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Language as a Predictor of Reticence in Children With
Language Impairment

by

Patricia A. Moses

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

Master of Science

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August 2010

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ABSTRACT

Language as a Predictor of Reticence in Children With Language Impairment

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Master of Science

This study examined the relationship between language skills and reticence in 37 children with language impairment (LI) and 37 typically developing peers matched for age (ranging from 6;11 to 10;1 years) and gender. Subtests of the *Comprehensive Assessment of Spoken Language* (E. Carrow-Woolfolk, 1999) were used to evaluate language ability. The *Teacher Behavior Rating Scale* (C. H. Hart & C. C. Robinson, 1996) was used to evaluate reticence. The current study replicated previous research by documenting significantly higher levels of reticence in children with LI when compared to typical peers. Significant group differences were also found in paragraph comprehension, syntax construction, and pragmatic judgment skills, with children with LI performing poorer on each language subtest compared to typical peers. No significant gender differences were observed on any of the comparisons. Multiple regression analyses were applied to evaluate the relationship between the language subtests and reticence in the group with LI and the typical group. Results for both groups indicated that paragraph comprehension, syntax construction, and pragmatic judgment skills were not significant predictors of reticent withdrawal behavior, either in combination or independently. Results suggest that language alone cannot predict reticence in either children with LI or their typical peers.

Keywords: withdrawal, reticence, language impairment

ACKNOWLEDGMENTS

The undertaking of a thesis cannot be understood in the beginning stages of planning. Countless hours of thought, exploration, research, writing, editing, rethinking, rewriting, and persistence all play into the mix of making this dream a reality. Even more importantly, a thoughtful, encouraging mentor keeps the process moving when the task seems insurmountable. My heartfelt thanks go to Dr. Martin Fujiki, my mentor, who gently prodded, provided positive feedback, and encouraged my efforts throughout this thesis journey. Your kind, steady nature was comforting in times of stress. Thank you to Dr. Bonnie Brinton who pushed for even greater perfection, refined the writing to its final stages, and made me feel like I could do anything. To Lee Robinson, my friend, thank you for your shoulder, listening ear, the Kleenex, and the chocolate. Thank you also to Dr. Channell for your humor and down-to-earth view of self and the world.

Eight years ago my husband and best friend, Bob, dared me to apply to the University of Utah. He knew full well it would motivate me to take that leap of faith to fulfill my lifelong goal of completing higher education. I am indebted to him for standing by my side through seven very long years of undergraduate and graduate studies. His willingness to leave our home for two years so that I could attend BYU for graduate school is characteristic of his unwavering support of my dreams. Thank you to our children, Leah, Scott and Michelle, Kendra and Dave, and Courtney, and our beautiful grandchildren who cheered me on through every step of this thesis. To my cohort—Emma, Anita, Nicole, Rachel, Maria, Kristi, Skylee, and Jen—you have been my inspiration. Finally, thank you to Dr. Marie Tuttle for your one word of advice—persevere.

Table of Contents

	Page
List of Tables	vi
Introduction	1
Literature Review	4
Historical Evolution of Social Withdrawal Construct.....	4
Categorization of Withdrawal Subtypes.....	5
Solitary-passive withdrawal	6
Solitary-active withdrawal	7
Reticence	8
The Relationship Between Language Impairment and Withdrawal.....	11
Summary	14
Method.....	16
Participants	16
Participants with language impairment	16
Participants with typically developing language skills	17
Assessment Instruments	17
Reticence	17
Language	18
Procedures	18
Results	20
Group Comparisons.....	20
Link Between Language Subtests and Reticence in Children with Language Impairment	20

Link Between Language Subtests and Reticence in Typical Children	22
Gender Relationships	22
Discussion	24
Summary of Results	24
Evaluation of the Link Between Language and Reticence.....	24
Clinical Implications	27
Qualifications and Recommendations for Future Research	28
Conclusion.....	30
References	31

List of Tables

Table	Page
1. Means and Standard Deviations for Language and Reticence Scores by Group	21
2. Means and Standard Deviations for Language and Reticence Scores by Gender.....	23

Introduction

Children with language impairment (LI)¹ are at risk for social problems. For example, Paul, Looney, and Dahm (1991) identified problems in socialization in two- and three-year-old children diagnosed as late talkers. Gertner, Rice, and Hadley (1994) observed a lack of peer acceptance in children with specific language impairment (SLI) as young as preschool age. Social difficulties may continue into the elementary school-age years as children with LI struggle socially with a variety of social tasks, such as trying to access ongoing interactions (Brinton, Fujiki, Spencer, & Robinson, 1997; Craig & Washington, 1993) or negotiating with peers (Brinton, Fujiki, & McKee, 1998). Several authors have found that children with LI are more withdrawn than typical peers (Fujiki, Brinton, Morgan, & Hart, 1999; Redmond & Rice, 1998). Withdrawn behavior is concerning because it can limit social interaction and reduce opportunities for social growth and language development. Children who lack these interactions may have increased difficulty forming peer relationships (Rice, 1993).

A range of behaviors has been grouped under the label of withdrawal. In the social psychology literature, the umbrella construct of social withdrawal includes solitary-passive, solitary-active, and reticent behaviors (Rubin, 1982; see Rubin, Burgess, & Coplan, 2002, for a review). Whereas solitary passive withdrawal may be comparatively benign, solitary active withdrawal and reticence may lead to peer rejection and isolation. The focus of the current study is reticent withdrawal in children with LI.

