reticence was correlated with solitary-passive withdrawal (.725). The constructs were measured sufficiently well, with factor loadings ranging from .52 to .96, and reliability ranging from .82 to .92.

**Grouping: Gender.** The original model produced good fit for males (RMSEA = .076, CFI = .960, TLI = .54, WRMR = 1.126) and for females (RMSEA = .054, CFI = .974, TLI = .970, WRMR = .982).

**Grouping: Language status.** For participants with LI, the overall fit was adequate (RMSEA = .070, CFI = .935, WRMR = 1.146). This was also the case for participants with typical language skills (RMSEA = .069, CFI = .935, TLI = .926). Because of the adequate fit, the original, full sample model was used for both of the groups.

### **Invariance Analysis**

The next analysis examined measurement properties of two latent constructs (reticence and solitary-passive withdrawal) and the differences associated with each between typical children and their peers with LI, controlling for age and gender. A Multiple-Indicators-Multiple-Causes (MIMIC) model was applied with age, gender, and group (typical vs. LI) as the covariates (causes). Differential item functioning was examined by sequentially checking the covariate effects on indicators of each construct.

**Reticence.** Statistical analysis revealed that all of the items were invariant, indicating that the measure was equally valid for both of the groups. In spite of this, children with LI showed higher levels of reticence than typical children in reticence by .61 unit ( $p < .01$ ).

**Solitary-passive withdrawal.** Three items were invariant across both groups. However, the group covariate had significant effects on two solitary-passive items ( $\gamma_1 = -.30$ ,  $\gamma_2 = -.20$ ,  $p < .01$ ). The two items that were variant between groups were, “reads books alone away from peers” and “Does constructive activities alone.” This finding indicated that the raters rated the two groups in a fundamentally different manner on these items. Children with LI showed higher levels of solitary-passive withdrawal, by .40 unit ( $p < .01$ ), than typical children.

### Item Analysis

The third question examined was which specific items on the withdrawal subscales would have the greatest power to separate typical and atypical behavior. This question was addressed in the following analyses.

**Reticence.** Figure 1 depicts the pattern of mean teacher ratings of solitary-passive behavior for each group (these data are also presented in Table 2 in Appendix B). Children with LI were rated as displaying greater reticence on all four of the items on the TBRS ( $p = .000$ , for all four items). The largest difference between groups was seen in item 3, “Unoccupied even when there is plenty to do” ( $X^2(2, N = 355) = 55.89$ ,  $p = .000$ ). The children with LI were also rated notably higher than typical children on the item, “Stares at other children without interacting” ( $X^2(2, N = 355) = 40.11$ ,  $p = .000$ ). A generally similar difference was observed on the item, “Reserved around other children” ( $X^2(2, N = 355) = 32.25$ ,  $p = .000$ ).

The smallest difference was observed on the item, “Fearful when approaching other children” ( $X^2(2, N = 355) = 27.99, p = .000$ ).

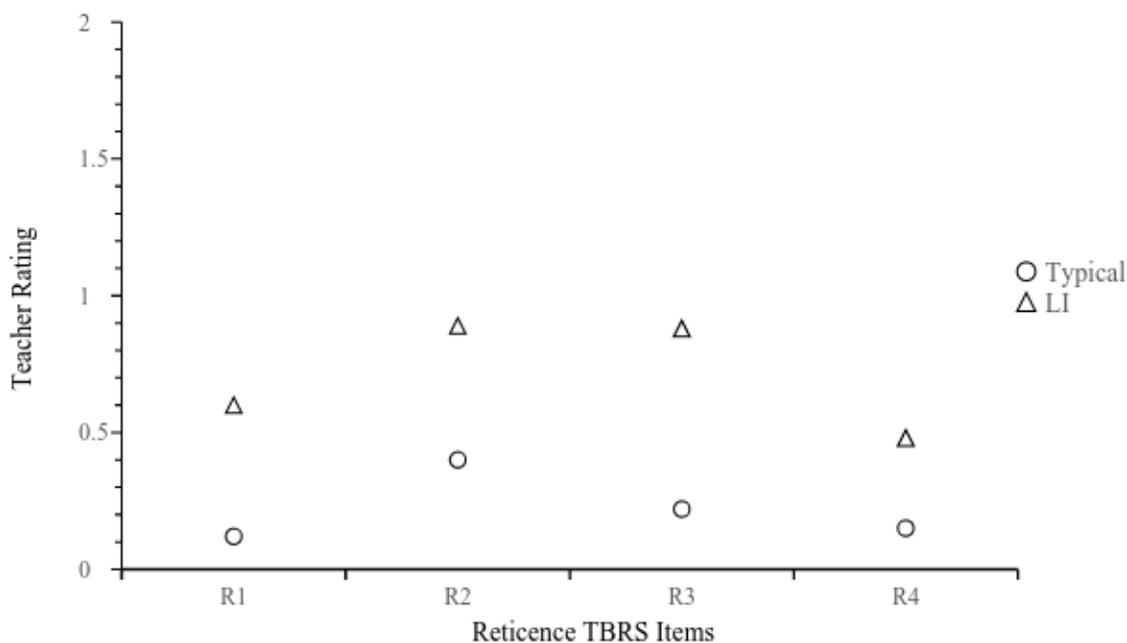


Figure 1. Mean ratings for items on the *Teacher Behavior Rating Scale (TBRS)* reticence subtype for the language impairment (LI) and typical groups.

**Solitary-passive withdrawal.** Figure 2 depicts the pattern of mean teacher ratings of solitary-passive behavior for each group (these data are presented by frequency of occurrence in Table 3 in Appendix B). Children with LI were rated as demonstrating significantly higher levels solitary-passive withdrawal than typical peers for three items (SP 3, 4, & 5,  $p = .000$ ). The largest difference between groups was seen in item 5, “Plays with toys by self rather than with other children” ( $X^2(2, N = 355) = 32.86, p = .000$ ). The children with LI were also rated notably higher than typical children on the item, “Likes to play alone” ( $X^2(2, N = 355) = 26.32, p = .000$ ). A generally similar difference was observed on the item, “Builds things by self rather than with other children” ( $X^2(2, N = 355) = 18.16, p = .000$ ). The groups did not differ significantly on

two solitary-passive items (SP 1 & 2,  $p = .632$ ,  $p = .076$ ). The two items that did not separate the groups were, “Reads books alone away from peers” ( $X^2(2, N = 355) = 0.92$ ,  $p = .632$ ) and “Does constructive activities alone” ( $X^2(2, N = 355) = 5.16$ ,  $p = .076$ ).

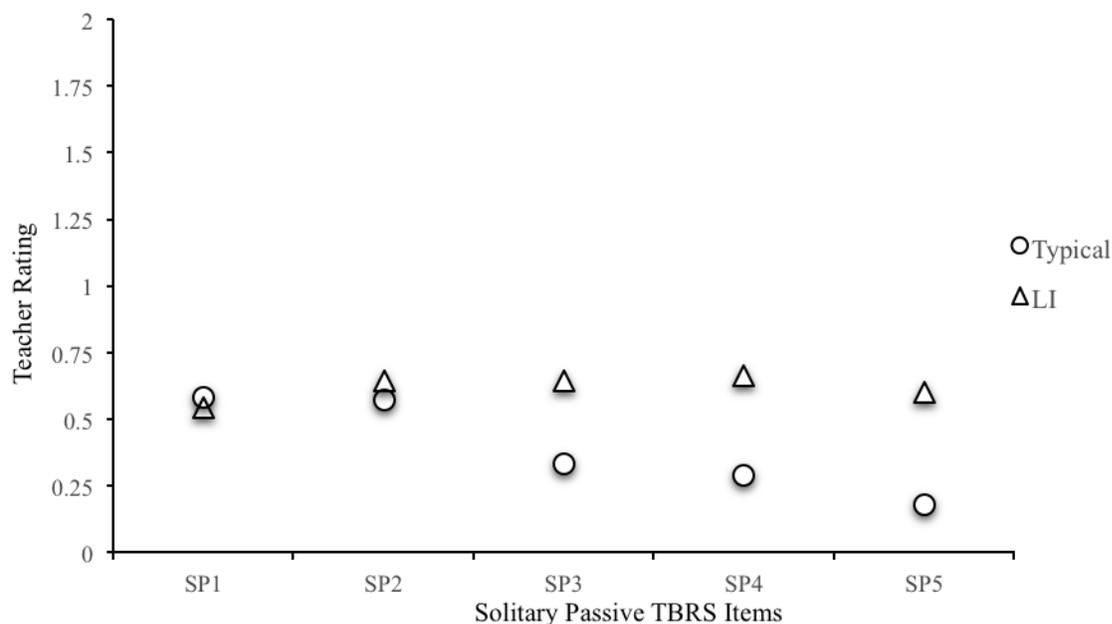


Figure 2. Mean ratings for items on the *Teacher Behavior Rating Scale (TBRS)* solitary-passive subtype for the language impairment (LI) and typical groups.

### Summary

Factor analysis of the full sample revealed good fit for the original two-factor model of withdrawal. Items on the Reticence Subscale proved to be invariant, indicating that the measure was equally valid for both groups (LI and typical). Three items on the Solitary Passive Subscale were invariant, but two items were variant. Specific item analysis of the Reticent Subscale indicated that children with LI were rated significantly higher than typical children on all items, with the biggest difference seen on the items of “Unoccupied when there is plenty to do,” and “Fearful when approaching other children.” Item analysis of the Solitary Passive Subscale

indicated that children with LI were rated significantly higher on three items. The two items that did not separate children with LI and children with typical language skills were “Reads books alone away from peers,” and “Does constructive activities alone.”

### **Discussion**

Children with LI frequently exhibit high levels of withdrawal (Fujiki et al., 1999; Hart et al., 2004). The purpose of the current study was to examine the nature of withdrawal demonstrated by these children, and the complex relationship between subtypes of withdrawal and LI. The subtypes of interest were reticent and solitary-passive withdrawal. First, the validity of the scales was investigated. Following these analyses, the individual items making up each subscale were compared between children with LI and their peers with typically developing language skills.

### **Factor Analysis**

The first task in this study was to determine if the collection of items comprising the Reticent and Solitary Passive subscales of the TBRS were each measuring the same constructs. Factor analysis revealed that the items comprising both subscales of the TBRS grouped together to measure reticence and solitary-passive withdrawal, respectively. This finding supported the content validity of the TBRS in assessing the reticent and solitary-passive subtypes of withdrawal.

