

THE RELATIONSHIP BETWEEN LANGUAGE ABILITY AND
NONVERBAL SKILLS
AND VERBAL AND NONVERBAL ASPECTS OF SOCIAL COMPETENCE

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CHAPTER 1

I. INTRODUCTION

Background

Researchers have shown that children with poor peer relationships are at increased risk for becoming delinquents and drop-outs, for having increased medical problems, and for adult psychopathology (Juvonen, 1992; Kupersmidt, Coie, & Dodge, 1990; LaGreca, Bearman, & Moore, 2002; Vitaro, Tremblay, Gagnon, & Pelletier, 1994). One important question to consider is: Why are some children better skilled at socializing and gaining group entry than others? Children who are able to be successful in social interactions are labeled socially competent. Social competence has been defined in a number of ways including: the effectiveness of reaching social goals; effectively interacting with peers, making friends, being well-liked (Anderson & Messick, 1974; Foster & Ritchey, 1979); and a child's ability to feel good about him or herself while positively interacting within their community of family and friends (Raver & Zigler, 1997). Gresham and Reschly (1987) asserted that social competence involves both social skills (i.e. interpersonal skills, displaying appropriate behaviors) and adaptive competencies (i.e. academic achievement, language development, physical ability). It is clear that social competence has been operationally defined in a number of ways. The definition for social competence being used in the current study is the ability to successfully use verbal and nonverbal skills such as

expressing oneself, following rules and norms of a particular context, and regulating emotions to positively interact with others. The purpose of the present research is to better understand the relationship between receptive and expressive language ability and verbal and nonverbal aspects of social competence.

Research has shown that a number of factors are related to social competence including academic performance (Ladd, Kochenderfer, & Coleman, 1997; O'Neil, Welsh, Parke, Wang, & Strand, 1997), sociometric status (Lancelotta & Vaughn, 1989), social withdrawal (Howes & Phillipsen, 1998; Hymel, Rubin, Roowden, & LeMare, 1990), behavioral aggression (Phillipsen, Deptula, & Cohen, 1999; Wentzel & Wigfield, 1998), positive mother-child relationships (Park & Waters, 1989; LaFreniere & Sroufe, 1985; Sroufe, 1983; Sroufe, 1990), and language ability (Hubbs-Tait et al., 2002). Although the importance of social competence has been established by a number of researchers, little distinction has been made between verbal and nonverbal aspects of social competence. It is reasonable to presume that social competence involves a number of verbal and nonverbal skills. These skills include expressive and receptive language, social understanding, emotion knowledge, and emotion regulation; however, very little is known about how much each of these skills contributes to social competence. Specifically, little is known about how much verbal and nonverbal aspects of social competence each contribute to overall ratings of social competence. Nevertheless, it is important to note that the role of these skills is arbitrary. That is, verbal and nonverbal skills important for social competence do not necessarily occur independent of one another, just as verbal and nonverbal communication do not occur independent of each other in social interactions (Hickson, Stacks, & Moore, 2004).

Without a doubt, the language that one produces can influence how he or she is perceived by others. People in general use language as a way of communicating needs and wants, as a means of socializing, and for developing relationships. Gallagher (1999) has argued that children who have language difficulties may not be able to communicate effectively and may often misinterpret their peers, further making them less appealing as play partners and friends. The inability to communicate orally may result in fewer interactions with proficient English speaking children, thus hindering their practice of social skills and language.

Just as verbal skills are important in social competence, so are nonverbal skills. Non-verbal skills, such as social understanding, understanding emotions, and emotion regulation are crucial components of social competence. At a very young age, children learn the importance of nonverbal communication and become familiar with emotional states such as happiness, anger and fear (Reichenbach & Masters, 1983; Walden & Field, 1982). Well-liked children are usually able to understand the social cues pragmatics involved in give –and-take interactions. For instance, they are able to take turns, include everyone in the interaction, be a good listener, respond to others’ requests, and to communicate effectively (Samter, 2003). Moreover, some of the non-verbal skills associated with social competence include understanding social rules (Place & Becker, 1991) understanding emotions (Nowicki & Mitchell, 1998) and regulating emotions (Eisenberg et al., 1995).

Researchers have examined a number of skills when trying to decide what skills comprise social competence (Gresham, 1986; Odom & McConnell, 1985). However, an understudied area within the social competence literature has been examining the role of

verbal and nonverbal aspects of social competence and understanding the relative importance that each of these aspects (i.e., verbal and nonverbal skills) has when assessing a child's social competence.

The following literature review is intended to provide a basis and context for the present study. Although social competence has been related to many outcomes (e.g., academic achievement, mental health, peer relations), a thorough review of all areas is outside the scope of the present investigation. As the long-term goal of my research is to understand the role that language and social competence play in academic achievement, the focus of this paper will be on the importance of language ability in social competence. Additionally, the roles of verbal and non-verbal skills in social competence will be reviewed. Finally, the limitations of previous research will be outlined and the hypotheses of the current study will be presented.