Research exploring the relationship between withdrawn behaviors and LI has repeatedly found that children with LI are rated by teachers as being more reticent than their typically

¹ LI and SLI are terms both referring to children who have language problems in the face of typical development in other areas. When talking about a specific author's work, the original term will be used. When given a choice, LI will be used.

developing peers (Fujiki et al., 1999; Fujiki, Spackman, Brinton, & Hall, 2004; Hart, Fujiki, Brinton, & Hart, 2004). Findings of increased reticence in children with LI are troubling because anxiety and wariness are associated with reticence. In addition, reticent children are more likely to be rejected by their peers (Rubin, Burgess, & Coplan, 2002).

Research exploring the relationship of withdrawn behaviors to LI is relatively limited. To address this need, the first goal of the current study was to replicate previous research that has shown children with LI to be more reticent than typically developing peers (Fujiki et al., 1999; Fujiki et al., 2004; Hart et al., 2004). The second goal of this study was to identify the extent to which specific aspects of language predict levels of reticence in children with LI. These aspects included language comprehension, production, and pragmatic judgment skills. Gender was also examined due to earlier findings suggesting that boys with LI may have greater difficulty in social interactions than girls (Brinton et al., 1997; Fujiki et al., 1999). The following research questions were considered:

1. How much of the variance in reticence scores is explained by language comprehension as measured by the paragraph comprehension subtest of the Comprehensive Assessment of Spoken Language (CASL; Carrow-Woolfolk, 1999)?
2. How much of the variance in reticence scores is explained by language production as measured by the syntax construction subtest of the CASL?
3. How much of the variance in reticence scores is explained by pragmatic judgment skills as measured by the pragmatic judgment subtest of the CASL?
4. Do significant differences exist regarding the relationship between language performance and reticent behavior in children with LI as opposed to typical children?

5. Does gender play a role in levels of reticence in children with LI or their typical peers?

Literature Review

During the past two decades, a great deal of research has examined social withdrawal. This review will examine how the concept of withdrawal has evolved, being refined into subtypes of solitary-active, solitary-passive, and reticent behaviors. The characteristics and consequences of reticent behavior will then be explored. Finally, the relationship between withdrawn behaviors and LI will be evaluated.

Historical Evolution of the Social Withdrawal Construct

Researchers studying child development over almost three decades have established the fact that children who lack “typical” peer interaction and relationships are at risk for maladaptation. This dialogue has centered primarily on children who display hostile and aggressive tendencies. Recent research, however, has established the “significance of social withdrawal in predicting negative peer concomitants and outcomes” (Rubin, Bowker, & Kennedy, 2009, p. 304).

Withdrawn behaviors create risk for social difficulties in otherwise typically developing children. Rubin, Burgess, and Coplan (2002) proposed, “withdrawn children are socially deferent, anxious, lonely, rejected and insecure in the company of peers” (p. 345). Withdrawn children often lack age-appropriate problem solving abilities and may perceive themselves as intrinsically flawed in their interpersonal relationships and social skills. Withdrawal can potentially limit opportunities for social growth and development with negative consequences such as rejection (Rubin, 1982; Rubin & Mills, 1988; Younger & Daniels, 1992), social wariness (Asendorpf, 1991), and negative teacher perceptions (Rubin & Mills, 1988). Children who appear anxious and withdrawn may be vulnerable to victimization by peers, causing heightened fear and further withdrawal from social interaction (Rubin et al., 2009). A continued high frequency of passive withdrawn behaviors may put older children at risk for “developing

internalizing disorders such as anxiety, loneliness, and depression” (Rubin & Mills, 1988, p. 917). Withdrawn children who recognize their social difficulties and sense peer rejection may “begin to develop negative self-perceptions and emotions” (Rubin, 1993, p. 298).

Categorization of Withdrawal Subtypes

Since the 1980s, research examining social withdrawal has focused on many different aspects of this behavior. Interchangeable terms, such as social withdrawal (passive or solitary-passive), social isolation, shyness (self-conscious and fearful), and behavioral inhibition (Rubin, Burgess, & Coplan, 2002) have all been used, creating potential confusion. Rubin and Asendorpf (1993) attempted to provide clearer conceptual and definitional understanding in the literature by consolidating an international discussion of research concerning social withdrawal, inhibition, and shyness in childhood. Inhibition is a fearful and wary disposition in novel (unfamiliar) settings. Self-conscious shyness reflects “social-evaluative concerns” (Rubin, Burgess, & Coplan, 2002, p. 330), while fearful shyness is an inhibited response to novel settings. Social isolation is due to peer rejection resulting in active isolation from a peer group. In contrast to social isolation, social withdrawal indicates “isolating oneself *from* the peer group” and “refers to the consistent (across situations and over time) display of all forms of solitary behavior when encountering familiar and/or unfamiliar peers” (Rubin, Burgess, & Coplan, 2002, p. 330). Perhaps the most important distinction between withdrawal and isolation is that withdrawal is an individual’s effort to stay away from a peer group while isolation is the peer group’s efforts to stay away from an individual.

Another result of attempts to provide more clarity to the study of withdrawal has been the identification of subtypes of withdrawn behavior. Rubin (1982) examined the nonsocial play of preschoolers in order to identify positive or negative correlations in social, social-cognitive, and cognitive domains. Five subtypes of withdrawn behavior were differentiated as follows:

(a) solitary-functional play (least mature form of play, sensorimotor, or repetitive motor activity), (b) solitary-constructive play (e.g., constructing puzzles, artwork, or block creations), (c) solitary-dramatic play (pretend or fantasy play), (d) unoccupied behavior (e.g., staring or doing nothing), and (e) onlooker behavior (e.g., prolonged observation of peer play without joining in).