The factor analysis procedures used in this study also yielded a moderately high latent construct correlation between solitary-passive behavior and reticence (.725). This finding was consistent with the findings of previous research suggesting that over time, reticence and solitary-passive withdrawal eventually merge into a single maladaptive type of behavior reflecting social fear and anxiety (Asendorpf, 1991; Hart et al., 2004). A possible explanation is

that solitary-passive withdrawal, despite often consisting of constructive activity, leads a child to miss out on valuable social experiences across the school-age years. This lack of experience may result in under developed social skills and poor social outcomes (e.g., rejection, victimization). This behavior may lead to a less desirable subtype of withdrawal over time. Additionally, adolescents with LI also report higher levels of social unease (higher levels of discomfort and inhibition around others) compared to typical children (Wadman et al., 2008). A child who is initially interested in playing with other children, but unable to, may eventually adapt to playing alone to ease social anxieties.

### **Invariance Analysis**

The second research task was to determine if items on the Reticent and Solitary Passive Subscales were invariant across children with LI and peers with typically developing language. Statistical analysis revealed that all four items on the Reticence Subscale were invariant, indicating that the measure was equally applicable for both groups. This was the case even though children with LI were rated as demonstrating higher levels of reticence than typical children.

Three items on the Solitary Passive Subscale were invariant, with the group covariate having significant effects on two items. Two of the Solitary Passive Subscale items were invariant, indicating the scales were not equally valid for both groups. The items that were invariant were “Reads books alone away from peers” and “Does constructive activities alone” (Hart & Robinson, 1996). This outcome indicated that the teachers were rating children with LI differently than children in the typical group on these items. In other words, teachers interpreted observations of reading books and being engaged in constructive activities alone differently for children with LI compared to their interpretation of the same behavior in typical children. It is

interesting to note that in general, children with LI are less interested in books due to language deficits. Children with LI may get less information and entertainment from stories, struggle with language games, and have decreased metalinguistic awareness skills, particularly phonological skills. Thus, it would be expected that children with LI would be observed reading books alone less often than typical children. The mean teacher rating scores for each group would suggest that this was not the case. However, the results of the invariance analysis also suggest that teachers are interpreting this behavior differently in the two groups.

### **Item Analysis**

**Reticent withdrawal.** Item analysis of reticence withdrawal revealed that teachers perceived the children with LI as being more reserved around other children, being unoccupied, displaying on-looking behavior and being fearful when approaching other children. The teacher ratings were most different on the two items, “Unoccupied even when there is plenty to do,” and “Stares at other children without interacting” (Hart & Robinson, 1996). Both of these behaviors are easily observed by teachers. Smaller differences were observed on the items, “Reserved around other children,” and “Fearful when approaching other children” (Hart & Robinson, 1996). It is possible that smaller differences can be attributed to the fact that these behaviors are more difficult to observe than on-looking, unoccupied behaviors. Overall, the increase in frequency of reticent behavior documented in children with LI suggests that children with LI have difficulty moving themselves to action to initiate and maintain peer interaction. As Coplan et al. (1994) suggested, reticent behavior leads to a child being alone, rather than playing alone. As a result of difficulty with initiation, children with LI would likely have difficulty accessing the ongoing interactions of peers, a behavior that several researchers (Brinton et al., 1997; Craig

& Washington, 1993; Liiva & Cleave, 2005) identified as a common social deficit for children with LI, particularly boys.

**Solitary-passive withdrawal.** Gender differences for solitary-passive withdrawal were not found in this study, consistent with Fujiki et al. (1999). However, there were significant differences between the groups for three of the five items on the Solitary Passive Withdrawal Subscale. Significant differences were seen on items such as “Plays with toys by self rather than with other children,” and “Builds things by self rather than with other children” (Hart & Robinson, 1996). This supports the speculation that children withdraw from situations requiring high levels of language because they recognize they are poor communicators (Redmond & Rice, 1998). They may retreat to more solitary activity and turn to constructive activities with fewer linguistic demands. Significant differences between groups were also seen with the item, “Likes to play alone,” which suggests that levels of solitary-passive withdrawal may also be dictated by factors such as a child’s personality and temperament or the lack of emotion regulation skills necessary to act in difficult situations (Coplan et al., 2004; Henderson et al., 2004; Spinrad et al., 2004). It is also possible that children with LI may be inactive because they are avoiding interaction in accordance with a low approach, high avoidance model (Asendorpf, 1990, 1991). However, preferences for solitude may come with risks. Depending on the duration and frequency of solitary activity, a child may miss out on interactions with others that are critical for social development.

### **Limitations**

A limitation of this study is the use of a rating scale as the instrument to measure withdrawn behavior displayed by the participants. Rating scales are useful tools because they provide objective assessment requiring relatively little time and professional training (compared

to naturalistic observation), sample behavior occurring over a long period of time, and provide data on infrequently occurring behaviors. However, rating scales are subject to several limitations (Merrell, 2003). Rating scales are based off the rater's perception and are not the result of actual observational data. Rating scales are also subject to several types of error resulting from rater bias, temporal variance, and situational influence. Thus, while the TBRS was useful in producing a general conception of withdrawn behavior, participants were not observed to verify the accuracy of teachers' perceptions.

Another limitation of the study is that factors related to family status, language severity, and performance IQ were not considered. No formal measures of intellectual functioning were administered to the typical participants. It is possible that differences in withdrawn behavior were attributable to variables that were not considered in this work. It is also possible that differences in withdrawn behavior could vary by severity of LI. However, the results of Hart et al. (2004) suggest that severity of LI is not an important factor for reticence and solitary-passive withdrawal.

## **Summary**

The results of this study demonstrate that LI does not exist in isolation. Children with LI suffer from social deficits when compared to peers with typically developing language. Children with LI were rated as displaying statistically significantly higher levels of withdrawn behavior on all four items on the Reticent Withdrawal Subscale and three of the five items on Solitary Passive Withdrawal Subscale when compared to typical peers. Children with LI experience associated social problems that have a considerably negative impact on quality of life. The findings of this study suggest that limitations in language may be a contributing factor. However,

the increase in reticent, anxious, fearful behaviors may reflect factors that extend beyond language.

### **Future Research**

This study yields important conclusions about the way researchers should approach the construct of withdrawal. Some researchers have looked at the population of LI and focused on a more general view of withdrawal. However, this study solidifies the importance of examining the various subtypes of withdrawn behavior. This study also confirms the validity of using the TBRS as a tool to investigate the complex relationship between language and reticent behavior in future research. The results of the factor analysis and the invariance analysis support the four items of the TRBS reticence subscale as a valid measure of this behavior.

## References

- Asendorpf, J. (1990). Beyond social withdrawal: Shyness, unsociability and peer avoidance. *Human Development, 33*, 250-259. doi:10.1159/000276522
- Asendorpf, J. B. (1991). Development of inhibited children's coping with unfamiliarity. *Child Development, 62*, 1460-1474. doi:10.2307/1130819
- Ash, C. A., Rice, M. L., & Redmond, S. (2014). Effect of language context on ratings of shy and unsociable behaviors in English language learner children. *Language, Speech, and Hearing Services in Schools, 45*, 52-66. doi:10.1044/2013\_LSHSS-13-0020
- Bowker, J. C., & Raja, R. (2011). Social withdrawal subtypes during early adolescence in India. *Journal of Abnormal Child Psychology, 39*, 201. doi:10.1007/s10802-010-9461-7
- Bracken, B. A., & McCallum, R. S. (1998). *Universal Nonverbal Intelligence Test*. Itasca, IL: Riverside Publishing.
- 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
- 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*(5), 1011-1025. doi:10.1044/jslhr.4005.1011
- 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)
- Brown, J., Sherbenou, R. J., & Johnsen, S. (1982). *Test of Nonverbal Intelligence*. Austin, TX: Pro-Ed.
- Carrow-Woolfolk, E. (1999). *The Comprehensive Assessment of Spoken Language*. East Moline, IL: LinguiSystems.
- Conti-Ramsden, G., & Botting, N. (2004). Social difficulties and victimization in children with SLI at 11 years of age. *Journal of Speech Language and Hearing Research*, *47*, 145-161. doi:10.1044/1092-4388(2004/013)
- Conti-Ramsden, G., & Durkin, K. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child Development*, *78*, 1441-1457. doi: 10.1111/j.1467-8624.2007.01076
- Coplan, R. J., & Amer, M. (2007). A “multitude” of solitude: A closer look at social withdrawal and nonsocial play in early childhood. *Child Development Perspectives*, *1*, 26–32. doi:10.1111/j.1750-8606.2007.00006.x
- Coplan, R. J., Girardi, A., Findlay, L. C., & Frohlick, S. L. (2007). Understanding solitude: Young children's attitudes and responses toward hypothetical socially withdrawn peers. *Social Development*, *16*, 390-409. doi:10.1111/j.1467-9507.2007.00390.x
- Coplan, R. J., Prakash, K., O’Neil, K., & Amer, M. (2004). Do you "want" to play? Distinguishing between conflicted shyness and social disinterest in early childhood. *Developmental Psychology*, *40*, 244-258. doi:10.1037/0012-1649.40.2.244
- 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. doi: 10.1111/1467-9507.00052

- 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. doi:10.1111/j.1467-8624.1994.tb00739.x
- Craig, H. K., & Washington, J. A. (1993). Access behaviors of children with specific language impairment. *Journal of Speech Language and Hearing Research*, 36, 322-337. doi:10.1044/jshr.3602.322
- 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(2002/008)
- 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:10.1044/0161-1461(2001/008)
- 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
- 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 and Hearing Research*, 47, 637-646. doi:10.1044/1092-4388(2004/049)
- 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. doi:10.1111/j.1467-8624.1997.tb01940.x
- 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. doi: 0.1044/1092-4388(2004/050)
- Hart, C. H. & Robinson, C. C. (1996). *Teacher Behavior Rating Scale*. Unpublished teacher questionnaire, Brigham Young University, Provo, UT.
- Henderson, H. A., Marshall, P. J., Fox, N. A., & Rubin, K. H. (2004). Psychophysiological and behavioral evidence for varying forms and functions of nonsocial behavior in preschoolers. *Child Development*, 75, 251–263. doi:10.1111/j.1467-8624.2004
- Horowitz, L., Jansson, L., Ljunberg, T., & Hedenbro, M. (2005). Behavioral patterns of conflict resolution strategies in preschool boys with language impairment in comparison with boys with typical language development. *International Journal of Language and Communication Disorders*, 40, 431-454. doi:10.1080/13682820500071484
- Liiva, C. A., & Cleave, P. L. (2005). Roles of initiation and responsiveness in access and participation for children with specific language impairment. *Journal of Speech Language and Hearing Research*, 48, 868-883. doi:10.1044/1092-4388(2005/060)
- Merrell, K.W. (2003). *Behavioral, social, and emotional assessment of children and adolescents* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Naglieri, J. A. (1985). *Matrix Analogies Test Expanded Form*. Columbus, OH: Merrill.
- Nelson, L. J. (2013). Going it alone: Comparing subtypes of withdrawal on indices of adjustment and maladjustment in emerging adulthood. *Social Development*, 22, 522–538. doi:10.1111/j.1467-9507.2012.00671.x
- Nelson, L. J., Rubin, K. H., & Fox, N. A. (2005). Social withdrawal, observed peer acceptance,

