

Eastern Illinois University

The Keep

Undergraduate Honors Theses

Honors College

2019

Relationship of Mean Length of Utterance and Teacher Perceptions in Preschooler Children

Jacey Dillon

Follow this and additional works at: https://thekeep.eiu.edu/honors_theses



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

Relationship of Mean Length of Utterance and Teacher Perceptions in Preschooler Children
(TITLE)

BY

Jacey Dillon

UNDERGRADUATE THESIS

Submitted in partial fulfillment of the requirement for obtaining

UNDERGRADUATE DEPARTMENTAL HONORS

Department of Communication Disorders and Sciences along with the Honors College at
EASTERN ILLINOIS UNIVERSITY
Charleston, Illinois

2019
YEAR

I hereby recommend this thesis to be accepted as fulfilling the thesis requirement for
obtaining Undergraduate Departmental Honors

4/26/19
Date

THESIS ADVISOR

4/26/19
Date

HONORS COORDINATOR

4/26/19
Date

DEPARTMENT CHAIR

Relationship of Mean Length of Utterance and Teacher Perceptions of Social Skills in Preschool

Children

Jacey R Dillon

Eastern Illinois University

Acknowledgments

First and foremost, I would like to thank my thesis advisor and mentor, Dr. Nichole Mulvey. Your drive and passion for research and the field have been one of the most influential factors in shaping the student and researcher I am today. Without you, I would not have had the confidence to present my research or to keep persevering to complete my thesis. Thank you for the hours spent reading my writing, talking through ideas, and your overall unwavering guidance and support.

I would also like to thank Dr. Angela Anthony for being the first person to spark my interest in the research process. Your teaching and guidance at the beginning of this journey was invaluable and gave me the foundation I needed to successfully complete my study. Thank you for your continued support throughout the last two years and your constant reassurance, which impacted me greatly.

Finally, I must thank my family and friends for their steadfast support and encouragement throughout this research process. You all made overwhelming efforts to become part of this world in order to help me succeed, and for that I will always be grateful. Thank you for hours of reading and asking me questions that sometimes I could not answer but only made my project stronger. Thank you for being my practice audience for my presentations and having patience when I was far from giving a polished performance. Most of all, thank you for your absolute confidence in me and being there every step of the way to cheer me on.

Table of Contents

CHAPTER	PAGE
I. Introduction.....	5
II. Literature Review.....	6
Measures of Early Language Development.....	6
Mean Length of Utterance.....	7
Language, Social Skills, and Behavior.....	8
Teacher Perceptions of Behavior and Social Skills.....	12
Teacher Perceptions of Language.....	19
Preschoolers' Understanding of Language, Social Skills, and Behavior.....	23
III. Methodology.....	29
Participants.....	29
Procedure.....	29
Observations.....	29
Transcribing and SALT Analysis.....	29
Teacher Reports and Measures.....	30
Data Analysis.....	32
IV. Results.....	34
V. Discussion.....	38
Teacher Perceptions of Assertion and Empathy.....	38
Language Measures and Social Skills Ratings.....	40
Limitations.....	42
Implications and Future Directions.....	43

Conclusion.....44

VI. References.....46

VII. Appendix A (IRB Approval).....51

Chapter I

Introduction

Language is an integral aspect of communication. The American Speech-Language-Hearing Association (ASHA, 1982) defines language as "...a complex and dynamic system of conventional symbols that is used in various modes for thought and communication" ("Definition of Language", para. 1). In order to understand language, it is necessary to have accurate ways to measure it. Parent and teacher ratings are often used to reveal information about children's language ability. However, it is necessary to also have observable, quantifiable ways to measure language. One of these ways is through mean length of utterance (MLU).

In general, research shows links between language, social skills, and behavior (Aro, Eklund, Nurmi, & Poikkeus, 2012; Clegg, Hollis, Mawhood, & Rutter, 2005; Petersen et al., 2013). Because children learn these skills while in the classroom, it is important to also consider teacher perceptions of language, social skills, and behavior. Current research reveals that parent and teacher assessments may not be completely reliable to identify children's true language skills. However, young children, especially at the preschool age, cannot accurately self-report, so teacher assessments are necessary to obtain information on children's language skills.

Current research lacks information about specific factors that impact teacher ratings of child language. Considering how language skills impact social and behavioral development, it is important to determine relationships among teacher perceptions and language. The purpose of the current study is to examine how a specific aspect of language, MLU, correlates to teacher ratings.

Chapter II

Literature Review

Measures of Early Language Development

To understand the complex concept of language, research has examined how it develops from infancy to adulthood. Measuring language development is an abstract concept, yet it is necessary to track and comprehend how language develops, as early communication abilities lay the foundation for later, more complex language learning and use. Because of this, it is important to have accurate ways to measure language as it develops significantly in early childhood. Since young children are often unable to complete standardized evaluations of language themselves, a common measure of early language abilities is a parent, or caregiver, questionnaire. Research suggest that standardized tests and parent report instruments are valid and reliable measures of early language. Parent-report instruments such as the Questionnaire for Communication and Early Language and the MacArthur-Bates Communicative Development Inventories have strong validity and efficacy in evaluating early language (Longobardi, Rossi-Arnaud, & Spataro, 2010). Additionally, a study done by Brachmaier and Bianka (2010) analyzing assessment tools based on parent observation found these tools reliable and practical to evaluate early language in infants and toddlers with hearing impairments. These studies suggest that parents have an accurate understanding of their children's language abilities and can report it accurately enough to be used as a measure of language development.

Other research questions the reliability of parent reports. A study done by Bartl-Pokorny et al. (2013) found that parent-report instruments may serve as a limitation when measuring language skills because parents may tend to over- and underestimate their toddler's lexical abilities. However, parent questionnaires and surveys are still used widely as measures of

language development. This raises a question about the role of teacher-report instruments as well. After parents, teachers provide a prominent model of adult language for young children. Research also shows teacher-report instruments such as the Teacher Rating Scales of Early Academic Competence and the Basic School Skills Inventory – 3 reliably measure academic skills and language (Reid, Diperna, Missall, & Volpe, 2014; Yildiz, Çagdas, & Kayili, 2017). However, these reports should not be used alone. Language development must also be measured with observable, quantifiable instruments. In early development, mean length of utterance (MLU) is an important and often-used tool to reveal a child's expressive language abilities.

Mean Length of Utterance

ASHA's (2017) definition of language includes the following five domains: phonology, morphology, syntax, semantics, and pragmatics. Of these domains, mean length of utterance (MLU) falls under morphology. ASHA (2017) defines morphology as the "study of the rules that govern how morphemes, the minimal meaningful units of language, are used in a language" ("Language", para. 3). The term morphology is sometimes interchanged with grammar. Looking at MLU specifically, it is a measure of children's grammatical development (Brown, 1973). To calculate MLU, the total number of morphemes is divided by the total number of utterances a child produces in a language sample. Brown developed norms for MLU related to age, and at a given age, MLU should be approximately the same as the age of the child. For example, a child who is one year old should have an MLU of approximately one. MLU reveals information about the level of morphology, or grammar, a child uses. High MLU indicates advanced use of morphemes related to number of utterances, while low MLU indicates delayed use. Research indicates that MLU is related to other language skills such as semantics and syntax (Dethorne, Johnson, & Loeb, 2005) and may be used to identify children with language impairment

(Eisenberg, Fersko, & Lundgren, 2001). Because of this, it is important to examine how MLU relates to teachers and their perceptions of language abilities in children.

While MLU is an established concept in the field of speech-language pathology, there is very little research on how MLU is related to behavior in the classroom. Specifically, there is a large gap in research on how MLU relates to teacher perceptions of behavior and social skills. It is important to analyze this because if grammar level influences how teachers view students, it may shift early intervention from behavioral to language-based strategies. It is necessary to understand if there are certain aspects of language, specifically MLU, that influence how teachers perceive a child's social behavior. Due to lack of research on this specific area, it is important to first explore how language, social skills, and behavior are generally related.