Further distinctions of social withdrawal subtypes have streamlined previous descriptions into three categories. First, solitary-constructive play (also known as solitary-exploratory play) has been described as passive isolation (Rubin & Mills, 1988), passive withdrawal (Rubin & Asendorpf, 1993), unsociable behavior (Harrist, Zaia, Bates, Dodge, & Pettit, 1997), and is presently known as solitary-passive withdrawal (Rubin & Coplan, 1998). Secondly, solitary-functional play and solitary-dramatic play have merged and have been described as active-immature social isolation (Rubin & Mills, 1988), active-isolate behavior (Harrist et al., 1997), and more recently as solitary-active behavior (Coplan, Rubin, Fox, Calkins, & Stewart, 1994). Lastly, unoccupied and onlooking behaviors have been combined and described as passive anxious withdrawal (Harrist et al., 1997) and is presently termed reticence (Asendorpf, 1991; Coplan & Rubin, 1998). A more in-depth discussion of withdrawal subtypes follows.

Solitary-passive withdrawal. Rubin (1982) identified solitary-passive behavior as choosing to engage alone in constructive and/or exploratory play. Solitary-passive children are not necessarily socially incompetent but rather seem to enjoy solitude and may simply be disinterested in high levels of social interaction (Coplan et al., 1994). Children who engage alone in constructive play may be adept at both social and nonsocial problem solving, enjoy peer acceptance, and are regarded as socially skilled by their teachers (Rubin, 1982). Young children may experience no negative consequences of rejection by peers or poor psychological adjustment

as a result of this quiet, oftentimes sedentary behavior, and these solitary-passive withdrawn behaviors may remain unchanged with increased age (Rubin et al., 2009). During later mid-childhood years when socially interactive behavior is increasingly the norm, peer perception of passive withdrawal during free play opportunities can be negative and may result in rejection (Younger & Daniels, 1992).

Solitary-active withdrawal. Solitary-active withdrawal is characterized by cognitive immaturity and boisterous behavior resulting in active isolation by peers. Children who are solitary-active engage in solitary repeated sensorimotor actions and/or dramatic play despite being among a social group (Rubin, 1982). Teachers often negatively view solitary-active withdrawn behaviors as aggressive and impulsive (Rubin & Mills, 1988). The prominence of solitary-active behaviors has been associated with peer rejection in children as young as the preschool years (Rubin, 1982; Rubin & Mills, 1988). Solitary-active behavior is associated with externalizing difficulties such as hostility, aggression, and disruptiveness. However, Rubin and Mills (1988) also found that solitary-active behavior was infrequent and unstable across elementary grades and therefore not highly predictive of subsequent social problems.

Recently, Nelson, Hart, and Evans (2008) questioned whether solitary-pretend play and solitary-functional play (repeated sensorimotor actions) should be combined into one theoretical construct of solitary-active withdrawal. Few studies to date have empirically supported the aggregation of these two behaviors, yet they have repeatedly been combined into a single construct. Research conducted in the restricted space of laboratory or classroom settings using adult-directed activities has shown infrequent pretend play behaviors. However, more frequent displays of both pretend play and functional play have been documented in research conducted in playground settings (Nelson, 1996). For this reason, Nelson et al. (2008) studied the playground

play of preschool children to evaluate the relationship between solitary-pretend and solitary-functional play behaviors and the possible correlation of these behaviors to indices of adjustment and maladjustment. Nelson et al. (2008) found that these two play behaviors were not statistically correlated and thus should not be combined into a single construct of solitary-active behavior. Further, these play behaviors were associated with different indices of adjustment and maladjustment which confirmed theoretical separation of the behaviors.

Reticence. Asendorpf (1991) characterized reticence as prolonged solitary onlooking and unoccupied behavior accompanied by wariness in both familiar and unfamiliar social interactions. In a study of solitude in 4-year-old preschool children, Asendorpf found reticence to be statistically unrelated to solitary-passive behavior in dyadic play. However, with increasing age, solitary-passive behavior appeared to merge with reticent behavior. Children previously demonstrating reticent behaviors began to display solitary-passive characteristics during mid to late-childhood with a profile of fearfulness, anxiety, and wariness. This merging of withdrawn behaviors may represent the reticent children's coping mechanism to face their fearfulness in unfamiliar social circumstances.

Coplan et al. (1994) attempted to duplicate Asendorpf's (1991) study of solitude in preschool children. Children who manifested anxiety were less likely to produce solitary-passive and solitary-active behaviors but were more likely to produce reticent behaviors. Reticent children hovered on the fringes of social groups, consistent with the existence of an approach-avoidance conflict wherein they were simultaneously motivated to approach and to avoid others, also known as conflicted shyness (Asendorpf, 1990, 1991; Coplan, Prakash, O'Neil, & Armer, 2004). Reticent children also displayed a desire to join a peer group and even came in close physical proximity, but fear and anxiety prevented them from entering the group's social circle.

Coplan et al. (1994) suggested that reticence was an indicator of anxiety in young children. Reticent behaviors remained stable over time and situation, and reticence and maternal ratings of shyness were strongly correlated, suggesting that reticence may be a “trait” or dispositional variable rather than a “state” or situational variable.

There are a number of factors that may contribute to reticence. For example, maternal behavior can potentially contribute “to the perpetuation of socially inhibited or withdrawn behavior” (Hane, Cheah, Rubin, & Fox, 2008, p. 796). Well-intentioned parents who feel the need to protect their wary child from potentially difficult situations may discourage independence and autonomy by restricting the child’s activities (Rubin, Burgess, & Hastings, 2002). Overprotective parental behaviors may be “characterized by displays of warmth, intrusiveness, and restrictiveness in situations that do not warrant it” (Rubin, Burgess, & Hastings, 2002, p. 485) and may actually hinder inhibited children’s abilities to develop coping strategies.

