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Dimensions of parenting as predictors of social competence in 5- and 6-year-olds

by

Robin Patricia Marshment

A thesis submitted in conformity with the requirements for the degree of Master of Arts Department of Human Development and Applied Psychology Ontario Institute for Studies in Education of the University of Toronto

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Abstract

Dimensions of parenting as predictors of social competence in 5- and 6-year-olds

Masters of Arts 1999

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The attainment of social competence can be seen as one of the most important developmental tasks of childhood. This study investigated the relationship that exists between various aspects of parenting and subsequent childhood outcomes, specifically children's demonstrated levels of social competence. The subject pool (N = 45) was drawn from a larger longitudinal study. All children were seen with a self-selected peer and together completed a free-play session and a peer-teaching task. Children's social competence was measured behaviorally throughout the two structurally different tasks, as well as through parent report on the CBCL (Achenbach, 1991). Dimensions of parenting were derived through the use of the National Longitudinal Study of Children and Youth (NLSCY).

Results provided moderate support for a relationship between parenting and children's social competence, however also indicated that parent report and behaviorally observed measures of children's social competence were not correlated. One unexpected result was the similar gender pattern that continually emerged throughout this study which suggested
that girls were more socially competent than boys. Whether children's social competence is displayed consistently across structurally different tasks or is more likely to be domain specific remained unclear in throughout this research, and consequently requires further investigation.
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Chapter 1

INTRODUCTION

Over the past several decades, researchers have accumulated an extensive body of evidence concerning the manner in which children develop social competence. Whereas some researchers have examined at what age this development occurs, others have concentrated on explaining what variables might affect this development. One such variable that some investigators believe may influence a child’s development in both direct and indirect ways is the relationship children share with their parents. Within the literature on children’s social competence, a great deal of research has focused on how this particular interaction affects children’s development of social competence.

Certain researchers suggest that one way children learn to become socially competent is through observing those competent people that surround them (Bandura, 1977). Essentially, children can learn through modeling the socially competent behaviors of their parents (Mills & Rubin, 1992). As well, children can also develop social competence through the direct experience of competent interactions with others. The following study tested several major hypotheses arising from claims about the relationship between parenting dimensions and children’s social competence. First, parents who demonstrate more successful dimensions of parenting with their children will have more socially competent children as assessed behaviorally; second, a child’s social competence will
be displayed consistently across structurally different tasks; third, that children's social competence behaviors will be displayed consistently across parental-report of the child's social competence and behaviorally observed methods; and fourth, that gender will affect children's overall social competence.

1.1 DEFINING SOCIAL COMPETENCE

Despite the popularity of children's social competence in the literature today, researchers still find it extremely difficult to agree upon one universal definition. Since the concept of social competence is so broad, it attracts many different researchers each of whom operates with a unique perspective. This allows for a number of definitions to prevail, each of which differs slightly from others. The definitions that occur frequently in literature can be seen as being both implicit and explicit in their nature. In addition, research in the area of social competence has been more proficient at identifying and describing the existence of problematic social functioning than in conducting sensitive, fine-grained assessments that accurately reflect where a child is functioning socially (Coie & Dodge, 1988). To understand how the term social competence will be used in the research reported here, it is beneficial to analyze some current definitions of social competence.

Hubbard and Coie (1994) use a definition of social competence that emphasizes peer relations as a criterion for childhood competence. This definition is in ways similar to Knight and Hughes' (1995) description of social competence as
the ability to initiate and maintain satisfying relationships, especially with peers. Here, friendships and peer acceptance are perceived as being important indicators of a child's social competence and success with social relationships is a reliable indicator of psychological adjustment in later life. Similarly, Rubin and Rose-Krasnor (1992, p. 285) also define social competence in terms of effective peer interactions stating that it is "the ability to achieve personal goals in social interaction while maintaining positive relationships with others, over time and across situations." In addition, Denham and Burger (1991) argue that expressing and reacting to emotions while interacting with others constitute vital components of preschoolers' behavioral adjustment as well as their social competence.

Yet another interpretation of childhood social competence describes the relevance of individual social skills. Schneider (1993) states that social competence is "the ability to implement developmentally-appropriate social behaviors that enhance one's interpersonal relationships without causing harm to anyone." Within this framework, a social skill is described as individual and specific abilities which together comprise social competence.

One aspect in the attempt to define social competence that most researchers mutually agree upon is that there is no one common definition of this particular construct that everyone endorses (Cavell, 1990; Duck, 1989; Saunders & Green, 1993). It has been stated that the number of definitions
that exist pertaining to social competence is almost equivalent to the number of investigators in the field (Dodge, 1985). Social competence definitions can also be seen as referring to varying levels of this psychological phenomenon and that research questions which revolve around how these levels relate to one another may help to clarify this definitional issue in the future (Cavell, 1990). In essence, social competence may be best viewed as a continuum whereby children's abilities may vary by degree or by level. Despite the fact that it is an elusive concept, the analysis of children's social competence occurs regularly among researchers, teachers, clinicians, and parents.

1.2 COMMON THEMES

Most operational definitions of social competence begin with the central concept of effective functioning within a social context (Cavell, 1995). However, researchers quickly diverge from this central theme when the construct must be applied to the empirical analysis of data. Depending on an individual's research goals, epistemological biases, as well as practical constraints, certain aspects of a child's social functioning may be more salient than others. Factors such as these help account for the variability that exists in the definition of social competence.

Despite the variability, one can draw common threads within this conceptual framework. One such theme that exists centers around the concept of social competence being the successful performance of socially skilled behaviors in
interaction with another individual. Researchers who use this definition quite often list a variety of social skills that they feel together constitute a child's social competence (Knight & Hughes, 1995; Schneider, 1993). There are several ways in which each of these definitions of social competence overlap. These definitions emphasize the importance of a child performing a variety of social behaviors, in an effective manner and across different situations, that encompass social competence. The particular social behaviors that each definition suggests a child must possess to be socially competent vary slightly, but it can be noted that several overlap. It is where these two definitions overlap in their identification of necessary social behaviors for children that the core of the construct of social competence emerges.

Another theme centers around the concept of peer acceptance. This idea of "getting along" with others, is a popular one among several social competence researchers (Dekovic & Janssens, 1992; Hubbard & Coie, 1994). Quite often it is measured by a child's sociometric status within a group of peers, usually amongst classmates. Although this conception of social competence is a popular one, it is not without its disadvantages when used alone. The use of peer nominations may actually be more of a measurement of how popular a child is among their peers, and not a true reflection of a child's social competence. Direct observation of a child's behavior with their peers is a more reliable way to assess children's social functioning. In this research, the behavioral aspects of social
competence are the focus, and peer popularity is thus not assessed.