CHAPTER II

II. LITERATURE REVIEW

Importance of Social Competence

Social Competence and Academic Achievement

Preschool programs incorporate social competence into their curriculum, viewing it as an essential part of school readiness and academic success. Proponents of the importance of social competence argue that social skills or social interactions with peers develop into other competencies including literacy skills (Pellegrini, 1985). Social competence is important in school because it helps children learn the rules and social norms expected in a school setting. In addition to parents, teachers may play a role in a child's ability to successfully socialize with other children. Howes, Hamilton, and Matheson (1994) found that a positive context in which to establish positive peer relations was facilitated through emotional security with a child's first child-care teacher. For example, if a teacher is available to assist a child when they need help, the child may feel more emotionally secure knowing that the teacher is willing to provide support and assistance. However, children that are too dependent on the teacher may be less socially competent in the future.

Part of the importance of assessing the development of social competence in pre-school children is the fact that children must adapt to new environments in school where a certain level of social maturity will be expected in everyday interactions with teachers and students. This is especially important as it has been found that children who are less

socially competent during middle childhood. Specifically, children who are aggressive and/or display social withdrawal during preschool may be at risk for displaying such behaviors in middle childhood (Howes & Phillipsen, 1998).

Transitioning into a school-like setting during the preschool years can be difficult for some children. Entwisle and Alexander (1993) argued that for non-middle class children, transition to school may be especially difficult because it is very different from their home environment. For example, at school children must sit still, speak proper English, and be on time. Being socially competent can help children better adapt to a new environment, and facilitate in the development of positive peer relationships.

Children's social competence and their relationships with friends may have a significant effect on their academic satisfaction and success. Having high quality friendships helps students adjust to new social situations (Berndt, 2004). Children who are less socially skilled may show more academic difficulties (O'Neil et al., 1997) and school avoidance (DeRosier, Kupersmidt, & Patterson, 1994). Past research has shown that children who made more friends in the classroom showed greater academic gains and that children rejected by peers had more negative perceptions of school and showed low academic performance (Ladd et al, 1997). Ladd (1990) found that kindergartners who had more friends at the beginning of the school year and who maintained those friendships throughout the school year had more positive perceptions of school at the end of the year. Other studies have found that various social-emotional factors including emotional knowledge, emotional regulation, social skills, and positive interactions with peers and teachers can uniquely predict academic success (e.g., Carlton, 2000, Howes & Smith,

1995; Izard et al., 2001; Jacobsen & Hofmann, 1997; O'Neil et al., 1997; Pianta, 1997; Pianta, Steinberg, & Rollins, 1995; Shields et al., 2001).

Importance of Language in Social Competence

Language or verbal abilities (terms used interchangeably in this study) are important in determining a child's social competence. People in general use language as a way of communicating needs and wants, as a means of socializing, and for developing relationships. Some researchers argue that social competence can only be conceptualized in the context of language (Gallagher, 1993). Previous studies have found that children who show more sophisticated language skills by 5 and 6 years of age are better able to adapt to life changes than children who are less skilled (Rutter, 1970). Both expressive language and receptive language skills are important in social competence. Expressive language is the ability to verbalize thoughts while receptive language is the ability to understand what others are verbalizing. In order to successfully communicate one must not only be able to verbalize needs and intentions, but must also be able to understand the needs and intentions of others, as expressed verbally. Research has shown that children who are more proficient in expressing themselves may be seen as more popular among their peers (Black & Hazen, 1990; Place & Becker, 1991). In addition, Hazen and Black (1989) found that children able to begin, sustain, and reinitiate conversations in various situations tended to be more socially skilled and accepted among their peers. When comparing children who were socially accepted with children who were not accepted, Gertner and Rice (1994) found that receptive language was one of the major predictors of children who were and were not socially accepted. Children with better receptive language skills were more socially accepted by their peers than children who were not as skilled. Moreover, this may indicate that others may be less hesitant to interact with

someone who has poor receptive language, and does not understand what is being verbalized to them.

Expressive and Receptive Language Skills and Social Competence

Much of social competence develops within the realm of children's play. For certain types of play, such as fantasy play, language takes on an important role as children must take on roles and a plot must be agreed on and established by the children involved. This type of play requires children to communicate clearly, be able to take others' perspectives, and inhibit their own behavior (Gallagher, 1993). Specifically, researchers argue that children who have language difficulties may not be able to communicate effectively and may often misinterpret their peers, further making them less appealing as play partners and friends (Gallagher, 1999). Difficulty with language abilities is negatively associated with peer acceptance, especially in play situations where children must be verbally competent (Gertner & Rice, 1994). For instance, when engaging in imaginary play and role play, children may prefer to interact with language proficient children rather than children who speak English as a second language or children with speech or language impairments.

Language skills are especially important because they help children understand, organize, and retrieve social rules from memory that will help them successfully interact with other individuals. Namely, these skills allow children to exert a sense of self-control and emotional regulation (Gallagher, 1999). Gallagher (1999) argues that these language skills may help children gain executive control and metacognitive processing by allowing children to take part in verbal meditation, behavioral direction, response inhibition, and self-reflection. Language ability is an especially important issue in classrooms where

language difficulties may make a child seem noncompliant when in fact they just do not completely understand what is being verbalized. Children who are not able to communicate appropriately are less likely to be accepted in peer groups and in the long run may be less positive and more negative in their interactions with other children (Howes, 1988).