- and the development of self-perceptions in children ages 4-7 years. *Early Childhood Research Quarterly*, 20, 185-200. doi:10.106/j.ecresq.2005/04.007
- 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
- Rubin, K. H. (1982). Non-social play in preschoolers: Necessary evil? *Child Development*, 53, 651-657. doi:10.2307/1129/376
- Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual Review of Psychology*, 60, 141–171. doi:10.1146/annurev.psych.60.110707.163642
- Rubin, K. H., Coplan, R. J., Fox, N. A., & Calkins, S. D. (1995). Emotionality, emotion regulation and preschoolers' social adaptation. *Development and Psychopathology*, 7, 49-62. doi:10.1017/s0954579400006337
- Rubin, K. H., Hymel, S., & Mills, R. S. L. (1989). Sociability and social withdrawal in childhood: Stability and outcomes. *Journal of Personality*, 57, 237-255. doi:10.1111/j.1467-6494.1989.tb00482.x
- Semel, E., Wiig, E. H., & Secord, W. (1987). *Clinical Evaluation of Language Fundamentals Revised*. San Antonio, TX: The Psychological Corporation.
- Spackman, M. P., Fujiki, M., & Brinton, B. (2006). Understanding emotion in context: The effects of language impairment on children's ability to infer emotional reactions. *International Journal of Language and Communication Disorders*. 41, 173-188. doi:10.1080/13682820500224091.
- Spinrad, T. L., Eisenberg, N., Harris, E., Hanish, L., Fabes, R. A., Kupanoff, K., . . . Holmes, J. (2004). The relation of children's everyday nonsocial peer play behavior to their

emotionality, regulation, and social functioning. *Developmental Psychology*, 40, 67-80.

doi:10.1037/0012-1649.40.1.67

Thorndike, R. L., Hagen, E. P., & Sattler, J. M. (1986). *Stanford-Binet Intelligence Scale: Fourth Edition*. Chicago, IL: Riverside.

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:10.1044/1092-4388(2008/069)

Wechsler, D. (1991). *The Wechsler Intelligence Scale for Children: Third Edition*. San Antonio, TX: The Psychological Corporation.

## APPENDIX A:

## Annotated Bibliography

Asendorpf, J. (1990). Beyond social withdrawal: Shyness, unsociability and peer avoidance. *Human Development, 33*, 250-259. doi:10.1159/000276522

**Purpose**

The purpose of this study was to complete an analysis of behavioral, cognitive and motivational factors contributing to intra- and inter-individual differences in social involvement in preschoolers.

**Method**

This study was part of the Munich Longitudinal Study on the Genesis of Individual Competencies. This study follows a group of preschoolers over the course of 4-7 years. The sample consisted of 126 children. Participants were followed from age 3-4 years through elementary school. Children's dyadic free play was assessed in a controlled situation over the course of three sessions. This design allows for the assessment of the role of partner familiarity as well as analysis about developmental trends in children's social-cognitive behavior. During play sessions, children were randomly paired with a child of the same gender, whom they had never met before. Dyadic play sessions lasted from 12-15 minutes.

**Results**

Nonconstructive solitary and parallel play decreased around ages 5 and 6. However, solitary-constructive and social-interactive behavior increased. Motivations for withdrawn behavior can be explained by an approach-avoidance model. Three types of socially withdrawn children are distinguished in this study: unsociable, shy, and avoidant. Unsociable children have a low approach, low avoidance motive. They are not afraid or unwilling to interact, but are more interested in playing with toys and objects than peers. Shy children are trapped in an approach-avoidance conflict. They are assumed to be less involved with peers because they have a high, but inhibited, approach. They also have a high avoidance motive because they experience increased levels of fear and anxiety. The least studied subtype of withdrawal is avoidant. Avoidant children also have a low approach, and high avoidance approach. However, this subtype is distinguished from reticence as it is most closely related to aggressiveness.

**Conclusions & Relevance to Current Work**

Withdrawal should be considered as a multi-dimensional concept. Intra- and inter-individual analyses of social involvement also show that withdrawn preschoolers represent a highly heterogeneous group. This work relates to the current study because it attempts to distinguish between withdrawal subtypes according to an approach-avoidance model.

Asendorpf, J. B. (1991). Development of inhibited children's coping with unfamiliarity. *Child Development, 62*, 1460-1474. doi:10.2307/1130819

#### Purpose

The purpose of this study was to investigate the association between dispositions of inhibition and increases in withdrawn behavior over time. The three subtypes of withdrawal that were investigated included solitary-passive, solitary-active and inhibited behavior.

#### Method

This study was longitudinal in design, following 87 children over the course of 4 years. Participants were recruited as part of a larger, longitudinal study and were currently attending preschool in Munich, Germany. Participants were observed during three, dyadic free-play sessions with unfamiliar peers at 4, 6, and 8 years of age. Play sessions involved the child interacting with an unfamiliar child of the same age and gender for a period of 12-15 minutes. For the first session, the parent was in the room. Parents watched the sessions and rated children according to inhibition. Five types of social behavior (solitary-passive, solitary-active, inhibited behavior, parallel play and social-interactive behavior) were observed. Following play sessions the child's main caregiver completed an 8-item questionnaire, rated on a 7-point scale that assessed inhibition towards strangers. The frequency and quality of social interaction and parallel play were analyzed as adaptations to the introduction of unfamiliar peers. In addition to parent assessments, play sessions were videotaped and coded with Rubin's Play Observational Scale. Ten-second intervals were coded for social participation (i.e., unoccupied, solitary play, on looking, parallel play, conversation, group play).

#### Results

Observed inhibited behavior as well as parental judgments of inhibition became increasingly associated with solitary-passive behavior. Inhibited children failed to move from initial solitary play to social play with an unfamiliar peer. Inhibited children were also more likely to retreat back to solitary play after being engaged in social behavior. Additionally, with increasing age, inhibited children spent longer periods displaying solitary-passive withdrawal than typical children.

#### Conclusions & Relevance to Current Work

The findings of this study suggest that inhibition towards strangers becomes increasingly associated with unsociable behaviors. This makes it difficult to distinguish between the dispositions of inhibition and unsociability at the empirical level. This study is related to the current work because it provides support for the claim that, with increasing age, the constructs of reticence and solitary passive withdrawal merge.

Ash, C. A., Rice, M. L., & Redmond, S. (2014). Effect of language context on ratings of shy and unsociable behaviors in English language learner children. *Language, Speech, and Hearing Services in Schools, 45*, 52-66. doi:10.1044/2013\_LSHSS-13-0020

### Purpose

The primary purpose of the study was to investigate the influence of language context (native language vs. English) on socially withdrawn behaviors in English Language Learner school-aged children. The study also took socioeconomic status into account. The secondary purpose of this study was to examine the feasibility of an experimental parent and child questionnaire to assess socially withdrawn behaviors in native language and English-speaking contexts.

### Method

*Participants.* This study included 34 ELL speakers and 37 native English speakers. Participants qualified for the study by having satisfactory academic performance, normal hearing, no previous enrollment in special education services and no major neurological or orofacial abnormalities. Participants in the ELL group were born in 12 different countries and spoke 9 different languages. All ELL participants began studying English after the age of 3 years old, and had studied English for an average of 2 years, 8 months.

*Instrument.* Three measures were administered to the participants to assess language proficiency. These measures were the Peabody Picture Vocabulary Test-Fourth Edition, the Expressive Vocabulary Test-Second Edition, and the Speech and Language Assessment Scale. The Withdrawn Behavior Scale (WBS) was used to assess the participants' behavior. The WBS was created in versions for both the ELL group and English-speaking group, as well as for the parent and for the child to complete.

*Procedure.* Testing took place in the participant's home over the course of one or two visits. Parents were read the questionnaire aloud, and also given a copy of the questionnaire to read, and instructed to ask questions if they did not understand a part of the task.

### Analysis & Results

A mixed repeated-measure analysis of variance was conducted with the within-subject variables being Behavior type (shy or unsociable) and Rater (parent or child self-report) and the between-subject variable being Language Group (native English speaker or ELL). Parents and children from the ELL group reported significantly higher ratings of shy behavior. Typical children were also rated as more shy than the ELL children. Language context influenced the shy behavior displayed in the ELL group. Unsociable ratings did not differ across language contexts.

### Conclusions & Relevance to Current Work

There were some communicative contexts where the children did not produce the withdrawn behavior that is associated with negative social consequences. Professionals should use caution when considering whether shy behavior in children who are learning English as a second language have a socioemotional problem. It is necessary to consider both the context in which the behavior is occurring and type of withdrawal a child is displaying when working with the ELL population. The increased ratings of shyness, but not unsociability, highlight that shyness and unsociability should be viewed as two separate constructs. This is relevant, because the current study aims to further examine the nature and motivation for the different subtypes of withdrawn behavior in children with language impairment.

Bowker, J. C., & Raja, R. (2011). Social withdrawal subtypes during early adolescence in India. *Journal of Abnormal Child Psychology*, 39, 201. doi:10.1007/s10802-010-9461-7

#### Purpose

The goal of this study was to examine the connection between subtypes of withdrawal, peer isolation, peer difficulties, and loneliness in during the early adolescent years.

#### Method

Participants were 194 early adolescents ( $M = 13.5$  years) attending a private school in Surat, India. Participants completed a set of questionnaires assessing their perception of peer relations and loneliness. Assessment instruments included the *Child Social Preference Scale* (to assess the subtypes of withdrawal), peer nomination measures of victimization and exclusion, and self-report measures of loneliness. Exploratory factor analyses were conducted to analyze the psychometric properties of the *Child Social Preference Scale (CSPS)*. Five hierarchical linear regression models were also run to test the associations between the withdrawal subtypes measured by the CSPS and the indices of adjustment.