Language, Social Skills, and Behavior

Social skills and behavior are broad terms that are challenging to define. A study by Sheridan and Walker (1999) defines behavior as being observable, measurable, and concrete. Essentially, behavior is a general, action-based category containing more specific subsets of behavior. One of these subcategories that specifically defines social interaction is social skills. Literature provides various definitions of social skills. For the current study, the most applicable definition of social skills is "goal-directed, learned behaviors that allow one to interact and function effectively in a variety of social contexts," (Sheridan & Walker, 1999, p. 687). Establishing these definitions is important to understand the relationship between social skills, behavior, and language.

More specifically, current research has examined definitions of behavior related to empathy and assertion. Empathy is defined as, "a cognitive and emotional understanding of another's experience, resulting in an emotional response that is congruent with a view that others

are worthy of compassion and respect and have intrinsic worth” (Barnett & Mann, 2013, p. 230). Assertiveness is defined as, “the psychological and behavioral ability to stand up for one’s rights” (Lightsey & Barnes, 2007, p. 32). Assertiveness can be further categorized into positive assertion (nonaggressive social behavior) and negative assertion (aggressive social behavior). Both empathy and assertion are related to social behaviors, as specific empathetic and/or assertive attitudes are required for a variety of social contexts. Additionally, based on definitions of empathy and assertion, higher-level language abilities are required to demonstrate these characteristics and may be only emerging in some preschool children. For this reason, the current study observes the relationship between language, social behaviors (empathy and assertion), and teacher perceptions of student behavior.

Extensive research on the relationship between language and social behavior is lacking, especially in the preschool population. However, there is some evidence that the development of early language skills may be related to social skills and behaviors. In a study conducted by Aro et al. (2012), relationships between early language skills, behavior regulation skills, and school-age social functioning were examined. The study compared two groups of children, one with a family history of dyslexia and one without. Authors used structural equation modeling to analyze the correlation between children’s language at age 2;6, their behavioral regulation skills at age 5;0, and social functioning at age 8;0 (Aro et al., 2012). Several tests were used to assess children’s language, including the *MacArthur Communicative Development Inventories*, the *Peabody Picture Vocabulary Test – Revised*, and the *Reynell Developmental Language Scales*. The *Parent Rating Scales (PRS-Preschool)* of the *Behavior Assessment System for Children* were used for behavior and emotion ratings.

Important results of this study showed that children's "...receptive and expressive language skills at age 2;6 predicted social skills at age 8;0" (Aro et al., 2012, p. 405). This demonstrates the likelihood that the level to which children develop language in early years plays a role in how well their social skills develop. While the study showed language skills as predictors of social skills for both children with and without risk for dyslexia, there were differences between the two groups related to the role of behavioral regulation skills. Findings indicated that in the at-risk group, children's language skills directly and indirectly predicted later social skills through behavioral regulation skills. However, in the group without risk, behavioral regulation skills did not influence later social skills (Aro et al., 2012). These results suggest that while language skills may not be solely responsible for the development of age-appropriate or poor social skills, deficits in language and self-regulatory skills together may put children at risk for weaker social skills development. Children with weaker development of social skills may be less likely to display empathetic or assertive behaviors.

Another study performed by Clegg et al. (2005) examined the effects of childhood developmental language disorders (DLD) on social skills later in life. This study was longitudinal and followed 17 men diagnosed with DLD as children. They were observed at an early age and then again once they reached their mid-thirties. Authors compared this group to the subjects' siblings without language disorders. Social skills were measured with assessments of psychosocial outcome. Tests of intelligence (IQ), language, literacy, and theory of mind and memory were also conducted (Clegg et al., 2005). Some specific tests administered included the *Wechsler Adult Intelligence Scales – Revised*, the *British Picture Vocabulary Scales*, the *Neale Reading Test*, the *Expressive One-Word Picture Vocabulary Test*, and the *Wechsler Objective Reading Dimensions*.

The major findings of this study showed that language disorders in childhood influenced the level of social skills individuals possessed as adults. Results revealed that "...social adaptation was substantially impaired in the DLD cohort as compared with both their siblings and an IQ-matched general population group" (Clegg et al., 2005). This suggests that children with language difficulties may have social deficits as adults more so than children without language difficulties, who are less likely to have social deficits later in life. As evidenced in these studies, language plays an important role in social development, and the level of language a child has in early years can impact his or her social skills later in life.

In addition to impacts on social skills, language is also related to behavior problems. A study by Petersen et al. (2013) examined the relationship between language ability and behavior problems. Their study followed longitudinal design, and they observed children from ages 7 to 13 each year. Language ability was measured using subtests of standardized tests administered in schools. The study focused on specific behavior problems including inattentive-hyperactive (I-H) and externalizing (EXT) problems. Authors gained information each year regarding I-H and EXT problems through reports of teachers and mothers.

Findings of this study indicated language ability as a strong predictor of behavior problems. According to the study, "children with poorer language ability were reported to show more I-H problems relative to peers with better language ability" (Petersen et al., 2013, p. 549). This data reveals language ability as a factor in the development of behavioral issues. Another aspect of the study attempted to determine the direction of effect; it asked the question of whether behavior problems stem from language ability or if language ability is a result of behavior problems. Results showed that language ability had stronger effects on later behavior

problems than behavior problems had on later language ability (Petersen et al., 2013). This confirms the idea that language does have an impact on the development of behavior problems.

As these various studies show, language, social skills, and behavior are closely related. Because of the impact language development has on level of social skills and potential behavior problems, the early language-learning period is critical. Because these social abilities and behavior problems have been observed in school-age children and adults, it is important to analyze the earliest foundations of language that impact these areas. Much of early childhood, when critical language skills develop, is spent in the classroom. Therefore, it is important to explore how teachers perceive students based on their behavior, social skills, and language ability.

Teacher Perceptions of Behavior and Social Skills

Teacher perceptions of behavior and social skills have been investigated generally in the research literature, and a variety of influences on teacher perceptions have been noted. One of these studies, by Tillery, Varjas, Meyers, and Collins, (2010), examined how general education teachers perceive various behavior management and intervention strategies. This qualitative research study consisted of interviews with kindergarten and first-grade teachers. Specific topics assessed in the interviews included opinions on behavior management and intervention strategies such as: praise, rewards, implementation of classroom management (e.g., promotion of positive behavior, interruption of negative behavior, or prevention of negative behavior), positive behavior interventions and supports, and response to intervention. Teachers were also asked to generally define behavior. Interviews were conducted with seven kindergarten teachers and 13 first-grade teachers from a rural school system. Responses were coded using a deductive coding system so that teacher responses could be analyzed by researchers.

As teachers described their perceptions of behavior, they addressed development or causes, description of positive and negative behavior, and influence of developmental stages. The study found that most of the time, teachers described behavior as “how a child acts” (Tillery et al., 2010). Generally, teachers also described behavior as actions that are observed; however, one teacher described behavior as being related to a child’s inner feelings and his or her self-concept. A significant perception revealed in the study was that teachers felt they had a strong influence on children’s behavior. Specifically, “teachers saw themselves as one of the strongest influences on student behavior, followed by school climate and peers” (Tillery et al., 2010, p. 92). This is significant because it demonstrates that teachers feel they play a critical role in how their students behave, which can affect how teachers interact with children. Furthermore, if teachers are educated on the interaction between language and behavior, they may be better equipped to facilitate language and positive behavior in the classroom.

Another major finding of this study was that teachers occasionally gave a limited explanation of their thoughts when given the opportunity to express their opinions on behavior management. According to the study, “the teachers’ failure to provide more detailed descriptions of their perceptions may reflect limited knowledge regarding these areas of behavior management” (Tillery et al., 2010, p. 97). Limited knowledge of behavior management strategies is concerning because if teachers have difficulty understanding why students behave certain ways, they will not be able to efficiently provide support for children with behavior problems. Additionally, they will likely have difficulty clearly recognizing what constitutes normal development and behavior regulation as opposed to behavioral deficits. Furthermore, if teachers believe that they have a strong influence on students’ behavior, yet have limited knowledge about behavior, this presents a problem.

Another study by Feuerborn and Chinn (2012) revealed differences in teacher perceptions based on level of experience. The purpose of the qualitative study was to examine teachers' perceptions of the practices of school-wide positive behavior supports. Authors collected this information by giving teachers four fictional student scenarios and then asking them to explain possible social, behavioral, emotional, and academic needs the students may have. The 69 preservice and practicing teachers were also asked to provide a method by which they would address these needs (Feuerborn & Chinn, 2012). Responses were recorded via teachers' written explanation and analyzed with a grounded theory approach, in which the authors used coding to conduct a general analysis of themes across responses. In these responses, researchers analyzed themes associated with social, emotional, and behavioral supports.