In a longitudinal study, Rubin, Burgess, and Hastings (2002) assessed behavioral inhibition in relation to social reticence in a community sample of toddlers at age 2 years and again as preschoolers at age 4 years. Peer-inhibition in toddlers with intrusively controlling or derisive mothers was significantly and positively related to reticent behaviors later as preschoolers. In contrast, “no significant relation between toddler peer inhibition and social reticence” (p. 492) was noted in children whose mothers were neither derisive nor overcontrolling.

Highly sensitive, supportive, and positive maternal behaviors have been shown to be a positive factor in moderating socially withdrawn behaviors. Early et al. (2002) examined a subset of families ($n = 215$) participating in the National Institute of Child Health and Human

Development Study of Early Child Care. Data included mother-child observations at 15 months of age and kindergarten teacher's ratings of children's adaptation during the first week of school when children were between 58 and 70 months of age. An examination of the relationship between wary behavior in these typically developing 15-month-olds and inhibition when transitioning to kindergarten revealed that children with sensitive mothers were less apt to display inhibition during the transition. However, the children with insensitive mothers were more likely to display inhibition during the transition (Early et al., 2002). Whether reticence and socially withdrawn behaviors in preschool children extend into mid-childhood may be dependent in part upon the presence of overcontrolling, derisive, and hostile maternal behaviors. Hane et al. (2008) found maternal negativity to be a predictor of social withdrawal at age seven in children who had displayed high levels of reticence as four-year-olds. Thus, the mother-child relationship appears to be an influential factor and plays a critical role in the healthy socialization of young children.

Children who exhibit reticence have been characterized as anxious, fearful, and wary, caught in a conflicted shyness that prevents them from interacting with others. Because interacting is an important step in healthy socialization, reticent withdrawn behaviors can be harmful in the lives of otherwise typically developing children. Lack of social interaction has been associated with lower self-perception in children as young as four years old, which could potentially affect self-confidence and the ability to formulate positive friendships (Nelson et al., 2009). This is of particular importance in that "by elementary school, the peer culture is the dominant force of socialization" (Hane et al., 2008, p. 796). As has been shown, children who withdraw from peer interaction are felt to be at risk for social difficulties, such as loneliness, peer rejection, negative self-perceptions, depression, and increased vulnerability to bullying.

The Relationship Between Language Impairment and Withdrawal

A growing body of literature has indicated that children with LI are at risk for social withdrawal difficulties. Redmond and Rice (1998) evaluated 37 monolingual English-speaking children transitioning from kindergarten to first grade. Using the Child Behavior Checklist (Achenbach, 1991a) and the Teacher Report Form (Achenbach, 1991b), parent and teacher ratings of socioemotional behaviors were obtained for 17 children with SLI and 20 age-matched typically developing children at approximately age 6 years and one year later. Teachers, but not parents, reported significantly more behavioral problems observed in children with SLI on dimensions of social problems and internalizing behavior as opposed to the control group. These findings were consistent with predictions that “socioemotional problems of children with SLI are situationally dependent” (p. 694), consistent with the Social Adaptation Model (SAM). In the SAM, compensatory behaviors are thought to be the result of the child’s psychosocial processing of three components: “(a) the communicative demands of the environment, (b) a child’s verbal limitations, and (c) the biases and behaviors of people within their environments” (p. 689). In other words, children with SLI may behave differently at school by adjusting social behaviors due to language limitations in order to cope with the demands of the classroom, which could explain the differences between teacher and parent ratings. Another possible explanation for differences in ratings could be that teachers have a larger comparison base against which they can evaluate children’s withdrawn behaviors and might recognize variations from what they consider typical.

Extending the literature beyond the general construct of withdrawal, Fujiki et al. (1999) examined the influence of subtypes of withdrawn behaviors in children with LI. The Teacher Behavior Rating Scale (TBRS; Hart & Robinson, 1996) was used to evaluate withdrawn and sociable behaviors of 41 typically developing children and 41 children with LI in the classroom.

The three aforementioned subtypes of withdrawn behavior were examined (solitary-passive, solitary-active, and reticence), as well as two sociability behavior subtypes (impulse control/likability and prosocial). Unlike previous studies, solitary-passive and reticent behaviors did not merge with maturity but remained separate constructs. Of the three withdrawal subtypes, teachers perceived that the greatest differences between the typical children and children with LI were in reticent behavior (Fujiki et al., 1999). Reticence was manifest by inactivity when there was ample opportunity to participate and by fearfulness and shy behavior. Teachers also noted anxiety and a seeming inability to join or to remain involved in peer group activities. Reticent behavior was frequently reported for children with LI, while solitary-active withdrawal was rarely reported. However, boys with LI demonstrated a significantly higher prevalence of solitary-active withdrawal than girls with LI or typical children. There were no differences noted between groups in solitary-passive withdrawal, although boys demonstrated higher levels of solitary-passive withdrawal than girls.