#### Results

Factor analyses indicated that shyness, unsociability and avoidance represent distinct forms of withdrawal. Factor analyses also indicated that these forms of withdrawal are separate from isolation. Unsociability was not associated with loneliness and exclusion. Shyness and avoidance were associated with loneliness, but were mediated by exclusion.

#### Conclusion & Relevance to Current Work

Withdrawal should not be thought of as one construct. There are several subtypes of withdrawal that are observed in childhood and adolescence. This work provides the foundational knowledge that the construct of withdrawal is multi-faceted. The current work aims to further examine the nature of the specific subtypes of withdrawal.

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

#### Purpose

The aim of this study was to investigate the ability of children with language impairment to dissemble (hide) emotion to protect another's feelings, or in a situation where it would be socially appropriate to do so.

#### Method

Participants in this study included 22 children with LI and 22 typically developing peers. Participants ranged in age from approximated 7-12 years old. Each of the participants participated in two tasks. The first task involved hypothetical situations in which the main character is in a scenario where it would be important to dissemble for social

purposes. Children were asked what the character should do and what the character's parents would want the character to do. Participants were also presented with four other tasks to see if they would dissemble in a naturally occurring context.

### Results

Overall, the ability to dissemble was emerging for both groups. However, children with LI were able to identify situations requiring dissembles less frequently than typical children in the hypothetical scenario task. In the naturally occurring tasks, there was little difference between the groups in situations where the children had little to lose by hiding emotions. In situations where hiding emotion had higher consequences, children with LI dissembled less often than typical children.

### Conclusion and Relevance to Current Work

There was a significant difference in dissemblance abilities of typical children and children with LI in hypothetical situations. This difference was less pronounced in the real-life situations. This study is relevant to the current work because it shows that children with LI have a more difficult time with tasks involving emotion understanding.

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. doi:10.1044/jslhr.4005.1011

### Purpose

The purpose of this study was to examine the ability of children with language impairment to access an established interaction between two other children.

### Method

The performance of six children with language impairment was compared to the performance of six age-matched peers and six language-similar peers (children in these three groups were considered as target children). Two typical children were brought into a room and instructed to play with toys. After about 10 minutes of interaction, a target child was brought in and left alone to enter the activity. Analysis included determining if access had occurred, comparing the time required for interaction, calculating the number of bids to the target child before access, the number of utterances produced by each participant before and after access, the number of times each participant was addressed before and after access, and the amount of time each child participated in the activity.

### Results

Of the six children with LI, two of the children were unsuccessful in accessing the activity. The other four of the children were able to access the activity. One of the children with LI left the group shortly after entering it and wandered around the room. All of the target children in the two typical groups accessed successfully. However, the range of time they required was highly variable. Further analysis of the quality of interaction after a successful access showed that children with LI talked less, were talked to less, and were less involved in the task than the other children in the triad. Few differences in the interactions between the age-matched and language-similar peers were

significant.

#### Conclusions & Relevance to Current Work

The conclusions of this study suggest that social skills and language skills should both be considered in intervention with the LI population. This study describes the pragmatic risk for children with LI. The current work aims to examine the connection between social deficits and resultant withdrawal observed in children with LI.

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)

#### Purpose

The aim of this study was to examine the emotional dissemblance ability (hiding an emotion when it is socially appropriate to do so) of children with language impairment and their typical peers.

#### Method

Participants of the study included 19 children with language impairment and 19 typical peers. Participants in the study ranged from 7;9 (years; months) to 10;10 ( $M = 9;1$ ). To assess dissemblance, children were presented with 10 hypothetical situations in which a character experienced an emotion that should be hidden in accord with social display rules. Children were given the task of deciding how the character should respond. Children's responses were scored as to whether they displayed or dissembled the target emotion.

#### Results

Children in both groups were able to identify appropriate responses to social situations. However, children in both groups did not always dissemble, despite knowing it was socially appropriate to do so. Though both groups struggled with the task, children with language impairment dissembled less of the time than typical peers.

#### Conclusions & Relevance to Current Work

Children with language impairment demonstrate difficulty with emotion understanding, compared to typical peers. Children were able to identify what they should do in a situation, but did not seem to fully understand the social impact of displaying emotion. This work demonstrates that children with LI have difficulty with emotion understanding. The social difficulties experienced by children with LI are thought to be related to this deficit. The current work investigates the connection between social difficulties and the subtypes of withdrawal observed in children with LI.

Conti-Ramsden, G., & Botting, N. (2004). Social difficulties and victimization in children with SLI at 11 years of age. *Journal of Speech Language and Hearing Research, 47*, 145-161.

doi:10.1044/1092-4388(2004/013)

#### Purpose

The purpose of this study was to examine social difficulties and victimization in children with language impairment at 11 years of age.

#### Method

*Participants.* A group of 242 children in the United Kingdom were studied. All of the participants had been receiving language services at age seven, and were contacted again at age 11. Two hundred of the original 242 children participated at the later stage.

*Instrument.* The following instruments were used in this study: the Rutter Behavioral Questionnaire, the Peer Competence Subscale: Harter Perceived Competence Scale, Strengths and Difficulties Questionnaire, and the “My Life In School” Questionnaire. Other measures included the Children’s Communication Checklist, and a variety of language tests.

*Procedure.* Children were given self-report questionnaires and asked to complete them individually at school. The Strengths and Difficulties Questionnaire and “My Life In School” Questionnaire were given orally. Teachers were given questionnaires about two weeks before the child’s assessment.

#### Analysis and Results

Analysis was conducted using nonparametric tests. More than half of the children showed clinical-level social difficulties. With regard to victimization, 36% of the children indicated that they had been bullied more than once per week. Only 12% of typical peers reported the same severity of victimization.

#### Conclusion & Relevance to Current Work

Social difficulties for children with language impairment are a long-term problem. This study found that over time, the social difficulties for the children with language impairment increased. This study is related to the current work because it establishes that children with language impairment experience negative social outcomes, such as victimization and peer rejection. It indicates the need for further research to examine the factors that interact to lead to social difficulties for kids with LI.

Conti-Ramsden, G., & Durkin, K. (2007). Language, social behavior, and the quality of friendships in adolescents with and without a history of specific language impairment. *Child Development, 78*, 1441-1457. doi: 10.1111/j.1467-8624.2007.01076

#### Purpose

This goal of this study was to compare the friendship quality of 16-year-old adolescents with and without language impairment. The study also investigated how language ability and social behaviors predict friendship quality.

#### Method

Participants included 120 adolescents with language impairment and 118 typically developing adolescents. Participants were recruited from language units attached to English mainstream units. Eligible participants were included on the basis of (a) having a

performance IQ of 80 or more, (b) scoring more than a standard deviation below the mean on a formal language measure, (c) speaking English as a first language, and (d) having no sensory-neural hearing loss. Typically developing peers came from the same school as the LI subjects and were matched in terms of age, gender, and socioeconomic status. Instruments in this study included formal language measures, psycholinguistic batteries, self-report social-emotional functioning questionnaires, and the Friendships and Social Relationships section of the Social-Emotional Functioning Interview. The participants, along with their parents, were assessed and interviewed either at home or school.

### Results

Language measures were associated with friendship quality. Longitudinal analyses indicated that a small percentage of typically developing children reported poor friendship quality, and a small percentage of children with LI reported good friendship quality. However, in general, adolescents with language impairment were more likely to exhibit poorer friendship quality than their typically developing peers.

### Conclusions & Relevance to Current Work

Early language difficulties are predictive of poor friendship quality in adolescence, even when other behaviors that influence peer relations are controlled. The mix of expressive and receptive deficits with language impairment is indicative of a more severe deficit, and predicted the poorest friendship quality after seven years. The current work aims to extend this study by further investigating the types of withdrawal exhibited by children with LI, which is ultimately associated with poorer friendship quality.

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

### Purpose

The main goal of this research study was to evaluate young children's perception and understanding of solitude as evident by responses to hypothetical vignettes.

### Method

The sample consisted of 137 children (49 males, 88 females) who were in kindergarten and first grade in the Ottawa, Canada area. Racially, these children were primarily White (about 90%). Children were presented with a series of vignettes describing hypothetical situations in which characters were displaying shy, unsociable, aggressive and socially competent behaviors. Measures included parental ratings and child interviews. Parental ratings of shyness and likeability were obtained using the child social preference scale. Items on the *Child Social Preference Scale (CSPS)* are rated on a five-point Likert scale and are designed to focus on social approach and social avoidance motivations. Child interviews included four hypothetical vignettes describing the behavior of same sex peer. Vignettes were accompanied by a cartoon picture. Following the reading of the vignette, children were asked seven questions and indicated responses with a three-point scale (yes, sometimes, never). Questions assessed a child's attribution of intentionality, understanding of social motivations, affiliative preferences towards the hypothetical peer

and perceptions of potential negative social implications of the hypothetical peer's behavior.

### Results

Children demonstrated differences in terms of attributions of behavioral intent, affiliational preferences, and sympathetic responses. Children of all groups responded most negatively to the hypothetical characters that were portrayed as being aggressive (felt aggressive peers would cause problems, felt the least amount of sympathy towards aggressive peers) and most positively to peers described as sociable. The socially withdrawn behaviors of unsociable peers were rated as more intentional than that of the shy peers. Unsociable children were least interested in affiliating with the hypothetical unsociable peer. Parent reports also indicated that unsocial children indicated a decreased desire to play with peers compared to the shy and social groups.

### Conclusions & Relevance to Current Work

The results of this study suggest that even preschool-aged children are able to differentiate among the forms of social withdrawal. Peers in the study were able to distinguish between hypothetical characters that played alone out of social anxiety and those that played alone out of preference for solitude. This is related to the current work because describes withdrawal according to an approach-avoidance conflict model.

Coplan, R. J., Prakash, K., O'Neil, K., & Amer, M. (2004). Do you "want" to play? Distinguishing between conflicted shyness and social disinterest in early childhood. *Developmental Psychology, 40*, 244-258. doi:10.1037/0012-1649.40.2.244

### Purpose

The aim of this study was to distinguish between two subtypes of social withdrawal seen in childhood. The subtypes of interest were conflicted shyness and social disinterest.