As alluded to previously, the results of this study revealed differences in teacher perceptions of behavior. Specifically, differences in perceptions were related to teacher experience. According to results, "preservice and less experienced teachers tended to express more emotionally-laden statements, particularly with regards to externalizing behaviors..." (Feuerborn & Chinn, 2012, p. 226). This demonstrates that teachers with less experience had a more emotion-based perception of behavior, that is they viewed students' actions as the conditions for how others may express emotions toward them.

Additionally, teachers with less experience viewed specific behaviors as deliberate disrespect, while more experienced teachers perceived the same behaviors as students' intentions to hide insecurities (Feuerborn & Chinn, 2012). Teachers with less experience also viewed questioning a person of authority as disrespectful, while those with more experience believed it to be a sign of leadership. Although teachers viewed this type of behavior differently, questioning a person of authority and standing up for oneself can be categorized as assertive

behavior. These findings show that not only is there limited teacher knowledge on behavior, there are also differences in how teachers view behavior. This is important because teachers' perceptions of behavior may influence the way they interact with their students, and if there are differences between teachers, there may be differences in how students are perceived and treated based on their actions.

Another study that contributes to the literature on teacher perceptions and behavior is by Pas and Bradshaw (2014). This study analyzed factors that influence how teachers rate children in their classrooms. Specifically, it examined how 702 teachers' perceptions of school environment predicted how they rated student behavior over three years. Using the *Teacher Observation of Classroom Adaption-Checklist (TOCA-C)*, authors collected data via teachers' ratings of their students' behavior along with self-reports of their perceptions of school context. Authors performed a latent profile analysis, creating three categories of teachers by grouping them based on similar ratings of school organizational health, burnout, and efficacy.

Results revealed that teachers' ratings were based on their own experiences and perceptions of the school. According to Pas and Bradshaw (2014), teachers who had favorable perceptions of the school were those with increasing family involvement over time. Additionally, their perceptions of the school and their work environment affected how they rated student behavior. Teachers that had more positive views of the school were more likely to give higher ratings of student behavior (Pas & Bradshaw, 2014). Additionally, findings suggested that the way teachers perceived their students had an impact on how teachers interacted with their students. Furthermore, this affected the way students interacted with each other (Pas & Bradshaw, 2014). This is an important implication because the way teachers interact with their

students is critical. If teachers' perceptions and ratings of their students are based on their own experiences, ratings for the same student may look very different if assessed by various teachers.

Various factors influence teacher perceptions of student behavior. This is also true of teacher perceptions of students' social skills and development. One study by McLeod and Kolb (1989) examined differences in teacher and student perceptions of social skills most important for success in mainstream high school education. Participants included 50 high school students with learning disabilities (LD), 50 typically-developing high school students, and 50 high school mainstream teachers. Participants completed a questionnaire that asked them to rate social skills on a scale ranging from very important to very unimportant for students to be successful in the mainstream classroom. Examples of behaviors rated on the questionnaire included examples of empathetic and positive assertive behavior such as: "interacts socially with peers", "relates well to adults", and "makes friends with other students" (McLeod & Kolb, 1989). Researchers performed a statistical analysis utilizing an analysis of variance to examine responses to the questionnaire.

Results revealed that teachers rated some social behaviors as more important for success than both students with LD and typically-developing students did. These behaviors included: "demonstrates appropriate behavior in large group settings", "relates well to adults", "makes friends with other students", "avoids getting into fights", "respects adults", "participates in group activities", and others (McLeod & Kolb, 1989). These ratings indicate the nature of the social skills teachers perceive to be most important.

Because teachers' perceptions of important behavior differed from students' perceptions, students may be at risk of violating teacher expectations (McLeod & Kolb, 1989). If students do not exhibit the social behaviors that teachers value, teachers may perceive them to be disruptive

or unsuccessful in the classroom. This indicates that teacher perceptions of social skills may influence their perceptions of their students, and therefore, how they treat and interact with them. These implications are also important for the preschool classroom because during this time, children's knowledge and social development grows significantly. It is important that teachers' perceptions of social skills are based on accurate information, and that teachers' and students' ideas of important social behaviors are consistent.

Another study by Poulou (2017) analyzed the relationship between preschool teachers' perceptions of students' social skills and emotional and behavioral difficulties. Participants included 92 preschool teachers and 238 students. Teachers were given questionnaires and completed them for two to six randomly selected students. The *Matson Evaluation of Social Skills with Youngsters* was used to analyze teachers' responses related to students' social skills. The *Strengths and Difficulties Questionnaire for Teachers* was used to evaluate teachers' perceptions of students' emotional and behavioral difficulties. Hierarchical linear modeling was used to account for the existence of possible factors causing inaccurate inferences made by teachers.

Results of the study revealed a correlation between teachers' perceptions of students' emotional and behavioral difficulties and students' social skills. According to results, "...students' lack of appropriate social skills, or in other words inappropriate assertiveness, appeared to have a prominent role in the nomination of student emotional and behavioral difficulties by preschool teachers" (Poulou, 2017, p. 1007). This means that students with poor social skills were perceived by teachers to have more emotional and behavioral problems, while students with more developed social skills (including empathetic and assertive behaviors) were perceived as more emotionally and behaviorally stable. It is important to understand influences

associated with emotional and behavioral difficulties in early childhood to prevent escalation of these problems later in life. To do this, it is necessary to understand what causes teachers to perceive a child's poor social skills, and therefore, emotional and behavioral difficulties.

A study by Fox and Boulton (2005) examined self, peer, and teacher perceptions related to social skills and bullying. Specifically, researchers analyzed how students and teachers perceive victims of bullying in relation to their social skills. Participants included 330 students ages 9-11 and 11 teachers from 6 junior schools. Students classified as either "victims" or "non-victims" were given a questionnaire and asked to rate themselves on various social skills. Additionally, they were asked to rate a victim and a non-victim in their class. Teachers also were questioned on previously identified victims and non-victims and provided ratings.

An important finding of this study indicated that students and teachers perceived victims of bullying at school to have poorer social skills than non-victims (Fox & Boulton, 2005). Specifically, characteristics such as behavioral vulnerability, non-assertive behavior, withdrawn and solitary behavior, and provocative behavior received high ratings on assessments of non-victims. Behaviors such as looking scared, giving in to the bully, crying when being picked on, talking quietly, and annoying other children were typical of the victims rated as having lower social skills by teachers in the study. Because language can be an indicator of later behavior and social skills, it is important to consider specific aspects of language that impact how teachers perceive students, especially in early childhood when these developing skills lay the foundation for later in life. Had language analysis been included in the study by Fox & Boulton (2005), early linguistic skills related to behavior outcomes or perceptions could have been identified.

In summary, teachers' perceptions of student behavior and social skills are very important and play a large role in teacher-student interactions. As revealed through the findings

of these studies, there is limited teacher knowledge related to behavior and social skills, and there are differences in perceptions based on teacher experience. While this information is critical to the way teachers view their students, an even deeper analysis of teacher perception lacks attention and research. As current research suggests, language has a significant impact on children's behavior and social skills later in life. If poor language ability in early childhood leads to deficits in social skills and behavioral problems, it is important to assess interventions for preschool children while they are in a critical language-learning period. Because student-teacher interactions have an impact on students and how they interact with others, teacher perceptions of language need to be explored. Teacher perceptions and knowledge affect how teachers interact with their students and therefore, how students interact with each other.

Teacher Perceptions of Language

Consistent with the fact of limited research on teacher perceptions of behavior is the gap in literature on teacher perceptions of language. Literature that exists currently focuses on exploring teachers' knowledge of various aspects of language. One study that contributes to this area is by McCutchen et al. (2002) and it examined relationships between reading teachers' knowledge of children's literature and phonology and students' learning. The study consisted of observed classroom practice and tests to assess knowledge of literature, phonology, and general knowledge and beliefs of 59 kindergarten, first grade, second grade, and special education teachers. To assess knowledge of literature, researchers gave three title recognition tests in which teachers were questioned about appropriate pieces of literature for different grade levels. To evaluate knowledge of phonology, the *Informal Survey of Linguistic Knowledge* was used. This survey examines ability to identify sounds in words and other structures of language (McCutchen

et al., 2002). Teachers were given a 45-item test to assess general knowledge and the *Theoretical Orientation to Reading Profile* to evaluate beliefs.