Verbal communication is an essential part of social interactions among typically developing children. Not being able to communicate often puts children at a disadvantage for taking part in social interactions and may hinder their development of social competence. Various types of language problems have been found in children who are less socially adept. Specifically, these language difficulties are related to language comprehension, pragmatics, vocabulary and expressive language (Gallagher, 1999). In many cases, children may have some sort of cognitive delay or speech impediment that decreases their chances of interacting with other verbally skilled children. Additionally, peers who are able to articulate better are often preferred as play partners. For instance, Rice, Sell, and Hadley (1991) found that in a mixed-language ability classroom, children with normally developing language skills were more likely to be selected as conversational partners.

Research has also shown that children prefer to interact with other children who have similar language skills (Doyle, 1983; Field, 1982; Finklestein & Haskens, 1983). Because of this, children with learning disabilities and children who speak English as a second language may be less preferred social partners. The inability to verbally communicate may decrease these children's number of interactions with other children,

thereby hindering their practice of social skills and language. Moreover, their decreased exposure to interactions with peers may further perpetuate language and social delays.

Expressive Language Skills and Social Competence

Expressive language, or the ability to verbalize thoughts, is an essential component of social competence. Children who are more verbally skilled in expressing themselves may be seen as more popular among their peers (Black & Hazen, 1990; Place & Becker, 1991). Hazen and Black (1989) found that children able to begin, sustain and reinstate conversations in various situations, tended to be more socially skilled and accepted among their peers. Gertner and Rice (1994) argue that not being able to verbalize things like other children's names may hinder the child from interacting with other children. They argue that children who are able to address their peers by name may increase their likelihood of gaining joint attention and interpersonal focus. Not only is it important for children to be able to say others' names or to express their own thoughts, but expressive language skills are also important in the emotional competence part of social competence. Longitudinally, children experiencing greater expressive language difficulties at age three have been found to show an increased amount of behavioral and emotional problems at age eight (Stevenson, Richman, & Graham, 1985). Increased emotional and behavioral problems may partly be a function of these children's inability to express their needs and wants. Therefore, they turn to outward forms of aggression or other types of non-verbal means in order to get their needs met.

Receptive Language Skills and Social Competence

Receptive language, the ability to understand what others are verbalizing, is another essential part of communication and social competence. In order to successfully

communicate with someone, one must not only be able to verbalize needs and intentions, but they must also be able to understand the verbalized need and intentions of others. Children who are unable to understand directions or commands may be less likely to comply with requests (Kaler & Kopp, 1990). These children may be seen as less socially competent and may be less liked by their peers and adults, as a function of not being able to understand what others are trying to communicate.

When comparing children who were socially accepted with children who were not accepted, Gertner and Rice (1994) found that receptive language was one of the major predictors of children who were and were not socially accepted. Children with better receptive language skills were more socially accepted by their peers than children who were not as skilled. This may be due in part to the fact that these children are better able to understand what others are communicating. Moreover, children with better receptive language skills may be better at joining in play with other children (Craig & Washington, 1993). If children are able to understand what is being verbalized in ongoing interactions, they may be able to assess how they can best enter certain play situations. Therefore, receptive language ability may also be tied to understanding social norms, as children who understand the verbal interactions that are taking place may also more easily be able to come up with appropriate ways of joining ongoing play groups.

Social Competence and Nonverbal Skills

Although verbal communication makes up a great deal of everyday social interactions, nonverbal communication is also an essential part of everyday communication. Nonverbal language or communication is the process through which meaning is created through intentional or unintentional actions, sometimes accompanied

by words, and is largely influenced by the social and or cultural norms of a society depending on what is an appropriate means of expression (Hickson et al., 2004). Even during the early stages of preschool, nonverbal communication plays a large part in children's interactions. At this age, children are familiar with certain emotional states such as happy, angry, sad, and surprised (Reichenbach & Masters, 1983; Walden & Field, 1982). Specifically, researchers found that even preschoolers are able to discriminate between certain facial expressions associated with different emotions, especially when contextual information such as verbal expressions, are paired with emotional expressions. Moreover, being able to understand social rules and norms along with being able to assert a particular amount of emotional competence is important for initiating and maintaining positive social interactions with others and may contribute a great deal to social competence.

Social Rule Understanding and Compliance

Well-liked children are usually able to understand the pragmatics involved in give and take interactions. For instance, they are able to take turns, include everyone in the interaction, be a good listener, respond to other's requests, and to communicate effectively (Samter, 2003). Children who are well liked are successfully able to enter into ongoing group activities. Their successful group entry includes being able to integrate their own behavior with ongoing behavior without drawing too much attention to themselves (Black & Hazen, 1990; Putallaz & Wasserman, 1990). Moreover, children who are not able to follow the appropriate pragmatics of conversation may not be as successful in social interactions as children who are more aware of appropriate pragmatics. For example, Place and Becker (1991) found that children judged others

more positively when they showed appropriate pragmatic knowledge than when they showed inappropriate pragmatics (e.g., interrupting, not following the conversation appropriately).