In a pilot study, Fujiki, Brinton, Isaacson, and Summers (2001) analyzed 8 children with LI and 8 typically developing (TD) peers on the playground to evaluate differences, if any, in peer interaction and withdrawn behaviors. Children were videotaped in this highly social interactive environment relatively free of adult direction. Children with LI spent considerably less time in peer interaction (54% compared to 80% in TD peers) and displayed significantly higher levels of withdrawn behaviors (42% of the time compared to 17% in TD peers). Children with LI spent only a little more than half of their recess time in social interaction, participated in less rough and tumble play (which requires more aggressive and spontaneous behaviors), and spent significantly more time alone in solitary onlooking, moving from group to group without accessing the play with peers. Four children with LI, as compared to only one TD child, showed

reticent behaviors consistent with an approach-avoidance conflict (Asendorpf, 1991). These children appeared to want to interact, but seemed fearful to do so, which “may indicate increased stress and anxiety” (Fujiki et al., 2001, p. 108). This study, based on naturalistic observation of unstructured play, replicated earlier teacher report data in that high levels of withdrawal were observed in children with LI in the school environment.

Hart et al. (2004) examined the relationship between severity of SLI and social behavior, including sociability and withdrawal, in the classroom. Findings demonstrated high levels of reticent behaviors, including “staring at other children without interacting, doing nothing when there were plenty of things to do, and fear of approaching other children” (p. 656). These results replicated earlier research findings of increased reticence in children with LI and lower levels of likeability and prosocial behavior (Fujiki et al., 1999; Fujiki et al., 2001). The severity of LI did not appear to influence reticent behavior, however, which suggests that other factors beyond LI may contribute to reticence, such as biological disposition (Rubin, Burgess, & Coplan, 2002) or emotion regulation (Fujiki et al., 2004).

As LI has been shown to correlate with poor emotion regulation, Fujiki, Spackman, Brinton, and Hall (2004) attempted to further explore this relationship by examining emotion regulation as a predictor of reticence in children with SLI. Emotion regulation has been defined as a composite of multiple “intrinsic and extrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (Thompson, 1994, p. 28). The inability to regulate emotion can potentially undermine language acquisition. For example, children who are nonresponsive due to an inability to elevate emotion, cannot calm themselves, fail to manage strong emotions, or simply cannot process language while interacting may be viewed as poor conversational partners

(Fujiki et al., 2004). Fujiki et al. (2004) studied 43 children with SLI and 43 typically developing children in two age groups: 5 to 8 and 9 to 12 years. Teachers rated the children using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) and the TBRIS in order to identify differences in emotion regulation and reticence among children with SLI and their TD peers. The CASL was used to test language skills. As was expected based on previous research findings, children with SLI scored more poorly on emotion regulation and language than typical children. The children with SLI also displayed significantly higher levels of reticence compared to TD peers. In the second phase of the study, a regression analysis revealed, “language and emotion regulation combined to form a powerful predictor of reticence in typically developing children and children with SLI” and “accounted for 43% of the variance in reticence scores” (Fujiki et al., 2004, p. 644). No significant differences were noted between age groups.

Research to date underscores the multifactorial etiology of reticent behaviors in children with LI. As Hart et al. (2004) posited, language functioning alone cannot fully account for reticent withdrawal in children with SLI because children who demonstrated more severe LI did not necessarily demonstrate higher levels of reticence than children with moderately severe LI. Fujiki et al. (2004) demonstrated that emotion regulation plays a powerful role as a predictor of reticence which “likely represents a fearful, anxious behavior that results from the intertwining of language and emotional factors” (p. 644). It seems plausible that the underlying factors influencing increased reticence are more complex than has been explained to date.

Summary

The current study was undertaken to extend previous research regarding reticent behavior in children with LI. Although LI in general has been shown to be linked to increased reticence in children, it is unknown what specific aspects of language may be more influential in predicting

reticence. This study explored how much of the variance in reticence scores could be explained by language comprehension, language production, and pragmatic judgment skills in mid-childhood.

Method

Elementary-age children were studied to determine whether or not specific aspects of language were predictors of reticent withdrawal behavior in children with LI. Data used in the current study were drawn from two studies conducted during 2004-2005 and 2007-2008, which evaluated emotion understanding in children. Each individual study had the approval of the Brigham Young University Institutional Review Board.

Participants

The sample included 37 children with LI and 37 children with typically developing language matched for chronological age and gender. All participants spoke English as their primary language. Children were sampled from regular elementary school classrooms in three local school districts. Each participant passed a pure-tone audiometric screening administered by the school audiologist or speech-language pathologist.

Participants with language impairment. The group with LI consisted of 37 children ranging in age from 6;11 to 10;1 years. Each child with LI had scored at least 1 *SD* below the mean on a previous standardized measure of expressive and/or receptive language testing and was enrolled in speech-language pathology or resource services in school. Further testing using the CASL and the Test of Language Development-Primary:2 (Newcomer & Hamill, 1988) corroborated the diagnosis of LI. The Universal Nonverbal Intelligence Test (UNIT; Bracken & McCallum, 2003) was used to exclude intellectual disability as the rationale for LI. Children were required to produce a score of 75 or higher. No history of social, emotional, or behavioral problems were indicated in teacher and school reports or school placement. The mean percentage of families of the group with LI below the poverty level was 3.58% (*SD* = 3.45; U.S. Census Bureau, 2008) for the block group area encompassing the elementary schools involved in the

study. Racial composition of the group with LI consisted of 34 Caucasian children, 1 Hispanic child of Mexican descent, and 2 children of unknown racial background.

Participants with typically developing language skills. The group demonstrating typically developing language skills consisted of 37 children (ages 6;11 to 10;1 years) selected from the classmates of children with LI. Teachers of each child with LI created a list of potential matches based on study criteria as follows: (a) none of the typically developing children were receiving special services for behavioral, intellectual, academic, or communication problems; (b) this group of children was performing at expected academic levels as indicated by teacher and school reports; and (c) the children were administered the UNIT and CASL to verify suitable group placement, with all scores falling within or above 1 *SD* of the mean. A typically developing classmate of the same gender and chronological age (within 7 months) participated as a match for each child with LI. The group with typical developing language skills included 33 Caucasian children and 4 Hispanic children of Mexican descent. The SES level was similar to that reported above.

