Social Circles of Children with Language Impairment

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Children with language impairment (LI) often demonstrate difficulties in social communication. The purpose of this pilot study was to examine the quantity and quality of the social interactions of children with LI and their typical peers through an analysis of the social networks or circles of each child. Eight children with LI as well as eight children with typically developing language and their parents were interviewed. Children's social networks were organized by social circles to effectively paint a picture of each child's social communication (Blackstone & Hunt Berg, 2003). Children with LI were found to have overall fewer contacts in their social circles than children with typical language; they also interacted with fewer peers than did children with typical language. The children with LI interacted with more adults who were paid or obligated to interact with them than did their typical peers.

Information about the nature of social interactions of children with LI as well as those of children with typical language was obtained from parent interviews. Qualitative observations from the parent interviews demonstrated that the Internet was not used as a significant mode of communication for children in this age group, although the children who used it to communicate were all from the Typical group. Most parents reported that children spent the most time and talked the most with immediate family members. A greater number of parents of children with LI than parents of children with typical language skills reported their children to have people they would like to talk to but did not. Parents of children with LI also reported their children to use fewer topics in conversation than were reported by parents of their typical peers. With few exceptions, parents of children in both groups reported that their children talked mostly about concrete rather than abstract topics. More parents of children with LI than those with typical language indicated that their children had topics they would like to talk about but did not or lacked the ability to do so.

Keywords: language impairment, social circles, social networks, social communication, sociability, social skills, school-age children
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DESCRIPTION OF STRUCTURE AND CONTENT

This thesis is presented in a hybrid format where current journal publication formatting is blended with traditional thesis requirements. The introductory pages are therefore a reflection of the most up to date university requirements while the thesis report reflects current length and style standards for research published in peer reviewed journals for communication disorders. Appendix A is composed of an annotated bibliography. Appendix B includes the child interview questions. Appendix C includes the parent interview questions. Appendices D and E are copies of the informed consent forms for children with typical language and children with language impairment respectively.
**Introduction**

Social deficits associated with language problems in early childhood have been well documented (Beitchman, Wilson, Brownlie, Walters, Inglis, & Lancee, 1996; Botting & Conti-Ramsden, 2008). The social difficulties demonstrated by children with LI may impact the number and quality of a child’s social contacts. This introduction will review the nature of social deficits in children with language impairment as well as methods used to explore children’s social circles.

**Nature of Social Interactions of Children with LI**

The documented social deficits associated with language problems involve a range of behaviors including problems with social tasks such as entering ongoing interactions (Brinton, Fujiki, Spencer, & Robinson, 1997; Craig & Washington, 1993; Liiva & Cleave, 2005), collaborating nonverbally and verbally in cooperative tasks (Brinton, Fujiki, & Higbee, 1998), and negotiating with peers (Brinton, Fujiki, & McGee, 1998). Additionally, children with language impairment (LI) have poor conflict resolution strategies (Horowitz, Jansson, Ljungbert, & Hedenbro, 2006; Marton, Abramoff, & Rosenzweig, 2005; Timler 2008), can be nonresponsive to social initiations (McCabe & Marshall, 2006), and are rated by teachers as having poor sociable skills (Hart, Fujiki, Brinton, & Hart, 2004).

As might be suspected given the poor social skills of children with LI, they experience a variety of poor social outcomes. As a group, these children have fewer friends (Brinton, Fujiki, & Baldridge, 2010; Durkin & Conti-Ramsden, 2007; Fujiki, Brinton, Hart, & Fitzgerald, 1999), lower quality friendships and levels of social activity (Botting & Conti-Ramsden, 2008), and are

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1 Language Impairment (LI) will be used to refer to children who have language problems in the face of relatively typical development in other areas. Specific Language Impairment (SLI) will be used when the authors of particular studies used that term.
more withdrawn than typical peers (Conti-Ramsden & Botting, 2004; Fujiki, Brinton, Isaacson, & Summers, 2001; Fujiki, Brinton, Morgan, & Hart, 1999; Hart et al., 2004; Redmond & Rice, 1998; Wadman, Durkin, & Conti-Ramsden, 2008). Although it is reasonable to assume that language plays a central role in these problems, there are indications that the linkages between language and social difficulties are complex. Illustrative of this complexity, Hart et al. (2004) found that severity of LI was related to poor sociable skills. Severity of LI was not related to severity of withdrawal, however. Some highly reticent children had comparatively good language skills, whereas some children who were not reticent had very poor language skills. The disconnect between some aspects of language and problematic social behavior fits with the observation that some pre-school aged children with various language problems appear to have ongoing social problems in elementary school even when language issues seem to be resolved (Glogowska, Roulstone, Peters, & Enderby, 2006).

Illustrating the difficulty children with LI have in entering, or accessing, an ongoing interaction, Craig and Washington (1993) found that 7-year-old participants with specific language impairment (SLI) had more difficulty accessing than chronological or language-age matched typically developing peers. Only two of the five participants with SLI were able to access, compared to all of the children in each of the control groups. Interestingly, the children with SLI did not successfully access peer interactions even when verbally invited to do so. Additionally, these children did not exhibit the specific access behaviors used by typical peers (i.e., physically approaching the group and directing comments or actions towards the joining of play); rather, children with SLI tended to make comments that were self-focused or had a negative quality. These results were later replicated by Brinton, Fujiki, Spencer, and Robinson (1997) and Liiva and Cleave (2005). Both of these later studies examined the interaction
following access. Brinton et al. (1997) and Liiva and Cleave (2005) found that even those children with LI who were able to access the interactions were not integrated into peer interactions. In other words, these individuals were addressed significantly less by their play partners, participated in less group play, and engaged in more individual play and on-looking behavior.

It is well established that children with LI have limited social contacts. The nature of these limitations, however, is not entirely clear. For example, are the social interactions of children with LI limited to family or others who are required (e.g., teachers, clinicians) to interact with them? Do they seek out younger children as interactional partners? Do these children have specific individuals that they interact with more successfully than others? The answers to these and similar questions are unknown. The purpose of this research is to examine whom children with LI interact with as well as the nature of those interactions. This will be done by examining the social networks of these children.

**Social Networks**

In the current study, *social networks* refer to the groups an individual associates with and how the individual is connected to the group. Social networks describe patterns of relationships as determined by connections based on reasons for association. Social network analysis can take many forms and explore various aspects of an individual’s social contacts with others. Researchers have used different approaches depending on the age of participants as well as what the investigators were attempting to explore. For example, the Q-connectivity method used by Rodkin and Hanish (2007) with pre-school aged children involved observing children in ten second intervals multiple times during the day on the playground and in the classroom. Observers recorded up to five names of individuals the children interacted with and data were
entered into the Web-based Q-connectivity data processing program. This method thus looked at social networks on an individual level as opposed to a large group level. Rodkin and Hanish found that the Q-connectivity method was sensitive to temporal and developmental concepts such as how often a child interacts within multiple pre-school peer groups. Studies using this method have suggested that there is a connection between pre-school children’s sustained interactions with peer groups and their reading and mathematics achievement (Rodkin & Hanish, 2007).

John Light and Thomas Dishion used a social network technique called SIENA modeling to examine the dynamic systems of social groups of adolescents at eight different schools. Findings supported the confluence hypothesis which “suggests that deviant peer groups form among aggressive adolescents, who then socialize one another through emergent antisocial norms,” (Rodkin & Hanish, 2007, p.6). Light and Dishion found that in different school contexts peer interactions are structured in different ways as antisocial adolescents go through peer socialization. The current study used a uniform structure and instrumentation to understand children’s social networks better. Taking into consideration the various and dynamic structures and contexts of peer interactions, however, the structure used was limited in some degree in that it was not possible to understand all possible contexts in which a child interacted within a social network or circle.

An additional factor that can influence data collection is the informant(s) who is (are) chosen to report on an individual’s social networks (Belle, 1989). Belle (1989) indicated that the agreement between the reports of preschool age children and their mothers in terms of composition and support of social networks was high; however, the reports showed distinctly different perspectives. For example, mothers’ reports of a child’s social contacts indicated a
much greater variety of contacts than child reports. Analysis of children’s social networks has also explored the satisfaction children associate with participation in social networks. Belle (1989) summarized research in which it was found that the satisfaction children received from relationships within their social networks correlated with the number of functions provided by the individuals in their circles. Functions members of social networks fulfilled included but were not limited to “emotional support, tangible assistance, cognitive information, and directive guidance” (Belle, 1989, p. 208). The dynamic nature of children’s social networks has been demonstrated through analyses revealing that as children develop they experience shifts in size and structure of their social networks (Belle, 1989).

Social network analysis has also been used to examine issues in child development such as how a child’s social networks impact well-being and the relationship between children’s need for autonomy and their need for support. Illustrative of this emphasis is a study of 1,953 German families which suggested that a social relationship can become a resource even if the strength of a tie is weak because of the heterogeneity of the network. In this context, heterogeneity refers to the “composition of the network members with regard to age, gender, and social context (e.g., family, classmate)” (Friemel, 2007, p. 19). Greater diversity of composition in a network increases the usefulness of the network as a resource for the individual members of the network (Friemel, 2007).

A social network analysis method of particular interest for present purposes focuses on the groups of people with whom the child interacts. Blackstone and Hunt Berg’s (2003) method of social network analysis was developed to assess an individual’s communication needs to potentially inform the selection and use of alternative and augmentative communication devices. These authors had persons with complex communication needs identify individuals
within various circles of communication (i.e., inner most circle: life partners, good friends, second circle: acquaintances, third circle: partners who are paid, and unfamiliar partners). The modes of communication an individual used within each circle of interaction (e.g., gestures, speech, vocalizations, sign language, simple communication device, e-mail, etc.) were also examined. This information was used to assess and better understand the individual’s communication needs as well as to develop functional goals for treatment. Blackstone and Hunt Berg’s method of social network analysis inspired the methods used in the current work.

Somewhat similar in objective, but different in structure, was the method of assessment used by Fujiki, Brinton, and Todd (1996). The authors assessed the social networks of children with LI using an informal picture task. This procedure consisted of presenting the child with photos of children engaged in a variety of daily social activities (e.g., playing at a friend’s house or at recess, eating lunch at school, etc.). Children with LI and their typical peers were asked to name the people with whom they did those activities. The application of this method showed that children with SLI had significantly smaller social networks than age-matched classmates with typical language skills.

**Statement of the Problem**

The current study used a combination of Blackstone and Berg’s *Blackstone Social Network Inventory* (2003) and the Fujiki et al. (1996) informal picture task to assess the social networks of children with LI as well as those of typically developing children. The specific questions the current work addressed were

1. According to self and parental reports, do the social circles of children with LI differ from the social circles of children with typical language?

2. If differences do exist, what is the nature of the observed differences?
Method

Participants

Children were selected as participants in the LI or Typical Language groups according to the following selection criteria. A brief sketch of the developmental history and language abilities of each child with LI are also described below.

Children with LI. Eight children with LI were selected from the client caseloads of two speech language pathologists in a local school district. Each child (a) had a chronological age between 5 and 9 years, (b) had an educational placement indicating a typical IQ, (c) received a standard score of one or more standard deviations below the mean on a standardized language test (described in more detail below), (d) was receiving speech and language services at school, (e) had typical hearing as determined by passing a school hearing screening, and (f) received parental permission to participate in the study.

The following is a more detailed description of each of the participants with LI. Note that the intelligence test scores for two children with LI (KL and BT) are not included as the scores were not available. However, the diagnosis of LI was established by the school SLP based on standardized tests as well as clinical judgment, and the participants were receiving speech and language services at the time of the current assessment.

BS (6;11, years; months) was a male Caucasian with a diagnosis of LI. He was in 1st grade when assessed. B.S. was enrolled in a special needs preschool at age 4 with a diagnosis of mild dysarthria and dysphagia. He was initially referred to speech services and treated for poor articulation. It was noted during treatment, however, that he was also beginning to lag behind his peers in language ability. When assessed, he was no longer receiving intervention services for his articulation, but rather for language abilities including sequencing of narratives,
appropriate production of regular past tense verbs, and appropriate use of pronouns. He received a standard score of 88 on the \textit{UNIT} (\(M = 100, SD = 15\); Bracken & MaCallum, 2003) and a core composite score of 69 on the \textit{CASL} (\(M = 100, SD = 15\); Carrow-Woolfolk, 1999) suggesting that low language abilities were not the result of intellectual disability.

MW (5;10) was a female Caucasian who was initially identified with developmental delay (all children identified in the school district’s early identification program received an initial diagnosis of developmental delay). The school speech language pathologist indicated that she should not be classified as intellectually disabled, however. This diagnostic decision was supported by a score of 83 on the \textit{UNIT} (Bracken & MaCallum, 2003). MW was initially enrolled in a special needs pre-school at age 3 but was attending a mainstream kindergarten class at the time of assessment, with one hour of pull-out resource support per day. In addition to speech and language services, MW attended special classes for reading and math, and received adapted physical education and occupational therapy services. On the \textit{CASL} (Carrow-Woolfolk, 1999) she received a score of 77—more than one standard deviation below the mean—which was indicative of low language abilities.

MP (5;11) was a male Caucasian initially identified with developmental delay. The diagnosis was later changed by the special education team to LI. MP’s IQ score on the \textit{UNIT} was 88. When initially evaluated at age 3, he spoke only in vowels and used mostly gestures to communicate but demonstrated comprehension of some words. At that time, it was also observed that although he enjoyed being around other children, he did not interact with them. At age 3, he joined a special needs preschool where he received speech services. At the time of assessment, he attended a mainstream kindergarten and continued to have difficulty with phonological processes as well as more general language abilities. He received a standard score
of 75 on the CASL (Carrow-Woolfolk, 1999) which was consistent with his diagnosis of LI. Interestingly, according to teacher and SLP reports he was performing at grade level academically and his behavior was age-appropriate. He was receiving occupational therapy services at the time of assessment. In spite of his communication difficulties, he enjoyed interacting with peers.

TS (5;5) was an African American male with a diagnosis of LI. He was enrolled in a special needs preschool at age 4 for low scores in all areas of development, especially in communication. He had reduced vocabulary, relied on vague and non-specific vocabulary words to communicate, and his language production was limited. TS relied on familiar and over-used scripts to communicate. He had difficulty academically, lagging behind his typically developing peers. At the time of assessment, he attended a mainstream kindergarten with pull-out resource support as well as speech and language intervention which targeted increasing his receptive and expressive language. He received an IQ score of 91 on the UNIT (Bracken & MaCallum, 2003) and a language score of 80 on the CASL (Carrow-Woolfolk, 1999) which was consistent with his diagnosis of LI.

TH (7;8) was a male with mixed Caucasian-Tongan ethnicity with a diagnosis of specific learning disability in the area of basic reading skills. After receiving a diagnosis of speech and language delay TH received intervention services from age 2 to 3 from Kids on the Move—an early intervention program for children from birth to 6 years old with developmental delays, disabilities, or who live in poverty. Although he scored in the typical range on several language tests, it was determined by the multidisciplinary team that he qualified for special services including speech and language intervention as for several reasons. Academically, he continued to lag behind his classroom peers, especially in reading. He struggled to remember family names
and alphabet letter names. At the time of assessment, he used imprecise language such as “thingy” when telling stories or describing objects or people. At times he appeared unaware that he used words that were inappropriate to the meaning he wanted to convey and it was left up to the listener to infer meaning. TH’s classroom teacher reported that he exhibited difficulty attending, difficulty controlling impulses, and emotional problems. At the time of assessment his language goals included learning memory techniques, increasing descriptive language, answering before and after questions, and learning multiple meanings of words. TH received an IQ score of 93 on the Woodcock-Johnson Tests of Cognitive Abilities 3rd Edition (WJ-III; Woodcock & Johnson, 1989) and language scores in the 45th and 2nd percentiles on the CELF-4 (Semel et al., 2000) and the Vineland-II (Sparrow, Cicchetti, & Balla, 2005) respectively.

JS (6;5) was a male Caucasian with a diagnosis of LI. He was a client at the BYU Speech and Language Clinic at the time of assessment. He was referred by his mother who was concerned about his language abilities and had noticed three separate episodes of extreme social withdrawal. His classroom teacher was concerned about his social interactions with peers. The teacher also reported him to be distractible, unable to follow multi-part directions, and verbally mean to younger children (i.e., interrupted, bullied using increased loudness or repetitive statements and screams). JS scored below average on most subtests of the Test of Language Development-4 (TOLD-4; Newcomer & Hammel, 2008) suggesting low language skills. In addition, on the Test of Problem Solving-3 Elementary (TOPS-3; Huisingh, Bowers, & LoGiudice, 2005) he scored just below one standard deviation from the mean. JS was performing at grade level in all academic subject areas at the time of assessment. He had not received formal IQ testing as it was deemed unnecessary. Because of his acceptable academic
performance, JS’s low language skills were not assumed to be the result of a more general cognitive disability.

KL (11;1) was a male Caucasian with a diagnosis of LI. He was receiving speech and language services at the time of assessment and was placed in a mainstream classroom. Language and IQ scores were not available at time of assessment; however, clinician report indicated that KL demonstrated intelligence and language abilities consistent with LI. With a diagnosis of LI, his therapy goals focused specifically on improving his receptive and expressive language.

BT (10;11) was a male Caucasian with a diagnosis of LI. Although standardized test scores of intelligence and language skills were not available at time of assessment, clinician report indicated the following which supported a diagnosis of LI. In addition to his receptive and expressive language deficits, he demonstrated deficits in social language skills such as staying on topic, asking questions, and giving appropriate amounts of detail. He was receiving speech and language services at the time of assessment.