A final common thread among most definitions of social competence is one that recognizes the social-emotional aspect of a child's social functioning (Denham, 1989; Denham & Burger, 1991; Denham & Grout, 1993). There is considerable agreement that children need to possess the ability to regulate their own emotions in order for them to become competent. This aspect of social competence is admittedly an important one, yet it can not be viewed independently of a child's other behaviors. The social interactional behavior that one child exhibits with his or her peer is a true reflection of that child's social competence abilities. With respect to the current research that is to be presented, a definition that emphasizes social-emotional regulation would not be completely appropriate. However, whether such a definition will become a component of the overall picture of social competence in future research studies with this data set will be determined at a later date and will depend upon further detailed examination of the videotapes to be coded.

1.3 THE PRESENT STUDY

One could identify a wide variety of social skills that in combination interact together to characterize children's social competence. As suggested previously, quite often when investigators attempt to operationalize the construct of social competence, certain aspects of a child's social functioning become more salient than others. In addition, these particular
behaviors that a child exhibits may vary across context. The present study aimed to critically examine domains of children's social functioning as evidenced by specific behaviors, where the behaviors were general enough to be observed across structurally different contexts; more specifically, a free play situation as well as a peer teaching task, to be described later in the methods section.

It has been suggested by past researchers that the most accurate way to assess social competence is through the use of a global construct score which is composed of multiple measures of social competencies with multiple indicators of each measure (Walker, Irvin, Noell & Singer, 1992). These researchers state that a global construct score for social competence that can combine diverse forms of assessment data on a child's social behavior and simultaneously provide an overall measure of that child's multidimensional social functioning from a number of different perspectives (i.e. parent, clinician, self, peers, and teachers) does not currently exist. Using multiple measures to sample social functioning in a variety of different settings and contexts, using different perspectives, and using a variety of measurement techniques would most obviously provide for a more accurate reflection of a child's true social abilities.

One way to achieve this research goal is conducting more sensitive and fine-grained assessments. As previously stated, Walker et al. (1992) suggest that social competence should be analyzed by way of a global construct score. This global
construct score is a direct compilation of several domain construct scores (i.e. the various aspects of social competence), which is made up of sub-domain scores (i.e. the multiple indicators of the domain or aspects of behavior that are being studied). With this theoretical model in mind, the present study set forth and attempted to capture children’s social competence in such a way.

As such, molar scales were conceived to permit examination of similar domains of social competence across tasks. Based on the preliminary analysis of videotapes and on the previously cited work of Knight and Hughes (1995) and Schneider (1993), three molar scales were developed for each of the two structurally different activities; specifically free-play and peer-teaching in a block building task (see Appendix A and B). Three key domains of social competence were: conversational skills, persuasion and negotiation, and cooperation and compromise. Each of these domains is discussed below.

A child must have the ability not only to initiate but to also maintain communications with others. Children need to be able to respond appropriately to those around them and with whom they are interacting, and not simply draw attention to one's self by talking out of turn or off-topic. Effective communication including clearly expressing oneself (i.e. an individual's wants and needs), as well as actively responding to those with whom one is engaged are also vital aspects. Two
components of this domain were examined across structurally different tasks: listening and explaining oneself clearly.

Another domain to be analyzed as an aspect of children's social competence is persuasion and negotiation (Schneider, 1993). Past research has demonstrated that both socially competent adults and children aim to pursue their goals while respecting others and granting them sufficient autonomy to achieve their own goals (Crockenberg, Jackson, & Langrock, 1996). How children assert their own goals while respecting the goals of those with whom they are interacting was examined in each of the different tasks.

The final domain investigated was children's cooperation and compromise. Throughout their interactions, children who are fair with each other are seen as more socially competent. Aspects such as respecting others, taking turns, helping, and sharing are just a few of the social behaviors that children must exhibit in order to function cooperatively. These social interaction attributes help children develop their social competence, and are therefore important to examine. More specifically, we sought evidence of mutuality during the interaction between the two children throughout the different tasks as another aspect of a child's overall social competence.

To summarize, previous researchers have identified several skills that are common for the development of social competence among children. Based on a review of the current literature, a number of skills were selected to be examined in further detail in the present research study. Molar scales were
developed to include the analysis of the following behaviors:
conversational skills, persuasion and negotiation, and
cooperation and compromise.

1.4 INFLUENCING FACTORS

Given its obvious significance in an individual's
development, it is critical to explore the origins and factors that
may in turn influence the achievement of social competence
(Mills & Rubin, 1993; Parker & Asher, 1987). If
clinicians/researchers wish to encourage the development of
children's social competence in order to prevent future
maladjustment, it is essential to understand the origins of
socially competent behavior (Crockenberg, Jackson & Langrock,
1996). In essence, an overall critical examination of the
ontogony of social competence seems necessary in the
exploration of the concept. Previous investigations have cited
various dimensions of parenting (Baumrind, 1989; Ladd, 1992),
together with gender of the child (Crockenberg et al., 1996), as
two influential factors in how social competence develops
during childhood. These variables were chosen for inclusion in
the present study.

1.4.1 DIMENSIONS OF PARENTING

Various dimensions of parenting, including the parent-
child relationship as well as a number of more specific
parenting behaviors (Ladd, 1992), have been postulated as
having a significant impact on how children develop social
competence. Parental attitudes are easy to assess and have
been shown to relate to actual parental behaviors (Turner &
Harris, 1984). Similar to the present study, numerous past investigators have assessed particular dimensions of parenting through the use of self-report measures that tap into various aspects of parenting. Based on prior work, we examined a number of key parenting variables including warmth, control, autonomy granting, tolerance, parental involvement, and effective communication. Each of the domain variables that were used to examine the various aspects of parenting are discussed below.