Results of this study found a significant contrast between scores on the test for general knowledge and the test for phonology and language structure. Findings indicated that despite teachers' high level of general knowledge, they were significantly less knowledgeable about English phonology and orthography (McCutchen et al., 2002). This data is concerning because phonology plays a significant role in how children learn to read. If teachers lack knowledge in this area of language, they will not be as effective in teaching children appropriate reading skills. The article supports this point, stating that on the test for phonology and language structure, "...accuracy in the range of 30 to 35% raises concern about whether many of these teachers had the phonological knowledge necessary to assist struggling beginning readers" (McCutchen et al., 2002, p. 218). It is evidenced through this data that there is limited teacher knowledge of certain language aspects, specifically phonology in this study. It also reveals that this is concerning in relation to children's literacy which is also directly connected to language.

Another study that contributes to the literature on teacher knowledge of language is by Washburn, Joshi, and Binks-Cantrell (2011). This study examines elementary school teachers' knowledge of basic language concepts and their knowledge and perceptions of dyslexia (Washburn et al., 2011). Researchers conducted a survey of 99 kindergarten through fifth grade teachers in a Midwestern state and 86 kindergarten through fifth grade teachers in the Southwest United States. These two groups were combined for statistical analysis. Teachers had wide ranges of teaching experience. The survey consisted of both multiple choice and short answer questions and both descriptive and inferential statistical tests were performed.

Findings of this study were consistent with the previously mentioned study. Teachers demonstrated a lack of knowledge of various aspects of language, including phonological awareness, phonemic awareness, phonics, and morphology. While scores showed lack of knowledge in most of these areas, results related to morphology proved of particular interest. Results showed that "...teachers felt most prepared to teach vocabulary than any other area of instruction..., yet their knowledge of word parts such as affixes and roots was low with the mean percentage correct for morpheme identification at approximately 54%" (Washburn et al., 2011, p. 174). This data shows that the areas of language in which teachers feel they have sufficient knowledge may not be as strong as they perceive. The study also found that areas of morphology were the most challenging for teachers (Washburn et al., 2011). Similar to the previous study, this research also concludes that teachers lack the explicit knowledge of language to assist children with delays in literacy.

While it is established that teacher knowledge of specific language concepts is limited, literature exists that examines how teachers perceive language, despite their lack of knowledge. One analysis by Williams (2006) examined teacher judgements of early language skills compared to standardized testing. Participants included Australian kindergarten, preprimary, and year 1 teachers. Teachers were given a questionnaire and asked to rate their knowledge of language difficulties, confidence in identifying children with language difficulties in their classrooms, and the importance of language in school development. Kindergarten, preprimary, and year 1 students were also given formal language assessments by student speech-language pathologists, including the *Test of Language Development, Primary – 3* and the *Sutherland Phonological Awareness Test*. Students were then put into at-risk or not at-risk groups based on their scores.

Results of the study revealed specific areas teachers considered when making judgements about students' language skills. Teacher responses indicated that they considered aspects such as child language used with friends, adults, and in group situations and in areas of syntax, articulation, and story sequences (Williams, 2006). These observations related to students' expressive language. Related to receptive language, teachers indicated analyzing ability to follow directions, inappropriate responses during discussion, and other aspects (Williams, 2006). These findings indicate that teachers perceive language ability based on what they verbally express as well as what they understand. Additionally, teachers included knowledge of students' families, comparison with other students, and oral language screening procedures as aspects they thought about when answering the questionnaire (Williams, 2006). This indicates that teachers perceive language to have multiple components, and when making judgements, they analyze many different aspects of student language.

Another study contributing to literature on teacher perceptions of language is by Shaughnessy and Sanger (2005) and examined the perceptions of kindergarten teachers related to language and literacy development. Participants of the study included 484 kindergarten teachers from the Midwest. Participants were given a survey addressing questions related to participants' background, professional training, and a 5-point rating scale related to perceptions of language and literacy development. Means of responses on the 5-point rating scale were analyzed, while open-ended questions were analyzed using a qualitative procedure. Teachers responses related to background and professional experience were descriptively analyzed.

Results of this study found that on average teachers agreed that children develop language through observing others, and that typically developing children understand and use most forms of plurals, possessives, and past tense verb endings (Shaughnessy & Sanger, 2005).

Teachers were uncertain on other survey items, such as children's ability to converse with others as an indicator of comprehension of classroom lessons and directions (Shaughnessy & Sanger, 2005). This indicates that many teachers agree on how language skills develop. Additionally, many teachers recognize that language development is important and is shaped in the classroom. This is important because while teachers lack knowledge of specific aspects of language, their perceptions are shaped by their understanding that language development is important. However, lack of teacher knowledge of specific aspects of language may indicate that teacher ratings are not the most effective measure of students' language abilities, social skills, and behavior. Since gaps in teachers' understanding of language exist, it may be necessary for teachers to be educated on tools to facilitate language and the impact of language on their students' behavior outcome.

Preschoolers' Understanding of Language, Social Skills, and Behavior

While teacher ratings may not be the most reliable to assess language, social skills, and behavior, preschoolers are even less reliable at assessing their own language, social skills, and behavior, especially related to empathy and assertion. One study by Smith, Cowie, Olafsson, & Liefoghe (2002) analyzed definitions of negative social interaction in young children. Researchers created 25 cartoon depictions of situations that portrayed aggressive behavior. A small number of cartoons showed positive, prosocial behaviors. These cartoons were given to groups of children ages 8 and 14 at various schools in 14 countries. Researchers conducted focus groups with students before data collection to determine terms each age group commonly used and would understand. Then, participants were read terms and asked to include or exclude the cartoons they believed related to the terms. The percentage of participants who included the 24 cartoons in their definition of the terms was analyzed using multidimensional scaling.

Results of the study indicated that the 8-year-olds were generally unable to differentiate terms to the degree the 14-year-olds were (Smith et al., 2002). Additionally, results suggested that the 8-year-olds were able to distinguish between aggressive and nonaggressive situations, but had difficulty distinguishing between physical forms of aggression, and they did not clearly separate physical aggression and physical bullying (Smith et al., 2002). This indicates that younger children do not have the experience and understanding to accurately define negative social behaviors related to assertion. Because younger children do not fully understand specific concepts of bullying behavior such as repetition, imbalance of power, and intentions, they have difficulty differentiating between types of aggressive (or negative assertive) behavior. If 8-year-old children lack understanding on these concepts, younger children will have even less understanding.

Research by Monks and Smith (2006) examined factors of age difference and experience in understanding terms related to negative social behaviors. Two studies were conducted to investigate definitions of aggressive behavior. The first study compared definitions of bullying across various age groups. Participants included a 4 to 6-year-old group, an 8-year-old group, a 14-year-old group, and an adult group. Each age group was given 17 cartoon illustrations of different situations and asked to determine whether they classified as bullying or not. Researchers analyzed the responses using multidimensional scaling. The second study analyzed definitions of bullying in 99 children ages 4 to 6. Researchers again gave cartoon depictions of situations and asked participants to categorize them as bullying or not bullying. In this study, researchers specifically examined the impact of experience.

Results of study one showed that children in both the 4 to 6-year-old group and the 8-year-old group had similar definitions of negative social behavior and related terms, and they

viewed non-bullying behavior (e.g., fighting) as bullying (Monks & Smith, 2006). This adds to the research proving that younger children lack understanding of negative social behaviors related to assertion. The second study found that more than a third of the students were unable to define bullying and about 8% gave responses not directly related to bullying (Monks & Smith, 2006). This confirms that young children often have an inaccurate definition of negative assertive social behavior, and therefore cannot accurately identify it in real life situations. Researchers also found that rather than children's definitions being based on experience, children under age 8 may be more influenced by cognitive abilities for discrimination (Monks & Smith, 2006). With this knowledge, it is probable that preschoolers also lack the ability to accurately report repeated incidents of negative social interactions. If they cannot properly identify it, they cannot be reliable to report it.