**Typical children.** Eight children with typically developing language were selected by the SLP or the school principal or were recruited from the community. Each child (a) was matched to a child in the group with LI according to age and gender, (b) was not enrolled in any special services (e.g., communication, academic) at school, (c) demonstrated typical academic and behavioral standing at school, (d) demonstrated typical hearing as determined by passing school hearing screenings, and (e) received parental permission to participate in the study.

As indicated by the above, all typical children had unremarkable language, academic, and behavioral history according to school and/or parental reports.
Participants from both groups came from a similar geographic region and while they came from similar SES backgrounds according to the U.S. Census Bureau (2010 Census), there was some variation in the types of neighborhoods they lived in (house, condominium, or apartment).

**Instrumentation**

**Cognitive and linguistic assessment.** The tests used to qualify participants with LI for this study are widely accepted standardized measures. The UNIT (Bracken & MaCallum, 2003) and the Woodcock-Johnson Tests of Cognitive Abilities 3rd Edition (WJ-III; Woodcock & Johnson, 1989) were used to assess IQ. These measures served to verify that low language abilities of the children in the group with LI were not due to intellectual disability. Several instruments were used to assess language abilities. These tests included the Comprehensive Assessment of Spoken language (CASL; Carrow-Woolfolk, 1999), the Clinical Evaluation of Language Fundamentals-4th Edition (CELF-4; Semel et al., 2000), the Vineland Adaptive Behavioral Scales-2nd Edition (Vineland II; Sparrow, Cicchetti, & Balla, 2005) and the Test of Language Development-4th Edition (TOLD-4; Newcomer & Hammill, 2008).

**Social network assessment.** The assessments of social networks included interviews of the child and the parent which were designed to determine the number of social contacts. These methods are described in more detail as follows.

**Child interview.** The informal picture task administered to the children was used to estimate the number of peer contacts per child. The task was adapted from a similar procedure administered by Fujiki et al. (1996). Ten photos showing children participating in different activities (playing at someone’s house, coloring/drawing, playing at recess, riding bikes, playing games, watching TV, playing with toys, having a sleepover, talking on the phone, and eating
lunch at school) were presented to each child. The child was asked who he/she did the activity with and the researcher wrote down the child’s responses.

The adapted script used to elicit responses from the participants was developed by the research team (see Appendix B). The script began with an introduction to the task and a question to help the child start thinking about people with whom he/she associated. The general format used in the script for each item was to first explicitly state what was happening in the picture, ask whether the child did that activity with others, and then ask with whom he/she did that activity.

**Parent interview.** The parent phone interview questions were based on items in the *Blackstone Social Network Inventory* (Blackstone & Hunt Berg, 2003; see Appendix C). The assessment was designed to obtain more detailed information about each child’s social networks according to one of the child’s parents. Some questions were pulled directly from Blackstone and Hunt Berg’s Inventory Booklet while others were modified to elicit responses that would paint a picture of the size and nature of the child’s circles of communication. The first half of the questions in the interview were designed to probe information about interactional partners within circles of family, friends, classmates, acquaintances, other adults, and Internet communication. The second half of the interview were designed to gather information regarding whom the child talked to the most, what topics the child most often talked about, and whether or not the parent perceived the child to have any difficulty communicating.

**Data Collection**

**Child interview.** Data were collected from most of the children at their school setting during school hours. One typical child was seen in the front room of his home. At school, most students were given the informal picture task in a quiet room designated for special services. One student was given the task in the hallway outside his classroom. Each child was pulled out
of class individually for the assessment, which lasted 10 to 20 minutes. In each case, the child sat with the researcher and was shown pictures and interviewed according to a script (see Appendix B). The assessment was designed to obtain data about the child’s social circles or networks. The child’s answers were written down by the researcher. Each child received a sticker as a reward for participating in the assessment.

**Parent interview.** Parents were pre-notified that they would be contacted by phone as part of the assessment. Parent interviews were administered over the phone with one parent of each child. Surveys were administered by the same researcher who administered the picture task to the children. Several of the students used in this investigation also participated in another study conducted by the same researchers at one of the schools. For the parents of children who were not part of other studies or whose children were typical, the introduction of the script was adapted accordingly. Answers were written down by the researcher during the phone interviews. If the interviewee was unable to remember specific names of individuals they were asked to indicate the number of people included in a group or activity and these were scored as if they were named individuals. Parent informants were all mothers of participants except for one who was a father. The father was the parent of a child with typical language represented in the following as AP or participant 2 in the Typical group.

**Scoring.** The parent interview and the child picture task were each scored by counting the number of people named in response to each question. Each question was given a score from 0 to 2 according to the number of people named. A score of 2 was given for naming two or more individuals, 1 for naming one individual, and 0 for naming no individuals. For the parent interview, only questions one through six were scored giving a possible maximum score of 12.
On the child picture task, all 10 questions were scored giving a maximum score of 20. Scores were used from each assessment measure to compare the size of each group’s social networks.

**Compilation of data.** To aid in the analysis and gain a collaborative picture of the social networks of each child, responses from both the child picture task and parent interview were compiled on a single form and put into social circles adapted from Blackstone’s social network analysis (Blackstone, 2010). The adapted circles were family, close friends and acquaintances, non-family adults, and unfamiliar partners. Blackstone’s original circles were family, close friends, acquaintances, partners who are paid, and unfamiliar partners. In the current study the close friends and acquaintance circles were combined from Blackstone’s original format due to the ambiguity in distinguishing between the two. The partners who are paid circle was expanded to include all regular non-family adult interaction to account for adults children interacted with who were not paid. These open-ended responses were examined to obtain a more complete picture of each child’s social circles.

**Statistical approach.** Data for overall number of contacts were analyzed using two tailed t-tests for independent means. The α level was set at .05 and an online statistical service was used to perform the tests. The independent variable was defined as language status (language impairment or typical language) and the dependent variable was the number of contacts in the child’s social circles. Data within specific circles were not analyzed using inferential statistics; however, basic descriptive statistics (mean and standard deviation) were calculated using the same online service. The nature of the various social circles was analyzed qualitatively.
Results

Group differences on both the child and parent interviews were first determined through inferential statistics. After the inferential analysis, data were analyzed according to descriptive statistics as well as qualitatively by examining parent and child responses and the nature of communication within the children’s social circles.

Number of Contacts

On the picture task children with LI reported a mean score of 13.37 ($SD = 3.25$) across the 10 activities pictured. Typical children reported a mean of 16.75 ($SD = 2.49$). The maximum points possible in this measure were 20. These means were significantly different ($t = 2.3312$, $p = 0.0352$), with the children with LI having fewer contacts than the typical children.

In the parent interview children with LI were reported to have a mean score of 8.75 ($SD = 1.58$) and the typical children were reported to have a mean score of 9.89 ($SD = 1.81$). Maximum points possible for this measure were 12. The mean difference did not reach statistical significance ($t = 1.3249$, $p = .2064$).

Composition of Social Circles

In addition to being scored numerically, results were compiled to allow for more detailed and open-ended observations of data. Child and parent responses were combined and organized into four circles (friends or peers, non-family adults, family, and unfamiliar partners) and general quantitative and qualitative observations were made.

Friends or peers. One general trend was that children with LI had fewer peer contacts than typical children. From parent report, the number of friends or peer contacts was calculated by totaling the number of contacts reported to be close friends or acquaintances. Each child’s self-report of number of friends or peer contacts was determined from the number of child
responses that did not include family members or other adults. The average number of friends or peer contacts named for children with LI was 13 ($SD = 7.62$) and for Typical children was 21.25 ($SD = 10.32$). Illustrating this difference in its most extreme cases were MW (LI) with four friends or peer contacts and RC (Typical) with 38 friends or peer contacts. MW named “Nana” (6-years-old) as a friend, indicating that she plays at her house and has sleepovers. She also named “Lexis,” indicating that they play together at recess. MW’s mom named two girls from MW’s school and/or day care as good friends indicating that there wasn’t anyone else with whom MW was socially connected. In contrast, RC’s self and parent reports named a total of 38 friends and peer contacts who were school classmates, neighbors, karate classmates, and friends from church.

Although the overall trend was that typical children named more friends or peer contacts, there was overlap between groups. For example, TH (LI) reported 26 (the highest number in the group with LI) of friends or peer contacts. Twelve of these contacts were from his baseball team, three were from swim lessons, and five were from church. The remaining seven were neighbors or classmates. Similarly, TR (typical) had a total of 23 friends or peer contacts. Sixteen were individuals at school he played sports with at recess and two were acquaintances from church. The remaining seven were neighbors or other friends.

**Non-family regular adult interaction.** “Regular” interaction was defined as interaction at least once a week with the child. The types of people found in this circle appeared to differ between groups. Children with LI interacted primarily with people who were either paid to interact with them (i.e. teachers, speech and language therapists, day care aides, other professionals, or coaches) or obligated by virtue of the formal institution they were affiliated with (i.e., school classroom volunteers, crossing guards, church volunteers, or cub scout
volunteers) in this circle. Typical children, on the other hand, had more people in this circle who were parents of friends in addition to their teachers, coaches, and other adult volunteers. This parameter was explored further by breaking down the types of people in this circle into subcategories of “informal interaction with parents of friends or neighbors” and “paid or volunteer interactions through a formal establishment.” The mean number of individuals with whom the child had weekly informal interactions who were parents or neighbors for the group with LI was 1 ($SD = 1.51$) and for the typical group was 3 ($SD = 3.25$). Variability was greater in the typical group for number of informal adult interaction partners. The mean number of individuals with whom children interacted who were paid or volunteered to interact through a formal establishment for the group with LI was 8 ($SD = 7.23$) and for the typical group was 4 ($SD = 1.51$). As indicated by the SD, variability was large for the group with LI on this measure.

**Family.** There was no noticeable difference between groups for the “Family/Life Partners” circle. The most family members with whom a child had weekly contact was 29, the least was three. The mean number of family members for the children with LI was 10.13 ($SD = 8.53$) and for Typical children was 11.63 ($SD = 6.72$). This parameter did not appear to be related to language status. In both groups some numbers of family members interacted with were extensive while others were small.

**Unfamiliar partners.** There was a slight difference between groups in the “Unfamiliar Partners” circle. The mean number of unfamiliar communication partners for the children with LI was 2.88 ($SD = 2.59$) and for Typical children was 4.50 ($SD = 4.50$). In spite of the slight difference between groups, there was a notable amount of variation for both groups. Like family size, this parameter did not appear to be related to language status.
Nature of Communication Within Social Circles

The purpose of some parent interview questions was to better paint a picture of what each child’s communicative world and preferences looked like. Following are the results of questions investigating mode of communication, communication partners, and content of communication. Selected results are represented in tables in which children with LI and children with typical language are paired according to age (beginning with the youngest at the top) and gender.

Mode of communication. Few of the parents reported that their children used the Internet to communicate with others. The three children who did use the internet were AP (11;2), TR (11;7), and EB (6;3) all of whom had typical language skills. It is of note that two of these children were also among the oldest children sampled. Their parents reported that the children used the Internet to “chat with some friends,” communicate with one person on Facebook, and to communicate with her two grandmas by email, respectively. Thus communication occurred primarily through face-to-face interactions with partners (or potentially over the phone, but this parameter was not probed specifically).

Communication Partners. To further understand the nature of each child’s social communication, information was obtained in regard to the frequency and time spent in interaction, partner preferences, and difficulty interacting with certain partners.

Partner talked to most frequently. Children in both groups talked most frequently to one or more immediate family members. In both groups, each child named his or her mother. Other family members talked to were the father, a brother or sister, or—in the case of TH (7;8), a child with LI—a neighbor who was a peer of the same age. See Table 1 for specific reports.
Table 1

*Person(s) the Parent Named as Talking to the Child Most Frequently*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>Mom</td>
<td>TH</td>
<td>Mom</td>
</tr>
<tr>
<td>JS</td>
<td>Mom</td>
<td>RM</td>
<td>Mom</td>
</tr>
<tr>
<td>MW</td>
<td>Mom</td>
<td>EB</td>
<td>Mom and Brother</td>
</tr>
<tr>
<td>MP</td>
<td>Mom</td>
<td>THO</td>
<td>Mom</td>
</tr>
<tr>
<td>TH</td>
<td>Mom, Brother, or</td>
<td>PM</td>
<td>Mom</td>
</tr>
<tr>
<td></td>
<td>Neighbor (same aged</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>peer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS</td>
<td>Mom, Dad, Sister</td>
<td>RC</td>
<td>Mom or Sister</td>
</tr>
<tr>
<td>BT</td>
<td>Mom, Sister</td>
<td>AP</td>
<td>Mom, Dad, Sister</td>
</tr>
<tr>
<td>KL</td>
<td>Mom, Sister</td>
<td>TR</td>
<td>Mom</td>
</tr>
</tbody>
</table>

**Partner spent most time with.** Overall, parents reported that children in both groups spent the most time with their mothers. In addition to the mother, some parents named other immediate family members as well (i.e. dad, brother, sister). For example, in the group with LI, BS’s parent indicated that he spent most time with his mother, father, and sister, BT (10;11) with his mother, sister, and brother, and KL (11;1) with his mother and father. Parental report in the Typical group indicated that PM (7;1) spent most time with his mother, father, sister, and brother, AP (11;2) with his mother, father, and sister, and RC (7;1) with his mother, father, and sister. Two parents reported people other than family members. One of these was the parent of TR (11;7) who indicated that her child spent most time with his mother and his same aged peer. The other parent who did not name any family members who the child spent most time with was
the parent of JS (6;5), a child with LI, who reported that JS spent the most time with one of his
teachers at the Montessori school he attended. See Table 2 for specific reports.

Table 2

*Person(s) the Parent Named Who the Child Spends Most Time With*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>Mom</td>
<td>TH</td>
<td>Mom</td>
</tr>
<tr>
<td>JS</td>
<td>School Teacher</td>
<td>RM</td>
<td>Mom</td>
</tr>
<tr>
<td>MW</td>
<td>Mom</td>
<td>EB</td>
<td>Mom</td>
</tr>
<tr>
<td>MP</td>
<td>Mom</td>
<td>THO</td>
<td>Mom</td>
</tr>
<tr>
<td>TH</td>
<td>Mom</td>
<td>PM</td>
<td>Mom, Dad, Sister, Brother</td>
</tr>
<tr>
<td>BS</td>
<td>Mom, Dad, Sister</td>
<td>RC</td>
<td>Mom, Dad, Sister</td>
</tr>
<tr>
<td>BT</td>
<td>Mom, Sister, Brother</td>
<td>AP</td>
<td>Mom, Dad, Sister</td>
</tr>
<tr>
<td>KL</td>
<td>Mom, Dad</td>
<td>TR</td>
<td>Mom and Friend (same aged peer)</td>
</tr>
</tbody>
</table>

*Partner identified as favorite.* Informants indicated that the children’s “favorite person
to talk to” and their “favorite person to spent time with” were often the same person. Three
parents of children with LI—MP (5;11), KL (11;1), and TH (7;8)—named their child’s friends.
TH’s parent also named a teenaged cousin along with TH’s same age friend. The other five
individuals in the group with LI named family members (i.e., mom, sister). In the Typical group
only family members were named (i.e., mom, dad, sister) as being the child’s favorite person to
talk to and to be with. See Table 3 for specific reports.
Table 3

*Person(s) Parent Named as Child’s Favorite Person to Talk to and to Be With*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>Mom</td>
<td>TH</td>
<td>Mom and Dad</td>
</tr>
<tr>
<td>JS</td>
<td>Mom</td>
<td>RM</td>
<td>Mom</td>
</tr>
<tr>
<td>MW</td>
<td>Sister</td>
<td>EB</td>
<td>Mom</td>
</tr>
<tr>
<td>MP</td>
<td>Friend (same aged peer)</td>
<td>THO</td>
<td>Dad</td>
</tr>
<tr>
<td>TH</td>
<td>Friend (same aged peer) or Cousin (teenager)</td>
<td>PM</td>
<td>Dad</td>
</tr>
<tr>
<td>BS</td>
<td>Sister</td>
<td>RC</td>
<td>Mom</td>
</tr>
<tr>
<td>BT</td>
<td>Mom</td>
<td>AP</td>
<td>Mom, Dad, Sister</td>
</tr>
<tr>
<td>KL</td>
<td>Friend (same aged peer)</td>
<td>TR</td>
<td>Mom</td>
</tr>
</tbody>
</table>

**Person(s) would like to talk to but do not.** Three out of eight parents of children with LI reported that there were people the child would like to talk to but did not and one out of eight parents of Typical children reported the same. Children from the group with LI whose parents reported in the affirmative were JS (6;5), MP (5;11), and MW (5;10). JS’s mother reported that he would like to talk to his dad more but does not because his dad is busy. She also indicated that JS would like to talk with his 19-year-old brother who is living far away and can’t call home often. MP’s mother indicated that MP would like to talk to older kids but when he is not understood he gives up trying to communicate. MW’s mother reported that she would like to talk to policemen and firemen but she doesn’t like loud noises and associates these noises with police and firemen. In the Typical group PM (7;1) was reported to want to talk to his cousins but they live far away. See Table 4 for a summary of parent responses.
Table 4

*Person(s) Parents Reported Child Would Like to Talk to but Does Not*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>None</td>
<td>TH</td>
<td>None</td>
</tr>
<tr>
<td>JS</td>
<td>Brother (on mission)Dad (busy)</td>
<td>RM</td>
<td>None</td>
</tr>
<tr>
<td>MW</td>
<td>Dad</td>
<td>EB</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Police (scared of loud noise)Firemen (scared of loud noise)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP</td>
<td>Older kids</td>
<td>THO</td>
<td>None</td>
</tr>
<tr>
<td>TH</td>
<td>None</td>
<td>PM</td>
<td>Cousins (live far away)</td>
</tr>
<tr>
<td>BS</td>
<td>None</td>
<td>RC</td>
<td>None</td>
</tr>
<tr>
<td>BT</td>
<td>None</td>
<td>AP</td>
<td>None</td>
</tr>
<tr>
<td>KL</td>
<td>None</td>
<td>TR</td>
<td>None</td>
</tr>
</tbody>
</table>

**Topics of conversation.** Information regarding children’s topics of conversation can be viewed in terms of number and type of topics as well as topics children would like to talk about but did not.