The warmth that exists between a parent and child can be observed in a number of different contexts. In addition, the ongoing displays of warmth and sensitivity within a parent-child relationship are vitally important to the child's growth and development as well as being related to his or her competence with peers (Baumrind, 1975; Roberts, 1986). Parents of children who displayed more self-reliant and self-controlled behaviors in a nursery school setting were found to be more warm, rational and receptive to their children's communication (Baumrind, 1989). In middle childhood aspects of sensitive parenting, such as providing warmth and support, are also associated with social competence (Maccoby & Martin, 1983). As well, parental responsiveness and warmth are related to positive perceptions of children in their peer group as indicated by higher sociometric ratings (Roopnarine, 1987). Since parental warmth is such an integral aspect of parenting behavior and directly affects the development of a child, it was included in the current research study.
Like warmth, parental control is also an important determinant of children's behaviors with their peers (Roberts, 1986). Children who are socially withdrawn and who lack social competence tend to have parents who control their behavior through the use of guilt (Hetherington & Martin, 1986). Parents who use more direct control techniques also appear to have a negative impact on children's school-relevant performance (Hess & McDevitt, 1984). As well, the frequency of a child's hostile behaviors with peers has been associated with the degree to which mothers disconfirm and attempt to control their children without providing them with any appropriate rationales for their restricting actions (Attili, 1989). Based on previous research citing parental control as an influencing factor in a child's personal development, the present study aimed to investigate this parenting variable.

Another dimension of parenting that has an impact on the development of a child is granting them a healthy degree of autonomous freedom. Despite the fact that this dimension of parenting is assumed to be of notable importance to a child's development, it has not been discussed in great detail throughout the literature. Mills and Rubin (1993) researched mothers' childrearing beliefs regarding children's social competence. It was discovered that mothers who believed social competence was an important aspect of their child's development, who recognized their child's needs and capacity for autonomous learning, and who thought external factors were responsible when difficulties occur, tended to have
children who demonstrated more socially competent behaviors. The unique combination of effective control and positive encouragement of children's autonomous and independent striving, in essence the authoritative style of parenting, is continually associated with optimal competence (Baumrind, 1989). Similar in most respects to Baumrind's authoritative parents (1971), Crockenberg et al. (1996, p. 42) describe how their 'collaborative parents' consistently behave in a way that "modulate their child's autonomy by giving reasons for their requests and prohibitions, by listening to their child's perspective, by attempting to persuade their child to comply rather than threatening adverse consequences for noncompliance, and by negotiating to achieve a more equitable solution from the child's point of view." There is a clear need for more comprehensive research to be conducted in the area of granting children their age-appropriate autonomy, which is one of the primary reasons as to incorporate this domain in the present study.

Not only do parents need to be warm, sensitive and responsive to their child's needs, but they also must have a good degree of tolerance. Parents often discover that patience and tolerance are in high demand when raising a child. Tolerance is one of the many behaviors that a parent models and therefore can teach their child. For children, tolerance is behavior that they must also add to their repertoire in order to become successful when interacting with their peers and to become a more socially competent individual. Much of the
literature thus far on parenting behaviors and children's social competence has not directly examined this specific aspect of parenting. However, one significant paper was able to demonstrate that parental tolerance is a vital factor not to be readily dismissed. Researchers who looked at the family origins of empathic concern in adults, a behavior associated with prosocial functioning, conducted a 26-year longitudinal study. Dimensions of parenting were assessed through maternal interviews when subjects were five years old. Results indicated that adult levels of empathic concern were most closely related to maternal tolerance of child's dependence (Koestner, Franz, Weinberg, 1990). Since there still appears to be a notable gap in the literature around this particular parenting behavior, and since it makes sense conceptually, this study sought to investigate this behavior more closely.

The degree to which a parent is actively involved with his or her child's daily life is also an important facet of parenting. Creating informal play opportunities for children is one positive way in which parents can be involved in their child's development. Ladd and Hart's findings (1992) supported much of the previous literature surrounding this particular aspect of parental involvement. Researchers demonstrated that frequent parent initiations were associated with higher levels of prosocial behavior in preschoolers, and among boys indicated greater acceptance with peers. In addition, Pettit and Harris (1993; as cited in Fagot, 1997)
confirmed that those parents who displayed a more proactive involvement with their children had children who were more cooperative. Longitudinal research also provides support for linking this parenting behavior with positive child outcomes. Specifically, supportive parents who successfully demonstrated positive involvement with their children as measured prior to entering kindergarten predicted children's positive adjustment with respect to social skills in grade 6 (Pettit, Bates, & Dodge, 1997).

Unlike the previously mentioned parental variables, this particular behavior can and should be viewed by way of a continuum. One can view this particular parenting behavior similar to an inverted "U", whereby the middle of the continuum is optimal rather than either of the two ends. Specifically, a very high or low degree of parental involvement may have adverse effects with respect to children's development of social competence. A moderate degree of involvement by the parent, in the form of initiations, monitoring and supervisory techniques, seems to allow the child to grow autonomously and learn independence skills. In contrast, parents who are over-involved in their child's life or are overprotective of them tend to smother them and consequently restrict their learning opportunities. Children who were highly dependent on others and lacked the independence to successfully perform tasks/skills on their own had parents who were overprotective and intrusive (Baumrind, 1989). More research is needed that aims to make clear
descriptively what type of parental involvement is being examined and in what context. Therefore, we included parental involvement as one of the factors to be studied.

The final domain of parenting investigated in the current research was that of effective communication of parents with their children. In middle childhood dimensions of sensitive parenting, such as open communication, were proven to be associated with social competence (Maccoby & Martin, 1983). Mothers who used more indirect teaching strategies, such as asking questions, providing explanations, and making suggestions, tended to have more socially competent children (Skinner, 1985). Similarly, those parents who encouraged and were verbally assertive themselves were more likely to have daughters who demonstrated stable and adaptive behaviors (Baumrind, 1989). Positive maternal verbal behavior and engagement have also been proven significantly related to positive peer relations for both preschool boys and girls (McDonald & Parke, 1984). Conversely, parents of rejected children were more likely to criticize their child's personal functioning and task related performance, without providing any information as to why something was wrong or how it should be done properly to be more successful during future attempts (Dekovic & Janssens, 1992). Given this domain's importance in influencing children's attainment of socially competent behaviors, the aspect of effective parental communication was explored further in the current research study.
Once again, researchers have previously identified several key dimensions of parenting that can potentially influence a child's development. Based on the current literature, several domains of parenting were examined in this present research study. Those domains include warmth, control, autonomy granting, tolerance, parental involvement, and effective communication.

It is clear that parents are of great importance in providing their children with valuable life experiences. The type of parenting behaviors displayed and the attitudes that each parent holds plays an important factor in the child's ability to learn from them. A misconception exists that all parents instinctively know how to raise their children. Many rely on the parenting skills that they were raised with to raise their own children, however out of date or inappropriate they may be. An individual's developmental history shapes their personality as well as their psychological well-being, thus directly influencing their ability to function as a parent (Belsky, 1984). There is a definite need to support parents in their development of healthy and proper childrearing skills that are the necessary tools of all successful parents (Schulman, Lorion, Kupst, Schwarcz, & Natta, 1991).