A study by David, Murphy, Naylor, & Stonecipher (2004) examined preschoolers' expectations of peer conflict related to conflict role and intensity. Researchers created a puppet interview to convey possible situations of conflict to 96 children between the ages of approximately 4 and 6. In the puppet interview, one puppet represented the child and one represented a peer. The situations conveyed represented typical conflicts young children may experience. A total of 4 puppet interviews were completed. Approximately half of the participants were shown a scenario in which they initiated the conflict and half were depicted as responders to the conflict. Researchers transcribed and coded the participants' responses and combined them to achieve composite scores. A 5-point rating scale was used in coding, ranging from mild tone and absence of negativity and intensity to very negative tone and very intense. An ANOVA was also performed.

Results of this study showed that children's expectations of conflict varied based on the situation, and specifically, responders typically expected quicker escalation of conflict more than initiators did (David et al., 2004). This indicates that children who tend to initiate conflict may minimize the intensity of conflict. Additionally, results of the study indicated that young children tend to focus on their own consequences of conflict and often attempt to portray themselves in a positive light (David et al., 2004). Because of this, it is evident that young children's reports of their own actions in conflict often may be skewed. Because they lack understanding of negative social interaction and tend to minimize their own role in conflict situations, they cannot be relied on to accurately report these behaviors. Additionally, preschoolers also lack understanding of language and social skills, as they are still learning and developing them. Because of this, it is necessary to obtain this information from teachers, using questionnaires.

It is evident that assertive behaviors play a role in conflict among preschool children's interactions. Empathy also plays a role in conflict situations. A study by Caravita, Blasio, and Salmivalli (2009) analyzed the effects of empathy and social status on secondary school students' (ages 11-14 years) involvement in bullying. Utilizing the *How I Feel in Different Situations (HIFDS)* questionnaire, a short version of the participant role questionnaire, and social preference rating system, researchers asked students to self-report feelings of empathy, involvement in bullying, and preferences and perceived popularity of other students. Results of the questionnaires indicated that "...individual (empathy) and interpersonal (social status) variables were found to interact in predicting bullying and defending" (Caravita et al., 2009, p. 154). These results show that typically, children who perceive empathy in themselves are more likely to demonstrate actions consistent with defending in relation to bullying situations. While preschool children lack the ability to consistently self-report on specific feelings of empathy,

adolescents' responses to bullying indicate empathy likely also influences preschool children. Assertion likely plays a role in children's response as well. If children are able to understand another person's experience (empathy) and display the ability to stand up for someone's rights (positive assertion), the result is defending behavior.

There are currently few studies about specific language skills related to important social skills such as empathy and assertion in preschool children. However, generally, these skills correlated to higher-level language skills. A longitudinal study done by Rhee et al. (2013) analyzed the role of language skills in young children's concern and disregard for others. Children's language skills were evaluated via observation and parent interviews at 14, 20, 24, and 36 months. Results of this study indicated that "higher language skills were associated with higher levels of concern for others and lower levels of disregard for others" (Rhee et al., 2013, p. 209). If higher language skills correlate to higher levels of empathy in younger children, this is likely true for preschool children as well, as social and language abilities develop significantly at this time. Therefore, it is important to analyze specifically which aspects of language are required for important social skills such as empathy and assertion and how teachers perceive children's behavior based on their language skills.

In summary, language, behavior, and social skills are related and more research needs to be completed regarding their relationship, especially as they develop in early childhood. In assessing language in early development, MLU is a common, valid, widely-used measure of language ability in children. Because children spend most of the early developing time in the classroom, it is important to analyze teacher perceptions of behavior, social skills, and language. Teacher perceptions of behavior and social skills are influenced by a number of factors, but teachers are even less consistent at rating and understanding language skills, making

standardized assessment a more reasonable measure in this study. Additionally, preschoolers are not consistent in identifying social skill constructs, so teachers provide the next best available sources of information despite possible influences of bias.

Therefore, it is important to analyze the relationships between a certain measure of expressive language, MLU, and teacher ratings in preschool children. This idea gives rise to two main research questions:

1. Does a higher MLU correlate to a higher teacher rating of empathy in preschool children?
2. Does a higher MLU correlate to a higher teacher rating of assertiveness in preschool children?

Chapter III

Methodology

Participants

Participants for the current study included 44 (27 males, 17 females) preschool-aged children (ages 3;0 to 5;11). All students were typically developing and had no known language impairment. Two preschool classroom teachers (Caucasian women) with bachelor's-level education also participated in the study.

Procedure

Observations. Preschool students were observed in the natural classroom setting for a full class day via individual audio recording by lavalier microphones placed on the chest. Classroom observations were recorded in 60-minute blocks of time and were free from adult-led interactions.

Transcribing and SALT Analysis. Student interactions during observations were transcribed verbatim by trained graduate and undergraduate students in the Communication Disorders and Sciences and Psychology departments. Each transcription was checked for reliability and accuracy by a different trained student. For the current study, transcripts were then converted and input into the Systematic Analysis of Language Transcription (SALT) program (Miller, Andriacchi, & Nockerts, 2015). SALT is a computerized program that standardizes the process of eliciting, transcribing, and analyzing language samples. Language samples of 100 utterances are ideal for analysis in the software. Transcripts of student language samples are entered into the program and then compared to databases of information on same-aged peers. SALT calculates a variety of language measures, including transcript length, intelligibility, syntax/morphology, semantics, discourse, and verbal facility. Reports can be run in each of these

areas and deviations from the mean compared to same-aged peers are given for specific measures. The first 50 utterances produced by the child in the 60-minute audio recording were utilized for analysis of mean length of utterance (MLU). In the current study, a Standard Measures Report in SALT was used to obtain the MLU of the language samples collected from preschool students.

Teacher Reports and Measures. Preschool teachers completed portions of the Social Skills Improvement System and the Preschool Social Behavior Scale-Teacher Form via online assessment in Qualtrics. Assessments obtained data in three categories: positive social tasks, conflict resolution, and negative power relationships. Surveys were completed during the spring of the school year at the same time as the audio recordings. Teachers had known children for at least six months prior to completing the assessment forms.

Social Skills Improvement System—Teacher Rating form (SSIS; Gresham & Elliott, 2008). The SSIS has seven social skills subscales, but only the Empathy (5 items) and Assertion (6 items) subscales were administered to reduce the amount of time that teacher participants had to spend completing the rating scales. All items are rated on a four-point rating scale ranging from *Never* to *Almost Always* and includes such items as “tries to comfort others” (Empathy) and “stands up for others when they are feeling bad” (Assertion). Teacher responses were summed for each category of empathy and positive assertion and ranged from 5-20 for empathy and 6-30 for positive assertion. Extensive evidence of reliability and validity is reported in the SSIS manual (Gresham & Elliott, 2008). Evidence of reliability includes test-retest reliability, interrater reliability, factor structure, and internal consistency alpha coefficients. The manual also reports evidence of validity through correlations with similar measures. For the current study, alpha coefficients of the Empathy and Assertion subscales were .92 and .85, respectively.

Specific items from the SSIS were chosen based on the categories of positive assertion (nonaggressive behaviors) and empathy and are listed in Table 1.1:

Table 1.1 Item analysis for SSIS

Item	Description	Social Skills
Q20_1	Asks for help from adults	Positive assertion
Q20_3	Tries to comfort others	Empathy
Q20_5	Questions rules that may be unfair	Positive assertion
Q20_11	Stands up for herself/himself when treated unfairly	Positive assertion
Q20_14	Feels bad when others are sad	Empathy
Q20_15	Says when there is a problem	Positive assertion
Q20_18	Shows kindness to others when they are upset	Empathy
Q20_20	Expresses feelings when wronged	Positive assertion
Q20_19	Is nice to others when they are feeling bad	Empathy
Q20_17	Stands up for others who are treated unfairly	Positive assertion
Q20_16	Shows concern for others	Empathy