### Method

Two separate samples of preschool-aged children participated in the study. The first sample consisted of 119 children (55 male, 64 female) and the second sample consisted of 127 children (68 male, 59 female) between the ages of 36 and 66 months. Participants were attending preschool or childcare centers in the Ottawa, Canada area. Participants were primarily Caucasian. Measures used in the study included parental ratings on the Child Social Preference Scale, Colorado Child Temperament Inventory, Parenting Styles and Dimensions Questionnaire and Revised Social Goals Inventory. Observations of free-play behaviors, child perceived confidence and play choice were also examined.

### Results

There were no significant correlations between child age or maternal/paternal education and measures of conflicted shyness or social disinterest. Analysis of play choice revealed that children who reported liking to play with peers did not differ in terms of conflicted shyness from those who reported liking to play alone or with a teacher. However, children who reported liking to play alone or with a teacher had higher ratings of social disinterest than children who reported a preference for playing with peers. Analysis of child temperament ratings revealed that conflicted shyness was associated with a fearful,

anxious temperament. Social disinterest was positively associated with attention span and negatively related to negative emotionality. Conflicted shyness was negatively related to perceived peer confidence, however social disinterest was not. In observations of free play, conflicted shyness was associated with display of reticent behaviors and parallel play. Social disinterest was related to fewer initiations of social interaction. Finally, analysis of parenting styles and goals revealed that conflicted shyness was positively associated with parental overprotectiveness for boys. Socially disinterested children were more likely to have mothers who placed less value on social interaction.

#### Conclusion & Relevance to Current Work

Conflicted shyness is based on social fear in approaching peers despite a motivation to interact. Social disinterest is based on lack of a strong motivation to engage in peer interaction. This study is related to the current work because it attempts to identify underlying motivations for the subtypes of social withdrawal observed in children with language impairment.

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. doi:10.1111/j.1467-8624.1994.tb00739.x

#### Purpose

The goal of the study was to examine the heterogeneity of children who play in solitude. This study differs from previous work because it examined preschool age children in quartets rather than dyads to provide a more naturalistic preschool setting. A secondary purpose was to investigate possible psychological causes that underpin the different subtypes of withdrawal.

#### Method

*Participants.* The sample consisted of 48 preschool children (20 male, 28 female) between the ages of 49 and 62 months from middle-class backgrounds. Children were part of a larger, longitudinal study.

*Procedure.* Participants were randomly assigned into groups of four. Groups consisted of unfamiliar same-sex peers who were within 6 months of age. Children were observed and videotaped playing together during two free play sessions. Each session consisted of five episodes: unstructured free play, a clean-up task, show-and-tell speeches, a ticket-sorting task, and unstructured free play. Brief intervals (10 sec) were coded with the Play Observation Scale during the various tasks. Reticent behavior was assessed through the proportion of time spent in on-looking interactions or being unoccupied. Solitary passive behavior was coded according to the proportion of time spent in solitary-exploratory or solitary-constructive play. Additional variables coded during the play sessions included anxious behaviors and time spent hovering, rather than initiation an interaction. Mothers also completed the Colorado Temperament Inventory.

#### Results

Maternal ratings of shyness were significantly positively associated with reticence, but

not to solitary passive or solitary active withdrawal. Reticence was associated with hovering on the edge of social groups. Almost all children exhibited reticent behavior, but only 12 children exhibited anxious behavior. However, it is possible that not all anxious behavior can be measured behaviorally. Solitary-passive withdrawal was not associated with indices of anxiety, social wariness, shyness or impulsivity. Solitary activity play was observed very infrequently, but was associated with high maternal ratings of impulsivity and immaturity of play during the free play sessions. There were no significant relationships between solitary active play and indices of noncompliance or disruptiveness, but this may be due to the low frequency of occurrence.

#### Conclusion & Relevance to Current Work

This study replicated previous work indicating that withdrawal in childhood is a multifaceted construct. There are multiple and independent forms of solitude in preschool children. The current work classifies subtypes according to the subtypes outlined in this study and utilizes insight gained from this study to better understand the underlying motivations for withdrawal.

Craig, H. K., & Washington, J. A. (1993). Access behaviors of children with specific language impairment. *Journal of Speech Language and Hearing Research*, 36, 322-337. doi:10.1044/jshr.3602.322

#### Purpose

The aim of this study was to examine the behaviors (verbal and nonverbal) used by children with specific language impairment to access ongoing activities with peers.

#### Method

Thirty-eight children participated in this study. Thirteen children were subjects and twenty-five served as partners. The subjects consisted of five children classified as having SLI and eight children with normally-developing language skills who served as control subjects. Access skills were evaluated through three-party interactions. Subjects were brought into a room where two other children had already been playing for several minutes and left alone to enter the activity. The task was designed to minimize the need for language to access the activity. Interactions were coded according to task related and task unrelated behaviors for both the subjects and partners.

#### Results

Three of the children with SLI were not able to enter into the established interaction. Two the children with SLI were successful, but did not access the activity using the same linguistic forms as the typically developing children. All of the typical peers successfully accessed the interaction.

#### Conclusions & Relevance to Current Work

The conclusions of this study contribute to defining decreased access skills as a characteristic of SLI. These findings show that the deficits of language impairment are pervasive and affect the social interactions of children with LI.

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(2002/008)

#### Purpose

This was a preliminary study designed to explore the role emotion regulation in the social difficulties exhibited by children with language impairment.

#### Method

The emotion regulation skills of 41 children with SLI and 41 typical peers were evaluated using the “Emotion Regulation Checklist” (ERC). Equal numbers of boys and girls were sampled from two age groups: 6-9 years old and 10-14 years old. Classroom teachers were asked to complete the ERC for a child with SLI and another child of the same gender and age (within 7 months). Mean ERC ratings were calculated from the teacher ratings.

#### Results

Children with SLI were rated lower on the ERC than typical developing children. Girls received higher scores than boys. When looking at two specific subscales of the ERC (liability and emotion regulation) boys were rated lower than girls on the emotion regulation subscale. No other interactions between age were significant.

#### Conclusion & Relevance to Current Work

The results suggest that emotion regulation could be associated with the social difficulties experienced by children with SLI. The current work investigates the nature of social withdrawal displayed by children with SLI.

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:10.1044/0161-1461(2001/008)

#### Purpose

This was a pilot study with the purpose of evaluating the social behaviors of children with language impairment and their typically developing peers on the playground.

#### Method

The subjects in this study were eight children classified as having LI and their age-matched peers. The sample consisted of seven girls, and one boy. Naturalistic observation was obtained by videotaping subjects play with other peers on the playground for approximately one hour, over the course of about four recesses. Videos were then coded according to behavior displayed in 5-second intervals. The behavioral intervals were then coded into subcategories, which were grouped into the following six general categories: peer interaction, adult interaction, withdrawal, aggression, victimization, and other.

#### Results

Analysis revealed significant differences between children with LI and typically developing children in general categories of peer interaction and withdrawal. Not only

did children with LI spend less time interacting with other peers, they also spent more time engaging in withdrawn behaviors than typical children.

#### Conclusions & Relevance to Current Work

These findings support the need for intervention targeting social language skills in playground contexts for children with language impairment. This study is relevant to the current work because the results validate the use of teacher interview procedures, such as the TBRS, which are useful in assessing the withdrawn behavior of children with LI.

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

#### Purpose

The purpose of this study was to examine withdrawal and sociable behaviors in children with language impairment and children with typically developing language skills.

#### Method

*Participants.* The sample consisted of 41 children identified with language impairment and 41 typical peers. Typical peers were selected on the criteria of being in the same class as the child with LI, being the same gender of the child with LI, and being within six months of age of the child with LI. Children in the sample fell into two age ranges: 5 to 8 years old and 9-13 years old.

*Instrument and Procedure.* Teachers rated the children with respect to withdrawn and sociable behaviors by completing the Teacher Behavior Rating Scale. The behaviors of interest in this study were withdrawal and sociability. The subscales of withdrawal examined were reticence, solitary-active withdrawal, and solitary-passive withdrawal. The subscales of sociability examined were impulse control/likeability and prosocial behavior.

#### Analysis and Results

Teachers rated children with LI an engaging is higher levels of reticent withdrawal than typical children. Teachers rated boys with LI as having higher levels of solitary-active withdrawal than girls with LI and boys/girl in the typical groups. There were no significant group differences in teacher rating for solitary-passive withdrawal. In regard to sociable behavior, teachers rated children with LI as displaying lower levels of both impulse control/likeability and prosocial behavior than typical peers.

#### Conclusion & Relevance to Current Work

Language is not the only factor at work in the social problems of children with language impairment. There is a complex relationship between LI and withdrawal and sociability that speech language-pathologists should take into account when planning assessment and intervention. This study provides foundational evidence of the social problems seen in children with language impairment. It shows that children with LI are rated by their teachers are displaying higher levels of reticence. The current study aims to extend this research to examine the nature of reticence and determine which specific items on the

TBRS separate children with LI from their peers in terms of reticence and solitary-passive withdrawal.

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 and Hearing Research*, 47, 637-646. doi:10.1044/1092-4388(2004/049)

#### Purpose

This study investigated the relationship between emotion regulation, language ability and reticent behavior in children identified with specific language impairment.

#### Method

*Participants.* The sample was comprised of forty-three children identified with SLI and 43 typically developing children. Children were selected from the 5-8 years old range and 9-12 years old range. Participants with SLI were selected with the criteria of having a formal diagnosis of language impairment, score of at least one standard deviation below the mean on a formal language test, having a nonverbal IQ above 80, having normal hearing, and not having a behavior or emotional disorder. Typical peers were selected on the basis of being the same gender, being within six months of the chronological age of the child with SLI, and having no academic, behavior, or communication problems requiring special services.

*Instrument.* The instruments used in this study were the Emotion Regulation Checklist, which assesses emotional liability, flexibility and appropriate situational expression of emotions, and the Teacher Behavior Rating Scale, which assesses a variety of social behaviors, including reticence. The Comprehensive Assessment of Spoken Language was also used to assess language skills.

*Procedure.* The classroom teachers of the children in the study completed the Emotion Regulation Checklist and the Teacher Behavior Rating Scale for each participant. The Comprehensive Assessment of Spoken Language was administered to each child as an indication of linguistic ability.

#### Results

To analyze the group differences, a two-way multivariate analysis of variance was conducted to see whether the four age and language groups differed in respect to the measure of reticence, emotion regulation, and language ability. In all three measures the group with SLI performed more poorly than the typical group. The link between language, emotion regulation, and reticence was examined through regression analysis. The results of this analysis showed that the Emotion Regulation Checklist and CASL scores were significant predictors of reticence scores.