Children's play is an activity that requires children to be able to follow rules and be able to positively interact with other children. At an early age, when children may not be as socially advanced or may not be familiar with one another, playing simple games may serve as a way for children to get to know one another and to acquire more advanced social skills (Pellegrini, Blatchford, Kato, & Baines, 2004). However, children who withdraw or fail to engage in these types of social interactions with other children are less likely to gain exposure to appropriate ways to solve conflicts and problems that arise in social situations (Howes & Phillipsen, 1998). Understanding social rules of games with other children is essential for helping children be included in activities. This inclusion in turn helps children practice their social skills and become more successful in social interactions, specifically with solving problems.

Understanding Emotions

Part of social competence is being able to understand the needs and emotions of the person you are communicating with. As such, being able to interpret others nonverbal expressions and emotional states becomes an essential component in being able to effectively participate in social interactions. Research has shown preschool children's social competence to be related to children's receptive nonverbal abilities and their ability to interpret emotion in children's voices (Nowicki & Mitchell, 1998). Children who are able to understand other children's emotions are more likely to react appropriately and prosocially to those children's emotional expressions.

Moreover, popular preschool children are able to effectively read and respond to emotional reactions of other children, while unpopular children tend to misinterpret and react inappropriately to emotional states (Denham, McKinley, Couchoud, & Holt, 1990). Additionally, children who are able to comprehend emotions may be more likely to exhibit prosocial behavior (Denham, 1986). Exhibiting prosocial behavior may increase the probability of others liking these children, and thus being seen as more socially competent.

Some researchers have found that low-income children may develop expressive and situational knowledge later than other children (Fine, Izard, Mostow, Trentacosta, & Ackerman, 2003). This delay in emotional knowledge may affect children's development of social competence. As such, including social competence as a goal for preschool curriculums in programs such as Head Start, which serves socio-economically disadvantaged children, could be very beneficial for these children.

Regulating Emotions

Self-regulation or emotional regulation is an important aspect of social competence and of the everyday interactions of young children. Emotion regulation is the ability to regulate one's own emotions. Specifically, dyadic interactions, such as interactions between mother and child, emotions are ideally mutually regulated. However, not all dyads regulate together and this is associated with attachment problems between the caregiver and the child (Cassidy, 1994; Sroufe, 1996). Taking part in a number of social interactions from infancy, especially with the primary caregiver, may teach children how to regulate their own emotions when interacting with other children

(Cole, Martin, & Dennis, 2004). This early support is important for helping children learn to effectively regulate emotions (Kopp, 1989).

Emotional regulation is related to children's sociometric ratings (i.e., ratings of likeability by others). Therefore, there is a relationship between the children that are liked and these

liked-children's ability to regulate emotions. As evidence of this, Fabes and Eisenberg (1992) found that popular boys were more likely to be able to regulate their emotions in an emotionally charged situation when provoked by others.

Children who are not able to regulate emotions may differ from children who are able to regulate emotions in their tendencies for displaying negative emotions and behaviors. Children who are not able to effectively regulate their emotions and who may display a great deal of emotional negativity are often rated by adults as less socially competent (Eisenberg et al., 1995; Eisenberg et al., 1997). Moreover, Denham et al. (2003) found that children who are able to withhold or restrain certain negative emotions, were seen as more socially competent than children who could not restrain themselves from exhibiting negative emotions (e.g., crying and aggression). Moreover, verbal and nonverbal communications often work in conjunction. As such, emotional regulation may also be affected by expressive language ability. Children who are not able to describe, interpret verbally, or label states of emotion and behavior may be less socially competent than children who are able to verbalize (Cook, Greenberg, & Kusche, 1994). Further, being able to describe various intensities of an emotion may help a child adjust their emotional responses more appropriately (Dale, 1996). For instance, if a child is feeling angry, being able to understand and describe the various degrees of anger (e.g., mild

versus severe) may help them express their mild anger without confusing it for severe anger. Therefore, the ability to understand and verbally describe emotions is also important in developing social competence. Moreover, this shows how the various verbal and nonverbal skills associated with social competence work together.

Conclusions

Social competence affects children's day-to-day interactions. Children lacking in social competence are often negatively affected in areas such as peer acceptance, behavioral aggression, social withdrawal, and academic achievement. Although a great deal is known about factors associated with social competence, very little is known about how important verbal and nonverbal skills are when examining social competence. Verbal skills such as receptive and expressive language have been found to be associated with social competence. Similarly, understanding social norms, emotion knowledge, and emotion regulation are nonverbal skills related to social competence. Although each of these skills has been found to be associated with social competence, little is known about how important nonverbal and verbal skills are for the attainment of social competence.

Limitations of Previous Research

One of the major limitations of previous studies is that researchers have failed to conceptualize social skills into nonverbal and verbal skills. Moreover, they have failed to look at the contributions of verbal and nonverbal social skills in social competence. Therefore little is known about how much verbal and nonverbal skills each contribute to perceptions of social competence. Although various skills have been found to be related to social competence, within the realm of social development research, there seems to be

a lack of research in understanding how much verbal and nonverbal skills contribute to perceptions of social competence. Moreover, current measures of social competence do not distinctly identify verbal and nonverbal skills; therefore it is difficult to say whether children are being perceived as less socially competent due to their verbal or nonverbal abilities. By understanding the importance of verbal and nonverbal skills and their relationship to social competence, researchers can better understand how others perceive social competence and help intervene with children lacking verbal and or nonverbal skills.