Preschool Social Behavior Scale—Teacher Form (PSBS; Crick, Casas, & Mosher, 1997). The PSBS contains 25 items that measure six subscales: Relational Aggression, Overt/Physical Aggression, Prosocial Behavior, Depressed Affect, Child’s acceptance with same sex peers, and Child’s acceptance with opposite sex peers. Only the Relational Aggression (6 items), Physical Aggression (6 items), and Prosocial Behavior (4 items) subscales were used in the current study. Each item is rated on a five-point Likert scale ranging from 1 (*Never or almost never true*) to 5 (*always or almost always true*). Scores for each scale were summed, with possible scores ranging from 12-60 for the negative assertion scale and 2-10 for the empathy scales. Crick and colleagues (1997) report alpha coefficients of .96, .94, and .88 for relational aggression, physical aggression, and prosocial behavior, respectively (.88, .91, and .92, in the current study). They also report evidence of validity through moderate correlations with peer-nominated aggression ratings. Specific items from the Preschool Social Behavior Scale were

chosen based on the categories of negative assertion (aggressive behaviors) and empathy and are listed in Table 1.2:

Table 1.2 Preschool Social Behavior Scale Item Analysis

Item	Description	Social Skills
Q27_2	This child kicks or hits others	Negative assertion
Q27_4	This child tells a peer that he/she won't play with that peer or be that peer's friend unless he/she does what this child asks	Negative assertion
Q27_5	This child verbally threatens to hit or beat up other children	Negative assertion
Q27_6	This child is kind to peers	Empathy
Q27_7	This child pushes or shoves other children	Negative assertion
Q27_8	This child tells others not to play with or be a peer's friend	Negative assertion
Q27_10	This child says or does nice things for other kids	Empathy
Q27_11	When mad at a peer, this child keeps that peer from being in the play group	Negative assertion
Q27_12	This child verbally threatens to physically harm another peer in order to get what they want	Negative assertion
Q27_14	This child ruins other peer's things (e.g., art projects, toys) when he/she is upset	Negative assertion
Q27_15	This child tells a peer they won't be invited to their birthday party unless he/she does what the child wants	Negative assertion
Q27_21	This child tries to get others to dislike a peer (e.g., by whispering mean things about a peer behind the peer's back)	Negative assertion
Q27_22	This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says	Negative assertion
Q27_23	This child hurts other children by pinching them	Negative assertion

Data Analysis

A correlational analysis was performed to determine the degree of relation between teacher ratings and preschoolers' MLU. Measures of MLU obtained from the 60-minute blocks

and calculated in SALT were compared to summed scores of teacher ratings of empathy and assertion.

Chapter IV

Results

The purpose of this study was to analyze the relationships between a certain measure of expressive language, MLU, and teacher ratings in preschool children. Specifically, two research questions were presented:

1. Does a higher MLU correlate to a higher teacher rating of empathy in preschool children?
2. Does a higher MLU correlate to a higher teacher rating of assertiveness in preschool children?

Correlations between measures obtained through SALT (MLU in words, MLU in morphemes, type token ratio, and number of different words) and total teacher ratings of positive assertion, negative assertion, and empathy can be observed in Table 1 (located on page 35). Measures of MLU in words and morphemes were found to be positively correlated with teacher ratings of positive assertion ($r(43) = .30$), but not ratings of negative assertion or empathy. No correlation was found between the number of different words and total ratings of positive assertion, negative assertion, or empathy. Additionally, no correlation was found between the type token ratio and any of the total ratings.

Table 1

Correlations between measures of MLU and total teacher ratings

	Total Negative Assertion	Total Positive Assertion	Total Empathy
MLU_Words	.097	.300*	.017
MLU_Morphemes	.109	.309*	.044
Number Different Words	.064	.286	.024
TTR	.040	-.097	-.138

*. Correlation is significant at the 0.05 level (2-tailed).

Following an analysis of MLU measures and total teacher ratings, a closer correlational analysis was performed between MLU in words and each item under the positive assertion category. This analysis revealed that MLU was specifically correlated to questions 15 (“Says when there is a problem”; $r(43) = .326$) and 20 (“Expresses feelings when wronged”; $r(43) = .315$) of the *SSIS*. Table 2 (located on page 36) presents the correlations between MLU in words and total items of positive assertion from the teacher rating scales.

Table 2

Correlations between MLU in words and teacher ratings of positive assertion

Question	MLU Words
PosAssert1	.109
PosAssert5	.282
PosAssert11	.256
PosAssert15	.326*
PosAssert20	.315*
PosAssert17	.071

* *Correlation is significant at the 0.05 level (2-tailed).*

Table 3 (located on page 37) presents the correlations between categories of total teacher ratings (total negative assertion, total positive assertion, and total empathy). While this information does not directly relate to the current study's research questions, significant trends were revealed when categories of teacher ratings were analyzed, and this data is used to discuss possible influences on teacher perceptions. Total negative assertion ratings showed a significant negative correlation with total empathy ratings ($r(43) = -.38$) while total positive assertion ratings were positively correlated to total empathy ratings at a significant level ($r(43) = .578$).

Table 3

Correlations between categories of total teacher ratings

	Total Negative Assertion	Total Positive Assertion	Total Empathy
Total Negative Assertion	1	.068	-.380*
Total Positive Assertion	.068	1	.578**
Total Empathy	-.380*	.578**	1

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

Chapter V

Discussion

In this study, we investigated the relationship between a common language measure used for young children, MLU, and teacher ratings of social behaviors, assertion and empathy. Based on teacher reports, children with a higher MLU were more likely to show higher levels of positive assertion, which is consistent with previous research indicating a relationship between early language abilities and social skills (Aro et al., 2012). In contrast, results of the current study revealed that children with a higher MLU were not necessarily likely to show higher levels of negative assertion or empathy, which contributes to literature on teacher perceptions of specific social skills related to language ability.

Teacher Perceptions of Assertion and Empathy

Previous research suggests that various factors influence how teachers perceive social skills in their students (Feuerborn & Chinn, 2012; Pas & Bradshaw, 2014; Tillery et al., 2010). The current study aimed to analyze a specific aspect of language (MLU) that may influence teacher perceptions. While results indicated MLU as a factor for one social skill (positive assertion), it was not a factor in perceptions of other social skills (negative assertion, empathy). This reveals that teachers may not be heavily influenced by their students' MLU when generally assessing social skills.

However, this data also reveals significant implications of the language used on teacher surveys as it relates to teachers' ratings of various social skills. It is apparent that a difference between direct, verbal-expression terms and vague descriptions of behavior affected how teachers rated specific social skills. For example, survey questions related to positive assertion included: "Says when there is a problem" (Q20_15) and "Expresses feelings when wronged"

(Q20_20). Questions 15 and 20 consequently showed a stronger correlation to a higher MLU. In contrast, survey questions related to negative assertion and empathy included: “This child kicks or hits others” (Q27_2), “Stands up for others who are treated unfairly” (Q20_17), and “Is nice to others when they are feeling bad” (Q20_19). Behaviors relating to negative assertion and empathy may not have been perceived by teachers as requiring verbal expression and therefore, ratings did not correlate to a higher MLU.

This discrepancy between category of social skill and teacher ratings is consistent with previous research indicating that teachers may perceive social skills differently (Feuerborn & Chinn, 2012; McLeod & Kolb, 1989). Feuerborn and Chinn (2012) found that less-experienced teachers perceived questioning authority as disrespect, while teachers with more experience perceived this behavior as leadership. Differences in perceptions were likely impacted by the individual teacher’s definition of the social skill. If one teacher’s definition of assertiveness is not consistent with another’s, clear differences in student ratings and perceptions will occur. The same may be true for other social skills, including empathy.

Additionally, teachers may be more likely to associate social skills of empathy and negative assertion with more emotionally-driven behaviors (e.g., comforting, kicking, or hitting), and therefore tend to perceive nonverbal communication rather than verbal expression when rating these specific skills. Previous research conducted by Fox and Bolton (2005) confirmed that when teachers rated characteristics such as behavioral vulnerability, non-assertive behavior, withdrawn and solitary behavior, and provocative behavior, they associated specific behaviors such as looking scared, giving in to the bully, crying when being picked on, talking quietly, and annoying other children. Many of these behaviors are related to nonverbal communication, and

acts such as facial expression, volume, and gestures were not utilized in the audio-recorded, observed data and could account for differences in teacher perceptions in this study.