**Number and types of topics addressed.** Parental report indicated that overall children with LI used fewer topics of conversation than the Typical children. This was interesting considering that the question specifically asked the parent to name the five things the child talked about the most. Due to the wording of the question it is possible that those who listed five could have named more. However, those who named fewer than five may have named fewer because the child’s topics of conversation were limited. The topics reported were not noticeably different between groups, mostly centering around daily events, people, activities, and favorite toys or
games. In the group with LI, more concrete topics reported included “friends at school, games, Game Cube, games on phone, plans of the day, make believe, Spiderman, Batman, cars, marbles, stuffed bears, video games, pets, funny things that happened at school, baby brothers, toys, pirate ships, tell[ing] stories, what he wants to do, monkey bars, weather, Christmas, and homework.”

Parental report for the typical group named the following more concrete common topics of conversation: “Legos, books, buying games, food, toys, things he loves, TV, what he’s doing on the TV, questions about whatever pops into his head, homework, anything active, sports, recess, asks questions, imaginary things such as being a superhero or sonic the hedgehog, friends, computer games, what he’s been doing, what he does at school, his video games, his cousin Mia, karate, events of the day, what he did during the day, books he’s reading, TV/movies he watches, school, soccer, makes plans for activities, [and] asks Mom to read to her.”

Three children, JS (6;5) and KL (11;1) from the group with LI and TR (11;7) from the Typical group talked about more abstract or potentially more abstract topics. JS’s mother indicated that he talked often about relationships with people in his life, trying to define or make sense of these relationships. KL talked about his feelings, which could be considered more or less of an abstract topic depending on the context and manner in which they are talked about. TR talked about his worries over future responsibilities (i.e. bills he will have to pay). These three children were the exceptions, however, as most parents reported topics of conversation that were more concrete and based in daily activities, familiar objects, familiar people, and child interests. See Table 5 for specific results.

Topics would like to talk about but did not. Six out of eight parents of children with LI reported that there were instances when their child would like to talk about something but did not or did not appear to be able to. Parent’s responses were “probably school, cats; abstract concepts
of right and wrong; anything he can’t express clearly he gets frustrated when not understood; what he feels, what he’s thinking; I don’t know but he often won’t be able to tell about something and will give up; everything—it takes calming down for him to converse.” Two out of eight parents of typical children indicated that their child had the same difficulty. These two parents responded that there was, “nothing specific but he gets frustrated once in a while when he can’t explain something,” and “anything he has trouble talking about he can write it down well.” Four of the five parents of children with LI and both parents of Typical children who reported that the child had difficulty expressing him or herself at times did not know or did not name specific topics the child wanted to talk about. However, they indicated that when the child could not express him or herself he or she became frustrated. See Table 6 for a summary of parent responses.
Table 5

*Topics of Conversation Parents Reported to be Most Frequent for Child*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>Toys</td>
<td>TH</td>
<td>Karate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TV/movies he watches</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>School</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soccer</td>
</tr>
<tr>
<td>JS</td>
<td>Distress</td>
<td>RM</td>
<td>What he did during day</td>
</tr>
<tr>
<td></td>
<td>Concerns over relationships</td>
<td></td>
<td>Video games</td>
</tr>
<tr>
<td></td>
<td>Plans of day</td>
<td></td>
<td>Sports</td>
</tr>
<tr>
<td></td>
<td>Make believe</td>
<td></td>
<td>What doing at school</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Books he's reading</td>
</tr>
<tr>
<td>MW</td>
<td>Monkey bars</td>
<td>EB</td>
<td>School</td>
</tr>
<tr>
<td></td>
<td>Weather</td>
<td></td>
<td>Make plans for activities</td>
</tr>
<tr>
<td></td>
<td>Christmas</td>
<td></td>
<td>Ask to have mom read to her</td>
</tr>
<tr>
<td></td>
<td>Homework</td>
<td></td>
<td>Random weird stuff</td>
</tr>
<tr>
<td>MP</td>
<td>Spiderman</td>
<td>THO</td>
<td>Anything active</td>
</tr>
<tr>
<td></td>
<td>Batman</td>
<td></td>
<td>Sports</td>
</tr>
<tr>
<td></td>
<td>Cars</td>
<td></td>
<td>Recess</td>
</tr>
<tr>
<td></td>
<td>Marbles</td>
<td></td>
<td>Asks questions</td>
</tr>
<tr>
<td></td>
<td>Stuffed bears</td>
<td></td>
<td>Imaginary things (being a hero, sonic the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>hedgehog, etc.)</td>
</tr>
<tr>
<td>TH</td>
<td>Toys</td>
<td>PM</td>
<td>Legos</td>
</tr>
<tr>
<td></td>
<td>Video games</td>
<td></td>
<td>Books buying games</td>
</tr>
<tr>
<td></td>
<td>Pirate ships</td>
<td></td>
<td>Food</td>
</tr>
<tr>
<td></td>
<td>Tells stories</td>
<td></td>
<td>Toys</td>
</tr>
<tr>
<td></td>
<td>What he wants to do</td>
<td></td>
<td>Things he loves</td>
</tr>
<tr>
<td>BS</td>
<td>Friends at school</td>
<td>RC</td>
<td>What does at school</td>
</tr>
<tr>
<td></td>
<td>Games</td>
<td></td>
<td>His video games</td>
</tr>
<tr>
<td></td>
<td>Game cube</td>
<td></td>
<td>Cousin Mia</td>
</tr>
<tr>
<td></td>
<td>Games on phone</td>
<td></td>
<td>Karate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Events of the day</td>
</tr>
<tr>
<td>BT</td>
<td>Video games</td>
<td>AP</td>
<td>TV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>What he's doing on the TV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Questions about whatever pops into his head</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Homework</td>
</tr>
<tr>
<td>KL</td>
<td>His pets</td>
<td>TR</td>
<td>Growing up, worries about bills he's going to</td>
</tr>
<tr>
<td></td>
<td>Funny things at school</td>
<td></td>
<td>have to pay</td>
</tr>
<tr>
<td></td>
<td>His feelings</td>
<td></td>
<td>Things he's scared about</td>
</tr>
<tr>
<td></td>
<td>Baby brothers</td>
<td></td>
<td>Friends</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Computer games</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>What he's been doing</td>
</tr>
</tbody>
</table>
Table 6

*Topics Parents Reported Child Would Like to Talk About but Does Not*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Language Impairment</th>
<th>Participant</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>Stuff in general; takes calming down before he can converse</td>
<td>TH</td>
<td>None</td>
</tr>
<tr>
<td>JS</td>
<td>Abstract concepts: right/wrong</td>
<td>RM</td>
<td>Nothing specific but he gets frustrated once in a while when he can't explain something</td>
</tr>
<tr>
<td>MW</td>
<td>None</td>
<td>EB</td>
<td>Anything she has trouble talking about she can write it down well</td>
</tr>
<tr>
<td>MP</td>
<td>Anything he can't express clearly, he gets frustrated when not understood</td>
<td>THO</td>
<td>None</td>
</tr>
<tr>
<td>TH</td>
<td>None</td>
<td>PM</td>
<td>None</td>
</tr>
<tr>
<td>BS</td>
<td>Probably school Cats</td>
<td>RC</td>
<td>None</td>
</tr>
<tr>
<td>BT</td>
<td>What he feels</td>
<td>AP</td>
<td>None</td>
</tr>
<tr>
<td>KL</td>
<td>Don't know but often won't be able to tell about something and will give up saying &quot;never mind&quot; perhaps he lacks the vocabulary</td>
<td>TR</td>
<td>None</td>
</tr>
</tbody>
</table>
Discussion

The outcomes of this study are examined by first presenting a summary of the findings followed by a discussion of possible explanations for selected outcomes. The section concludes with a discussion of limitations and clinical implications.

Summary of Findings

This study examined the social networks of children with LI and their typical peers. Children with LI were found to have fewer contacts in their social circles than children with typical language. The children with LI identified significantly fewer interactional partners than their typical peers. There was also a difference between groups reported by parents favoring typical children, but this difference was not statistically significant.

When divided into social circles (i.e., life partners, friends/acquaintances, non-family adults, and unfamiliar partners) findings are summarized as follows. Children with LI interacted with fewer peers than did children with typical language. There were no notable differences between groups in number of family members, unfamiliar partners, or overall number of non-familial adults who interacted with the children. However, children with LI interacted with more adults who were paid or obligated to interact with them than did their typical peers. In contrast, their typical peers interacted with more adults who were parents of peers.

It was also found that the communication of the children with LI was qualitatively different in several aspects. The internet was not used as a significant mode of communication in this age group although the children who used it to communicate were all from the typical group. Additionally, two of the three were among the oldest children studied. Most parents reported that children of both groups spent the most time with and talked most with immediate family members, especially mothers. Three out of eight parents of children with LI reported that
their child’s favorite person to interact with was not an immediate family member while eight out of eight parents of children with typical language named an immediate family member. A greater number of children (three) with LI were reported to have people they would like to talk to but do not than children with typical language (one). The reasons given for the child not talking to others were related to the unavailability of the individuals, the child’s difficulty and subsequent frustration in communicating with others, or the child’s apprehension associated with the individuals.

Children with LI were reported to use fewer topics in conversation than their typical peers. Children from both groups were found to talk primarily about topics that were concrete and not abstract although there were some exceptions from both groups. The parents of children with LI perceived that their children had more difficulty talking about topics than was perceived by parents of typical children who reported less difficulty talking about topics. Some parents reported that children had difficulty with specific topics like “school” and “cats.” Other parents were more general, such as one who stated, “I don’t know but he often won’t be able to tell about something and will give up.” Of the five parents of children with LI who reported that there were things their child would like to talk about but did not, four of them did not name specific topics that their child would like to talk about. Rather they stated that the child became upset when he or she could not express what he or she wanted to.

Possible Explanations of Results

Possible explanations and issues related to the following results are discussed: overall number of contacts, composition of social circles, and the nature of communication within social circles.
Number of Contacts. Following is a discussion of possible explanations for and issues related to child and parent perceptions regarding the overall number of contacts in a child’s social circles.

Child perceptions of contacts. The fact that the children with LI identified significantly fewer interactional partners than their typical peers suggested that they interacted with a smaller number of people in daily activities. This outcome was not surprising, however, it was still concerning. The smaller number of people in the social circles of these children with LI is likely an indication that they participate in fewer social interactions. The smaller number of people that the children with LI have in their social circles may be due to several related factors. First, it is expected that language deficits limit the ability of these children to interact with peers. Additionally, the children with LI may be viewed as less desirable interactional partners due to their language deficits (Fujiki, Brinton, & Todd, 1996; Gertner, Rice, & Hadley, 1994; Timler, 2008; Durkin & Conti-Ramsden, 2007). For the children with decreased language skills, both reasons may be concurrently affecting the size of the children’s social circles. A third possibility is that some children with LI seek or desire less social interaction. Whether this is the result of their linguistic difficulties, or a potential source of linguistic problems (e.g., Paul, 2000), is a matter of speculation. Whatever the cause, the smaller number of social contacts is likely to have a negative impact. The children with LI are likely missing valuable interactions that impact social learning as a result of having fewer potential partners with whom to interact.

Parent perceptions of child contacts. It is possible that the failure to find a significant difference between groups according to parental report was indicative of the fact that the parents saw children in social interactions that lent themselves more to inclusion. It may also be that the small sample size reduced statistical power and resulted in the non-significant result. A larger
sample size would allow for a more accurate picture of patterns in parental perceptions of the number of people their children interact with regularly.

**Composition of social circles.** Following is a discussion of the possible reasons for and implications of the results found in circles of peers or friends and non-family adults from the current study. Findings not discussed were those that did not demonstrate a significant difference between groups or that did not point to important characteristics of the current study. These were the findings associated with the social circles of family and unfamiliar communication partners.

**Friends or peers.** Although the children with LI had fewer friend or peer contacts overall, there was a considerable amount of overlap between groups. The trend followed the "inverted triangle" model which illustrates the fact that although individual children in either group may have more or fewer peer contacts, a greater number of the typical children tend to have more peer contacts and a greater number of the children with LI tend to have fewer peer contacts. Exceptions did occur, however, when a child with LI reported a high number of peer contacts and a child with typical language reported a low number of peer contacts.

One factor that appeared to influence peer contacts was involvement in extracurricular activities. TH's parent (group with LI) reported that he was involved in multiple extracurricular groups including a swim team, a basketball team, a baseball team, and a church group, which at the time of assessment accounted for 20 children of his total of 28 friends and peer aged acquaintances. Another example of how extensive extracurricular involvement increased the number of peer contacts was RC from the typical group. This child’s parent reported that in karate class and church he interacted with 29 peers with a total of 33 peer contacts. Lack of extracurricular involvement also appeared to influence the number of peer contacts. For
example, MW’s parent (group with LI) did not report any peer contacts for MW through extracurricular activities; her total number of friends and acquaintances reported was two. RM’s parent (typical group) did not report any peer contacts through extracurricular activities and reported one peer contact overall. This and other factors (e.g., daycare or other child care groups which were part of a child’s weekly routine) influenced the size of a child’s peer social networks. In spite of the many influences on the size of a child’s social circle of peers, children with LI still had significantly fewer contacts in this circle.

**Non-family regular adult interaction.** The difference in types of adults in this circle may be a result of the fact that children with LI require more support for their communication skills. It is also an expected outcome that children with typical skills who have more peer contacts would have more adult contacts who are parents of friends. Interacting with a greater number of adults who are parents of friends may also be an indirect indication of the quality or depth of peer relationships (i.e. if he/she spends a lot of time with and is “close” to a peer, he/she may be more likely to also interact with the peer’s parent).

Regardless of the reasons why a child might interact with adults, the nature of these interactions is important. For example, professionals and trained volunteers may be more likely to adjust to a child’s communication problems and not require the child to adjust his or her communication to the linguistic needs of the situation. Perhaps more importantly, these types of interactions do not lend themselves to high quality communication which promotes mutual understanding and is pleasing to both parties. The interactions are more likely to be of lower quality because they are obligatory. Furthermore, it is generally the case that paid contacts are temporary in nature. Especially considering that a larger proportion of the interactions of a child with LI may be with paid professionals, it is likely to have a negative emotional impact on the
child when the child is no longer receiving the paid adult’s services. The inevitable removal of professional relationships, by nature, does not lend itself to the development of the satisfying and meaningful relationships that can come through interactions that are maintained over a long period of time.

**Nature of communication within social circles.** Aspects of communication discussed include mode of communication, communication partners, and topics of conversation.

**Mode of communication.** The observation that most participants did not communicate with others via the internet may have been related to both the ages of the children and their level of language ability. Use of internet communication often requires the communicator to make adjustments for the lack of a shared context, which requires increased language skills. Thus, the level of linguistic ability necessary may have eliminated both some of the younger participants and those children with LI.

**Communication partners.** Possible explanations and issues related to results regarding children’s communication partners are discussed.

**Partner child talked to most frequently and spent most time with.** Had the current study interviewed both mothers and fathers for each child, researchers may have discussed issues regarding the effect of informants on the data. A parental informant population of 15 mothers and one father for the most part reported that their child talked most and spent most time with the mother. However, it remains to be seen whether fathers would answer similarly to this as well as to other questions asked in the parent interview. The bias embedded in the parental informants’ perspective was valuable in terms of the information gleaned about that parent’s view; however, a greater number and variety of informants could give an even fuller picture of a child’s social circles and quality of communication. This fuller picture could lead to a better understanding of
the differences between the social circles and communication of children with LI and children with typical language.

**Partner identified as favorite.** The difference between groups on this parameter is interesting. It is possible that within-family communication and the resulting relationships of children with LI are different than those of the children with typical language. Given the available data, this possibility is speculative, however, and will require replication with a larger sample before any conclusions may be drawn.

**Person(s) the child would like to talk to but does not.** The reasons given for the children not talking to people they would like to could be related to decreased language skills (e.g., the difficulty and frustration in attempting communication demonstrated by a boy with LI). In addition, the apprehension demonstrated by one girl with LI may have reflected the fact that children with LI tend to display high levels of reticence (Fujiki, et al., 1999).

**Topics of conversation.** This section includes a discussion of possible explanations and issues related to the results regarding the number of topics children used in conversation, types of topics used, and topics children would like to talk about but did not.