Description of the Current Study

Prior to this study, most research studies have focused on individual aspects of social competence, such as emotional competence, following social rules, understanding communication pragmatics, expressive verbal ability, or receptive verbal ability. Few if any, studies have tried to tease apart the verbal and nonverbal aspects of social competence based on current social competence measures. This study seeks to begin to fill that gap.

Hypotheses

1. In kindergarten children, verbal ability will be positively related to social competence as rated by teachers. Both receptive and expressive verbal ability will be positively related to social competence. It is expected that the relationship between receptive verbal ability and social competence will be stronger than the relationship between expressive verbal ability and social competence.
2. Both receptive and expressive verbal ability will contribute a significant amount of independent variance to ratings of social competence.

Receptive verbal ability (McCarthy word knowledge and PPVT-R scores) will be significantly related to receptive social competency scores and to nonverbal social competency scores. Expressive verbal ability (McCarthy verbal fluency scores) will be significantly related to expressive social competency scores. The relationship between verbal ability (expressive and receptive) and verbal (expressive and receptive) social competence will be stronger than the relationship between verbal ability (expressive and receptive) and non-verbal social competence.

CHAPTER III

III. METHODS

Participants

Participants were five-year-old kindergarten children previously enrolled in Head Start preschool classrooms located in a Midwestern state. There were 52 girls and 64 boys. Fifteen percent of children were Native American, 3 % were African American, 1% was Hispanic, 78% were White, and 4% were multiethnic. The median household income per month was \$1,250.

Measures

Language measures. The PPVT-R (Dunn & Dunn, 1981) is a standardized test that assesses receptive language ability for people ages 2.5 to 40 years. Construct validity is adequate and manual reported internal consistency ranges from .61-.88 (Dunn & Dunn, 1981). The McCarthy Scales of Children's Abilities (McCarthy, 1972) is a standardized test that measures various cognitive and motor skills including receptive and expressive vocabulary and spatial skills. This test is intended for children ages 2.5 years to 8.5 years. Its construct validity is appropriate and manual reported internal consistency for five scales, including verbal scale are appropriate (.79-.88) (McCarthy, 1972).

Social competence measure. The California Preschool Social Competency Scale (Levine, Elzey, & Lewis, 1969) is a teacher-rating scale designed to measure 2.5 to 5.5 year old children's social competence in the classroom. This rating-scale has 30 items, which can be rated on a scale of 1 to four, based on the description that best fits the

child's social skills in particular areas. Its intercoder reliability (.75-.86) (Ladd & Price, 1987) and split half reliability (.90- .98) are appropriate. Internal consistency for our sample is high (.94). To create receptive, expressive, and non-verbal social competence scores, receptive, expressive, and nonverbal items from the CPSCS were summed. Expert ratings and teacher ratings were obtained for the items on the CPSCS that best represented receptive, expressive, and nonverbal social competence. Expert ratings were given by two researchers and teacher ratings were given by two current Kindergarten teachers. A questionnaire was filled out by raters which contained each item on the CPSCS followed by rating scales which asked: (1) "To what degree does the above item, X, involve receptive language?" (2) "To what degree does the above item "X" involve expressive language skills?" (3) "To what degree does the above item "X" involve nonverbal skills?" The rating scale ranged from 1 (not at all) to 7(very much) Please see Appendix 2. Expert raters filled out the rating questionnaire and then discussed answers until a consensus was reached. Some items were not relevant and so were not included. If an item was given a rating of 5 to 7 for a particular question, that item was considered expressive, receptive, and/or nonverbal. Items were labeled receptive, expressive or nonverbal based on congruency of ratings given by raters. Once items were labeled receptive, expressive or nonverbal, six scores were created: 1) expert receptive score; 2) expert expressive score; 3) expert nonverbal score; 4) teacher receptive score; 5) teacher expressive score; and 6) teacher nonverbal score. Appendix B provides a list of the CPSCS items by category. Internal consistency for social competency scores wasd. Expert rated receptive social competency (.83), teacher rated receptive social competency (.84), and expert rated expressive social competency (.74) had adequate internal

consistency. Low internal consistency was present for teacher rated expressive social competency (.61) and teacher rated nonverbal social competency (.45). Expert rated nonverbal social competency only contained one item.

Procedure

Participants were recruited in the Fall of 1995 and 1996 during their Head Start year and were then tested again during Kindergarten. Children were administered the Peabody Picture Vocabulary Test-Revised (PPVT-R) (Dunn & Dunn, 1981) and the McCarthy Scales of Children's Abilities (Bondy, Norcross, & Constantino, 1982) during the Fall and Spring portions of the academic year. Teachers were asked to complete the California Preschool Social Competency Scale (CPSCS; Levine, Elzey, & Lewis, 1969) during the Fall/Spring. Each teacher completed one CPSCS questionnaire for each child in her class.