One clear way to support parents in this pursuit is by providing them with useful information based on legitimate findings on this topic that a parent would consider valuable. Therefore, the need to examine certain dimensions of parenting, and other factors including gender of the child, in
relation to how effectively parents are able to teach their children and assist them in the development of their social competence, and subsequently how effectively children can interact with their peers is very necessary in society today.

Past investigations seem to separate these factors and choose to analyze them individually. The following study examined several of the possible contributing factors together in an attempt to gain further insight into this vast topic of how children develop social competence and learn patterns of interaction. In essence, this particular study sought to analyze several key contributing factors together to gain subsequent information on particular dimensions of parenting.

The research to be presented here goes beyond the current literature to date in that it attempts to examine how various dimension of parenting influence a child's development of social competence through the analysis of self-report measures. More specifically, this study attempted to focus in on a small part of the vast topic area of how children develop social competence in order to provide others in the psychological community with useful conclusions.

1.4.2 GENDER

Gender of the child is another factor that may also influence how children develop social competence, as well as possibly affect the style of peer interactions. In reviewing the differences in friendship that exist between girls and boys, Berndt (1981) argues that there appears to be a greater intimacy and exclusivity among girls' friendships and that boys
tend to have more friendships than girls but of a much less intimate level. It was also noted that girls act more positively and prosocially towards their friends in order to keep them and because they can afford to go out of their way for a single person. However, boys need not be as careful about keeping any one particular friendship since it is common for them to have a large number of friends. It is possible that the variations in friendships that exist among girls and boys may lead to differences in children's interactional styles and consequently affect how each gender develops social competence throughout childhood.

In addition, several studies have demonstrated that parents treat their children differently based on their gender. Carter and Welch (1981) contend that the gender of the child is a modifier of adult behavior. Previous literature has suggested that fathers may exert an increasing influence on social competence as their children reach school age (Crockenberg et al., 1996). While reviewing several previously published independent studies discovered that fathers' treatment of their sons and daughters differed significantly (Siegel, 1987). Contrary to this widely held belief, a more recent meta-analysis of parents' sex-related differential socialization of boys and girls conducted by Lytton and Romney (1991) concluded that there was little statistical evidence to suggest that boys and girls are treated differently. Since there appears to be contrasting viewpoints regarding whether or not gender of the child actually affects how parents treat their children, it would
therefore be an important area to consider in the current study.

Not only has past research demonstrated that parents alter their own style of parenting based on the gender of their child, but it has also been proven that the same parenting behavior provided to children of different genders will have differing effects depending on the gender of the child (Schneider, 1993). For example, boys who were raised in authoritarian households were found to be hostile and resistive, while girls raised by this style of parenting seemed to lack independence and utilized more dominance associated behaviors while interacting with a same-sex peer (Baumrind, 1989). Conversely, children raised in a permissive environment were less achievement oriented and girls were particularly less socially assertive. However, when one contrasts these home environments and children's social competence outcomes with those children brought up by parents who were authoritative in their style, the outcomes quickly become more positive. Girls of authoritative parents demonstrated more purposeful and achievement-oriented behaviors, while boys raised in the same environment were more likely to display friendly and cooperative behaviors. Similar findings were also demonstrated by Mullis & Mullis (1989).

To summarize, past research has demonstrated that gender of the child does appear to have a certain impact on social competence in children. However the causal direction
and exact effects seem to vary somewhat among studies. In order to more precisely determine the nature and direction of possible gender effects, gender of the child was therefore considered to be an important variable to include in the present study.
Chapter 2

METHOD

2.1 Participants

Participants included 45 parent-child dyads who had previously taken part in a longitudinal study beginning with 9- and 12-month-olds infants. Potential subjects included participants who were 5 or 6 years of age at the time of this study (target child), one of their parents, and one of their peers. Parents were asked to select a peer of the same sex and close in age to the target child. Due to a variety of constraints, this criterion was not always adhered to. Subjects were included in this study if the target child and their parent, as well as their peer completed all of the tasks required for subsequent analyses (i.e. completion of NLSCY, CBCL, and both the free-play and peer-teaching episodes). Consequently, the subject pool for this study consisted of same-sex dyads (19 girl-girl; 12 boy-boy), 9 mixed-sex dyads, and 5 sibling dyads (1 girl-girl; 3 boy-boy; 1 mixed sex dyad). Statistical analysis demonstrated that the 5 sibling dyads did not differ significantly from the non-sibling dyads on the range of measures included in this study. Specifically, sibling versus non-sibling dyads were compared to one another by use of t-tests. As a result, the 5 sibling dyads were combined with the larger subject pool in the appropriate dyad groupings respectively. This combining of yielded the following: 20 girl-girl dyads, 15 boy-boy dyads, and 10 mixed dyads.
Mean age of subjects was 5 years and 9 months (70.7 months), while mean age of peer was 6 years (72.5 months). All peer dyads were within a 24 month age span with three quarters of them within a 12 month span (mean age span of peer dyads was 9.0 months). Subjects were recruited over the phone, where a researcher explained to the target child's parent the purpose and general outline of the current preschool study. All subjects were Caucasian, from the Niagara region, and of middle-class socioeconomic status.

2.2 Procedure

A brief explanation of what would be going on during the next two hours was outlined to both the parents and the children involved (i.e., the different tasks, how long activities would take, and precisely where the parents and researchers would be while the children were playing in case they needed them for any reason). The parents were then asked to sign a consent form stating that each of them understood what the study was asking of them and that it had been properly explained to them by the researchers. After any questions were thoroughly answered and the consent form was signed, witnessed, and dated, the researchers organized the children and parents to begin the first of several tasks.

The first task that this particular study focused on was the free-play episode. Target children and their peers were given 15 minutes of time during which they were permitted to play in an open-ended task. This dyadic free-play session took place in a large play room where the children were provided
with a wide selection of toys to play with. The toys provided included some gender stereotyped toys (i.e. doll houses, dolls, and miniature furniture for girls; trucks/cars, dinosaurs, and action figures for boys), as well as some more gender neutral toys (i.e. sandbox, basketball net, markers and paper). Children's unstructured play time was videotaped behind a one-way mirror for the purpose of micro-analytic behavioral coding at a later time.