**Number and types of topics discussed.** Using fewer topics of conversation may have been a result of children’s poor language skills. As mentioned previously, the interview question for this area of communicative quality asked the parent to name the five things the child talked about the most. (It would be interesting to see the difference in responses if the parent were not asked to name a certain number of topics.) A restricted range of topics could potentially cause an individual to be a less desirable communication partner and may give some indication of why the children with LI have fewer people in their social circles overall.
Scrutiny of the topics of conversation revealed differences between groups in the types of topics reported. Concrete topics do not require a high level of linguistic sophistication because they are closer to the daily experience of the child and the child can use recent memory or visual cues from looking at or playing with the object itself to cue him or her to converse about it. Contrary to this overall finding was the fact that two children with LI and one child with typical language talked about abstract or potentially abstract topics such as feelings, relationships with others, and future responsibilities. It was surprising that the children with LI were reported to talk about abstract topics because it would be expected that such topics would require more sophisticated social, cognitive, and linguistic skills. Most children who did this were older (from the group with LI, six and 11 years old, and from the typical group, 11 years old). The fact that two of these three participants were the oldest in each of their groups may partially explain the more sophisticated topics they used in conversation. This reasoning did not explain the child with LI who was six years old, however. It would be necessary to look at a larger sample to determine if these findings are indicative of a meaningful trend.

*Topics the child would like to talk about but did not.* The difference in response was greater on this question than to the question focusing on the topics the children did talk about. LI impairs an individual’s ability to express thoughts, concepts, and feelings. Thus, it is not surprising that a child with LI would have topics he or she would like to talk about but did not. The difficulty a child has in expressing thoughts about a topic will undoubtedly be related to his or her ability to communicate in a satisfactory manner. The difficulty in communication may not only be frustrating for the child—as one parent expressed, “anything he can’t express clearly he gets frustrated when not understood”—but also for the communication partner. The awkwardness caused by an inability or difficulty to express thoughts, feelings, or ideas creates a
Social Circles

barrier to communication and, by extension, a barrier to developing important relationships and friendships. This may provide some explanation for the smaller circles of interactional partners of the children with LI. Although there were more children with LI who had difficulty talking about topics, abilities varied across both groups. It was also acknowledged that there were two children with typical language whose parents reported that their child had topics he or she would like to talk about but did not. It is of note that one of these parents also indicated that, “anything she has trouble talking about she can write it down well.” Using written language instead of verbal language would not alleviate the challenge of communication for a child with LI but appeared to do so for one child with typical language.

Limitations

The main limitation of this study was the small sample size. While interesting differences and trends were noted in the current sample, inferences must be drawn cautiously due to the small number of participants. Future studies should include a greater number of subjects in order to identify meaningful trends that are indicative of the greater population.

Another limitation of the current study was that one parental informant was a father while the rest were mothers of children. This gender difference may have caused some inconsistency in responses. Future studies may want to consider the gender of parental informants to decrease the possibility of bias. Another possible limitation of the current study was that there was some variation in socioeconomic backgrounds between participants. More specifically, some children lived in houses and others in apartment complexes which might impact their social circles due to the nature of each setting. In future studies this variable should be taken into account and pools of participants should be controlled accordingly.
An additional limitation of the current study was related to the clinical reality of the nature of language impairment. Because it is rare for LI to occur independently of other disabilities, the eight participants in the current study with LI also exhibited emotional, cognitive, and physical deficits. While some of these disabilities appeared to resolve as the child developed, others did not. It is therefore worth noting that the information gathered may be influenced by more than the child’s language deficits alone. Future studies may consider including participants who either have only language deficits or including children in the comparison group who exhibit deficits unrelated to language which are similar to the non-linguistic deficits of the group of interest.

**Clinical Implications**

SLPs need to be aware that children with LI may be more likely to have fewer interactional partners and address social interaction issues in therapy in order to increase both the quantity and the quality of a child’s interactions. Assessment instruments similar to those used in the current study may be useful to assess the quantity and quality of a child’s social communication. Quantity of a child’s communication may be addressed in various ways including working with parents, teachers, and caregivers to increase the child’s opportunities to interact with others. Quality of communication may be improved by addressing areas of deficit that are specific to each child. For example, a child with LI may likely have difficulty conversing about a variety of topics, talking to certain people, or providing appropriate context (especially when that context is not explicit). Each of these problems might be targeted in intervention.
References


Appendix A—Annotated Bibliography


Purpose of the study

The purpose of this study was to compare the seven-year behavioral, emotional, and social outcomes of speech/language impaired children with their controls.

Method

*Participants.* Five-year-old kindergarteners were selected using a stratified random sample within the Ottawa-Carlton school region to receive a speech and language screener. Children who failed the speech and language screening participated in further speech/language testing. Children who failed those tests participated in cognitive, developmental, emotional, behavioral, and psychological assessments. Seven years later, follow-up measures were taken on the same subjects. One hundred thirty nine children completed both initial and follow-up measures.

*Procedures.* Selected children were screened using a battery of standardized tests for auditory comprehension of language, auditory memory, articulation, and receptive and expressive language skills. Participants were also given assessments of cognitive, behavioral, developmental, and emotional competence. These included: the Child Behavior Checklist (CBLC; Achenback & Edelbrock, 1983), Children’s Self-Report Questionnaire (CSRP; Beitchman et al., 1985), Conners Teacher Rating Scale (CTRS; Conners, 1969), and Teacher’s Report Form (TRF; Achenback & Edelbrock, 1983). Seven years later, both experimental and control groups were given assessments of cognitive, behavioral, developmental, and emotional competence, as well as psychiatric measures. These included: the Child Behavior Checklist (CBLC; Achenback & Edelbrock, 1983), Children’s Self-Report Questionnaire (CSRP; Beitchman et al., 1985), Conners Teacher Rating Scale (CTRS; Conners, 1969), and Teacher’s Report Form (TRF; Achenback & Edelbrock, 1983), Teachers Report Form, and Diagnostic Coding Form DSM-III-R.

Analysis and Results

Groups were separated into experimental and control groups using the following procedure of analysis. A cluster analysis of time 1 data was used to determine whether homogeneous groups of children with similar linguistic profiles could be identified using speech/language measures. The measures used were the Screening Test for Auditory Comprehension of Language and Bankson Language Screening Test percentiles, Photo Articulation Test percent scores, Peabody Picture Vocabulary Test-Revised standard scores and scores on the Content and Sequence subscales of the Goldman-Fristoe-Woodcock Auditory Memory Test. The McQueen’s k-means clustering method was used and a four-cluster solution was indicated. Based on the mean speech/language scores for each group, four linguistic clusters
were labeled (high overall, poor articulation, poor comprehension, and low overall). ANOVAs, ANCOVAs, and x2 tests were conducted to determine whether behavioral, emotional, and social outcomes at time 2 could be predicted by measurements at time 1.

The results of these statistical tests suggested that there is an association between type of speech/language profile at age 5 and behavioral disturbance both concurrently and at 7-year follow-up. Children from the low-overall and poor comprehension clusters continued to show behavioral problems at follow-up. Children from both the poor articulation and high-overall clusters continued to show little evidence of behavioral problems at follow-up. However, children from both the poor articulation and the high-overall clusters came from families of higher socioeconomic status and did better academically. These factors could have helped guard against the development of behavioral problems. There was a strong differentiation among clusters based on measures of social competence and adaptive functioning taken at follow-up. Children from the low overall and poor comprehension clusters showed the most severe impairment in these areas. Differences at follow-up were especially apparent using measures regarding behavior outside the home and involving non-family members. Children who showed poor comprehension at 5 years old took part in less organizations and non-sport activities at follow-up. Children from the poor comprehension cluster showed a significant increase in their level of teacher-rated hyperactivity symptoms at follow-up. Children in the high overall cluster showed a drop in their teacher-rated anxious/passive mean scores at follow-up. Children from the poor comprehension cluster showed a drop in social competence scores as rated by their mothers. Children from the poor articulation and low-overall clusters showed little change over time. Children from the high overall cluster showed an increase in social competence scores over time.

Conclusions

This study found there to be an association between certain communication profiles and concurrent and later behavioral problems. Children with poor auditory comprehension and pervasive language impairments were at greater risk for continued behavioral problems. These findings suggest the need to provide intervention that addresses the long-term psychosocial outcomes that are associated with speech/language impairment.

Relevance to the current work

The pervasive nature of language deficits gives a certain urgency to understanding the nature and effect of these deficits. As demonstrated by Beitchman, the psychosocial effects of speech/language impairment in childhood can have far-reaching effects. The current study attempted to further explore the social effects of speech/language impairment by investigating the social networks of young school aged children, which may be used as another measure of social functioning. Both the current work and the study done by Beitchman suggest the importance of increasing awareness of the social difficulties that may accompany language impairment in order to better provide intervention and instruction for these children.
Purpose of work

This work was an outgrowth of an interdisciplinary study group on the social support needs of school-age children, sponsored by the Society for Research on Child Development. Their purposes were to integrate their ideas about social networks and supports with child development theory and research, suggest implications for supportive interventions for children, raise new questions, and provide new tools for further study.

Summary

The first part of the book looks at how the social networks of children evolve. Issues were addressed including how social networks are influenced by the ecology in which a child lives (urban versus rural), cultural factors, and gender. The second part of the book focused on developmental trends in social networks of children. As children develop they experience shifts in size and structure of their social networks. These shifts accompany school entry and the early school years. The satisfaction children receive from relationships within their social networks was evaluated on a global scale as well as in one-on-one relationships and relationships with specific social groups. Satisfaction was not shown to be equal across these measures, indicating that a child’s satisfaction with her overall social networks did not necessarily indicate satisfaction with individuals within the networks or groups within her social networks. Following these findings was a discussion of the major theories in developmental change in supportive relationships. In an analysis of the effect of gender on social networks, it was suggested that gender caused more differences in network function than in network structure. In part 3 the various methodologies of exploring this parameter were presented. An influential factor in regard to method of data collection is which informant(s) is/are chosen to report on the social networks. It was found that there was agreement between child and mother reports on this parameter. Part 4 attempted to answer the question of how supportive relationships and networks come into being. One study argued that parents can facilitate the development of social networks and by extension the development of stronger social skills. Another question addressed in this section was how early adolescent friendships are begun and maintained. Part 5 included an analysis of the impact of supportive involvements on children’s well-being. Part 6 examined the relationship between children’s need for autonomy and their need for support. It was suggested that a balance between the two was important to have healthy social and emotional functioning in middle childhood.

Conclusions

The authors concluded that social networks are influenced by many factors including the ecology in which a child lives, culture, gender, developmental factors, age, etc. One important aspect of the method of data collection is choosing who will be the informant(s). It was suggested that parents can facilitate their children’s development of social networks and social skills. The relationships within social networks can provide a support mechanism.
children need to balance their need for autonomy with their need for support according to their developmental needs.

Relevance to the current work

This work provides important background for the current study by reviewing past research regarding social networks. It is relevant to consider that social circles of children change in size and shape in semi-unpredictable ways as individuals mature and experience different stages of life. It should be kept in mind that the assessments of the current study are limited in that they represent a snapshot of one point in time of the child’s social circles. Also of note was the discussion about the importance of who is chosen as the informant to report on the child's social activities. The current work used self-reports as well as parent-reports to assess children’s social circles and communication quality. Results should therefore be understood in the context of these informant perspectives. Future studies may include teachers and peers as informants.


Purpose of presentation

The purpose of the presentation was to describe successful AAC outcomes as well as outline and discuss a model of assessment and intervention based on the communication needs and partners of individuals with complex communication needs (CCN).

Summary

Alternative and Augmentative Communication (AAC) is a global term used to refer to exterior devices and/or methods of communication that can aide individuals for whom traditional forms of communication are insufficient. Successful outcomes of AAC include (slide 5):

1. Increase communication with variety of people in lots of settings
2. Increase access to community and independent activities
3. So someone can communicate with people they couldn’t otherwise
4. Allows for “yin/yang” of conversation
5. Gives greater control to the individual
6. Reduction of frustration
7. Make medical decisions

In spite of these suggested measures of success, it is important to realize that perceptions of success can be different for different stakeholders (e.g., the individual, family members, practitioners, policy makers, funders, manufacturers/distributers, administrators, general public, etc.). However, overall, if individuals with CCN “have ways to communicate effectively across their social networks so they can realize their goals, take care of their needs and express their unique selves in relationships” then AAC intervention may be considered successful (slide 8; McNaughton, D., 2005). “Social networks” is a term used to describe complex patterns of relationships and access to social networks depends upon an individual’s communication skills.
A person with CCN is often left out of social circles due to low language abilities. Using a social network framework can help one understand how to best apply AAC with an individual with CCN who is likely to be excluded from groups or social networks. It is also important to understand that social networks (and therefore communication needs) change over time as a person enters different stages of life. By analyzing an individual’s social networks, one can better adapt AAC to the individual’s communication needs. Communication is defined as “the joint establishment of meaning using a socially distributed ecology of public sign systems,” (slide 25). It is important to understand that in communication with individuals with CCN, it is the conversations that are impaired not the individual. The assessment tool developed by the author has the individual, a family member, and a professional list the people in the child’s social circles (i.e., life partners, close friends, acquaintances, paid interactional partners, and unfamiliar adults). The tool also assesses the different modes of communication used with members of various social network circles, topics of conversation used, communication goals, individual preferences, constraints and competencies of both partners, the context/setting of the interaction, and available modes.

Conclusions

Because access to social networks depends upon an individual’s communication skills and a person with CCN has limited communication skills, individuals with CCN often have limited access to social networks. The goal of AAC is to adapt communication to an individual’s needs to increase access to joint establishment of meaning and, by extension, social networks. Social networks analysis is a tool to better understand the communication abilities and needs of an individual with CCN and develop forms of AAC that meet their goals for communication. Other important points are that the focus of AAC is the interaction not the deficits of the individual and that everyone uses multiple modes of communication; there is no one mode that works for everyone all the time.

Relevance to the current work

The use of a social network analysis helps the clinician understand the persons with whom an individual communicates. The analysis used in the current work was adapted from Blackstone’s work to explore and compare the size of social circles and quality of communication (specifically, the divisions of social circles: life partners/family, close friends, acquaintances, persons who are paid to interact, and unfamiliar adults). Questions were also adapted from the part of the assessment that asks about topics of conversation, favorite communication partners, partners spent most time with, etc.


Purpose of the study
The purpose of this study was to examine and compare the functional social outcomes (friendships and levels of social activity) of adolescents with a history of SLI to those of typically developing adolescents.

Method

Participants. A group of 134 adolescents (16 years of age) with a history of SLI and 124 adolescents with typically developing language (TD) participated in the study. Participants in the SLI group originally participated in a study done when they were 7-years-old (Conti-Ramsden & Botting 1999; Conti-Ramsden, Crutchley, & Botting 1997). The children with SLI were not found to be different from children who did not participate in the areas of SES, emotional/social measures, language, or cognition. It was apparent from the longitudinal data available that as some of the children in the group with SLI entered adolescence they no longer met criteria for SLI because of their language and performance IQ scores. To qualify for the study, children had to have a performance IQ (WISC-III; Wechsler, 1992) of 80 or higher and a concurrent expressive or receptive language standard score (CELF-R; Wiig & Secord, 1987) of less than 85. The mean age in the group with SLI was 15 years 10 months (SD = 5 months). The mean age of children in the TD group was 15 years 11 months (SD = 4 months). TD children had a similar SES as the group with SLI. At the time of assessment all children were in their final year of compulsory education. There was no significant gender differences.

Procedures. Social cognitive levels as well as social skills were assessed by a researcher who met with each child individually at school in a quiet place. Assessments were all completed in one session. Because of anticipated difficulty in the group with SLI with reading, assessments instructions and tasks were given verbally. Social cognitive level was assessed using two tasks: the revised eyes task (eyes task-R; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001) and the strange stories task (Happé, 1994). The eyes task required a child to identify the emotion of a person when shown a picture of a person’s eyes. The child was given a 4-word emotion word bank to choose from. The strange stories task required a child to understand socio-cognitive events within the context of a story. A story was read to the child following which the child was asked a question regarding general understanding of the story and then a question regarding socio-cognitive understanding. The task was modified from Happé’s original version so that 6 target stories and 2 physical control stories were presented and no pictures were used due to the age of the participants. Physical control stories contained similar levels of linguistic and contextual setting but did not contain any socio-cognitive content. Data from children who were not able to answer the physical control story questions was not used in the analysis of the strange stories task. Social skills were measured using the strengths and difficulties questionnaire (SDQ; Goodman, 1997). Researchers believed that this measure, often used as a screening tool, was valuable in determining whether a child had social difficulties. It is also a social skills measure that is normed for adolescents. The SDQ is a questionnaire with 25 items that assess socio-behavioral status by asking positive and negative questions. The full CELF-R (Semel et al., 1987) was given to all children in the group with SLI and several subtests were given to the TD group to assess language ability. Non-verbal IQ was assessed for all participants using the full WISC III battery (Wechsler, 1992). Functional social outcomes were measured using questions in the interview portion of the assessment. Questions were designed to elicit specific examples or scenarios of friendships and social activities. Answers were later coded and scaled for analysis.
Analysis and Results

Inferential analyses were performed and some association was found between social cognition, language, and social behaviors. The strongest relationship found was between language and social cognition. When group data were analyzed together, the regression analyses showed that the adolescents’ functional social outcomes were most associated with expressive language, social skill, and social cognitive ability. But when the groups were analyzed separately, the patterns were different. Social cognition appeared to play a larger role in functional social outcomes for adolescents with SLI. Surprisingly there was not a strong direct relationship found between language ability and social skill in either group.

Conclusions

The social development of adolescents was affected in complex ways by language abilities. More specifically, results suggested that having lower language abilities may cause social functional outcomes to be less favorable as well as socio-cognitive abilities to be lower. The lack of a strong direct relationship between language ability and social skill was an indication that social skill and functional social outcome are different. Results suggested that there may be a stronger link between social cognition and functional social outcomes for children with a history of SLI than for TD children.