#### Conclusions & Relevance to Current Work

Because both language ability and emotion regulation scores predicted the level of reticence, a conclusion was that reticence is not the result of withdrawing from social interactions solely due to language skills. The results of this study also indicated that children with LI have a deficit that is broader than language. They demonstrate difficulty in other areas of social development, including emotion regulation and emotional

competence. This study is relevant to the current work because it suggests that the relationship indicates the emotion regulation explains as much of the variance in reticence as language. This study also relates to the current study because it concludes that children with LI should be viewed as having a wider deficit in social development, in addition to language.

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 socio-cognitive differences across four years. *Child Development, 68*, 278-294. doi:10.1111/j.1467-8624.1997.tb01940.x

#### Purpose

The goal of this study was to identify different subtypes of withdrawal and assess differences in sociometric status and social information processing over a period of four years.

#### Method

Participants were recruited as part of a larger multisite longitudinal study called the Child Development Project. Two cohorts of kindergarten children were recruited from public schools in the Nashville, TN area. Cohorts 1 and 2 consisted for 297 children and 270 children, respectively. Data was collected over a period of four years, from entry to kindergarten to third grade. Data was gathered through direct observation of freeplay, questionnaires completed by classroom teachers, and sociometric interviews conducted annually. Freeplay was coded in 10 sec intervals and assessed for frequency of interaction. Each year, classroom teachers completed the Teacher's Report Form of the Achenbach Child Behavior Checklist. Social status among peers was evaluated by conducting individual sociometric interviews in which children were shown a set of pictures of classmates and asked to identify the three most liked and least liked classmates. Children were assigned a sociometric status of popular, rejected, neglected, controversial or average. Social information processing was also assessed during interviews. Children were presented with vignettes of hypothetical social dilemmas to evaluate four social processing steps (i.e., encoding, interpretation, response generation, response decision).

#### Results

Four main clusters were created by entering in the seven standardized teacher-rated behavior measures to a hierarchical clustering analysis. A one-way ANOVA revealed there were no significant group differences for all seven clustering variables. Cluster 1 was considered to be children who were perceived to be socially competent by teachers, but demonstrated decreased social interest. Children in Cluster 2 had high ratings on timid and anxious behaviors and were rated as highly isolating. Cluster 3 had significantly more immature and angry/defiant. Cluster 4 had higher rates of being sad/depressed and higher ratings on the timid and immature scales. Results of social information processing patterns showed that the active-isolate children displayed the least competent skills between the groups.

#### Conclusion & Relevance to Current Work

The results of this study delineate four subtypes of withdrawal: unsociable, passive-

anxious, active-isolate and sad/depressed. These results are related to the current work because they support the reliability and validity of subtyping withdrawn 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. doi: 0.1044/1092-4388(2004/050)

#### Purpose

The purpose of this study was to examine the levels of withdrawn and sociable behavior in children with SLI compared to peers with typically developing language skills. A second purpose of this study was to investigate the relationship between severity of LI and severity of social profile.

#### Method

*Participants.* The sample consisted of 41 children identified with specific language impairment, and 41 typical peers. Children with SLI were identified by speech-language pathologists and met the following criteria: Having a chronological age between 6 and 9 years old, or between 10 and 13 years old, not meeting the criteria for mental retardation, being enrolled in speech-language pathology services with a diagnosis of LI, performing at least 1 standard deviation below the mean on a formal language test, having normal hearing, and not having a formal diagnosis of emotional or behavioral disorder. The children with typically developing language were selected from the same classroom as the participants with SLI. They were matched by age and gender to provide a normative comparison.

*Instrument.* The Teacher Behavior Rating Scale (TBRS) was used to measure sociable and withdrawn behaviors. The TBRS is a 161-question rating scale that assesses a variety of behaviors. The subtypes of withdrawal examined were reticence, solitary-active withdrawal, and solitary-passive withdrawal. The subtypes of sociable behaviors were likeability and prosocial. The second instrument used in the study was the CELF-R, a formal norm-referenced measure.

*Procedure.* Teachers completed the TBRS for each of the children. For 94 of the children, the teacher completed the TBRS twice, about a month apart, to establish test-retest-reliability. The children with SLI were given the CELF-R to measure the severity of their language deficits.

#### Results

After the teachers completed the TBRS, the withdrawn and sociable behaviors of typical peers and the SLI children were compared. Two, three-way Multivariate Analyses of Variance (MANOVA) were conducted to analyze the TBRS data. To compare the social profiles of children based on severity of language impairment, a median split was performed on the receptive, expressive and total language scores from the CELF-R. The results of the analysis were that children with SLI displayed higher levels of reticence and solitary-passive withdrawal than the children with typical language, as perceived by their teachers. Children with SLI were also rated as having lower levels of both types of sociable behavior when compared to typical peers. Comparisons of withdrawn behavior did not differ based on severity of language impairment. Children with less severe

receptive deficits were more proficient in sociable behavior than children with severe impairments. Children with more severe expressive deficits demonstrated poorer prosocial behavior than children with less severe expressive deficits, but not poorer likeability.

#### Conclusions & Relevance to Current Work

This study demonstrated that social difficulties accompany language difficulties in many children with LI. Some social behaviors are impacted by language ability, whereas others do not appear to be.

This study establishes that there are higher levels of reticence and solitary-passive withdrawal in children with LI, using statistical analysis of a large sample of TBRS data for both children with LI and children with typical language. The current study aims to replicate these results in respect to reticence and solitary-passive withdrawal and provide a more detailed analysis of performance on the individual TBRS items. The current work will take these findings a step further to provide insight about the causes of withdrawal.

Henderson, H. A., Marshall, P. J., Fox, N. A., & Rubin, K. H. (2004). Psychophysiological and behavioral evidence for varying forms and functions of nonsocial behavior in preschoolers. *Child Development, 75*. 251–263. doi:10.1111/j.1467-8624.2004

#### Purpose

The three primary goals of this study were (a) to examine the relationship between high levels of observed reticence and solitary-passive withdrawal and parental reports of social behavior and emotional problems (b) to compare children showing high levels of withdrawn behavior to psychological measures associated with approach-avoidance tendencies, and (c) to examine the possibility that there may be multiple motivations for solitary-passive withdrawal.

#### Method

Participants included 147 preschool-aged children who were recruited as part of a larger, longitudinal study of social and emotional development. Participants were recruited for the study at age 4 months and were assessed at ages 9, 14, 24, and 48 months. Data were collected from play observation at age 4 years. Children were invited to the laboratory and observed playing with four other gender-matched and age-matched peers. As part of the play session, children were asked to give speeches, complete a clean-up task, and participate in a ticket-sorting task. Electroencephalogram (EEG) and electrocardiogram (ECG) data were also collected at age 4 years. Retrospective analysis of temperament was also conducted. Mothers completed the Toddler Behavior Assessment Questionnaire at 14 and 24 months and the Colorado Child Temperament Inventory at 48 months.

#### Results

High maternal ratings of shyness in participants in both low-social groups. A pattern of right frontal EEG asymmetry was noted in children in both low-social groups. The reticent group was the only group with elevated levels of anxiousness. Increased levels of reticence were observed in the solitary-passive group over time, indicating that the frequency of reticent-type behaviors they produced did not differ significantly from the

reticent group by the end of the play session.

#### Conclusion & Relevance to Current Work

The results of this study indicate that there may be multiple causes for solitary-passive behavior. It may be that children displaying solitary-passive behavior are disinterested in social interaction. It is also possible that there is behavior inhibition and that solitary-passive withdrawal may provide a means for coping with social unease. The current work further explores the underlying motivations for reticent and solitary-passive withdrawal.

Horowitz, L., Jansson, L., Ljunberg, T., & Hedenbro, M. (2005). Behavioral patterns of conflict resolution strategies in preschool boys with language impairment in comparison with boys with typical language development. *International Journal of Language and Communication Disorders, 40*, 431-454. doi:10.1080/13682820500071484

#### Purpose

The purpose of this study was to examine conflict resolution strategies in typical children and children with LI. Particular emphasis was placed on examining reconciliation strategies (i.e. being friendly with peers following a conflict). It was hypothesized that children with LI would display poor reconciliation skills due to weaker language skills.

#### Method

The participants consisted of 11 boys classified as having language impairment, and 20 typically developing boys. The participants ranged in age from 4-7 years old and attended either a specialized or mainstream preschool. Participants were observed and video recorded during naturalistic play. Conflicts were identified and coded for a conflict period, post-conflict period, and reconciliatory behaviors. Reconciliatory behaviors included: invitation to play, body contact, object offer, verbal apology, self-ridicule, cognition, and offering privileges/negotiating. The average proportion of conflicts in which a participant displayed reconciliatory behaviors was calculated and compared within and between groups.

#### Results

Analysis revealed that boys with LI reconciled fewer conflicts than typically developing boys. Boys with LI not only attempted reconciliation fewer times than typically developing boys, but they also achieved reconciliation in a smaller proportion of conflicts. This was due to the fact that strictly verbal reconciliation strategies were less effective for the boys with LI. However, the distribution of the types of reconciliation strategies used was similar for both groups.

#### Conclusions & Relevance to Current Work

Intervention for children with language impairment should not only focus on improving language skills, but should include instruction focusing on conflict resolution strategies. Initiating interaction and repairing interactional breakdowns should be of particular importance. This study supports the current work by establishing another example in which children with LI have poor social skills than typically developing peers. Children with LI are less skilled at resolving conflicts, which impacts their ability to maintain

## friendships

Liiva, C. A., & Cleave, P. L. (2005). Roles of initiation and responsiveness in access and participation for children with specific language impairment. *Journal of Speech Language and Hearing Research, 48*, 868-883. doi:10.1044/1092-4388(2005/060)

### Purpose

The aim of this study was to investigate ability of children with specific language impairment (SLI) to access an activity, considering initiation and responsiveness.

### Method

Ten children with SLI and thirteen typically developing children were the subjects of the study. Children were required to access and participate in an ongoing activity with two unfamiliar peer partners. Two children of similar age and language skills were invited to play together with toys. After the children were interacting with each other for about ten minutes, the subject was brought in and left to enter the activity.

### Results

All children were able to access the activity by either making an initiation toward their peers or by responding to invitations directed at them. However, four children with SLI required longer than ten minutes to access the activity. Once access had occurred, the quality of interaction between the children was examined. Children with SLI spoke less in the interactions, were addressed less, and collaborated less with their peers during the interaction.