The next task this particular study focused on was the peer-teaching task. The peer-teaching study was designed to look at the target child's interactional styles with his or her peer. During this task, children worked together to complete a prescribed lego model that was displayed on the same table where they were working. The model remained on the table for easy visibility, and so that the children could handle it if they desired. It was decided that duplo lego blocks, as opposed to the original and smaller lego blocks, were the best type of blocks to use simply because they were larger in size and therefore easier for the child to manipulate.

The lego model was designed by the researchers to be slightly above the child's developmental capabilities of completing. Models varied in design slightly according to the child's age. Both the target child and the peer were given instructions which described that the target child's task was to teach the peer how to complete the lego structure. It should be noted that the target child had already been exposed to and worked with the lego model for roughly 10 minutes during a
previous task in which the target child attempted to build the structure by himself or herself, and then in conjunction with his or her parent where the parent's task was to help the child complete the structure through the use of verbal instructions. During the instructions, the researcher pointed out to the target child that this was a similar experience to what he or she had just completed with his or her own parent, with the exception that he or she was now the teacher or instructor for his or her friend. All dyads were given a minimum of 3-4 minutes to work on building the model. Depending on time constraints and for the purpose of maintaining a positive atmosphere, some dyads were left to work on the model longer than others, whereas other dyads were interrupted before the model was completed because one or both of the children were becoming increasingly distressed at the thought of having to finish the model, even with each other's help. Regardless of whether the model was completed at the end of the time, the children were given positive feedback regarding their ability to work well together to complete the lego model.

The children were brought into the videotaping room when the session was completed and were debriefed by the researchers. Children were allowed to see a small portion of their videotaped session. In addition, the children were awarded participation certificates before they left.

2.3 Measures

2.3.1 Dimensions of Parenting: Parenting dimensions were derived through the use of the National
Longitudinal Survey of Children and Youth (NLSCY) questionnaire. Parents were given a shortened version of the NLSCY questionnaire to complete at home and return. For this particular study, dimensions of parenting were examined through the use of the Parenting Section of the NLSCY, as it affords the opportunity for future weighted generalizations of the results to the population of preschoolers in Canada. More specifically, a score was obtained for each of the following parenting variables: control, parental involvement, autonomy granting, tolerance, as well as effective communication. These individual variables were then factor analyzed with the intent of identifying distinct parenting factors. As recommended by Stevens (1986), only those individual factors that were two times the zero-order correlation ($r = .29$, $p < .05$; therefore anything .58 or higher) for a sample this size, and that had an Eigenvalue greater than 1 were included. A clear pattern emerged in the Varimax rotation. As a result, two global parenting constructs were identified: parental involvement, effective communication, and tolerance were combined to create a new 'Parental Warmth' variable, while control and autonomy granting were combined to create a new 'Parental Control' variable (see Table 1).

2.3.2 Social Competence: Parents completed the Child Behavior Checklist (Achenbach, 1991) as a parent-report measure of children's social competence. Only two out of the three Social Competence Scales were applied to any later statistical analysis. More specifically, the Activity and Social
Scales were utilized during analysis procedures, and the School Scale was omitted due to the young age of some of our participants (at the time of testing, some had not yet entered the school system). Since only two out of Achenbach’s three Social Competence Sub-Scales were used, a Total Social Competence Score was not possible to calculate.

Children’s social competence was also analyzed from videotapes of their test session. It is important to note that target child’s social competence was analyzed within the context of their peer interactions. The two tasks that were selected to be examined, which differed by degree of structure and prescribed goals, included a 15 minute free play session (unstructured with no explicit goal to achieve) and a 5 minute teaching task (structured task with a defined goal).

Social competence coding schemes, created by the author, were designed to assess the degree to which the target child displayed various competent behaviors in an appropriate and effective manner (Appendix A and B). Specifically, three coding schemes were developed which examined five distinct behaviors: (1) Cooperation/Compromise; (2) Effective Communication, including listening as well as expressing oneself; and (3) Persuasion and Negotiation, which examined the children's ability to properly assert themselves while also respecting their peer. Behaviors were assessed using a 5-point Likert scale where a score of 1 on any of the coding schemes indicated a display of inappropriate or ineffective skills in the area, while a score of 5 indicated the child demonstrated highly
sophisticated and competent skills in the prescribed area. The target child received one rating every 30 seconds on each of these five separate behaviors. Since the total number of ratings varied between subjects due to the fact that the exact amount of time children spent on each of the tasks varied slightly, each target child received a mean score on each of the five behavioral scales coded. All three coding schemes were utilized for both tasks. See Table 2 for descriptive statistics with respect to social competence coding schemes.

It should be noted that for the five behavioral coding schemes for the Free-Play task, the mean interrater agreement correlation was .78 (ranging from .66 - .88). The mean exact agreement for the five coding schemes was 72% (ranging from 64% - 82%), while the mean agreement within one level was 97% (ranging from 95% - 99%). For the Peer-Teaching task the mean interrater agreement correlation was .76 (ranging from .62 - .83). The mean exact agreement for the five coding schemes was 61% (ranging from 55% - 65%), where the mean agreement within one level was 96% (ranging from 92% - 100). Reliability for each of the tasks was based on 25% of the overall sample. Agreement was calculated by segment, to reduce overall halo effect on interrater agreement. For the purpose of this study it was concluded that this level of agreement was adequate for such detailed behavioral coding.

In accordance with the theoretical suggestions put forth by Walker et al. (1992), individual subdomain construct mean scores were then combined to arrive at a social competence
task score (or a domain construct score). Therefore all children were assigned one social competence score for each of the two social competence tasks; free-play and peer-teaching specifically (see Table 3). As a final step, the two individual domain construct scores were then combined to obtain a new Total Social Competence score (or a global/overall construct score), that represented their individual social competence behaviors across two structurally different tasks.
Chapter 3

RESULTS

Due to the fact that this study was designed as exploratory in nature, and in order to strike a balance between Type I and II errors, it was decided to set the alpha level at \( p < .10 \) as the cutoff for all subsequent statistical analysis.

The high intercorrelation among the behaviorally observed social competence variables by task, lends support to the notion of combining them into a single task domain construct score as Walker et al. (1992) suggests. These positive intercorrelations of the five coding categories within tasks, as illustrated in Table 4, ranged from \( r = .47 \) to \( r = .89 \) (\( p < .001 \) for all) for the free-play task, and from \( r = .37 \) (\( p < .01 \)) to \( r = .83 \) (\( p < .001 \) for all of the remaining correlations) for the peer teaching task. These individual category scores were therefore combined to create a Free-Play Social Competence score, and a Peer-Teaching Social Competence Score. Further correlational analysis provided modest support that the two new domain construct scores were related at the \( p < .05 \) level (\( r = .29 \)). Consequently, these two domain scores were then combined to make a global social competence construct score (the "Total Social Competence" variable).