Relevance to the current work

Botting and Conti-Ramsden (2008) added to the body of literature linking language abilities to social abilities and outcomes. The associations found for adolescents with SLI between social cognition and functional social outcomes but not social skill were intriguing. Findings suggest that language abilities affect social development—which presumably lead to functional social outcomes—in complex ways that need to be better understood. The current work contributed to fulfilling the need to better understand the relationship between language and social competence. One of the aims of the current work was to better understand the relationship between language ability and the number of communication partners as well as quality or nature of communication which understanding could lead to a more complete picture of the connection between language and social competence.


Purpose of the study

The purpose of this study was to follow up on five adolescent girls who had received speech and language pathology services for LI in elementary school and thus evaluate the long-term academic and social ramifications of LI as well as appreciate the individual differences in language and social development as children mature.
Method

Five girls who were evaluated in grade school were reassessed as teenagers. They met the following qualifications at first assessment:

1. Nonverbal or performance IQ above 80 to rule out general developmental delay as the basis for LI. IQ scores from current school district testing were used and are included below as they were recorded in each girl’s record. Two of the children were assessed with a measure that did not yield a specific measure of performance or nonverbal IQ (e.g., Stanford-Binet Intelligence Scale, 4th ed.). For these children, a composite IQ score above 75 was considered acceptable if the testing psychologist ruled out general intellectual disability.

2. Diagnosis of LI by the school SLP and enrollment in speech-language pathology services.

3. Performance at least one standard deviation below the mean on a formal measure of receptive and/or expressive language. The testing used by the SLP to qualify the child for services was used to meet this criterion, and results are reported as recorded in school records.

4. Unremarkable hearing status as indicated by a pure-tone screening performed by school district personnel.

5. No formal diagnosis of emotional or behavioral disorder. This criterion was assessed on the basis of school district records and placement data.

The initial assessment of each girl’s social communication and behavioral functioning included the following measures. Teachers completed the Teacher Behavioral Rating Scale (TBRS). All the children in each girl’s class reported measure of acceptance and reciprocal friendship. Each girl was observed in three different cooperative play groups with three different girls. And lastly, each girl was observed in spontaneous free play on the playground during school recess.

At the time of follow up 4 of the 5 girls participated in the study (one had been expelled from school and could not be contacted). The follow up assessment included administering the CELF-4, having the participant, her mother, and a teacher selected by the participant complete the Social Skills Rating System (SSRS), administering the UCLA Loneliness Scale (Version 3), and separate interviews with the participant and teacher.

Results

In analyzing the social communication and behavioral functioning of each girl eight years after their initial evaluations, it was apparent that while there were individual differences among them. Overall, they all had continuing difficulty in many areas. While academic demands remained challenging, most of the girls were no longer receiving speech language pathology services. Socially, most of the girls were lonely. Several girls were reported to show significant difficulty with specific internalizing and externalizing behaviors.

Conclusions

The persistence of LI and its contribution to academic, language, and social difficulties gives reason to be concerned about these girls' future “independence, employability, and
relationships as adults,” (p. 27). This study highlighted the importance of ongoing intervention that simultaneously addresses language, social, and emotional competence.

Relevance to the current work

Language difficulties have a far reaching impact on social relationships. As shown in the cases of four young women, the social deficits in children with LI give reason for concern regarding their long term quality of life.


Purpose of the study

The purpose of this study was to examine the involvement of children with specific language impairment (SLI) in a cooperative group task.

Method

Participants. 54 children between 5 and 12 years of age participated in this study. Target children consisted of 6 children with SLI (whose ages ranged from 8 years 10 months to 12 years 5 months), 6 children matched for chronological age (CA), and 6 children with similar language skills (LS). There were 3 boys and 3 girls in each target group. Children were divided into 18 triads—each including one target child and two partners.

Procedures. Target children were placed in a group with 2 other children. Each triad participated in several other activities that lasted about 40-50 min, and then was asked to build a periscope. The examiner showed the triad an example of a periscope, gave them all necessary supplies, minimal instructions, and then sat on the other side of a cardboard partition. The children were seated at a table with the target child in the middle. The other two partners were seated randomly on one side or the other. There was no time limit for the task. Samples were recorded by two video recorders.

Analysis and Results

Samples were transcribed and analyses were done to assess the involvement of each child in the interaction. Samples were transcribed by two investigators and reliability was established. Each sample was coded for participation as well as verbal and nonverbal collaborative group activity. Verbal collaboration was assessed by first dividing samples into 15 sec intervals. If 2 or more children spoke about a given topic during the same interval, each of those children was scored as being collaborative during that interval. If a child did not talk or talked about a subject that was not discussed by the other children, the child was not scored as collaborative during that interval. The number of collaborative intervals was then converted into a percentage of the total number of intervals. Nonverbal collaboration was also assessed in 15 sec intervals. Nonverbal behavior was considered collaborative if it contributed to the periscope construction in
conjunction with the work of another child. Nonverbal collaboration was also converted to a percentage of total intervals. For purposes of analysis, the 2 partners on either side of the target child were called partner-1 and partner-2.

The children’s overall collaboration, verbal collaboration, and nonverbal collaboration were examined inferentially first according to groups and then the individual performance of each child with SLI was examined. Inferential analysis indicated that the target subjects with SLI participated in collaborative activity less than children in the partner-1 subgroup. Although there was not a statistically significant difference found between children with SLI and partner-2, there was a notable trend. There were no significant differences between CA and LS subgroups. Analysis examining verbal collaboration did not yield a significant difference between subgroups. Analysis of nonverbal collaboration showed a significant difference between groups. Post hoc tests revealed that children with SLI were less actively involved in building the periscope than either the partner-1 or partner-2 children.

Analysis of the individual performance of children with SLI revealed some interesting information. One girl collaborated verbally as much as her partners but did not collaborate as much nonverbally—she did not contribute as much to the building of the periscope. Four of the target subjects with SLI did not collaborate at all in the task. This suggests that such tasks may result in opportunities for exclusion for children with SLI.

Conclusions

The results suggest that the children with SLI had greater difficulty participating collaboratively in the task and that they tended to not contribute as much to the accomplishment of the task as their typical peers. The linguistic and social demands of collaborative tasks such as this may be beyond the capacity of children with SLI. This does not mean that cooperative learning groups should not be used as a model of teaching, but it does suggest that children with SLI need to be given extra supports in collaborative environments in order to successfully contribute.

Relevance to the current work

This study demonstrated some of the difficulties encountered by children with SLI when interacting in collaborative group settings. The most notable difference between children with SLI and other subgroups was that they did not contribute as much to the completion of the task. Some of these children became observers and were completely left out. This research suggests that children with SLI may not be as able to contribute in social collaborative settings. The current study took this notion of difficulty in social interaction and examined the impact LI may have on the number of people a child with SLI may interact with versus that of children with typical language skills. This study suggests that children with SLI may have more limited social networks due to their difficulties interacting in collaborative settings with peers.

Purpose of the study

The purpose of this study was to examine the ability of children with SLI to participate in a negotiation sequence with 2 same-age peers in triadic interactions.

Method

Participants. A total of 54 children participated in the study. They were divided into 18 triads which consisted of 1 target child and 2 interactional partners. Participants included 6 children with SLI ages 8 years 10 months to 12 years 5 months. Children with typical language abilities were chronologically age-matched (CA) or had similar language skills (LS) to the children with SLI.

Procedures. Prior to the negotiation task, children had participated in an access task and a toy selection task. Following the toy selection task each child was given 3 poker chips and an investigator introduced the triad to the “snack shop.” The snack shop had treats in it that they could buy with their chips. They were instructed to work together to decide what they wanted and let the investigator know when they were ready. When the children were finished, the investigator asked what they decided on and why they decided on the particular item. The tasks were video recorded.

Analysis and Results

Basic participation was analyzed by counting the number of utterances each child produced. An analysis based on the interpersonal negotiation strategy (INS) model (Beardslee, Schultz, & Selman, 1987; Selman, 1981) was used to examine negotiation strategies. The number of utterances produced by children with SLI was not significantly less than their interactional partners. Children with SLI produced a significantly smaller percentage (of their own utterances) of negotiation strategies than their partners. They also used developmentally lower negotiation strategies than the partners in their triads.

Conclusions

Children with SLI experienced a lower quality of interaction than did their peers. They did not show the flexibility and reciprocity that would be expected at their age. Because of the lower sophistication of their negotiation strategies, they were less influential in the triads, often being left out of the final stage of the process when the group informed the investigator of their decisions and provided a rationale. It is therefore expected that children with SLI have difficulty in negotiation contexts with peers due to their inflexibility and immature tactics of negotiation.

Relevance to the current work

Findings from this study fit with findings from the current study because the peer social circle of a child with LI will likely be smaller if he/she is not able to express his/her perspectives at the same level as peers. Negotiation is one skill that would be important to forming
relationships with peers. Having difficulty negotiating with peers could result in exclusion from many important interactions.


Purpose of the study

The purpose of this study was to explore the association (if any) between concurrent difficulties in the areas of social and behavioral development in children with SLI.

Method

Participants. A group of 242 children who had been attending language units and participated in a study at 7 years of age were assessed in the areas of social and behavioral status at 11 years of age. The average age of the children was 10 years, 11 months (SD = 5 months). The socioeconomic background resembled that of the general population. Although children originally attended language units, they did not always continue to be placed in them.

Procedures. Children were given self-report questionnaires and language tests at school in a quiet room. Most children completed all assessments in one day at their own pace. Victimization was assessed using the “My Life in School” checklist (MLIS; Sharp, Arora, Smith, & Whitney, 1994). Social and behavioral functioning was assessed using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). Both measures were used to provide a global view of behavior. The Rutter Behavioral Questionnaire (Rutter, 1967) was completed by each child’s teacher to provide information about the child’s general behavioral difficulties, including emotional and antisocial behaviors. Teachers also completed the Peer Competence Subscale from the Harter Perceived Competence Scale (Harter & Pike, 1984) in order to assess peer competence or friendship difficulties from the point of view of someone other than the child. The Children’s Communication Checklist (CCC; Bishop, 1998) was filled out by teachers or speech language therapists to measure each child’s pragmatic language levels. General cognitive level was assessed using the Wechsler Intelligence Scale for Children (WISC-III; Wechsler, 1992) to determine nonverbal IQ. Each child also was given the Basic Reading and Reading Comprehension sections of the Wechsler Objective Reading Dimensions (WORD; Wechsler, 1993).

Results

In total, 64% of the children were found to have scores on the Rutter behavioral questionnaire of 9 or above (which was the clinical threshold). Thirty-four percent scored over the threshold for the Strengths and Difficulties questionnaire. Thirty-nine percent scored below average on the Peer Competence subscale of the Harter Perceived Competence Scale. The analysis showed that the generalized social difficulties were characterized mainly by poor social competence. Furthermore, 36% of the children with LI were at risk of being regular targets for victimization compared to 12% of a comparison sample of typically developing peers. Not many associations were found between social outcome and other measures (i.e., nonverbal intelligence,
overall linguistic skill, gender, and longitudinal data from a previous stage in the study). One striking result was that pragmatic language difficulties were strongly related to poor social outcome and to expressive language related to victimization.

Conclusions

Social and behavioral difficulties are a long-term problem for children with SLI. Findings indicated that expressive skills were a consistent factor in victimization and that low pragmatic language skills were associated with social difficulties. It would therefore be useful for speech and language intervention to include social skills training and self-esteem support.

Relevance to the current work

Conti-Ramsden and Botting (2004) add to the body of literature that demonstrates that children with low language skills are at risk for social difficulties. The implications of social difficulties are important in regard to a child’s ability to form and maintain meaningful relationships. A thorough understanding of the social difficulties and possible contributing factors to social difficulties such as those explored by Conti-Ramsden and Botting (2004) may contribute to possible future intervention strategies to address relevant social issues.


Purpose of the study

The purpose of this study was to characterize the access skills of children with SLI and compare them to those of typical children.

Method

*Participants.* A total of thirty-eight children participated in this study. Thirteen were subjects and twenty-five acted as partners. Five subjects were children with SLI, four had normal language and were matched for age (NL-A) to the children with SLI, and four had normally developing language and were matched for language ability (based on Mean Length of Utterance—MLU) to the children with SLI. These children received receptive and expressive language measures at the time of data collection. Measures included a calculation of MLU and Developmental Sentence Scores (DSS; Lee, 1974) as well as the Peabody Picture Vocabulary Test—Revised (PPVT-R; Dunn & Dunn, 1981) and the Listening to Paragraphs and the Recalling Sentences subtests of the Clinical Evaluation of Language Fundamentals—Revised (CELF-R; Semel, Wiig, & Secord, 1987). According to parent reports, these children were largely socially isolated except for one child who had one close friend who was three years old.

Participants with normal language (NL-A, NL-L, and partners) had unremarkable, birth, development, and health histories, no significant behavioral problems, and no histories of serious illness, or communication problems according to parental reports. They were also reported by parents to be progressing well in school. When data were collected, language skills were confirmed to be within typical limits by standardized testing.
Procedures. The study was designed so that children were placed in triadic groups with one subject and two partners. For the children with typical language, the child’s role as subject or partner was determined randomly. Partners were matched to subjects in their triads by age and gender. For the NL-L triads, partners were matched to subjects by MLU and language structural stages. Previous to the study, all subjects and partners were unacquainted. The two partners were first led into the room by a researcher who stayed with them for about ten min until they were engaged in cooperative play. The partners were not informed that a third group member would be coming. The researcher then returned with the subject and introduced the subject to the partners but did not specify what the subject’s role would be in the group. The researcher then announced that she would be leaving the room for a few min and then left. The same instructions were given to each triad by the same researcher. The episode began when the subject was brought into the room and ended either when the subject took a turn in the activity that the partners observed and did not reject or when 20 min had passed. This task was designed so that the subject accessing the interaction could do so nonverbally, giving equal advantage to subjects no matter their age or language stage. The nature of the activity also allowed for obvious analysis of accessing.

Analysis and Results

Access attempts were counted as successful “when the subject took an unrejected turn in the play and at least one partner was aware of it as evidenced by the content of the partner's next utterance or by the partner's watching the subject's action. An Access Episode was considered unsuccessful when the subject did not take a turn in the play interaction by the end of the 20-min taping session,” (pp. 4-5). Other parameters that were analyzed were the sequence or distribution of behaviors and utterances, types of behaviors of subjects (e.g., waving, circling, sitting down, etc.), and types of behaviors of partners (e.g., personal identifications, invitations to play, verbally negative challenges, etc.). Reliability was established by having an independent observer transcribe the interactions and score the behaviors of the children. Agreement between the author’s original transcription and that of the independent observer were high.

All of the children with typical language and two of the children with SLI were successful in achieving access. The three subjects who did not access the play of the partners within the 20-min sample were children with SLI. Gender seemed unrelated to whether the access episode was successful or not. The three subjects who did not access had assessment profiles indicating lower receptive skills than those of the 2 subjects with SLI who did achieve access. The relationship between access outcomes and receptive skills was examined for all subjects in all groups. A Pearson product-moment coefficient of correlation was calculated between the subjects’ PPVT-R Standard Score and episode durations. The correlation was -.68, which was statistically significant (p = .01), indicating a moderately strong inverse relationship between receptive skill and episode duration.

Conclusions

Findings suggest that children with SLI have difficulty accessing peer interactions. This implies that many children with SLI may not access the larger and more complex social structures of their school and community interactive contexts. Children with SLI who are unable
to access peer play will be unable to form friendships, to learn from peers, and to be socialized in the ways most children are.

Relevance to the current work

The difficulty that children with SLI may have in accessing peer and other social groups would likely have an impact on the size and extent of their social networks. The current study would suggest that the presence of language disability impacts the size of children’s social networks. Accessing interactions is a functional social behavior that is important to the initiation and development of relationships which form the social groups or networks of a child’s interactional patterns.


Purpose of the study

The purpose of this study was to explore the extent to which quality of adolescent friendships could be predicted by individual differences in social behaviors and language ability.

Method

*Participants.* Participants were 120 adolescents with SLI and 118 typically developing (TD) adolescents. Participants were 16-years-old. Participants with SLI were originally part of a larger longitudinal study (Conti-Ramsden & Botting, 1999; Conti-Ramsden, Cruchley, & Botting, 1997) and were recruited from language units attached to mainstream English schools. The TD participants were recruited from a broad background and were matched for age and socioeconomic status with the participants with SLI.

* Procedures.* Participants were interviewed either at school or at home in a quiet room with the researcher. Appropriate breaks were given during the sessions which lasted about a morning or an afternoon. Parent interviews were conducted separately at home and lasted about 2 hours. The receptive and expressive language tests administered to all participants were the Word Classes subtest of the Clinical Evaluation of Language Fundamentals-Revised (CELF-R; Semel, Wiig, & Secord, 1987) and the Recalling Sentences subtest of the CELF-R. Participants with SLI received a full CELF-R. Reading comprehension was assessed using the Reading Comprehension subtest of the Wechsler Objective Reading Dimensions (WORD; Wechsler, 1993). Participants’ performance IQ was measured using the Wechsler Intelligence Scale for Children (WISC-III; Wechsler, 1992). Participants with SLI also received batteries of psycholinguistic tests at 7 and 11 years of age which included the Test for Reception of Grammar (TROG; Bishop, 1982), the Bus Story Test (BS; Renfrew, 1991), British Ability Scales –Word Reading subtest (BAS-wr; Elliot, 1983), the British Ability Scales –Naming Vocabulary subtest (BAS-nv; Elliot, 1983), the Goldman –Fristoe Test of Articulation (GF; Goldman & Fristoe, 1986), and the Illinois Test of Psycholinguistic Ability–Grammatic Closure subtest (ITPA; Kirk, McCarthy, & Kirk, 1968). Social emotional functioning was assessed for all participants using the Strengths and Difficulties Questionnaire – self report (SDQ; Goodman,
Meltzer, & Bailey, 1998). Quality of friendships were assessed using the Social-Emotional Functioning Interview (SEF-I; Howlin, Mawhood, & Rutter, 2000).