### Conclusion and Relevance to Current Work

Accessing and participating in an ongoing activity is difficult for children with SLI, even when a peer makes an initiation. The findings of this study are relevant to the current work because children with SLI displayed more individualized play and on looking behaviors than typically developing children. These behaviors are similar to descriptions of solitary passive withdrawal and reticence.

Nelson, L. J. (2013). Going it alone: Comparing subtypes of withdrawal on indices of adjustment and maladjustment in emerging adulthood. *Social Development, 22*, 522–538. doi:10.1111/j.1467-9507.2012.00671.x

### Purpose

The purpose of this study was to examine differences between subtypes of withdrawal on internalizing issues and relationships in emerging adulthood. A secondary purpose of this study was to examine differences based on gender.

### Method

*Participants.* The sample consisted of 791 undergraduate students that ranged in age from 18-29 years of age, with a mean age of 19.6 years old. The overall response rate was approximately 60 percent.

*Procedure.* All measures were collected online. Participants filled out a series of

questionnaires that took about 45 minutes. The survey consisted of subscales for the following measures: social withdrawal subtypes, self-esteem, depression, self-harm and suicidal ideations, fear of negative evaluation, emotional dysregulation, social comparisons, and relationship quality.

### Analysis and Results

Two multivariate analyses of variance were conducted to determine whether there were differences in emerging adults' internalizing characteristics and relationships as a function of subtype of social withdrawal. The results were that three types of social withdrawal (shyness, avoidance, unsociable) could be identified in emerging adulthood. Each type was uniquely related to indices of maladjustment in regard to internalizing problems and relationship difficulties.

### Conclusions & Relevance to Current Work

In general, shy and avoidant individuals reported more problems of an internalizing nature and reported more problems with relationships. Unsociable individuals reported far fewer problems. This suggests that there are greater risks associated with shyness and avoidance than unsociability in emerging adulthood. This study is relevant to the current work because it shows that threats posed by shyness (similar to reticence) extend beyond adolescence and into early adulthood. The fact that shyness and avoidance are related to internalizing issues and problems with relationships with peers and parents suggests that reticence can have more negative consequences than solitary-passive withdrawal.

Nelson, L. J., Rubin, K. H., & Fox, N. A. (2005). Social withdrawal, observed peer acceptance, and the development of self-perceptions in children ages 4-7 years. *Early Childhood Research Quarterly, 20*, 185-200. doi:10.106/j.ecresq.2005/04.007

### Purpose

The purpose of this study was to examine the relationship between nonsocial behaviors, peer acceptance, and self-perceptions at age 7 years in boys and girls.

### Method

The sample in this study included 163 children (89 females, 74 males) who were attending preschool in the Washington, D.C. area. Children participated in the study at age 4 years and again at age 7 years. The majority of the participants were Caucasian and middle class. Behavioral observations were collected during free play sessions at a university laboratory where participants were assigned to quartets of gender-matched and age-matched peers they had never met before. Brief intervals (10 sec) were coded for social participation and cognitive quality of play. Peer acceptance was coded according to frequency of successfully initiated interactions with others. Perceived competence and acceptance was assessed at age 7 using the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. This scale assesses child's perceptions of their physical and cognitive competence and their perceptions of relationships with their peers and mothers.

### Results

A series of *t*-tests were completed to assess gender differences. A series of *t*-tests

revealed that gender differences were only seen on two variables; boys were more engaged in reticent behavior and solitary-passive withdrawal than girls at age 7 years. Reticence and solitary-passive withdrawal were negatively associated with peer acceptance at age 4 and 7 years for both boys and girls. A series of paired-sample *t*-tests were conducted to assess within-sex age differences. This analysis revealed that boys engaged in solitary-passive behavior more often at age 4 years than 7 years and experienced less peer acceptance at age 4 years than 7 years. There were no statistically significant differences for reticence in boys. Girls were significantly more engaged in reticence and solitary passive withdrawal at age 4 than age 7. However, no significant differences were found in observed peer acceptance. A series of regression analyses were performed to examine the influence nonsocial behaviors and peer acceptance had on self-perception. For girls, peer acceptance at age 4 predicted physical and cognitive competence at age 7. For boys, reticence at age 7 negatively impacted perceptions of cognitive physical and cognitive competence at age 7 years.

#### Conclusion & Relevance to Current Work

The findings of this study show that gender differences play a role in the outcome of self-perceptions of competence. This study is relevant to the current work because it assesses the physical and social consequences of frequently engaging in reticent and solitary-passive behavior in boys and girls, and suggests that solitary-passive withdrawal is particularly detrimental to self-perceptions of social competence in boys.

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

#### Purpose

The purpose of this study was to compare two models of the relationship between language impairment and socioemotional difficulties. The models that were compared were the Social Adaptation Model and the Social Deviance Model.

#### Method

*Participants.* The sample consisted of 17 children with SLI and 20 children with typical language skills. Children with SLI were identified as having a language impairment by a speech-language pathologist, scored one standard deviation or more below age expectations based off a calculation of mean length of utterance, had unremarkable intelligence and hearing, and passed an articulation screener. Typical participants were selected from the same age range as the children with SLI and attended schools in the same communities as the children with SLI.

*Instrument.* The instruments used in this study were the Child Behavior Checklist and the Teacher Report Form. These measures provide an indication of the presence and severity of behavioral problems. Severity was indicated through “never,” “sometimes,” and “always” responses.

*Procedure.* Parents and teachers completed the forms. Forms were completed at the end of the child’s kindergarten and first-grade school years. Teachers and parents completed the forms at the same time.

### Results

Group effects were observed by completing a series of group x time x rater univariate analyses of variance and by completing chi-square analyses. The results of the analyses showed that significant group x respondent effects. Teachers rated the children with SLI as displaying higher levels of internalizing and social behavioral problems than typical peers. Parents did not rate children with SLI in the same manner. Analysis also showed that the ratings for both parents and teachers were not congruent across the sampling times.

### Conclusions & Relevance to Current Work

This study found support the Social Adaption Model, but not the Social Deviance Model. The SAM model predicted differences between raters and differences in congruity of ratings over time, which was observed in this study. This suggests that limited language skills can be at the core of socioemotional symptoms observed in children with language impairment. This study is relevant to the current work because it suggests that children with language impairment withdraw from social interaction because they are aware of their language deficiencies and avoid interactions as an adaptation strategy.

Rubin, K. H. (1982). Non-social play in preschoolers: Necessary evil? *Child Development*, 53, 651-657. doi:10.2307/1129/376

### Purpose

This study investigated the relationship between forms of nonsocial play (reticent, solitary-active, and solitary-passive withdrawal) and social, social-cognitive and cognitive competence.

### Method

Participants in this study consisted of 82 four-year-old children (53 male, 19 female). Children were predominantly Caucasian and attending preschools or day-care centers in suburban neighborhoods. Children came from lower middle class to upper middle class backgrounds. Participants were observed during free play for six 10-second intervals each day over the course of 30 days. Free play was videotaped and observations were coded according to cognitive play behaviors such as functional-sensorimotor play, dramatic play and constructive play. Play was also categorized according to frequency of solitary play, parallel play and group play. Two of the child's classroom teachers completed the Preschool Behavior Questionnaire to provide a measure of the child's social competence. The Preschool Interpersonal Problem-Solving test and the Social Problem-Solving Task were also used to assess social problem skills by presenting the children with a social scenario and asking them to provide a solution.

### Results

Unoccupied behavior was negatively correlated with age, frequency of peer conversations and teacher ratings of maladjustment. Parallel-constructive behavior was positively correlated with problem-solving abilities and social acceptance. Parallel-dramatic play was negatively associated with social acceptance and positively correlated

to social maladjustment. Solitary-functional play was negatively correlated to the frequency of successful social interactions and overall number of interactions and conversations. Solitary-constructive play was negatively correlated with number conversational initiations made and number of conversations held.

#### Conclusion & Relevance to Current Work

The type of nonsocial play exhibited by a child was an indicator of social, social cognitive and cognitive competence. Solitary-constructive play and unoccupied behaviors were considered relatively benign. Children engaging in solitary-dramatic and solitary-functional play were considered “at risk” because these behaviors indicated poor social, social-cognitive and cognitive competence. The current work measured the social behaviors outlined in this study within the population of children with language impairment.

Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social Withdrawal in Childhood. *Annual Review of Psychology*, 60, 141–171. doi:10.1146/annurev.psych.60.110707.163642

#### Purpose

The purpose of this review was to provide clarity to the complexity of social withdrawal, examine predicting factors and consequences of withdrawal, and describe pathways to and from social withdrawal in childhood.

#### Summary

Social withdrawal is complex in nature. Many people spend time alone. However, the causes for solitude widely differ. Some people prefer to be alone, others are alone out of fear and anxiety, and others are alone because of rejection. Cooley was an early psychologist who suggested that peer interaction was important to socialization in children. Later research has supported this idea, to underlie the notion that peer interactions and time spent in solitude can have both positive and negative social and emotional outcomes.

Social withdrawal is found in several diagnostic categories and is listed as a symptom, (rather than a syndrome of its own) of anxiety, social phobia, and depression. There are suspected to be different underlying motivations resulting in different forms of withdrawal for each disorder. Assessment of childhood social withdrawal is done through behavioral observations, parent and teacher ratings, peer-reports, and self-reports. Presence of withdrawn behavior has been identified as early as age four, and is relatively stable over time. However, parenting style, quality of parent-child relationships, and quality of peer relationships have an effect on the development, maintenance, and moderation of withdrawn behavior. Parents who are controlling, overprotective, and insensitive are associated with children being submissive, dependent, and timid.

With regard to peer relationships, children who display withdrawal are more likely to experience peer rejection, peer neglect, and active victimization. Children who are withdrawn may experience victimization because they are viewed as weak and timid, making them easy targets. Some studies have demonstrated that children who are withdrawn struggle to make large numbers of friends, however, they are just as likely as

peers to have at least one stable best friend and one mutual friend. However, the friendship quality is relatively poor. It follows that children displaying withdrawn behavior demonstrate low self-esteem and negative self-perceptions. The long-term consequences of social withdrawal indicated that shy individuals are at risk for developing anxiety disorders and depression.