Assessment Instruments

Reticence. The TBRS is a 161-item informal questionnaire developed to measure a variety of social skills. Fujiki et al. (1999) established the psychometric viability of using this instrument with elementary-age children. Three reliable subtypes of withdrawn behavior (solitary-passive, solitary-active, and reticence) were identified through factor analysis of ratings of 417 elementary school-age children. Reticence was chosen for study because children with LI have frequently demonstrated high levels of reticent behavior. The following six TBRS items were used to indicate reticence: (a) appears to be doing nothing, (b) fearful when approaching other children, (c) stares at other children without interaction, (d) unoccupied even when there is

plenty to do, (e) shies away when approached by other children, and (f) reserved around other children.

Two versions of the TBRS were used in the current study: the 161-item full-length version and a shortened 70-item version. Classroom teachers rated the children's "present behavior relative to others in this age group that you know or have known" (Hart & Robinson, 1996, p. 1). Questionnaire items were rated on a 3-point scale (0 = *never*, 1 = *sometimes*, 2 = *often*) with the highest possible score being 12. Teachers took approximately 20 minutes to complete the measure for each child.

Language. The CASL was used to measure participants' language level. This standardized instrument is suitable for an age range of 3 to 21 years. Subtests assess four different areas of language: syntactic, lexical/semantic, pragmatic, and supralinguistic. An overall core composite score is derived from combinations of subtests; four subtests are used for children under age 6 years and five subtests for those 7 to 21 years of age to produce the core composite score. Children tested for the purposes of this database (ages 6;11 to 10;1 years) were administered the following subtests: Antonyms, syntax construction, paragraph comprehension, nonliteral language, and pragmatic judgment. The current study analyzed the scores from the subtests of syntax construction, paragraph comprehension, and pragmatic judgment as possible predictors of reticence.

Procedures

Second-year graduate students in Communication Disorders administered the CASL to each participant. Assessment was performed in the school setting. Classroom teachers completed the TBRS. The same classroom teacher that rated a child with LI also rated the child's typical match. Inasmuch as children with LI received language intervention, teachers were aware of which children had LI and which were typically developing. To prevent bias, teachers filled out

the entire questionnaire and were not aware of the purpose of the study nor the specific questions which would be analyzed in the research. Teachers filled out the questionnaires at their convenience and mailed them to the researchers. Participating teachers received \$10 per student as a token of appreciation for their time.

Results

The performance of children with LI and typical children on the three CASL subtests and the TBRS reticence subscale is presented in Table 1. The two groups (LI, typical) were first compared to identify differences in language and reticent behavior and to determine whether current results replicated earlier findings regarding reticence (Fujiki, et al., 1999; Fujiki, et al., 2004; Hart, et al., 2004). All comparisons were made using the *t*-test for independent means at the .05 significance level. Multiple regression analyses were then performed for each group to ascertain how much of the variance in reticence scores could be explained by the paragraph comprehension, syntax construction, and pragmatic judgment skills subtests.

Group Comparisons

As expected, statistical comparisons using the *t*-test for independent means indicated significant group differences on all four variables (paragraph comprehension, $t(72) = 8.50$, $p = .000$; syntax construction, $t(72) = 5.48$, $p = .000$; pragmatic judgment, $t(72) = 8.45$, $p = .000$; reticence, $t(72) = 5.30$, $p = .000$). The children with LI did poorer than their typical peers on each language subtest. Additionally, children with LI demonstrated much higher levels of reticence than did typically developing children.

Link Between Language Subtests and Reticence in Children with Language Impairment

A multiple regression analysis was used to examine the extent to which reticence (dependent variable) could be explained by paragraph comprehension, syntax construction, and pragmatic judgment (independent variables). The three language variables as a whole did not significantly predict reticence scores, $F(3, 33) = 2.118$, $p = .117$, explaining 16% of the variance in reticence. None of the three language variables independently reached significance in children with LI.

Table 1

Means and Standard Deviations for Language and Reticence Scores by Group

Participant Group	Syntax Construction	Paragraph Comprehension	Pragmatic Judgment	Reticence
LI				
<i>M</i>	77.38	91.00	72.89	.82
<i>SD</i>	9.84	10.41	9.96	.62
Typical				
<i>M</i>	101.46	105.51	96.78	.23
<i>SD</i>	14.14	12.28	14.01	.27

Note. Higher paragraph comprehension, syntax construction, and pragmatic judgment scores indicate better performance as measured by the CASL language subtests. Higher reticence scores indicate greater withdrawal behavior as measured by the TBRS.

Link Between Language Subtests and Reticence in Typical Children

Like children with LI, the combined language variables did not significantly impact reticence scores in typical children, $F(3, 33) = .581, p = .632$, accounting for 5% of the variance. None of the three language variables independently reached significance in typical children.

Gender Relationships

The breakdown by gender is presented in Table 2. No significant gender differences for language or reticence were observed. A multiple regression analysis examined the extent to which gender influenced reticence in children with LI and in typical children. In girls with LI, the three language variables accounted for 24% of reticence scores but did not significantly impact reticence, $F(3, 12) = 1.28, p = .326$. In boys with LI, the three language variables accounted for 13% of reticence scores and also did not significantly impact reticence, $F(3, 17) = .86, p = .479$. In typical girls, the three language variables accounted for 32% of reticence scores, but these variables did not significantly impact reticence, $F(3, 12) = 1.91, p = .181$. In typical boys, the three language variables accounted for only 2% of reticence scores and did not significantly impact reticence, $F(3, 17) = .115, p = .95$.