Language Measures and Social Skills Ratings

Given possible differences in teacher definitions and perceptions of their students' social behaviors, the question of using teacher reports as a reliable measure arises. As previous research indicates, teacher-report instruments have been tested and found reliable as measures for children's academic and language skills (Reid et al., 2014; Yildiz et al., 2017). Additionally, due to young children's unreliability to self-report, teacher reporting is still one of the most effective ways to gain information. However, this reveals significant implications for speech-language pathologists working in the educational setting. Due to lack of teacher knowledge on specific aspects of language (McCutchen et al., 2002; Shaughnessy & Sanger, 2005; Washburn et al., 2011), variations in teacher definitions of social skills, and various factors affecting teacher perceptions, the role of the speech-language pathologist as an educator is challenging. While teacher reports can be used as valid measures, it is evident that increased involvement of speech-language pathologists is needed to provide information and examples of what behaviors and language described on surveys can look like.

Data from the current study also supports the use of observable, quantifiable language measures to evaluate language in young children. Because of various factors affecting the way teachers rate student language, it is important to have objective, standardized language measures to use along with information gained from teachers and parents, especially in the preschool population. Having this information is important in comparing teacher ratings to more quantifiable language in order to analyze what teachers perceive in their students. As previous

research suggests, MLU is related to other language skills and may be used to identify children with language impairments (Dethorne et al., 2005; Eisenberg et al., 2001).

Consistent with this, the current study demonstrated how MLU can reveal not only the length of a child's utterance, but also how expressive a child might be in a social situation. For example, when collecting language samples from the participants to input into SALT Software, the timeframe of the first 50 utterances the child used was recorded. On average, the shorter the timeframe to obtain 50 utterances, the higher MLU the child had. This information indicates that children with higher expressive language may also be more assertive in social interactions and using language to interact with peers more consistently. Because of this, MLU is seen as a reliable and necessary measure of language in early childhood and can influence social skill development.

In looking at teacher perceptions of social skills and measures of language in early childhood, it is evident that both of these areas are significant when analyzing language in the preschool population. The current study supports the finding that when evaluating their students' language, teachers may consider many aspects of language rather than relying on children's verbal expression. Consequently, due to differences in teacher perceptions of social skills and limited teacher knowledge of specific aspects of language, it is important to use teacher surveys alongside observable, quantifiable language measures, such as MLU, and with the support of SLPs. Research suggests that teachers believe they play a critical role in their students' behavior and development (Tillery, et al., 2010). Therefore, it is imperative that teachers and SLPs collaborate to establish the best possible student-teacher relationships.

Limitations

A limitation of the current study is seen in the small sample size and limited diversity of participants (n=44, all participants and teachers were Caucasian). The sample was comprised of assumed typically-developing preschool children, however, no screening for children showing adverse or atypical behavior was conducted. Similarly, the sample size contained uneven distribution of gender (27 females, 17 males). Furthermore, language samples were collected from one setting, the preschool classroom. Data did not include measures of the participants' language from other environments where there may have been variation. These factors limit the generalizability of the implications of the study. In the future, research on this topic should include a larger sample size with more diversity in order to represent the overall preschool population. Additionally, future studies should incorporate screening teachers for children who previously demonstrated adverse behaviors to provide information about other factors that could be affecting their social skills.

Another limitation of the current study is the possibility of teacher bias due to factors such as student-to-adult relationships and length of time teachers had known each student. Teachers may have known some students for a full year while only knowing others for 6 months. These factors may have played a role in how teachers rated their students because they may have had previous perceptions of students they had interacted with for a longer time period. In the future, ideal studies would include similar timeframes for student-teacher relationships to eliminate possible bias. Another possible source of bias may be seen in the fact that this study only included child-to-child interactions rather than adult-to-child interactions. Since the study asked teachers to rate students but compared those ratings to child-to-child interactions, data may not be consistent between language samples and teacher ratings. Future studies should consider

comparing teacher ratings to teacher-to-child interactions to increase consistency and accuracy of correlations.

Implications and Future Directions

Based on the current study, there are several implications for both teachers and the role of SLPs in student-teacher relationships. Overall, it is evident that language plays an important role in how teachers view their students. While their perceptions of social skills may not be based solely on utterance length, nonverbal communication along with verbal expression still play a significant role in how teachers interact with their students. In analyzing teacher perceptions of social skills in preschool children, information collected in the study suggests that increasing a student's MLU may increase positive student-teacher interactions. Additionally, based on teacher perceptions, increasing a student's verbal expression, rather than the variety of their language, may be more impactful on the quality of the relationship between student and teacher. This information is significant for goal writing and the focus of speech-language therapy for school SLPs especially.

As previously stated, the role of the SLP in the classroom starting in early childhood is significant. Because teachers do not have extensive knowledge of specific aspects of language, especially social language, it is important that a relationship between SLPs and teachers is established. Due to various factors influencing teacher perceptions and how they rate students on surveys, SLPs are needed to give insight and provide specific examples of what behaviors or acts on rating scales could look like in various students. This may change the way a teacher had rated a student previously without that additional source of information. In turn, this may increase positive student-teacher relationships because it could provide teachers with a deeper understanding of what appropriate or atypical social skills or language may look like.

Future research analyzing the relationship between preschool language and teacher perceptions of social skills should consider analyzing other aspects of language (e.g., pragmatic language, semantics, syntax, and phonology) compared to teacher ratings of behavior. In assessing other areas of language in preschoolers, other factors that may impact teacher perceptions of social skills may be revealed. This information could support or refute that teachers do not consider one specific aspect of language over others when rating their students, but rather assess all aspects of language together. Furthermore, nonverbal communication acts should be considered in analyzing how teachers perceive social skills, especially those related to negative assertion and empathy. Aspects of nonverbal communication such as body language, gestures, inflection, and facial expressions should be evaluated for correlations to teacher ratings of negative assertion and empathy.

In the future, due to variation in teacher perceptions of empathy and assertion, continued analysis of how teachers define these social behaviors is needed. If teachers hold differing definitions of social skills, they most likely will rate the same student differently. This could also have an impact on how they interact with their students. Therefore, specific information about what behaviors teachers relate to empathy and negative assertion is important. This will also give insight into which areas teachers may need more support from SLPs when assessing language related to these social skills.

Conclusion

While the results of the analysis between MLU and teacher perceptions of social skills in preschool children did not fully support the original hypothesis, findings contribute to the literature on teacher perceptions and ratings related to language and social behavior. This study revealed the importance of the SLP's role in helping to facilitate positive student-teacher

relationships. Further research is required to contribute to literature on factors that impact teacher perceptions of their students and how that affects their interactions.

Additionally, this study revealed directions for future research on teacher perceptions of social skills. One important area to continue analyzing is other aspects of language that may affect how teachers rate their students, especially nonverbal communication in young children. Another area to explore is how teachers define specific social skills related to empathy and assertion to gain understanding about what influences their ratings and perceptions of students. Overall, the relationship between students and teachers is imperative for students' development and success. In the field of speech-language pathology, it is important that research continues in this area so that SLPs can contribute to the most positive student-teacher relationships possible.

References

- American Speech-Language-Hearing Association (2017). *Language in Brief*. Retrieved from <http://www.asha.org/Practice-Portal/Clinical-Topics/Spoken-Language-Disorders/Language-In--Brief/>.
- American Speech-Language-Hearing Association (1982). *Language* [Relevant Paper]. Retrieved from <http://www.asha.org/policy/RP1982-00125/>. doi:10.1044/policy.RP1982-00125
- Aro, T., Eklund, K., Nurmi, J., & Poikkeus, A. (2012). Early language and behavioral regulation skills as predictors of social outcomes. *Journal of Speech, Language & Hearing Research, 55*(2), 395-408. doi:10.1092-4388(2011/10-0245)
- Barnett, G., & Mann, R. E. (2013). Empathy deficits and sexual offending: A model of obstacles to empathy. *Aggression and Violent Behavior, 18*, 228-239. doi:10.1016/j.avb.2012.11.010
- Bartl-Pokorny, K. D., Marschik, P. B., Sachse, S., Green, V. A., Zhang, D., Van Der Meer, L., & ... Einspieler, C. (2013). Tracking development from early speech-language acquisition to reading skills at age 13. *Developmental Neurorehabilitation, 16*(3), 188-195. doi:10.3109/17518423.2013.773101
- Brachmaier, J., & Schramm, B. (2010). Parent observation - an effective assessment method for early speech and language development?. *Cochlear Implants International: An Interdisciplinary Journal, 11*(2), 259-263. doi:10.1179/146701010X12671177989039
- Brown, R. (1973). *A First Language: The Early Stages*. Cambridge, MA: Harvard University Press.