Results

Language measures were found to be related to friendship quality after accounting for nonverbal IQ and prosocial and difficult behavior. Although 60% of participants with SLI had good quality friendships, as a group these children were more likely to exhibit poorer quality friendships than the TD participants. In short, problem behaviors were associated with poor quality of friendships and low language ability was associated with poor quality of friendships even when controlled for problem behaviors. Emotional and behavioral difficulties appeared to be associated with SLI but did not predict quality of friendship in adolescence. Analyses of longitudinal data showed that low language abilities earlier in life (at age 7) were predictive of poorer friendship quality in adolescence.

Conclusions

Although children with SLI show heterogeneity in quality of friendships, they are at risk for poorer friendship development. As an early emerging developmental disorder, the consequences of SLI are long-lasting. Social development is one aspect of development that is affected from childhood and into adolescence and is an area of concern for individuals with SLI.

Relevance to the current work

The low quality of friendships experienced by some individuals with low language abilities may account for some of the smaller sized social circles reported in the current study. It is possible that there may be a minimum level which the quality of friendship must meet for an individual to be considered a desirable interactional partner and thereby be included in an individual’s social circle.


Purpose of work

The purpose of this work was to describe what social network analysis (SNA) is, how it developed and why it is being used more frequently. This text also included selected papers that were presented at the 3rd conference on “Application of Social Network Analysis” at the University of Zurich in October 2006.

Summary

The first paper by Marina Hennig looked at the question of how and when social relations become a resource. In a study of 1,953 German families she suggested that a social relation can become a resource even if the strength of a tie is weak because of the heterogeneity of the network. Heterogeneity refers to the composition of the network members with regard to age,
gender, and social context (e.g., family, classmate; p. 19). The more diversity of composition there is the more that network is useful as a resource for the individual member. The second paper by Tevfik Erdem and Nail Oztas discussed integration of different theoretical approaches to social capital in relation to the friendship and study networks of 313 students in public education. In the third paper, Ines Mergel and Thomas Langenberd addressed the question of how online network ties are created, maintained, decayed, and reconnected. They found that influential characteristics were personal, dyadic, structural, and content related. Nicholas Silburn, in the fourth paper, outlined the way in which people share information with others as well as how they interact with information systems to accomplish their jobs. The fifth paper, by Karin Ingold, discussed the impact of social networks on politics specifically in Swiss political climate policy. In the sixth paper Zeev Maoz, Ranan Kuperman, Lesley Terris, and Ilan Talmud use data from 1816 to 2001 to examine how “national network centrality is related to their involvement in international conflicts,” (p. 16). The last paper by Ferenc Jordan presented strong evidence that the bombing of the London underground in July 2005 was based on network analytical calculations.

Conclusions

Social network analysis has become an important way of understanding relationships from individual to national and even international levels. Different forms of social network analysis can be used to examine relationships at any of these levels. The implications of the analysis depend on the type of relationship being examined. In individual relationships, SNA may increase understanding regarding the social benefits received by individuals in social networks. On a national or international level, political climate and courses of action taken by countries or organizations can be examined and better understood through appropriate application of SNA.

Relevance to the current work

This work demonstrates the importance and usefulness of SNA. Its usefulness in describing the ways in which individuals, families, and other groups benefit from the social networks demonstrates how influential the social networks are in terms of individual wellness, job mobility, virtual connections, involvement in international conflicts, other events, etc. If an analysis of social networks can be useful in describing and understanding behaviors of adults, it would be logical to assume that it would be useful in describing and better understanding behaviors of children—as was attempted in the current work.


Purpose of the study

The purpose of this study was to explore the social skills of elementary school children with SLI by looking at their general level of social behavior as well as consider the quantity and quality of their social relationships. Researchers attempted to answer the questions of whether
children with LI differed from chronologically age matched peers in general social skills, number of peers with whom they interacted, and the satisfaction they had in their social relationships.

Method

Participants. 19 elementary school children with SLI and 19 age-matched peers with typical language participated in the study. Children were between 8 and 12 years of age.

Procedures. First general social skill was measured using the Social Skills Rating System-Teacher Form (SSRS-T; Gresham & Elliott, 1990). The SSRS-T was designed to be filled out by a student’s teacher to assess social skill, problem behaviors, and academic competence. Only the social skills and problem behaviors subtests were used because it is generally accepted that children with LI exhibit poor academic performance and comparisons based on academic performance would not be productive. In order to increase the consistency of time spent on the assessment, the format of the SSRS-T was modified to an interview format. The subscales of the social skills section were cooperation, assertion, and self-control. The subscales of the problem behavior section were externalizing problems, internalizing problems, and hyperactivity.

Following this measure, the quantity of peer relationships was assessed in both groups using an informal picture task. This measure provided an indication of the peers with whom each child interacted while taking part in a variety of activities. The child was shown pictures of children engaged in common activities such as playing on a swing set or eating lunch. Participants were asked whether they took part in that activity and with whom they took part in it.

Lastly, the quality of peer relationships was then assessed using the Williams and Asher Loneliness Questionnaire (Williams & Asher, 1992). The questionnaire contained 14 questions which probed the child’s feelings of loneliness and social satisfaction (e.g., “Do you feel alone at school?” and “Are there kids at school who care about you?”). The purpose of the last 6 questions, which were about activities the child might participate in, was to help the child feel relaxed about answering the questions.

The same investigator administered assessments to children in both groups as well as their classroom teachers. Order of assessment—in terms of teacher first or child first—was alternated to control for bias. Interviews with children included the Williams and Asher Loneliness Questionnaire and the informal picture task and were done in a quiet room at the child’s school. Children were given a simple explanation of what to expect in the tasks and then asked if they wanted to do them. Once the child agreed he or she was given specific task instructions. The order of the tasks was systematically varied between matched pairs. Scores for the SSRS-T were calculated using directions from the test manual. Scores for the informal picture task were calculated by giving an item 2 points if the child named 2 or more peers, 1 point for one friend, and 0 points for reporting self, family members, or no peers. Credit was given if the same peer was mentioned for multiple activities. The Williams and Asher Loneliness Questionnaire was scored using the authors’ guidelines.

Results

It was found that children with SLI differed from their peers on both the social skills and behavior problems domains of the SSRS-T. A t-test for correlated means with the α level set at
0.025 indicated that the differences between groups in social skill (t=5.53, p<0.001) and in behavioral problems (t=-3.236, p=0.0046) were statistically significant. The results suggested that the children with SLI had poorer social skills and more behavioral problems than children with typical language skills. On the informal picture task children with SLI had a mean of 9.68 social contacts (SD=4.31) and children with typical language had a mean of 12.95 (SD=4.30). A t test for independent means showed that the means were significantly different (t=2.33, p=0.025) with children with SLI having fewer peer contacts. On the Williams and Asher (1992) Loneliness Questionnaire children with SLI had a mean score of 21.63 (SD=6.14) and children with typical language produced a mean score of 17.79 (SD=3.08). A t test for independent means with an α level set at 0.05 showed a significant difference between groups (t=-2.438, p=0.0198) showing children with SLI as having less satisfaction with peer relationships.

Conclusions

Based on scores from the SSRS-T, the children with SLI had poorer social skills than their typical peers. Also according to this measure, the children with SLI were rated as having more behavioral problems. According to the picture task, the children with SLI had fewer peers than their typical peers. The results of the Williams and Asher Loneliness Questionnaire indicated that children with SLI had less satisfaction with their social interactions than their CA-matched peers.

Relevance to the current work

Fujiki, Brinton, and Todd’s (1996) work was an important precursor to the current study. The picture task used by Fujiki, Brinton, and Todd to quantify the number of peers with whom each child interacted with during common social activities was used in the current study to collect similar data.


Purpose of the study

This study was part of a larger project attempting to obtain a comprehensive picture of the social world of children with SLI. The purpose of this study was to examine reciprocal friendship and peer acceptance in 8 elementary age children with SLI. Questions asked focused on how children with SLI compare to their classmates on peer acceptance and friendship measures.

Method

*Participants.* Participants were children in 4 classrooms of a large elementary school, 8 of whom had SLI. Children’s ages ranged from 6 years 9 months to 10 years 7 months. Parental permission was obtained for members of the participating classes.
Procedures. The same researcher administered peer rating and reciprocal friendship measures in four classrooms (which included the 8 children with SLI). Assessment took place three months into the school year to allow time for relationships to form within classes. Children were asked to rate which students in the class they did or did not like to play with and to name their 3 best friends in the class. First graders were shown a picture board of classmates to help them answer the questions (Asher, Singleton, Tinsley, & Hymel, 1979; Hart, Ladd, & Burleson, 1990). Second and fourth graders were given a written list of names that was read to them or that they read themselves for peer nomination. Lists were examined to determine how often a child was named by a classmate and whether friendship was reciprocal or not.

Results

Acceptance denotes being generally acceptable to peers based on various factors. Friendship denotes a close relationship in which partners talk more to each other than to others and enjoy each other’s company. Among the 8 children with SLI 3 were less well accepted by peers. The 3 who were less well accepted were rated 1 or more SDs below the mean of their class. However, the other 5 who were within 1 SD of their class means were considered accepted by their peers. When ratings were considered by gender only 1 child was rated by classmates as more than 1 SD below the mean and one other was nearly 1 SD below the mean. Five children with SLI reported no reciprocal friendships. Among the entire sample of children who participated in the study, 15% of children were not named by anyone as a friend and 5 out of 12 of these were children with SLI.

Conclusions

Although children with SLI could be considered accepted by peers, it is evident that they do not have as many reciprocal friendships. This may be due to the role of language within a friendship. Friends spend more time together than with other peers and consequently communicate more with each other. It may be that children with SLI can achieve acceptance at a superficial level but are less equipped to form friendships because of the language and social awareness demands especially in intimate communication. Although acceptance provides a positive environment at school for a child, friendship is important to social, emotional, and cognitive growth. Facilitating friendships for children with SLI may be a useful part of intervention in order to help children be better accepted and experience reciprocal peer friendships within the classroom context.

Relevance to the current work

The degree to which a child is accepted by peers and enjoys reciprocal peer friendships will not only affect the size of his or her social circles but also the quality of communication exchanges as explored in the current work. As expressed by Fujiki, Brinton, Hart, and Fitzgerald (1999), “Difficulties understanding and formulating language undoubtedly undermine the peer interactions of children with SLI. In addition, more general social competence may be fragile in children with SLI (Fujiki, Brinton, & Todd, 1996 ),” (p. 36-73). The lack of social skill in peer interactions inevitably contributes to lower quality interactions which decrease the likelihood of interactions being repeated and yielding friendships. As an extension of the ideas explored by
Fujiki, et. al. (1999), an investigation of the acceptance of individuals with SLI by groups beyond classroom peers would be fascinating.


**Purpose of the study**

The purpose of this pilot study was to examine the social behaviors of children with LI and children with typically developing language on the playground.

**Method**

*Participants.* Eight children with LI and 8 age-matched peers participated in this study.

*Procedures.* Children were video recorded for 45 min during morning and lunch recesses. Recordings were divided into 5 min segments and coded according to the child’s behavior in the segment. The behavior was divided into one of social categories.

**Results**

Groups differed significantly in peer interaction and withdrawal. Typical children spent more time interacting with peers than children with LI. Children with LI spent more time in withdrawn behaviors than their typical peers at school.

**Conclusions**

Findings support the body of research indicating that children with LI are more withdrawn at school than their typical peers. It may be beneficial to provide intervention for children with LI that includes targeting social language skills in the playground context to help them participate more with peers in playground activities.

**Relevance to the current work**

If increased withdrawn behaviors and decreased time spent interacting with peers on the playground is typical of children with LI, then their social circles are likely to be smaller. Children with LI are also less likely to have opportunities for high quality interactions with peers.


**Purpose of the study**

The purpose of this study was to explore the domains of withdrawal and sociability in children with LI and their typically developing CA-matched peers.
Method

Participants. Participants consisted of 41 children with LI and 41 typically developing chronologically age-matched peers. Children were between the ages of 5 and 8 years old and from 10 to 13 years old.

Procedures. Classroom teachers rated children’s withdrawn and sociable behaviors using the Teacher Behavioral Rating Scale (TBRS, Hart & Robinson, 1996). The subtypes of withdrawn behavior that were looked at were solitary-passive withdrawal, solitary-active withdrawal, and reticence. The subtypes of sociable behavior that were examined were impulse control or likability and prosocial behavior.

Results

Children with LI were rated by teachers as displaying significantly higher levels of reticent behavior than their typically developing peers. Boys with LI were rated as displaying significantly higher levels of solitary-active withdrawal than girls with LI or typical children of either gender. Boys were rated higher than girls on solitary-passive withdrawal but the LI/T groups were not different in this parameter.

Conclusions

Although LI is an important factor in social difficulty, results suggest that LI is not the sole factor leading to social problems in children with LI. Results suggest that language and social competence are highly interrelated. However the presence of one may not guarantee the presence of the other. Assessment and intervention procedures for children with language and social problems should take the complex nature of this relationship into account. Language impairment alone does not explain social difficulties. Therefore, multiple sources should be used to assess a child’s social aptitude. If a child with LI is found to have social deficits, therapy could address language as well as social deficits.

Relevance to the current work

This study contributed to the body of research demonstrating that children with LI have social difficulties in the form of higher levels of withdrawal and lower levels of impulse control, likeability, and prosocial behaviors. In addition to this, the authors emphasized that while LI is an important factor in social difficulty, it is not the sole factor leading to social problems in children with LI as is demonstrated by the way social problems persist in some older children with LI despite increased linguistic sophistication (Brinton, Fujiki, & Baldridge, 2010). Using multiple sources to assess a child’s social aptitude can contribute to a better understanding of the impairment (Hart, Fujiki, Brinton, & Hart, 2004). The current study sought to contribute to the arsenal of sources used to assess children’s social aptitude. However, measures differed from those used by Fujiki, Brinton, Morgan, and Hart (1999). Instead of using teachers as informants, the measures of the current study used children and parents. The difference in perspective can serve as a valuable resource in completing the picture of a child’s social aptitude. The current study’s focus on size of social networks as a possible measure of social aptitude was not only
valuable in contributing to the understanding of the size of a child’s social circles but also to the quality and nature of a child’s social functioning. These were both social characteristics that contributed to a more complete picture of a child’s social aptitude, which, as suggested in this study, is a complex parameter that should be explored using various methods of assessment.


Purpose of the study

The purpose of this study was to explore the relationship between children’s language abilities and their acceptance among peers.

Method

**Participants.** Participants included 31 children (19 males and 12 females). Children were enrolled in the Language Acquisition Preschool at the University of Kansas. Children had no physical or visual disabilities and all had typical hearing. Most children (29/31) scored within the normal range for intelligence on the Processing Composite of the Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983). The two who scored outside of the typical range were considered by the clinical staff as demonstrating S/LI status and were therefore included as participants. The school placed children in one of three groups according to performance on a battery of assessments. The groups were (a) children with normally developing language (ND), (b) children with speech and/or language disorders (S/LI), or (c) children learning English as a second language (ESL). The assessments included the Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981), the Reynell Developmental Language Scales-Revised (Reynell & Gruber, 1990), the Goldman-Fristoe Test of Articulation (GFTA; Goldman & Fristoe, 1986), and a spontaneous language sample used to obtain a mean length of utterance (MLU) and determine mastery of age-appropriate grammatical morphemes. Participants in the study included 9 ND, 10 ESL, and 12 S/LI grouped children.

**Procedures.** Children were given assessments individually by an investigator at school. Following an orientation activity, the child was shown pictures of the children in their class and asked to point to those they liked to participate with in dramatic play. The question was repeated two more times so a total of 3 classmates were selected. The investigator removed the 3 pictures from the rest of the pictures and asked with whom the child did not like to play. The question was repeated until 3 classmates had been selected. Children’s answers were recorded on a summary sheet.

Results

Data was analyzed according to positive and negative nominations, with 1 point given for each nomination. Two analyses of variance were done to test for differences between the three group means for each sociometric measure. The positive nomination means for the ND, S/LI, and ELS groups were 4.22, 2.33, and 2.60 and the negative nomination means were 1.78, 3.58, and 3.40 respectively. Differences among groups were significant for the positive nominations.
but not for the negative nominations. Post-hoc Scheffe pairwise comparisons showed that ND children received more positive nominations than children in either the ESL group or the group with S/LI. Negative nominations were skewed in the predicted direction although differences were not statistically significant. Correlation analyses were performed to evaluate the effect of age and intelligence on positive and negative nominations. Results revealed that positive nomination was moderately correlated with chronological age, receptive and expressive language performance on assessments, and articulation ability. Negative nominations correlated only with children’s articulation ability. Positive and negative nominations were combined to classify children as Liked, Disliked, Low Impact, or Mixed. ND children predominated the Liked cell while S/LI and ESL children fell mostly in the Disliked or Low Impact cells.

Conclusions

Results of the study suggest that a child’s limited language ability is associated with lower levels of peer acceptance. Children with S/LI were the least likely to be identified as desirable playmates in the context of dramatic play. Researchers suggested that this may have been in part because of difficulties in accessing and participating in ongoing interactions due to low language abilities.