#### Conclusions & Relevance to Current Work

Future research should focus on other forms of withdrawal, such as the non-fearful preference for solitude. More evidence is needed to determine the long-term effects of solitary-passive withdrawal. In addition, further investigation is necessary to explore the impact protective factors, such as regulating emotional expressiveness and talents, have on adjustment outcomes. This work is highly relevant because it examines correlates and predictors of withdrawal, which helps in the current investigation of possible explanations for the motivations of withdrawal.

Rubin, K. H., Coplan, R. J., Fox, N. A., & Calkins, S. D. (1995). Emotionality, emotion regulation and preschoolers' social adaptation. *Development and Psychopathology*, 7, 49-62. doi:10.1017/s0954579400006337

#### Purpose

The goal of this study was to investigate the interaction between emotion regulation and social interaction and the ability to predict social adaptation in preschoolers.

#### Method

Participants in this study consisted of 96 preschool children (40 males, 56 females) between the ages of 46 and 62 months. Children came from primarily middle-class backgrounds and were attending preschools in the College Park, Maryland area. Children were assigned to quartets of gender- and age-matched peers for free play sessions. Sessions lasted approximately 55 minutes and consisted of five segments: free play, a clean-up task, "show-and-tell" speeches, a ticket-sorting task, and additional unstructured free play. Behaviors were coded with Rubin's Play Observation Scale. Ten intervals were coded for social participation and cognitive quality of play. Additional variables coded included anxious, hovering, and aggressive behaviors. Mothers completed the Colorado Temperament Inventory to assess maternal perceptions of emotionality, activity level, shyness and soothability.

#### Results

Analysis revealed clustering into five groups: low social interaction, good emotion regulators; low social interaction, poor emotion regulators; high social interaction, good emotion regulators; high social interaction, poor emotion regulators; or average. Children who were in the low social interaction, poor regulators group demonstrated more anxious behaviors during the unstructured free play. They were also rated as having more internalizing problems than children who were in the low social interaction, good regulators and average groups.

#### Conclusion & Relevance to Current Work

The results of this study suggest that emotion dysregulation may be associated with

psychological maladaptation. It is also probable that the relationship between emotion dysregulation and psychological maladaptation depends on the degree to which a child is socially involved. This is related to the current work because it provides insight into the future social outcomes that may be associated with social withdrawal in children with language impairment.

Rubin, K. H., Hymel, S., & Mills, R. S. L. (1989). Sociability and social withdrawal in childhood: Stability and outcomes. *Journal of Personality*, *57*, 237-255.  
doi:10.1111/j.1467-6494.1989.tb00482.x

#### Purpose

The goal of this study was to examine the stability and long-term correlates of both social withdrawal and sociability in normal children. The study also investigated the relationship between indices of social withdrawal in kindergarten and second grade to measures of internalization difficulties in grades 4 and 5.

#### Method

The sample consisted of 111 children (56 females, 55 males) from lower middle class to upper middle class backgrounds who were attending public schools. This longitudinal study evaluated children from kindergarten to fifth grade. Observations of free play interactions and peer assessments were used to assess social withdrawal and sociability. Free play sessions consisted of a child playing with three same-gender, same-age peers for the course of 15 minutes. Forty-two, 10-second time intervals were coded over the course of the study, for a total of 28 minutes overall. Behaviors in each interval were coded on a checklist that included categories functional-sensorimotor, constructive, dramatic, and games-with-rules behaviors within the social categories of solitary, parallel, and group activities. Social play was defined as all forms of group play plus all conversations with peers. Social withdrawal was defined as the total time spent in solitary play plus unoccupied and on-looking behaviors. Internalizing difficulties were measured with the Self-Perception Profile for Children in fourth- and fifth-grade. Feelings of loneliness and social dissatisfaction were assessed using the Loneliness Scale, a self-report measure developed by Asher, Hymel, and Renshaw. Teachers were requested to complete the Teacher-Child Rating Scale in fifth grade.

#### Results

There was a modest degree of stability observed in regards to solitary withdrawal. However, stability was not observed for sociability, or active or passive forms of solitude. Somewhat higher stability was observed in peer assessment for sociability and withdrawal. Significant relations were found between withdrawal in early childhood, kindergarten and Grade 2, and internalizing difficulties in Grades 4 and 5. In general, children reported lower social competence, general self-worth, loneliness and depression. However, the observed patterns were mixed.

#### Conclusion & Relevance to Current Work

Early expressions of withdrawal and sociability predict internalizing difficulties later in childhood. This is related to the current work because it provides insight into the future

social outcomes that may be associated with social withdrawal in children with language impairment.

Spackman, M. P., Fujiki, M., & Brinton, B. (2006). Understanding emotion in context: the effects of language impairment on children's ability to infer emotional reactions. *International Journal of Language and Communication Disorders*, 41, 173-188. doi:10.1080/13682820500224091

#### Purpose

The goal of this study was to evaluate emotional inferencing skills in children with language impairment.

#### Method

The subjects in this study were 43 children with language impairment and 43 typically developing peers who were matched by age and gender. Participants were presented with hypothetical scenarios involving a character, Chris. The children were then asked to determine how Chris would feel in the situation. They were also asked to give a description of a particular emotion. Responses were measured on a five-point scale and entered into an analysis of variance.

#### Results

Happiness was the most accurately identified emotion by both groups. Sadness, fear, and anger followed. Older children performed better on the task than younger children. Children with LI were less successful in both identifying emotion and providing descriptions of emotions when compared to typical children.

#### Conclusion and Relevance to Current Work

Children with LI are less skilled in inferring emotion from elicited tasks when compared to typical peers. These findings are relevant to the current work because it demonstrates that the social deficit of children with LI exceed what would be expected given their linguistic skills alone.

Spinrad, T. L., Eisenberg, N., Harris, E., Hanish, L., Fabes, R. A., Kupanoff, K., Ringwald, S., & Holmes, J. (2004). The relation of children's everyday nonsocial peer play behavior to their emotionality, regulation, and social functioning. *Developmental Psychology*, 40, 67-80. doi:10.1037/0012-1649.40.1.67

#### Purpose

The purpose of this study was to examine the relationship between everyday play behaviors and social acceptance, as perceived by peers and adults. This study aimed to further previous research by providing data from a larger sample followed over a longer period of time than previous studies.

#### Method

Participants in the study consisted of 146 children (80 boys, 66 girls) enrolled in eight classes at two university preschools located in the southwestern United States. Short

samples (about 10 seconds) of observed free play were collected daily over the course of 4-month semester periods. About two thirds of the way through the semester, parents and teachers completed rating scales to provide measures of the child's anxiety, aggressiveness and emotion regulation. Parents also reported on the child's problem behaviors and social acceptance. These measures were completed again about two-thirds of the way into the second semester. A subsample of children participated in peer-rated measures of likeability.

### Results

Play behaviors were positively correlated across the two semesters. Solitary and reticent behaviors were unrelated to each other. In examining the relationship between temperament and play behavior, reticent behavior was related to low anger, low positive emotion, high effortful regulation, and low externalizing problems. Solitary passive behaviors were related to parent-rated anxious-fearful behavior, low regulation, and high peer exclusion.

### Conclusion & Relevance to Current Work

This study found only a very weak relationship between reticent behavior and social anxiety. This study also found that that solitary passive behaviors are related to peer rejection, exclusion, and problems with anxiety and fearfulness over time. This study is related to the current work because it attempts to identify the motivations for withdrawal as a combination between temperament and peer rejection. It also provides evidence that solitary-passive withdrawal may not be as benign as some researchers assert.

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:10.1044/1092-4388(2008/069)

### Purpose

The purpose of this study was to investigate a possible association between specific language impairment (SLI) in adolescence and low global self-esteem, shyness and low sociability.

### Method

*Participants.* The sample consisted of 54 adolescents with specific language impairment and 54 typical peers. All participants were between 16 and 17 years of age. Participants with language impairment were qualified on the basis of scoring below 1 standard deviation on the Clinical Evaluation of Language Fundamentals—Fourth Edition (CELF-4), a performance IQ standard score of 80 points and above on the Wechsler Abbreviated Scale of Intelligence (WASI) test, having no diagnosis of autism, having normal hearing, and speaking English as the primary language. Typical peers were selected on the basis of scoring within 1 standard deviation from the mean on the CELF-4, and having a WASI performance IQ of 80 points and above.

*Instrument.* The instruments used in this study were the Rosenberg Self-Esteem Scale, the 12-item Revised Cheek and Buss Shyness Scale, and the Cheek and Buss Sociability Scale.

*Procedure.* Each participant was individually administered the tests in a quiet environment. Due to language difficulties, the statements on the assessments were read aloud and the participants responded either verbally or by pointing to a visual option to indicate their agreement with the statements.

### Results

Data was analyzed by conducting a mediation analysis, analysis of variance, and regression analysis. Analysis revealed that the group with specific language impairment had lower global self-esteem ratings than typical peers. The group with SLI was more shy, but didn't differ in sociability ratings.

### Conclusions & Relevance to Current Work

Adolescents with SLI are at risk for lower global self-esteem. They experience shyness, although they want to interact. Shyness could be a mediating factor between language ability and global self-esteem. This is important to the current work because it confirms that adolescents with language impairment experience shyness, although they have a desire to interact socially. This study confirms that the reticence documented in children as part of the current study extends into adolescence.

## APPENDIX B:

## TBRS Data

Table 2

*Mean Teacher Behavior Ratings for Reticent Behavior Reported by Frequency of Occurrence for Groups with Language Impairment (LI) and Typical Language*

Item	Teacher rating	LI	Typical
R1	0	79	123*
	1	40	15*
	2	22	1*
R2	0	50	91*
	1	58	42*
	2	34	7*
R3	0	56	110*
	1	46	27*
	2	39	2*
R4	0	81	119*
	1	52	19*
	2	8	1*

*Note.* Higher scores indicate higher levels of reticent withdrawn behavior. \* $p < .05$

Table 3

*Mean Teacher Behavior Ratings for Solitary Passive Withdrawn Behavior Reported by Frequency of Occurrence for Groups with Language Impairment (LI) and Typical Language*

Item	Teacher rating	LI	Typical
SP1	0	77	69
	1	51	58
	2	12	11
SP2	0	60	74
	1	69	50
	2	10	14
SP3	0	66	96*
	1	56	39*
	2	16	3*
SP4	0	61	100*
	1	66	36*
	2	13	2*
SP5	0	72	114*
	1	51	21*
	2	16	2*

*Note.* Higher scores indicate higher levels of solitary passive withdrawal behavior. \* $p < .05$