- Caravita, S. C. S., Di Blasio, P., & Salmivalli, C. (2009). Unique and interactive effects of empathy and social status on involvement in bullying. *Social Development, 18*(1), 140–163. doi:10.1111/j.1467-9507.2008.00465.x
- Clegg, J., Hollis, C., Mawhood, L., & Rutter, M. (2005). Developmental language disorders– a follow-up in later adult life. Cognitive, language and psychosocial outcomes. *Journal of Child Psychology & Psychiatry, 46*(2), 128-149. doi:10.1111/j.1469-7610.2004.00342.x
- Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology, 33*(4), 579-588.
- David, K., Murphy, B., Naylor, J., & Stonecipher, K. (2004). The effects of conflict role and intensity on preschoolers' expectations about peer conflict. *International Journal of Behavioral Development, 28*(6), 508-517. doi:10.1080/01650250444000216
- Dethorne, L. S., Johnson, B. W., & Loeb, J. W. (2005). A closer look at MLU: What does it really measure?. *Clinical Linguistics & Phonetics, 19*(8), 635-648.
doi:10.1080/02699200410001716165
- Eisenberg, S. L., Fersko, T. M., & Lundgren, C. (2001). The use of MLU for identifying language impairment in preschool children: A review. *American Journal of Speech-Language Pathology, 10*(4), 323.
- Feuerborn, L., & Chinn, D. (2012). Teacher perceptions of student needs and implications for positive behavior supports. *Behavioral Disorders, 37*(4), 219-231.
- Fox, C. L., & Boulton, M. J. (2005). The social skills problems of victims of bullying: Self, peer and teacher perceptions. *British Journal of Educational Psychology, 75*(2), 313-328.
doi:10.1348/000709905X25517

- Gresham, F. M., & Elliott, S. N. (2008). *Social Skills Improvement System: Rating Scales*. Bloomington, MN: Pearson Assessments.
- Lightsey, O. R., & Barnes, P. W. (2007). Discrimination, attributional tendencies, generalized self-efficacy, and assertiveness as predictors of psychological distress among African Americans. *Journal of Black Psychology, 33*, 27-50.
- Longobardi, E., Rossi-Arnaud, C., & Spataro, P. (2011). A longitudinal examination of early communicative development: Evidence from a parent-report questionnaire. *British Journal of Developmental Psychology, 29*(3), 572-592. doi:10.1348/026151010X523473
- McCutchen, D., Harry, D. R., Cunningham, A. E., Cox, S., Sidman, S., & Covill, A. E. (2002). Reading teachers' knowledge of children's literature and English phonology. *Annals of Dyslexia, 52*, 207-228. Retrieved from <http://proxy.library.eiu.edu:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=12200673&site=ehost-live>
- McLeod, T. M., & Kolb, T. L. (1989). *Social Skills and Success in the High School Mainstream: A Comparison of Teachers' and Students' Perceptions*. Retrieved from <http://proxy.library.eiu.edu:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED349756&site=ehost-live>
- Miller, J. F., Andriacchi, K., & Nockerts, A. (2015). *Assessing Language Production Using SALT Software: A Clinician's Guide to Language Sample Analysis*. Middleton, WI: SALT Software, LLC.
- Monks, C. P., & Smith, P. K. (2006). Definitions of bullying: Age differences in understanding of the term, and the role of experience. *British Journal of Developmental Psychology, 24*(4), 801-821. Retrieved from

<http://proxy.library.eiu.edu:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ941091&site=ehost-live>

- Overby, M., Carrell, T., & Bernthal, J. (2007). Teachers' perceptions of students with speech sound disorders: A quantitative and qualitative analysis. *Language, Speech, And Hearing Services in Schools, 38*(4), 327-341.
- Pas, E. T., & Bradshaw, C. P. (2014). What affects teacher ratings of student behaviors? The potential influence of teachers' perceptions of the school environment and experiences. *Prevention Science, 15*(6), 940–950. doi:10.1007/s11121-013-0432-4
- Petersen, I. T., Bates, J. E., D'Onofrio, B. M., Coyne, C. A., Lansford, J. E., Dodge, K. A., & ... Van Hulle, C. A. (2013). Language ability predicts the development of behavior problems in children. *Journal of Abnormal Psychology, 122*(2), 542-557. doi:10.1037/a0031963
- Poulou, M. S. (2017) The relation of teachers' emotional intelligence and students' social skills to students' emotional and behavioral difficulties: A study of preschool teachers' perceptions, early education and development, 28:8, 996-1010. doi: 10.1080/10409289.2017.1320890
- Reid, E. E., Diperna, J. C., Missall, K., & Volpe, R. J. (2014). Reliability and structural validity of the teacher rating scales of early academic competence. *Psychology in the Schools, 51*(6), 535-553. doi:10.1002/pits.21769
- Rhee, S. H., Boeldt, D. L., Friedman, N. P., Corley, R. P., Hewitt, J. K., Young, S. E., ... Zahn-Waxler, C. (2013). The role of language in concern and disregard for others in the first years of life. *Developmental Psychology, 49*(2), 197–214. doi:10.1037/a0028318

- Shaughnessy, A., & Sanger, D. (2005). Kindergarten teachers' perceptions of language and literacy development, speech-language pathologists, and language interventions. *Communication Disorders Quarterly, 26*(2), 67-122.
- Sheridan, S. M., & Walker, D. (1999). Social skills in context: Considerations for assessment, intervention, and generalization. In C. R. Reynolds & T. B. Gutkin (Eds.), *The Handbook of School Psychology* (3rd ed., pp. 686-708). New York, NY: Wiley & Sons.
- Smith, P. K., Cowie, H., Olafsson, R. F., & Liefhoghe, A. P. D. (2002). Definitions of bullying: A comparison of terms used, and age and gender differences, in a fourteen-country international comparison. *Child Development, 73*(4), 1119–33. Retrieved from <http://proxy.library.eiu.edu:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ661619&site=ehost-live>
- Tillery, A. D., Varjas, K., Meyers, J., & Collins, A. S. (2010). General education teachers' perceptions of behavior management and intervention strategies. *Journal of Positive Behavior Interventions, 12*(2), 86-102.
- Washburn, E. K., Joshi, R. M., & Binks-Cantrell, E. S. (2011). Teacher knowledge of basic language concepts and dyslexia. *Dyslexia (10769242), 17*(2), 165-183.
doi:10.1002/dys.426
- Williams, C. (2006). Teacher judgements of the language skills of children in the early years of schooling. *Child Language Teaching & Therapy, 22*(2), 135–154.
doi:10.1191/0265659006ct304oa
- Yildiz, F. Ü., Çağdas, A., & Kayili, G. (2017). Basic School Skills Inventory-3: Validity and reliability study. *Journal of Education and Training Studies, 5*(7), 28-36.

September 20, 2018

Jacey Dillon
Nichole Mulvey
Communication Disorders and Sciences

Dear Jacey,

Thank you for submitting the research protocol titled, "Relationship of Mean Length of Utterance and Teacher Perceptions of Social Skills in Preschool Children" for review by the Eastern Illinois University Institutional Review Board (IRB). The IRB has reviewed this research protocol and effective 9/20/2018, has certified this protocol meets the federal regulations exemption criteria for human subjects research. The protocol has been given the IRB number 18-107. You are approved to proceed with your study.

The classification of this protocol as exempt is valid only for the research activities and subjects described in the above named protocol. IRB policy requires that any proposed changes to this protocol must be reported to, and approved by, the IRB before being implemented. You are also required to inform the IRB immediately of any problems encountered that could adversely affect the health or welfare of the subjects in this study. Please contact me, or the Compliance Coordinator at 581-8576, in the event of an emergency. All correspondence should be sent to:

Institutional Review Board
c/o Office of Research and Sponsored Programs
Telephone: 217-581-8576
Fax: 217-581-7181
Email: eiuirb@www.eiu.edu

Thank you for your cooperation, and the best of success with your research.

John Bickford, Chairperson
Institutional Review Board
Telephone: 217-581-7881
Email: jbickford@eiu.edu