CHAPTER IV

IV. RESULTS

McCarthy verbal fluency and word knowledge scores, PPVT scores, and CPSCS scores were included in this analysis. *Hypothesis 1*. It was hypothesized that there would be a significant relationship between verbal ability and social competence. This relationship was assessed using Pearson correlations. See Table 1 for means and standard deviations and Table 2 for intercorrelations. McCarthy verbal fluency scores were positively related to CPSCS scores. Therefore, there was a direct relationship between expressive verbal scores and social competency scores. McCarthy word knowledge scale scores were also significantly positively related to CPSCS scores, as were PPVT-R scores. These results showed a direct relationship between receptive verbal ability and social competency scores.

Each correlation was transformed to a z' score (Fisher's r to z' transformation) and then using the Z test statistic provided by Cohen, Cohen, West, and Aiken (2003, p. 49) these two z' 's were compared to see if one was statistically different from the other. The correlation between receptive verbal ability (PPVT) and social competence was not significantly different from the correlation between expressive verbal ability (McCarthy verbal fluency) and social competence ($z = 1.26, p = .11$). These results indicate that the relationship between receptive verbal ability and social competence did not differ significantly from the relationship between expressive verbal ability and social competence.

Hypothesis 2. In order to assess how much receptive verbal ability and expressive verbally ability contribute to social competence, a hierarchical regression was conducted. McCarthy word knowledge scale scores (representing receptive verbal skills) and McCarthy verbal fluency scale scores (representing expressive verbal skills) were used as predictors. Verbal fluency was entered in the second block and word knowledge in the first block. Both McCarthy word knowledge scores and McCarthy verbal fluency scores significantly predicted social competency scores, [$t(106) = 2.5, p = .01; sr = .23$] and [$t(106) = 2.31, p = .02, sr = .21$], respectively. Both variables contributed a significant amount of explained variance, ($B = 1.06, \beta = .24$) and ($B = .69, \beta = .22$) respectively. These results indicate that expressive and receptive verbal abilities each significantly predict social competence scores.

Hypothesis 3. Pearson correlations were conducted between PPVT, word knowledge, and word fluency McCarthy scores and the new CPSCS scores (See Table 1 for means and standard deviations). There was a direct positive relationship between many of the variables (See Table 2). PPVT scores and word fluency were directly related to expert receptive social competency scores. PPVT scores, word fluency, and word knowledge were significantly related to expert expressive social competence scores. None of the verbal outcome measures were significantly related to expert nonverbal scores. PPVT and word knowledge, but not word fluency were directly related to teacher receptive social competency scores. PPVT and Word knowledge scores were significantly related to teacher expressive social competency scores. PPVT and word knowledge scores were directly related to teacher nonverbal social competency scores.

To assess if each set of correlations between verbal outcomes (i.e., PPVT and McCarthy) and Social competency scores were significantly different, each correlation was transformed using Fisher's r to z ' transformation, and statistical difference was computed (Cohen et al., 2003, p. 49). The relationship between McCarthy word fluency scores and expert-rated expressive social competence was significantly different from the relationship between McCarthy word fluency scores and expert-rated nonverbal social competency scores ($z = 1.63, p = .05$). There were no statistical differences between the relationship between PPVT scores and expert-rated receptive social competence scores and PPVT scores and expert-rated nonverbal social competence ($p = .07$). The relationship between McCarthy word knowledge scores and expert-rated receptive social competence scores and the relationship between McCarthy word knowledge scores and expert-rated nonverbal social competence scores were also not significantly different ($p = .18$). Correlation combinations between language outcomes (PPVT, McCarthy word fluency, and word knowledge) and teacher-rated social competency scores (expressive, receptive, and nonverbal) were not significantly different from one another, p 's $> .31$.

CHAPTER 5

V. DISCUSSION

Some support was found for all three proposed hypotheses. Verbal ability was positively related to social competence as rated by teachers, identified in this study as teacher ratings. Both receptive and expressive verbal ability were directly related to social competence. This further validates previous findings supporting a relationship between verbal ability and social competence (Hubbs-Tait et al., 2002; Gertner and Rice, 1994). Moreover, we found that the relationship between expressive verbal ability and social competence is comparable to the relationship between receptive verbal ability and social competence. These findings support the idea that verbal ability, both expressive and receptive, is important for social functioning.

Regarding the relationship between verbal ability and social competence, we first examined if receptive and expressive verbal abilities each predicted significant unique variance in social competence. We found that expressive and receptive verbal ability each contributed a significant amount of unique variance to social competency scores. These results further supported results obtained by Hazen and Black (1989), which showed that being able to take part in the give and take of conversations was associated with being socially skilled. It is important to consider the social and communicative interchange that occurs when children take part in social interactions. These findings indicate that it might be just as important for children to be able to verbally express themselves as it is for them to understand what is being said to them. This seems particularly relevant in a classroom

setting where children are being asked to do things and must also be able to communicate with their peers and teacher.

We further examined the relationship between verbal ability and social competence, by breaking down social competence into the items thought to assess receptive verbal skills, expressive verbal skills, and nonverbal skills. Results for these analyses were mixed. Receptive verbal ability was related to expert rated receptive social competency and teacher rated social competency. Expert-rated expressive social competency scores were related to expressive verbal ability, but teacher-rated expressive social competency was not related to expressive verbal outcomes. Expert-rated nonverbal social competency was not significantly related to expressive or receptive verbal ability, but teacher-rated nonverbal social competency was significantly related to receptive verbal ability.