Relevance to the current work

The tendency of children with LI to have smaller circles of peer interaction may be a manifestation of the preferences revealed in this study. If children with LI were not named as desirable playmates, they are more likely to be left out of interactions, effectively decreasing their ability to form positive social relationships and friendships. The children’s preferences to play with children in the ND group and not children from groups with low language abilities could also be an indicator of low quality social interactions which were also explored in the present study.


Purpose of work

While it is documented that people given social support improve in coping with stress, this book examines what that social support (called enacted support) looks like on a conversational level. This is an important area to understand because these conversations can influence coping, relationship satisfaction, and individual health and well-being.

Summary

This book reviewed ten years’ worth of research done by the author regarding how enacted support is carried out at the conversational level. Chapter one included a discussion of the problems and holes left in the overall study of enacted support and proposed the need for further investigation. Chapter two outlined the theory associated with studying enacted support using a communication-based approach. The author then explained her assumptions about how enacted support was related to methods of assessing it. She demonstrated how her own approach
was different from but complementary to other approaches. Chapter three explored the question of why advice was not a more helpful form of enacted support. Chapter four looked at matching models of enacted social support in which it is assumed that the type of support given must match the problem (e.g., if the problem is controllable offering advice may be appropriate while if it is not controllable offering comfort would be more appropriate). Because matching models have limited success predicting the circumstances that will yield beneficial effects, Goldsmith proposed a new model in which relational partners “adapt the support they offer to external constraints on coping as well as modify and coordinate their views on the environment to facilitate coping,” (p. 8). In other words, relational partners change the way they offer support depending on the nature of the problem and try to view the problem in a way that makes it easier to cope with. Chapter five examined support offered and received in close relationships looking at the complications of coordinating preferred ways of coping. The ways partners talk about stressors determined the way they cope with or choose to share them. Chapter six included a discussion of implications of the findings of these studies in theory and practice as well as suggestions for further research.

Conclusions

“Troubles talk” is the way in which relational partners discuss life stressors and offer enacted support or support to cope with life challenges. The way in which this occurs on a conversational level is complex and has been studied in various ways. Goldsmith proposes methodologies that include “participant observation, ethnographic interviewing, observation of troubles talk between partners in ongoing relationships, solicitation of monologues in response to hypothetical situations, and questionnaire responses to carefully manipulated messages,” (p. 9). The more enacted support is understood at a conversational level, the more skillfully this can be achieved in relationships and the individual, relational, and theoretical development can also be understood.

Relevance to the current work

This work delves deeper into an important purpose of social interaction, which is to offer support in response to life stressors. This provides relevant justification to the current work which is built on the assumption that social interactions are important. Goldsmith’s work outlines some of the specific ways in which social interactions may be effectively studied and understood. While Goldman’s methods attempt to scrutinize the way in which support is offered, the current work’s methodologies look at a broader view of social support, specifically, the presence or lack of interactional partners.


Purpose of the study
The purpose of this study was to follow up on preschool children recruited through referrals from speech and language clinics, investigating linguistic, literacy, and social outcomes at 7 to 10 years of age.

Method

Participants. Participants consisted of 196 children (134 males and 62 females) with a mean age of 8 years and 4 months who had had some history of concern with speech and language development. Children with severe learning difficulties, autism, oromotor deficits, dysfluency, or dysphonia were excluded. A control group of 94 children with a mean age of 8 years 8 months who had never been referred for speech or language issues was also recruited.

Procedures. Children received assessments in speech, language, and literacy. Questionnaires regarding educational and social outcomes were completed by parents and teachers. Assessments given included the following: (a) British Picture Vocabulary Scale II (BPVS II; Lloyd et al. 1997): single-word receptive vocabulary; (b) Test for Reception of Grammar (TROG; Bishop 1989): understanding of grammatical contrasts; (c) Test of Language Competence (TLC; Wiig and Secord 1988): testing use of linguistic and social knowledge to answer questions appropriately and ability to formulate answers in response to questions about stimulus pictures; (d) Goldman-Fristoe Test of Articulation-2 (GFTA-2; Goldman & Fristoe, 2000): articulation; (e) Clinical Evaluation of Language Fundamentals-3 (CELF-3; Semel, Wiig, & Secord, 2000): recalling sentences subtest to assess ability to repeat sentences of increasing length and syntactic complexity; (f) Wide-Range Achievement Test 3 (WRAT-3; Wilkinson, 1993): reading and spelling subtests; and (g) Parent and teacher questionnaires: investigating the social abilities of the children. Two more assessments used included: (a) Raven’s Coloured Matrices (Raven 1976): non-verbal/general ability which was not considered an outcome but rather an explanatory variable; and (b) Children’s Test of Nonword Repetition (CNRep; Gathercole & Baddeley, 1996).

Results

Twenty-seven percent of children who had been referred as preschoolers to speech and language services continued to struggle with language, literacy, and social difficulties. The other seventy-three percent scored at typical levels. Using logistic regression with language status as the independent variable, there were differences on all measures except the GFTA, TLC comprehension and expression, CELF, and the WRAT-3 reading and spelling. When relationships between variables in multivariable models were taken into account there was a significant difference only on the TLC expression.

Conclusions

The study demonstrated that although some children will outgrow speech and language difficulties between pre-school and about 8 years of age, others do not and the impairment affects many important areas of development. Awareness regarding the long-term nature of LI should be raised among professionals in child development and education in order to better meet the ongoing needs of children with LI.
Relevance to the current work

The long-term nature and far-reaching impact of LI implies that the deficits of children with LI need to be better understood in order to provide better intervention techniques. The current study focused on the social abilities of children with LI which was among the domains in which Glogowska, Roulstone, Peters, and Enderby (2006) demonstrated there was reason for concern.


Purpose of the study

This study examined the dimensions of withdrawal and sociability in children with language impairment (LI) and their typically developing chronological age-matched peers.

Method

Participants. The sample consisted of 41 children with LI and 41 typical matches, for a total of 82 subjects. Speech-language pathologists in three local school districts were asked to refer children with LI who met the following criteria. The resulting sample included 8 females and 12 males between the ages of 5:5 to 8:2 (years:months) and 10 females and 11 males between the ages of 10:2 to 12:10 in both the group with LI and the control group.

Procedures. Classroom teachers rated the withdrawn and sociable behaviors of 41 children with LI and 41 typically developing peers using the Teacher Behavioral Rating Scale (TBRS; Hart & Robinson, 1996). Subtypes of withdrawn (solitary-passive withdrawal, solitary-active withdrawal, reticence) and sociable (impulse control/likability, prosocial) behavior were examined.

Results and Analysis

Scoring. Each participant's score consisted of his or her mean rating across each item in a subtype.

Analysis. Five sets of 2 (gender--male, female) by 2 (group--LI, typical) by 2 (age--5 to 8 years and 10 to 13 years) analyses of variance (ANOVAs) were conducted in which each of the three withdrawn and two sociability subtype scores served as dependent variables in separate analyses.

Results. Teachers rated children with SLI as displaying higher levels of reticence and solitary passive withdrawal than typically developing children. Teachers also rated children with SLI as displaying lower levels of both types of sociable behavior than typical children. Upon separating children with SLI into groups of more and less severe impairment, for the most part, groups were found to not differ on comparisons of withdrawn behavior. However, girls with more severe receptive problems demonstrated higher levels of proficiency on both types of sociable behavior than their peers with more severe LI. The children with more severe
expressive problems demonstrated poorer prosocial behavior but not poorer impulse control/likeability than children with less severe expressive problems.

Conclusions

Withdrawal was significantly higher in children with SLI than in typical peers. Findings suggested that “withdrawal observed in children with SLI is not mediated by strong sociable behaviors” (p. 657) as children with SLI were rated low in the areas of prosocial behaviors as well as likeability. The severity of SLI did not seem to influence reticent behavior. A higher level of proficiency on both types of sociable behavior was demonstrated by children with less severe receptive problems than those with more severe impairment. Results suggest that LI is not the sole factor leading to social problems in children with LI although it is an important factor in social difficulty.

Relevance to the current work

This study contributed to the body of research demonstrating that children with LI have social difficulties contributed to by higher levels of withdrawal and lower levels of impulse control, likeability, and prosocial behaviors. In addition to this, the authors emphasized that while language impairment is an important factor in social difficulty, it is not the sole factor leading to social problems in children with LI. Therefore, multiple sources should be used to assess a child’s social aptitude (Hart, Fujiki, Brinton, & Hart, 2004). The current study sought to contribute to the arsenal of sources used to assess children’s social aptitude. However, measures differed from those used in this study by Hart, Fujiki, Brinton, and Hart in that instead of using teachers as informants, the measures of the current study used children and parents. Because the current study explored social aptitude using children as self-reporters and parents to report on the social networks of children, social aptitude or competence is assessed through two different perspectives. The difference in perspective can serve as a valuable resource in completing the picture of a child’s social aptitude. The current study’s focus on size of social networks as a possible measure of social aptitude was not only valuable in contributing to the understanding of the size of a child’s social circles but also to the quality and nature of a child’s social functioning. These were both social characteristics that contributed to a more complete picture of a child’s social aptitude, which, as suggested by Hart, et al. (2004) is a complex parameter that should be explored using various methods of assessment.


Purpose of the study

The purpose of this study was to describe the relationship between children with LI and their typical peers before conflict, causes of aberrant conflicts, the conflict-resolution strategy or friendly contact between children immediately following a conflict, and conflict outcome (i.e., social interaction post conflict). Aberrant conflicts were defined as “play and/or protest
behaviors that escalate to screaming and/or physical ranting, which effectively blocks initiation of reciprocal exchanges” (p. 445).

Method

Participants. Participants included 11 boys with LI between 4-7 years of age from a specialized language pre-school and 20 boys with typical language (TL) from mainstream pre-schools.

Procedures. Participants were video recorded in an unstructured play environment. A coding system was used to identify conflicts. Stages of conflict that were noted in the study were the pre-conflict period, conflict period (which consisted of behavioral sequences that made up the cause of the conflict), reconciliatory behaviors after the conflict, and interaction between former opponents. Researchers calculated the mean proportion of individual children’s conflicts that contained specific stages of conflict and made comparisons within and between groups.

Results

In the group with LI, aberrant caused conflicts occurred more often than in the TL group when conflicts with and without pre-conflict social interaction were analyzed separately. Boys with LI exhibited less reconciliatory behaviors when conflicts did not have pre-conflict social interaction. Boys with LI appeared to have shorter periods of social interaction before conflicts began.

Conclusions

Boys with LI did not reconcile conflicts at age-appropriate levels of development. This was especially true when children had not interacted before the conflict. Overall, boys with LI had a higher proportion of conflict outbreaks than TL boys. It would be beneficial for intervention for boys with LI to include teaching strategies for conflict resolution and general social interaction (e.g., concluding behavioral turns and initiating contact in conflict situations).

Relevance to the current work

Children who have difficulty with the skills that aid in conflict resolution and/or avoidance will likely have difficulty in forming and maintaining peer relationships. The size of social circles, as measured in the current study, would be affected as well as the quality of communication by a child’s ability to resolve conflicts.


Purpose of the study

The purpose of this study was to investigate the ability of children with SLI to access and participate in interactions.
Method

Participants. Participants included 69 children in first and second grades. The children were put into 23 triads consisting of 1 target child and 2 unfamiliar play partners. Target participants included 10 children with SLI and 13 typically developing (TD) children. Participants with SLI were recruited from the caseloads of school speech-language pathologists.

Procedures. In the first phase of the study the two play partners were brought into a room with toys and encouraged to play with them. After 10 min, the examiner left the room to get the target child telling the play partners that she’d be back. The target child was told that he or she would be playing with toys and talking to 2 other children for 10-20 min. He or she was brought into the room, introduced to the play partners by name, told he or she could play with the toys, and then left to attempt to access for 10 min. Interactions were video recorded. After 20 min of interaction, children returned to their classrooms.

Analysis and Results

Results revealed that all children accessed by either making an unprompted initiation toward their peers (access initiation) or by responding to a question or play invitation directed toward them (access response). However, 4 children with SLI were unsuccessful in achieving successful access initiation during the 10-min play period. Children with SLI required a longer period of time to achieve access initiation. Following access, children with SLI were addressed significantly less by their play partners, participated in less group play, and engaged in more individual play and onlooking behavior. Among the group with SLI, language levels were negatively related to the time children required to achieve their first successful access and first access initiation. Expressive language levels were positively related to the percentage of utterances children produced after accessing and the percentage of utterances they were addressed after accessing by their play partners. Differences in receptive skills among SLI children were less strongly related to the time they required in achieving their first access and were unrelated to their ability to participate in the interaction.

Conclusions

Findings suggest that children with SLI have more difficulty accessing interactions as well as participating in an ongoing interaction. This was true even when conditions were optimal (activity was enticing, activity did not require speaking to access the activity, and peers extended an invitation to play). Difficulties were mediated, not by severity of language impairment, but by “the children’s level of language skill and the linguistic demands of the peer group context” (p. 882). Expressive language skills appeared to be critical for accessing. Therefore children, especially with expressive language difficulties, should receive intervention to address the social difficulties they will likely experience in order to decrease the risk of being neglected and increase their feelings of well-being with peers.

Relevance to the current work
If a child cannot access an interaction, he or she is much less likely to form relationships, which will impact the size of his/her social networks. The issue addressed in the current work (of size and nature of a child’s social circles) is likely affected by the accessing difficulty children with low language have in peer environments.


Purpose of the study

The purpose of this study was to examine the relationship between social pragmatics, social self-esteem, and language in children with SLI and their age-matched peers through direct assessment as well as teacher and parent reports.

Method

Participants. Participants included 19 children with SLI and 19 chronologically age matched peers (TDL). All participants were 7-10 years of age.

Procedures. Each child received all assessments in one session. The first task was the hypothetical scenarios task in which children were told and asked questions about how they would respond in different scenarios. Participants were given a picture to look at which illustrated the setting of the scenario. Responses to the hypothetical scenarios task were evaluated for pragmatic and linguistic accuracy. The second task assessed self-esteem by reading a statement and having children indicate whether it was true or false by saying yes or no. Teacher and parent questionnaires were given directly to each respectively.

Analysis and Results

Children with SLI yielded significantly lower social cognitive knowledge than the TDL children. Children with SLI showed low social but not low academic self-esteem. Their conflict resolution and negotiation strategies were often inappropriate. Other differences in responses of children with SLI were that they used more nonverbal strategies and demonstrated more passive or withdrawn behavior. Data showed that pragmatic deficit and LI were co-occurring but were not causally related. Parents and teachers of the children with SLI differed in their views of the children’s social relations. Parents expressed much more concern about their children’s social relations than did teachers.

Conclusions

Children with SLI demonstrate a lower level of social knowledge that does not appear to be causally related to their LI. Researchers suggested that the social cognitive problems experienced by children with SLI are the result of a deficit in executive functions. Social pragmatic difficulties were reflected in children’s self-esteem. Intervention should focus on applying language skills in social contexts in order to facilitate social development. Experiencing success in social interactions is important to a child’s self-esteem (Hadley & Rice,
Therefore, improving a child’s social interaction skills may aid the development of a healthy self-esteem. Teacher questionnaires indicated that teachers view children with SLI as less competent than their peers in language, conversational, and nonverbal communication skills. Teachers should be made aware of difficulties children with SLI may experience in the classroom context.

Relevance to the current work

The deficit children with SLI have in social knowledge will inevitably affect their interactions with others. They are likely to be left out of exchanges when they do not understand the content or respond inappropriately. Such behavior will probably decrease the size of their social circles as well as decrease the quality of their communication with others.


Purpose of the study

The purpose of this study was to investigate the correspondence between direct observation and informant ratings of pre-school children with SLI.

Method

*Participants.* Participants were pre-school age children with SLI and with typically developing language.

*Procedures.* Children were observed during free play with the Social Interactive Coding System (SICS; Rice, Sell, & Hadley, 1990). Teachers and parents filled out the Social Competence Behavior Evaluation Scale (La Freniere & Dumas, 1995), Teacher-Child Rating Scale (Perkins & Hightower, 2002), and Parent-Child Rating Scale (Primary Mental Health Project, 1999). SISC results were compared to the results of each teacher and parent rating scale using separate one-way analyses of variance for each domain of the parent and teacher rating forms.

Results

Comparisons between free play observations on the SISC and teacher and parent ratings showed low to moderate correlations. Looking collaboratively at all assessments, differences between groups were observed in the areas of communication style and preferred audience (adults versus peers), responsiveness to social initiations, play style, task orientation, peer social skills, assertiveness, isolation, and behavioral control. Scores from the SICS while observing free play were accurate predictors of the children’s language status (SLI versus typical language development). Subdomains on the SICS that differentiated between the group with SLI and the typical language group were child addressee, adult addressee, multiple-word response, ignoring, adjacent play, and sociointeractive play.
Conclusions

Some domains of assessment were more predictive of SLI than others. These domains included communication style and preferred audience, responsiveness to social initiations, and play style. Other problems of note were task orientation, peer social skills, assertiveness, isolation, and behavioral control. Because of the differences in information gleaned from different sources and methods of assessment it is recommended that multiple methods and informants be used to understand a child’s social profile.

Relevance to the current work

Although it did not include any child observation assessment, the current study employed self-report as well as parent report using two different assessment instruments. McCabe and Marshall (2006) demonstrated that various methods of assessment, including using a variety of informants, yield unique information. It is valuable to gain various perspectives when painting a picture of a child’s abilities because different perspectives can report behaviors seen in more contexts. The current study indirectly explored the domains of peer social skills, isolation, and others by looking at the size of children’s social circles as well as quality of communication within circles of communication.