Table 2

Means and Standard Deviations for Language and Reticence Scores by Gender

Participant Group	Syntax Construction	Paragraph Comprehension	Pragmatic Judgment	Reticence
Combined Female				
<i>M</i>	88.88	99.41	86.88	.58
<i>SD</i>	17.32	14.67	17.36	.58
Combined Male				
<i>M</i>	89.83	97.38	83.29	.48
<i>SD</i>	17.18	12.58	16.84	.54
Female with LI				
<i>M</i>	76.88	89.94	73.19	.94
<i>SD</i>	9.79	10.09	7.71	.61
Male with LI				
<i>M</i>	77.76	91.81	72.67	.73
<i>SD</i>	10.09	10.82	11.57	.62
Typical Female				
<i>M</i>	100.88	108.88	100.56	.22
<i>SD</i>	14.72	12.31	12.81	.24
Typical Male				
<i>M</i>	101.90	102.95	93.90	.24
<i>SD</i>	14.03	11.92	14.50	.30

Note. Higher paragraph comprehension, syntax construction, and pragmatic judgment scores indicate better performance as measured by the CASL language subtests. Higher reticence scores indicate greater withdrawal behavior as measured by the TBRs.

Discussion

The goal of this study was to extend previous research examining the relationship of reticent behavior and language. First, children with LI were compared with their typical peers on the measures of language and reticence. Following these comparisons, multiple regression analyses were employed to examine links between reticence and specific language behaviors.

Summary of Results

As expected, children with LI performed more poorly on the language measures and demonstrated significantly higher reticence scores than typical children (see Table 1). Significant differences on the language measures confirmed proper group placement.

Multiple regression analyses examined the link between paragraph comprehension, syntax construction, and pragmatic judgment subtests of the CASL and reticence scores. Language accounted for 16% of the variance in reticence in children with LI compared to only 5% in typically developing children. When gender was considered, language variables accounted for 24% of variance in reticence scores for girls with LI as compared to 13% for boys with LI. Surprisingly, language variables accounted for 32% of variance in reticence scores for typically developing girls (higher than for girls with LI) and only 2% for typically developing boys. The three language subtests did not significantly influence reticence in either children with LI or in typical children.

Evaluation of the Link Between Language and Reticence

This study attempted to identify how much of the variance in reticence scores (dependent variable) was predicted by language comprehension, language production, and pragmatic judgment skills (independent variables) in children with LI as compared to typical developing children. There were some interesting differences between the groups. For example, the language

scores accounted for three times the variance in reticence scores in children with LI than in typical children. This could possibly be related to the fact that far less reticence is noted in typical children. Despite these differences, however, none of the language subtests was a significant predictor of reticence. This was true for both groups of children. Thus, although children with LI often display high levels of reticent withdrawal, reticence cannot be linked to poorer performance in paragraph comprehension, syntax construction, and pragmatic judgment skills as measured by the CASL. Similar findings were observed when gender relationships were examined. Although there were some interesting trends in the data, the three language subtests did not significantly predict reticence for either gender in either of the groups studied.

The findings of this study support the idea that language alone cannot predict reticence, in either children with LI or their typical peers. The current work builds on Hart et al. (2004) who found that severity of LI was not a factor in severity of reticent withdrawal. Hart et al. proposed that factors beyond LI were likely responsible for social difficulties in children with LI. By looking at language in finer detail, it was found that even by examining specific aspects of language performance (paragraph comprehension, syntax construction, and pragmatic judgment), these variables did not reach statistical significance as predictors of reticence. Clearly, other factors are at play, consistent with previous research.

In the current study, language did not predict reticence. It would seem plausible that a complex interaction of developmental processes could account for some of the variance in reticent behavior in children with LI and that multiple factors contribute to reticence (Fujiki et al., 1999). These factors could include the child's natural temperament, coping strategies, parent interactional styles, or emotion regulation. For instance, Coplan et al. (1994) found that reticent behaviors remained stable over time and situation. Maternal ratings of shyness were strongly

correlated with reticence, suggesting that reticent behavior is a trait variable, or dispositional, rather than a state variable, which is situational. In other words, reticence may simply be due in part to the child's inherent temperament. The idea of reticence being dispositional conflicts with the Social Adaptation Model theory of Redmond and Rice (1998) wherein children adjust their social behaviors to cope with the demands of their environment. Redmond and Rice might argue that the shyness often seen in children with LI occurs as a result of the language disorder. Paul (2000) would argue the opposite, suggesting that social interaction may not be a high priority for children with slow language development. This population consistently displays mild shyness, and it is possible that withdrawn behaviors may precede the slower acquisition of language skills. Perhaps the child is "less driven to seek interaction and devotes more attention to other aspects of growing more attuned to his temperament" (p. 206) resulting in the language disorder.

A number of authors have also demonstrated that parent interactional styles influence reticence. For example, Rubin, Burgess, and Hastings (2002) found that controlling and derisive mothers influenced reticence in preschoolers. Conversely, children who were wary as toddlers but who had sensitive mothers were less likely to exhibit inhibition during the transition to kindergarten (Early et al., 2002). The extent to which parent interactional styles may have influenced the reticence observed in this study remains a question.

Fujiki et al. (2004) found that emotion regulation and language combined to form a strong predictor of reticence in both children with LI and typical children. When children are unable to regulate emotion, they may experience difficulty in responding appropriately, carrying on conversations, or calming themselves. The inability to regulate emotion can hinder the ability to process language and would naturally push the child to withdraw rather than continue to struggle emotionally to communicate with others.