3.1 HYPOTHESIS 1: Parents who demonstrate more successful dimensions of parenting with their children will have more socially competent children.

The first and most pertinent question addressed within the current research was whether or not parents who reported
using more successful dimensions of parenting with their children have children who were rated as more socially competent. Successful parenting was operationalized as a parent reporting higher levels of warmth, and lower levels of control techniques, as assessed by the NLSCY questionnaire.

To analyze this hypothesis, a series of multiple regression analyses was conducted. It is not possible to determine the direction of the relationships when data is collected only during one time period, and as such caution is warranted when inferring causal direction. Specifically, regressions were completed using the social competence domain variables (i.e. Free-Play Social Competence and Peer-Teaching Social Competence) as the dependent variables, and dimensions of parenting behaviors as the predictors.

Of the six multiple regressions completed using parenting behaviors to predict the social competence tasks, two were significant (see Table 5). The free-play task was significantly predicted by the three parenting variables that comprised the Total Parental Warmth variable with a multiple $R^2 = .43$ ($p < .05$). Two of the three predictors in the composite of Parental Warmth significantly explained children's social competence in the free-play situation. Specifically, the beta weight for parental involvement ($\beta = -.47$, $p = .006$) was negative, suggesting that those parents who are over-involved in their children's lives have children whose overall social competence in the free-play task was lower. Likewise, the beta weight for positive parental communication ($\beta = .36$, $p = .02$) suggests that
the more parents encourage open dialogue with their children, the higher the children's overall social competence observed in the free-play task. Likewise, the Total Social Competence variable was also significantly related to the same Warmth dimension with a slightly smaller multiple $R_\text{adj} = .38$ ($p < .10$), with significant beta weights ($p = .03$ and .06 respectively) in the same direction as was evident in the free-play task. In contrast, there were no significant regressions from Total Parental Control to any of the social competence variables.

These series of multiple regressions provides moderate support for a relationship between parenting and children's social competence, restricted to Free-Play Social Competence specifically. The effect for Total Social Competence is likely due to the Free-Play Social Competence.

3.2 **HYPOTHESIS 2:** A child's social competence will be displayed consistently across structurally different tasks.

The present study also examined whether a child's social competence is domain specific, or is displayed consistently across structurally different tasks. Statistical analysis completed to investigate this hypothesis was not conclusive. Certain results did lend some support to the theory of social competence abilities being displayed across tasks. For example, it was observed that Free-Play social competence was moderately correlated to Peer-Teaching social competence ($r = .29$, $p < .05$). At the level of specific behaviors (cooperation, listening, expressing, asserting, and respecting), three of five
across-task correlations were significant at $p < .01$ (see Table 4); specifically cooperation, listening, and respecting. It is interesting to note that the two which do not show a relationship are expressing and asserting. It may be that these activities are dictated to some extent by the teaching role assigned in the peer-teaching task.

In general, it was viewed that Free-Play afforded a better assessment of a child's social functioning as opposed to the Peer-Teaching task. A great deal of the variance of the aforementioned correlation between these two tasks is not accounted for. These tasks are better seen as being somewhat related to one another, but not identical. The Free-Play seemed to elicit a wider range of abilities from children. When involved with the Peer-Teaching task, children were in close proximity to one another and were given a task to complete so there was no real need to engage or persuade the peer to play "their" activity since the activity was already prescribed for the children. Roles were also assigned by the researcher in the Peer-Teaching activity, whereas in the Free-Play setting children were left on their own to determine the role they wished to play with one another. It is possible that the Peer-Teaching task was too structured to elicit substantial behavioral variance among children. This researcher's observations lend moderate support for the idea that children's social competence may be domain specific in important ways.
3.3 **HYPOTHESIS 3:** Children's social competence behaviors will be displayed consistently across parental-report and behaviorally observed methods.

This hypothesis sought to examine the relationship between what parents report their children's social competence level to be, with what the children actually displayed in two behavioral tasks set out for them and their peer. In general, this hypothesis was not supported. Parent reports of two specific aspects of their child's social competence were not significantly correlated with behaviorally demonstrated social competence (see Table 6). It should be noted however that correlations did indicate that behaviors demonstrated in the free-play setting were somewhat correlated to what parents reported their child's Social Scale to be \((r = .25, p < .10)\) as indicated in Table 6. However this was the only relationship that approached significance among a possible 13 correlations.

It is also interesting to note that parental reports of children's competence were not related to their reports of parenting styles and activities (see Table 5), with zero of ten possible correlations significant. Thus, parents' descriptions of parenting were related to children's observed social competence, but not to parental reports of the child's competence.

3.4 **HYPOTHESIS 4:** Gender will affect children's overall social competence.

Gender was found to be significantly related to the degree of social competence demonstrated by children in this
particular study. First-order correlations, as depicted in Table 6, confirmed the significant relationship that exists between children's Total Social Competence and their gender ($r = -0.40, p = 0.006$). The interpretation of this correlation is that girls in our sample of children were significantly more socially competent during these two structurally different tasks than were boys.

To further confirm the relationship between these two variables, three MANOVAs were completed. The dyad group the children were seen in, specifically an all-female dyad, all-male dyad, or mixed-sex dyad, were examined against the five individual ratings (or coding categories) of children's social competence, for both the Free-Play task and the Peer-Teaching task separately and then together. One of the three MANOVAs was significant, specifically the Free-Play task. However, all three MANOVAs demonstrated a similar gender pattern. Specifically, target children in girl dyads were higher than those in mixed-sex dyads, who were higher than those in boy dyads. This consistent pattern specifically suggests that the inclusion of a female in the children's dyad increased the dyads' social competence rating. Figures 1 and 2 help illustrate this point.

Given the mean differences in performance by gender, the question arose whether the relationship between parenting and children's social competence may be affected by gender. Accordingly, separate regressions were completed for males and females (see Table 7). Results indicate that the various
behaviors that make up Parental Warmth significantly influenced the level of children's social competence, albeit in strikingly different ways for each gender, whereas Parental Control did not seem to display much influence for either boys or girls. Whereas girls were more strongly influenced by the degree of tolerance demonstrated by their parent, boys' social competence across tasks was more positively influenced by open communication and negatively influenced by the degree of involvement shown by their parents.