In assessing the differences between correlations (i.e., expressive verbal ability with expressive social competence and expressive verbal ability with nonverbal social competence), we found that expressive verbal ability and expert-rated expressive social competency were more strongly related than expressive verbal ability and expert-rated nonverbal social competency. This provides some evidence that nonverbal and expressive social competency skills are different. These findings are preliminary, however, and further research should be done to try to isolate these skills (i.e., nonverbal and verbal social skills) and better understand their overall influence on social ability.

Expert and teacher rated expressive and nonverbal social competency selected items differed more so than expert and teacher rated receptive social

competency items. CPSCS items seen by experts as purely being expressive or nonverbal, were often seen by teachers as being mixed or being a combination of two types of social competencies. For instance, where teachers saw “Identification” (item 1) and “Using names of others” (item 2) as being both receptive and expressive, the experts saw these same items as simply being expressive. These differences in opinion may account for why correlations based on expert ratings were significant when correlations based on teacher ratings were not significant. It may be the case that researchers or language experts are better at deciphering the type of language skills needed for a particular social skill.

Our findings further are consistent with prior research by Gertner and Rice (1994) and Howes (1998) which suggest that difficulty with verbal abilities is associated with social difficulties especially with peers. However, unlike work done previously, we found some support for the view that verbal and nonverbal abilities are related to different types of social skills. These findings add to previous researcher because they provide a clearer picture of the type of language abilities related to different types of social skills.

Some of the limitations of this study include the use of one measure of social competence. Expressive, receptive, and nonverbal social competency measures were created from one source and only two raters per team type. Although the CPSCS is a reliable measure, it only provides a snapshot of children’s social competency in a classroom setting. Additionally, the CPSCS was not meant to be parsed out in this manner, and therefore does not fully reflect social skills that fit expressive, receptive, and nonverbal characteristics. This may

be partially evident in the low reliability of teacher rated expressive social competence, teacher rated nonverbal social competence, and expert rated nonverbal social competence scores. Moreover, low internal consistency in these ratings may account for why correlations were consistently low or not significant.

Another limitation of this study is that we included children with very low language skills. The inclusion of these scores could have skewed score means. Nevertheless, we felt it necessary to include these scores, as taking them out would restrict the range of scores. Given that we were especially interested in how low language ability might be related to social competence, including children regardless of their language abilities provided us with a more realistic picture of how language ability (low or high) is related to social competence.

This study has important implications especially for the social well-being of children with language disabilities and non-native English speaking children. It has already been shown that children prefer to interact with children who have adequate or typically developing verbal skills (Black & Hazen, 1990; Place & Becker, 1991; Rice et al., 1991). Not only do these findings provide support for the importance of both expressive and receptive language in social competence development, but also for the notion that various social skills may require different types of verbal and or nonverbal abilities. Our findings further denote the importance of being able to speak and understand the dominant language. Children who do not have expressive and or receptive language skills may be at a disadvantage socially, increasing their risk of academic and psychological problems (Kupersmidt et al., 1990; Vitaro et al., 1994).

Given our findings, future research should include developing a reliable measure of social competence that includes skills that require receptive, expressive, and nonverbal skills. Testing this measure to see if one type of skill influences social competency more heavily would provide an even clearer picture of social competency and how it is influenced by expressive, receptive, and nonverbal ability. An interesting applied direction for this research would be to assess how interventions that encourage language acquisition and nonverbal communication, and that allow children to interact with children who are more verbally skilled effect social competence.

VII. REFERENCES

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Appendix A

Tables

Table 1

*Means and Standard Deviations for Verbal Outcomes and Social Competency**Scores*

Language Outcomes	Sample size	Standard deviation	Variance
PPVT-R	116	13.15	172.85
Word Knowledge	110	3.49	12.17
Word Fluency	110	5.04	25.37
CPSCS Total	115	93.9	15.53
McCarthy Scales Total	110	66.33	12.59
Expert Receptive	116	15.63	3.65
Social Competence			
Expert Expressive	116	15.74	2.9
Social Competence			
Expert Nonverbal	116	3.13	0.74
Social Competence			
Teacher Receptive	116	12.31	2.73
Social Competence			
Teacher Expressive	116	6.27	1.56
Social Competence			
Teacher Nonverbal	116	9.28	1.99
Social Competence			

Table 2

Measure	1	2	3	4	5	6	7	8	9	10
1. PPVT	–	0.48** n = 110	0.35** n = 110	0.43** n = 115	0.35** n = 116	0.41** n = 116	0.17 n = 116	0.20* n = 116	0.23* n = 116	0.20* n = 116
2. Word Knowledge			0.30** n = 110	0.30** n = 109	0.18 n = 110	0.33** n = 110	0.06 n = 110	0.22* n = 110	0.19* n = 110	0.20* n = 110
3. Word Fluency				0.29** n = 109	0.20* n = 110	0.30** n = 110	0.09 n = 110	0.10 n = 110	0.17 n = 110	0.11 n = 110
4. CPSCS					0.90** n = 115	0.84** n = 115	0.14 n = 115	0.39** n = 115	0.67** n = 115	0.33** n = 115
5. Researcher Receptive						0.72** n = 116	0.09 n = 116	0.39** n = 116	0.51** n = 116	0.32** n = 116
6. Researcher Expressive							0.11 n = 116	0.21* n = 116	0.66** n = 116	0.18 n = 116
7. Researcher Nonverbal								0.19* n = 116	0.09 n = 116	0.53** n = 116
8. Teacher Receptive									0.27** n = 116	0.69** n = 116
9. Teacher Expressive										0.25** n = 116
10. Teacher Nonverbal										–