Disposition, coping mechanisms, parent interactional styles, and emotion regulation may all make a contribution to reticent behavior. It is possible that for some children, reticence may be due in part to behavioral processes (e.g., disposition or emotion regulation) while for other children reticent behavior could be due to social processes (e.g., parent interactional styles or coping with environmental demands). It appears that no single factor can adequately explain reticence in children with LI.

Clinical Implications

Some have suggested that poor language skills are the basis of social problems in children with LI (Redmond & Rice, 1998). Such a link would suggest that improving language skills would result in improved social behaviors. Although language deficits can be expected to limit a child socially, the current findings suggest that language can only account for a portion of the variance in reticence scores in both children with LI and typically developing children. Communication is a mix of language and social behaviors, and it is well known that children with LI may have difficulty socially. Clinicians cannot address language problems alone in children with LI with the expectation that social problems, such as reticence, will be alleviated. For this reason, it is important to consider how closely connected language skills are to social skills when considering therapy approaches for children with LI. These approaches should be naturalistic in order to provide authentic contexts that engage the child and provide real-life opportunities for application rather than the traditional pullout or self-contained settings (Fujiki et al., 1999).

If a child with LI feels overly hesitant or anxious, he/she may not participate readily in social interactions in treatment. It may be tempting to simply resort to traditional pullout sessions for introducing language skills to avoid the demands of interacting socially and to alleviate the

concerns of children who display reticent behaviors. This would be a mistake. Pullout sessions often interrupt valuable instruction. The isolated environment of this intervention format can make generalization of newly learned skills difficult. Children with LI need to interact socially with peers within authentic contexts in order to practice language skills. A better approach would be a collaborative effort of the child's educational team to develop an individualized classroom-based language plan (Merritt & Culatta, 1998). In this format, the child's goals can be addressed in a variety of ways, such as in small group sessions, utilizing both teacher and speech-language pathologist in a team effort. Social interaction with classroom peers will naturally be the vehicle for practicing language skills. Clinicians and teachers would also be wise to observe carefully for signs of reticence in children with LI so that appropriate supports can be provided to alleviate the child's concerns.

Qualifications and Recommendations for Future Research

Future research could improve upon the current methodology used to measure reticent behavior and language performance. Two limitations are acknowledged. First, paragraph comprehension, syntax construction, and pragmatic judgment were assessed using subtests from a standardized measure. It is recognized that these subtests provide a relatively limited view of the parameters that they were used to measure. The CASL is a defensible choice for measuring language aspects, however. A notable amount of effort has been invested to ensure the reliability and validity of the CASL subtests. To create a more equitable test that could measure these language aspects would be an arduous undertaking. This research-based assessment examines a child's structural knowledge and language processing skills in a verbal format that does not require reading or writing for test items. The CASL has been used extensively in prior studies as a measure of language performance. It is rational to use this standardized measure, even though

it may not be without limitations. Nonetheless, future research could consider more comprehensive and authentic language measures that may more accurately represent the child's abilities.

Secondly, reticent behavior was determined through teacher ratings of a child's performance in the classroom. Merrell (2003) summarized the advantages and disadvantages of rating scales. For example, behavioral rating scales are less expensive to administer and require less training than direct observational measures. Additionally, important but low-frequency behaviors may be documented which may not be present in more limited opportunities of direct observational sessions. Rating scales provide more objective data than informal interviews and provide information that the subjects may not be able to provide about themselves. Rating scales rely on the judgments of individuals who are familiar with the subjects and who can observe behaviors over a period of time in a natural environment (Merrell, 2003). Teacher observations are advantageous in that the classroom setting provides a large number of children for interaction and a variety of contexts by which to gauge behavior. Teachers are generally aware of the developmentally appropriate behaviors of their students and can provide objective observations of typical behavior to be expected for that age group.

Despite the many advantages of using behavioral rating scales, some disadvantages do exist. Behavioral rating scales assess perceptions of problems and do not provide observational data. Ratings may reflect halo effects of overly positive or negative perceptions. For instance, possible teacher bias could confound the results for many reasons, such as the child's gender, socioeconomic status, academic performance, or perceived past behavior in the classroom. Some raters may be overly lenient or severe in their ratings. Central tendency effects of choosing midpoint ratings and avoiding end points of the rating scale could also exist. Error variance due

to subjectivity of the rater (source variance), the presence of behaviors in specific situations (setting variance), inconsistencies in observed behaviors or in the rater's approach over time (temporal variance), and differing hypothetical constructs of rating scales (instrument variance) could impact rating scores (Merrell, 2003). Future research may be better served using direct observational methods and contexts that could provide a more accurate picture of the child's reticent behaviors. It will also be important to investigate other variables that may coexist with language to influence reticent withdrawal.

Conclusion

Significant differences of increased reticent withdrawal behavior were found in children with LI compared to typical children and replicated findings of previous studies. Children with LI also displayed increased variance in reticence scores compared to typical children as measured by the paragraph comprehension, syntax construction, and pragmatic judgment subtests of the CASL, but these specific language aspects were not statistically significant predictors of reticent behavior in either group. These findings also validate previous studies and suggest that other factors beyond language performance contribute to reticence and ultimately to the social difficulties experienced by children with LI. It may also be the case that language abilities may influence other aspects of social behavior (e.g., sociability) in children with LI (Hart et al., 2004). The relationship between language performance and social skills merits further investigation to develop effective therapeutic methods for children with LI. By looking at the child through various lenses that take into account the complex relationship between language and social behaviors, we may come closer to developing a multidisciplinary approach that will better serve the needs of children with LI.

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