In addition, Parental Warmth significantly affected the level of social functioning of both boys and girls differently for each of the two tasks. Specifically, boys were significantly more influenced by Parental Warmth in the unstructured Free-Play setting, whereas Parental Warmth affected girls' social competence significantly in the Peer-Teaching task. Such interesting gender patterns provide future research studies with intriguing new questions to investigate, to seek further explanations as to why these gender patterns exist and in what other performance areas this pattern could be displayed.
Chapter 4
Discussion
This study investigated several dimensions of parenting behaviors, and examined how children's social competence was affected in turn. Utilizing both parent report and behavioral observations of children's functioning, this multi-method technique by which to analyze children's social competence allowed us increased reliability and validity of our findings. In addition, the present study went a step further and explored children's social competence across structurally different tasks. More specifically, an unstructured free-play situation as well as a more structured peer teaching task were examined for this purpose. The major findings and implications are discussed below.

4.1 Parenting behaviors and children's social competence

It has been argued that the enormous asymmetry in power and competence between adults and children implies that the parent-child relationship must play a unique role in childhood socialization (Maccoby, 1992). Results from this study indicate that certain behaviors parents use when raising their children may in fact have a significant impact on their child's social competence. More specifically, this study's data suggests that parental warmth characteristics had a greater positive impact on children's social functioning than parental control characteristics. Variables such as tolerance, positive and open communication between parent and child, as well as a
non-intrusive degree of parental involvement were all factors which appeared to contribute to the overall social competence of the children sampled here.

Such results support previous findings that suggest parental verbal reasoning and guidance are significant predictors of children's positive behaviors during peer interactions (Roopnarine, 1987). Support is also provided for results which state that the most socially competent children have parents who are responsive and warm, and who also use inductive reasoning with them (Knight & Hughes, 1995). Previous research has also demonstrated that adult levels of empathic concern are most closely related to maternal tolerance of children's dependent behaviors as well as paternal involvement in child care practices (Koestner et al., 1990). Clearly, there appears to be a significant pattern between how understanding and supportive parenting behaviors lead to positive child outcomes.

What is not so clear throughout the current research, is the connection between disapproving and controlling parenting behaviors and negative child behavioral outcomes. Earlier research suggests that such a connection does exist. Parents who are rejecting, who prohibit granting their child psychological autonomy, and who display minimal acceptance towards their children are parenting behaviors which often lead to clinical levels of anxiety in children (Siqueland, Kendall, Steinberg, 1996). Likewise, it has been proven that inadequate parenting styles are related to the development of problem
behaviors such as aggression and negative interpersonal behaviors in preschoolers (Knight & Hughes, 1995).

Based on such results, it is easy to conclude that such a trend does exist throughout current literature, despite the fact that it was not clearly established within this particular study. However, it must also be remembered that the children sampled in this research were in general adequate if not high functioning individuals. With the limited amount of variance that existed in the current research with respect to children as well as parent's abilities to function, it is perhaps not surprising that such a result was not demonstrated within this particular population of children. It is believed however, that when examining clinical or more diverse populations, that such parent to child findings would be more likely to be observed.

What was established in the current research was that degree of parental involvement was related to children's social competence. Children who had parents who were over-involved, were less socially competent. While the social competence of both genders demonstrated a negative relationship with parental involvement, boys were significantly more influenced by the amount of over-involvement. Several previous studies have illustrated how parental involvement has a positive outcome with respect to children's development (Ladd & Hart, 1992; Petit et al., 1992; Turner & Harris, 1984). However, over-involvement has rarely been discussed. The current research demonstrated that although an appropriate degree of involvement is important to children's social and
emotional wellbeing, over-involvement can have a negative effect. These results supports Baumrind's (1992) previous findings which stated that overprotectiveness and intrusive control by parents were associated with more dependent and less socially competent behaviors with boys. Future research should aim to further investigate this aspect of parenting to more accurately determine the possible negative effects it may have on children's development of social competence.

4.2 Domain specificity of children's social competence

The evidence surrounding this topic was inconclusive. There was weak support for the notion that children's social competence was successfully demonstrated across structurally different tasks (i.e. free-play and peer teaching). In general however, it was observed that children demonstrated more socially competent behaviors during the free-play session as opposed to the peer teaching task.

This could largely be due to the fact that the peer teaching situation, because of its structured nature, did not elicit the same number of social skill behaviors that were demonstrated throughout the free-play task. Since the children's roles were already somewhat prescribed for them upon beginning the task, children were not forced to tap the same number of skills from their behavioral repertoire as the roles they were to take on had previously been established. Another possible reason as to why fewer behaviors were displayed during the peer teaching task was that the children were in close proximity to one another. The dyads were
contained in a smaller room for peer-teaching than they were in for the free-play task.

Another result that supports the theory of domain specific social competence was that parent reports, and the social behaviors displayed by children in the two tasks were not related. Parents reports of their children’s social functioning as determined by the CBCL (Achenbach, 1991) Social and Activity Scales, was not significantly related to the behaviors the children demonstrated while interacting with their peers. It should be noted however, that the CBCL Social Scale was weakly but significantly related to Free-Play social competence, the one finding that supported the hypothesis that social competence can be viewed as a general construct. Perhaps with a larger sample size and a more diverse population a clearer pattern of results may emerge.

4.3 Gender and children's social competence

The most strongly supported, and perhaps most interesting result to come out of the present study was this finding concerning the level of children's social functioning and their gender. Much of the existing literature revolving around children's social competence does not specifically address the possibility of gender differences. Peer selection, play styles, as well as toy or activity preference have consumed a great of the literature with respect to children and gender differences (Fagot, 1994). However, there seems to exist a certain gap in the area of gender differences in children's social competence. The present research demonstrated that gender definitely is a
factor that is related to children's overall level of socially competent functioning.

Specifically, these results suggested that significant differences existed between dyad groupings. It was observed that children who were in a dyad group that included a female (i.e. female dyads or mixed sex dyads), demonstrated more competent behaviors than did dyad groups that were solely male. This supports previous findings published by Serbin, Moller, Powlishta, Gulko, and Colburne (1994) who also demonstrated, by way of a similar methodology (i.e. videotaped analysis of children's behaviors in free-play sessions), that preschool age girls were more socially skilled than boys.

Another finding from the present study was that boys and girls were affected by the same parenting behaviors in very different ways. In general, Parental Warmth seemed to have a greater impact on their social competence than did Parental Control. However, girls and boys were influenced by different Parental Warmth behaviors. This study illustrated that while girls were more positively influenced by the amount of tolerance shown with them, boys' social competence was affected more by open communication and over-involvement. Such results supports Baumrind's (1989) argument that the same parenting behaviors will have different social competence outcomes for boys versus girls.