Purpose of the study

The purpose of this study was to compare the socioemotional behavior and verbal abilities of children with LI with those of typically developing children to assess the Social Adaptation and Social Deviance Models.

Method

*Participants.* Participants included 17 kindergarten and first grade children with SLI and 20 age-matched children with typically developing language. Participants were originally recruited from a longitudinal study exploring the development of morphosyntax (Rice & Wexler, 1996). They were all from English speaking monolingual homes.

*Procedures.* Socioemotional integrity was measured by having parents and teachers complete the Child Behavioral Checklist (CBCL) and the Teacher’s Report Form (TRF). Participants were assessed in the areas of socioemotional functioning at two different times over two years. Forms were completed at the end of each school year and then mailed to the investigator.

Results
All means for both groups on the CBCL and TRF were within normal limits. Teachers, but not parents, rated children with SLI as having more significantly social, attentional, and internalizing behavioral problems than their age-matched peers. The clinical problems were not stable over time or between teacher and parent reports. The scores of children with SLI were more like those of their typical peers than those of the psychiatric samples that were used to standardize the rating scales.

Conclusions

Although teachers reported that children with SLI had more social and internalizing problems than age-matched peers, parents reported that their children were generally well-behaved and that they participated with peers in socially appropriate ways. Results supported the Social Adaptation Model of socioemotional behavior and LI because of the apparent ability of children with SLI to demonstrate social competence in certain social circumstances although they appear to have difficulty in other contexts.

Relevance to the current work

The results of the study suggest that social problems in children with SLI are relaxed to contextual factors. Social circle or network analysis may help to enlighten professionals and parents to contexts in which a child is struggling or excelling which could help inform intervention and appropriate scaffolding.


Purpose of work

The purpose of this work was to demonstrate the applicability of social network methods across pre-school, middle childhood, and early adolescent periods.

Summary

Chapter one discussed how peer groups have the potential to become influential as soon as children are organized into collective groups (a.k.a. collectives). Group influence begins in the pre-school years but is hard to detect due to the difficulty of collecting data from children so young. In chapter two, the Q-connectivity method of analyzing children’s social networks was introduced by Laura Hanish and colleagues. This method is sensitive to temporal and developmental concepts such as how often a child interacts within multiple pre-school peer groups. Using this method, the authors found that pre-school children’s sustained interactions with peer groups may be related to their reading and mathematics achievement. This connection between social and academic spheres was also found in kindergarten students. Chapter three consisted of a discussion of the racial integration and segregation of European American and African American children in three distinct classroom contexts: majority black, majority white, and multicultural. Analysis of data showed that elementary classrooms that differed in their
average ethnic composition had very different patterns of social integration. This was especially true in classrooms with majority white populations in which segregation of African American children was high due to relatively high rates of rejection of African American students by white students as well as preferences of African American students to affiliate with each other. Chapter four included the findings of Scott Gest and colleagues who found that there were more similarities than differences in boys’ and girls’ social group structures during the transition years from early to middle childhood. The authors concluded that gender differences in social groups were not explained by differences in social structure. While differences did not appear to emerge based on group structure, children’s peer relationships were strongly gender segregated (boys play more with boys and girls play more with girls; Maccoby 1998). Based on this robust feature of children’s peer relationships, Maccoby (1998) and others developed the two-cultures theory which proposed several differences in the characteristics of girls’ and boys’ peer groups. In terms of structure, it was hypothesized that boys’ groups were large, cohesive, and centralized, while girls’ groups were hypothesized to be more cooperative and dyadic. Research on this subject has raised more questions than it has brought answers. Chapter five outlined the new p* analysis as developed and applied by Dorothy Espelage, Harold Green, Jr., and Stanley Wasserman. The p* analysis was useful in unpacking the complex structure of peer relationships because it allowed for a detailed view of the structure of peer relationships across social contexts. One aspect of detail shown in this analysis was homophily (or spending time with similar peers) and how it contributed to the development of peer groups. Espelage, Green, and Wasserman looked at how homophily shaped adolescent peer networks. In chapter six a social network technique called SIENA modeling as used by John Light and Thomas Dishion was used to look at the dynamic systems of social groups of adolescents at eight different schools. Their findings added to the confluence hypothesis which, “suggests that deviant peer groups form among aggressive adolescents, who then socialize one another through emergent antisocial norms,” (p.6). In their analysis they found that different school contexts peer interactions are structured in different ways as antisocial adolescents go through peer socialization.

Conclusions

Together the various chapters demonstrate the utility in considering social networks to examine a variety of questions. For example, findings that indicated different patterns of social integration in elementary classrooms based on average ethnic composition suggest the importance of considering broader social contexts in which children function. Using the Q-Connectivity method, the authors found that pre-school children’s sustained interactions with peer groups may be related to their reading and mathematics achievement. This connection between social and academic spheres was also found in kindergarten students indicating an ongoing connection between social and academic functioning. Data taken regarding racial integration and social peer groups in elementary schools showed that classrooms that differed in their average ethnic composition had very different patterns of social integration. This was especially true in classrooms with majority white populations in which segregation of African American children was high due to relatively high rates of rejection of African American students by white students as well as preferences of African American students to affiliate with each other. Using the SIENA modeling technique, it was found that in different school contexts peer interactions are structured in different ways as antisocial adolescents go through peer socialization.
Relevance to the current work

This work provides important background for the investigation of children’s social networks. The findings in chapter two that suggest a connection between social and academic spheres demonstrates the importance of social functioning. Language skills, being an important part of social interactions, are expected to affect social functioning. If social functioning, as suggested by this study, is connected to academic performance, there would be additional practicality to further investigation of social functioning and social networks. Another interesting aspect of this study was that it found a social-academic connection not only in preschool but also in kindergarten children.


Purpose of the study

The purpose of this study was to investigate the social knowledge in children with and without LI. The three primary questions of the study were: Does task structure (i.e., open-ended versus forced choice set of responses) affect children’s performance in hypothetical tasks? Do children with LI predict different consequences of their words and actions than children who are typically developing? What is the relationship between children’s performance on a hypothetical task and children’s social behaviors at home and school? (p. 745).

Method

Participants. Participants were two groups of 12 children between 8-12 years of age. Phone interviews were conducted with parents to rule out children with cognitive, behavioral, or attentional deficits. One group consisted of children with LI and the other was made up of children with typically developing language. Both groups were in mainstream classrooms, were monolingual English speakers, had normal hearing, and came from similar maternal education levels. Children with LI were recruited through referrals from public school speech-language pathologists and typical children were recruited from the community through flyers. The groups did not differ significantly in mean chronological age.

Procedures. To investigate the relationship among prosocial responses and parent/teacher ratings of children’s social behaviors, a hypothetical peer conflict task was used. During the task the child was presented with 12 scenarios that involved peer conflict. They were then asked how they would respond. Some questions were open-ended and others were forced choice.

Results

The group with LI produced fewer strategies to deal with conflict in both open-ended and forced choice response options. The children with LI also predicted fewer positive responses to their chosen strategies by their friend in the scenario. However, groups did not differ
significantly in the proportion of prosocial strategies followed by prediction of a positive peer response. The rationale provided by both groups for their selection of strategies was more geared toward goals of self-interest than toward relationship goals. Teacher ratings of the social skills and problems in peer provocation situations for children with LI were associated with the children’s selection of prosocial strategies.

Conclusions

Task structure did not influence the performance of children with LI. These children performed equally on open-ended and forced choice responses, exhibiting fewer strategies in dealing with conflict scenarios. Since forced choice answers remove much of the language demand, it appeared that children with LI approached conflict with different social knowledge than the TD group. There was also more variability in the group with LI’s performance than in the TD group, demonstrating a large range of abilities. It is interesting to note that while children with LI did predict positive partner responses when prosocial conflict resolution strategies were chosen, they did not choose as many prosocial strategies as TD children. It appeared that the choices of children with LI reflected not only their own language limitations but also the perceptions and biases of their peers.

Relevance to the current work

Communication breakdowns are likely to occur for children with LI within typical interactions. This makes them less desirable as communication partners and would effectively decrease the size of their peer social circles as well as decrease the quality of their interactions. Future research should look into how LI is manifested in other relationships beyond peer relationships and in various situations beyond conflict.


Purpose of the study

The purpose of this study was to determine if lower global self-esteem, shyness, and low sociability are outcomes associated with SLI in adolescence.

Method

*Participants.* Participants included 54 adolescents with SLI and 54 adolescents with typically developing language who were between 16 and 17 years of age. Participants were initially part of a nationwide longitudinal study called The Manchester Language Study (Conti-Ramsden & Botting, 1999; Conti-Ramsden, Crutchley, & Botting, 1997). Participants with SLI were identified at 7 years old while attending language units at mainstream schools. At 16 or 17 years old, if language difficulties had resolved or if global impairment had evolved, participants were excluded from the study. Participants were included if they met the following criteria: a core language score below 1 SD of the mean (16th percentile) on the Clinical Evaluation of
Language Fundamentals (4th ed.; CELF-4; Semel, Wiig, & Secord, 2003), a performance (nonverbal) IQ standard score of 80 points and above, as measured by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999), no definite diagnosis of autism, no hearing impairment or major physical impairment, and English as their primary language. Typical peers were matched for age and had a CELF-4 core language score at least within 1 SD of the mean and a WASI performance (nonverbal) IQ of 80 points or above.

**Procedures.** Participants were administered the Rosenberg Self-Esteem scale (Rosenberg, 1965) and the Cheek and Buss Shyness and Sociability scales (Cheek & Buss, 1981). Participants were assessed individually in one session in a quiet area at home or at school. Researchers read aloud the 10 statements on the RES and the participant indicated verbally how much they agreed with the statement or pointed to a visually displayed response option. Researchers took care to follow instructions in the assessment manuals and to make sure participants understood the tasks.

**Results**

The group of adolescents with SLI had significantly lower self-esteem scores than their typically developing peers. On sociability ratings groups were not significantly different but the group with SLI was more shy than the group with typically developing language abilities. Language ability was not concurrently predictive of self-esteem; however, shyness was predictive. A mediation analysis suggested that shyness could be a partial yet significant mediator between language ability and global self-esteem.

**Conclusions**

Results of the analysis suggest that older adolescents with SLI are at risk for lower global self-esteem and experience shyness and reticence. Shyness plays an important mediating role between language ability and self-esteem in late adolescence. The relationship between language ability and self-esteem is complex.

**Relevance to the current work**

Issues explored in the study (global self-esteem and shyness) are invariably related to the size of an individual’s social circles and the quality of their interactions within those circles. If individuals with SLI experience low self-esteem and shyness in adolescence it may be that these characteristics have carried over from childhood. An extension of the current study would be to assess social circles and nature of communication in conjunction with global self-esteem and shyness to better understand the nature of the relationship.
Appendix B—Child Interview/Picture Task

Introduction: Hi [name of child] I have some questions for you. After you answer them, you get to pick a special sticker at the end.

Tell me the names of your brothers and sisters and about how old they are.

Questions: Here are some pictures of some kids doing some things. I want to know what kinds of things you do.

1. These kids are playing at someone’s house. Do you ever play at someone's house? Whose house do you play at?
2. These kids are drawing and coloring together. Do you ever draw or color with others? Who do you draw or color with?
3. These kids are playing together at recess. Do you play at recess with others? Who do you play with at recess?
4. These kids are riding bikes together. Do you ever ride bikes with others? Who do you ride bikes with?
5. These kids are playing games together. Do you ever play games with others? Who do you play games with?
6. These kids are watching TV together. Do you ever watch TV with others? Who do you watch t.v. with?
7. These kids are playing with toys together. Do you ever play with toys with others? Who do you play toys with?
8. These kids are having a sleepover together. Do you ever have a sleep over with others? Who do you sleep over with?
9. These kids are talking on the phone to each other. Do you ever talk on the phone? Who do you talk on the phone with?
10. These kids are eating lunch at school together. Do you ever eat lunch at school with others? Who do you eat lunch with?

Conclusion: That’s it, we’re all done. Which sticker would you like? Okay, let’s go back to class.
Appendix C—Parent Interview

Introduction: Hi Mr./Mrs. __________ this is Erin Whitworth from the research team from BYU that is doing speech language therapy with your child __________. I’d like to ask you some questions about __________; it will take about 5 minutes. Is this a good time for you?
Part of what we’re doing to give better services is to try to understand the social nature of __________’s communication. One way we do that is by finding out who he/she talks with and in what kinds of situations. So, I’d like to ask you some questions about that.

Questions:
1. Who are the family members that ___________ interacts with at least once a week? (find out relationship, e.g., mother, sister, etc.)
2. Who are __________’s good friends that he/she interacts with at least once a week? (Pause for response) How do they know each other (from church, school, neighbors, etc.)? (Pause for response) /What do they do together (play, play sports, etc.)?
   How old is he/she (for each one)? Is that a boy or a girl?
3. Are there other kids that __________ interacts with at least once a week? These could be neighbors, people from sports teams, church classes or groups, brownies/scouts, or other organizations. How old is he/she (for each one)? Is that a boy or a girl?
4. Who are the adults that ________ interacts with? These might be teachers, SLP, scout leaders, church leaders and teachers, music teachers, camp counselors, etc.
   How often does ________ interact with them?
5. Are there other adults that ________ might see sometimes but not really know well?
   These could be people who work in stores, the school, etc.
6. Does _______ use the internet (e.g., e-mail, skype) to communicate with anyone? Who are the people __________ interacts with through the internet? (Facebook, e-mail, MySpace,…).
7. Who does _______ talk to the most?
8. Who does ________ spend the most time with?
9. Who would you say is ________’s favorite person to talk to and to be with?
10. What are the things ________ tends to talk about the most? If I were to ask you what are the five things he/she talks about the most, could you give me examples?
11. What does ________ talk about with the person he likes to talk to the most?
12. Is there anything you think ________ would like to talk about but can’t/doesn’t have the ability to do so?
13. Is there anyone you think ________ would like to talk to but doesn’t?
   a. If yes, why do you think ________ doesn’t talk to him/her?

Conclusion: Thank-you for your time; that was helpful information.

Modified Introduction for parents of Typical Children:

Introduction: Hi Mr./Mrs. __________ this is Erin Whitworth from a research team from BYU that was using ______ as an example of a child with good communication skills. I’d like to ask you some questions about ________; it will take about 5 minutes. Is this a good time for you?
Since ________ is an example of a child with good communication skills we want to try to understand the social nature of ________’s communication. One way we do that is by
finding out who he/she talks with and in what kinds of situations. So, I’d like to ask you some questions about that.
Appendix D—Informed Consent for Child with Typical Language

Parental Permission Form

Introduction: I am Professor Martin Fujiki, Brigham Young University. I am doing research to study the social interactions of children with communication disorders. Your child was selected because I need typically developing children to serve as a comparison group.

Procedures: I will ask your child about the people he/she interacts during the course of a typical day. For example, “who do you talk to at school?” The interview will take less than 15 minutes. I will also ask you similar questions. As with your child, the interview will take about 15 minutes.

Risks/Discomforts: There are no known risks associated with this treatment. Your child may miss class for about 15 minutes. We will work with your child’s teacher to make sure that your child is taken out of class at the least disruptive time possible. The interview will also require about 15 minutes of your time. I will conduct the interview at your convenience, by phone.

Benefits: There are no direct benefits to the child.

Compensation: There is no extra compensation associated with participation in the study.

Confidentiality: You and your child’s participation will be confidential. All materials will be stored in locked cabinets in locked labs at BYU. Names will be removed from research materials and neither your name nor your child’s name will ever be used in connection with any presentation of this research.

Participation: Participation is voluntary. If you give permission to include your child in the study, he/she will also be asked if he/she would like to participate. Even if you give consent, your child may withdraw at any time without penalty. Also, you may withdraw him/her at any time, and you may withdraw at any time. Refusal or withdrawal from the research will not affect services your child receives at the school.

Questions about the Research: If you have any questions concerning the study, please contact me. My phone number and email address are (801) 422-5994, martin_fujiki@byu.edu.
Appendix E—Informed Consent for Child with Language Impairment

Parental Permission Form

Introduction: I am Professor Martin Fujiki, Brigham Young University. I am doing research to help children with communication problems improve their social interactional skills. Your child was selected to participate because he/she is currently receiving speech language services in Alpine School District at _____________ Elementary School.

Procedures: I will ask your child about the people he/she interacts during the course of a typical day. For example, “Who do you talk to at school?” The interview will take less than 15 minutes. I will also ask you similar questions. As with your child, the interview will take about 15 minutes.

Risks/Discomforts: There are no known risks associated with this treatment. Your child may miss class for about 15 minutes. We will work with your child’s teacher to make sure that your child is taken out of class at the least disruptive time possible. The interview will also require about 15 minutes of your time. I will conduct the interview at your convenience, by phone.

Benefits: There are no direct benefits to the child.

Compensation: There is no extra compensation associated with participation in the study.

Confidentiality: You and your child’s participation will be confidential. All materials will be stored in locked cabinets in locked labs at BYU. Names will be removed from research materials and neither your name nor your child’s name will ever be used in connection with any presentation of this research.

Participation: Participation is voluntary. If you give permission to include your child in the study, he/she will also be asked if he/she would like to participate. Even if you give consent, your child may withdraw at any time without penalty. Also, you may withdraw him/her at any time, and you may withdrawal at any time. Refusal or withdrawal from the research will not affect services your child receives at the school.