Appendix B

Figures

Figure 1. CPSCS Items Included in Social Competency Ratings

Expert-rated receptive social competency items from the CPSCS

- 7. Performing Tasks
- 8. Following Verbal Instructions
- 9. Following new instructions
- 10. Remembering Instructions
- 24. Accepting Limits

Expert-rated expressive social competency items from CPSCS

- 1. Identification
- 2. Using names of others
- 5. Reporting Accidents
- 11. Making explanations to other children
- 20. Giving direction to play

Expert-rated nonverbal social competency items from CPSCS

- 28. Response to unfamiliar adults

Teacher-rated receptive social competency items from CPSCS

- 7. Performing tasks
- 8. Following verbal instructions
- 9. Following new instructions
- 10. Remembering Instructions

Teacher-rated expressive social competency items from CPSCS

- 5. Reporting Accidents
- 22. Reaction to Frustration

Teacher – rated nonverbal social competency items from CPSCS

- 4. Safe use of equipment
- 6. Continuing in activities

28. Response to unfamiliar adults

Appendix C

Sample Measure

Sample of Questionnaire for CPSCS Ratings

The following is a list of questions and possible answers that appear on the California Preschool Social Competency Scale (CPSCS). The CPSCS is a measure of social competency for children between the ages of 2.5 to 5.5 years of age. Typically, teachers are asked to fill out a questionnaire for a particular child in their classroom. The questionnaire contains a skill name and four possible choices for rating a child's ability in that area.

Instructions:

In the list below, you will see 30 different skill areas (written in all caps). Below each skill name (e.g., Identification, Using names of Others, Greeting New Child), you will see four levels of ability, progressing from least skilled to most skilled. We would like to know how you as a teacher view the general skill area. We are interested in how much each skill area is viewed as 1) involving non-verbal ability; 2) involving expressive language ability (language production); and 3) involving receptive language ability (language comprehension). Please select the number on each scale that best reflects your opinion.

- a. Receptive language skill: the ability to comprehend or understand language
- b. Expressive language skill: the ability to express oneself verbally
- c. Nonverbal skill: the ability to create meaning through unspoken intentional or unintentional actions.

30. SEEKING HELP

When he is involved in an activity in which he needs help---

1. He leaves the activity without seeking help.
2. He continues in the activity but only if help is offered.
3. He persists in the activity and finally seeks help.
4. He seeks help from others after making a brief attempt.

To what degree does the above item, "SEEKING HELP", involve receptive language skills?

(Place curser and click in box exactly above the number you would like to select.

Then type in "X".)

1 2 3 4 5 6 7

not at all

very much

To what degree does the above item, "SEEKING HELP", involve expressive language skills?

1 2 3 4 5 6 7

not at all

very much

To what degree does the above item, "SEEKING HELP", involve nonverbal skills?

1 2 3 4 5 6 7

not at all

very much

VITA

Adelina Longoria

Candidate for the Degree of

Master of Science

Thesis: THE RELATIONSHIP BETWEEN LANGUAGE ABILITY AND
NONVERBAL SKILLS AND VERBAL AND NONVERBAL ASPECTS OF SOCIAL
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Major Field: Experimental Psychology

Scope and Method of Study: The main focus of this study was to better understand the relationship between receptive and expressive language ability and verbal and nonverbal aspects of social competence. Although the importance of social competence has been established by a number of researchers, an understudied area within the social competence literature has been looking at the verbal and nonverbal aspects of social competence and understanding the relative importance that each of these aspects (i.e., verbal and nonverbal skills) has when assessing a child's social competence. Children were administered the Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981) and the McCarthy Scales of Children's Abilities (Bondy, Norcross, & Constantino, 1982). Teachers were asked to complete the California Preschool Social Competency Scale (CPSCS; Levine, Elzey, & Lewis, 1969).

Findings and Conclusions: Verbal ability was positively related to teacher ratings of social competence. Both receptive and expressive verbal ability were directly related to social competence. Both expressive and receptive verbal ability each contributed a significant amount of unique variance in social competency scores. These findings support the idea that verbal ability, both expressive and receptive, is important for social functioning. Receptive verbal ability was related to expert rated receptive social competency and teacher rated social competency. Expert-rated expressive social competency scores were related to expressive verbal ability, but teacher-rated expressive social competency was not related to expressive verbal outcomes. Expert-rated nonverbal social competency was not significantly related to expressive or receptive verbal ability, but teacher-rated nonverbal social competency was significantly related to receptive verbal ability. Our findings further support previous work suggesting that difficulty with verbal abilities is associated with social difficulties especially with peers. Unlike work done previously, we found some support for the notion that verbal or nonverbal abilities are related to different types of social skills.

ADVISER'S APPROVAL: Melanie Page, Ph.D.