Such a pattern of results may lead one to think in terms of future ways in which to utilize this gender difference to one's advantage. School teachers may well consider peer
tutoring situations where the individual teaching is a girl who is familiar with the task being taught. Social skills classes in which mixed-sex groupings are arranged, may also provide a greater degree of improvement for the less socially skilled child.

4.4 Future Research

There are a number of ways with which one could investigate these current findings in more elaborate detail. Future research should be conducted with a larger sample of children, with greater diversity evidenced within the sample. The current participants selected for this study were rather homogenous in nature; our children were fairly high functioning, and our parents also displayed little variance within their group. Despite the homogeneity of this particular sample, significant relationships were still noted. As well as replicating these results in future studies, one should also aim to analyze such findings by taking a developmental pathway approach. In order to increase the validity of this study’s findings, Time 3 data on these children would be valuable for looking specifically at the stability that may exist across children's development with respect to their social competence abilities.

Further in depth analysis also needs to be conducted with respect to the issue of parenting behaviors that were examined. Similar to how this study looked at children's social competence through a multi-method approach, so to should parenting behaviors be analyzed this way. Darling and Steinberg (1993)
argue that only by maintaining the distinction between parenting style and parenting practice can researchers begin to address questions concerning the socialization process. Therefore, it is useful information to have a self-report of how parents behave with their children. However, one also needs to examine what behaviors are exhibited by the parent (and/or elicited by the child themselves) in a number of structurally different situations, as a means of comparing the two methods of data collection. This way one is able to directly observe if a parent displays a certain social desirability bias with contradictory reporting between behavior observed and behavior reported by the same individual. As well, investigating parenting behavior observed in structurally different tasks, similar to how children's behaviors were examined, allows for a certain degree of continuity to exist between the groupings.

In addition, future studies should examine whether the gender of the child is actually a moderator of parenting behaviors, in relation to their subsequent social competence. Carter and Welch (1981) believe that the gender of the child does in fact moderate what behaviors parents will utilize when raising their children, however they did not go so far as to investigate childhood outcomes (i.e. social competence) with respect to their findings.

Furthermore, research with respect to children's social competence needs to expand the scope of contributing factors that are looked at. Research has examined the degree to which
a child functions socially as a function of parenting style. However, it is clear that conceptually this is not the only contributing force impacting on children's behavioral outcomes. There are a number of other family demographic variables that should be assessed for the specific contributions they make towards molding a child's social skills (i.e. number of siblings, past day-care experience, quality of friendship or amount of experience with peer). Knight and Hughes (1995) selected a number of these items to investigate with respect to children's social competence, however more comprehensive research with an expanding focus need to be addressed in the future.

4.5 Summary

In conclusion, this study illustrated that children's social competence was related to warmth behaviors reported by children's parents. The current research also demonstrated that the gender of the child influences the degree of positive and effective social functioning that child will display in various different situations with a peer of similar age. Although the question surrounding the domain specificity versus the continuity of children's social competence across structurally different tasks remained unclear, further research with a larger sample size and with greater variance will hopefully be able to address this question more effectively. Future research should attempt to explore parenting behaviors more in depth and within a wider behavioral context investigate further how gender influences the degree of social
competence a child demonstrates during various tasks with their peer.
References


### Factor Analysis of Parenting Variables

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<th>Factor 2</th>
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<td>Positive Communication</td>
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Factor 1 = Total Parental Warmth  
Factor 2 = Total Parental Control
Table 2

**Descriptive Statistics for Social Competence Coding Schemes**

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<th>Range</th>
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</tr>
<tr>
<td><strong>Peer-Teaching:</strong></td>
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<td></td>
</tr>
<tr>
<td>Cooperation</td>
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N.B. \( N = 45 \)
### Table 3

**Formulas for Composite Variables**

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<tr>
<td>Free-Play Social Competence</td>
<td>$= \text{sum of Free-Play mean scores for cooperation/compromise + listening + expressing + asserting + respecting}$</td>
</tr>
<tr>
<td>Peer-Teaching Social Competence</td>
<td>$= \text{sum of Peer-Teaching mean scores for cooperation/compromise + listening + expressing + asserting + respecting}$</td>
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<tr>
<td>Total Social Competence</td>
<td>$= \text{sum of Free-Play Social Competence + Peer-Teaching Social Competence}$</td>
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<td>Total Parental Warmth</td>
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<td>Total Parental Control</td>
<td>$= \text{sum of Control + Autonomy Granting}$</td>
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Table 4
Correlation Matrix of all Social Competence variables, and CBCL Activity and Social scales.

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<td>-.12</td>
<td>-.49***</td>
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N.B. N = 45

*p < .05  **p < .01  ***p < .001

Sex: Female = 1  Male = 2
Table 5

**Multiple Regressions Summary for Children's Social Competence and Parenting variables**

<table>
<thead>
<tr>
<th>Parenting Variables</th>
<th>Free-Play</th>
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N.B. *$p < .10$*  **$p < .05$**
Table 6

Correlation Matrix of all Parenting variables, CBCL Activity and Social scales, and Social Competence Construct Scores.

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N.B. N = 45

* p < .05  ** p < .01  *** p < .001

Sex: Female = 1  Male = 2
Table 7

**Multiple Regressions Summary for Children's Social Competence and Parenting variables by Gender of Child**

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N.B.  *p < .10  **p < .05  ***p < .01
Figure 1

MANOVA Means for Free-Play

Social Competence variables

Cooperation/Compromise  Listening  Expressing  Asserting  Respecting

Social Competence scores

[Bar chart showing data for Girl Dyad, Boy Dyad, and Mixed Dyad across different social competence variables]
Figure 2

MANOVA Means for Peer Teaching

Social Competence scores

- Cooperation/Compromise
- Listening
- Expressing
- Asserting
- Respecting

Girl Dyad
Boy Dyad
Mixed Dyad

Social Competence variables
Appendix A
Cooperation and Compromise (Free-Play)

Key Elements: Evidence of Mutuality

Level 0:
- absolutely NO interaction between the two children (to be used sparingly!)

Level 1:
- aggressive physically
- intrusive
- forcing peer to play their way
- disrespectful
- grabbing / taking things away from peer
- consistent refusals to cooperate
- ignores peer's conversational attempts
- ignores peer's suggestions for joint activity
- highly competitive
- over exertion of authority
- use of intimidation
- each playing parallel to each other
- disagreement with no resolution

Level 2:
- some resistance to following peers lead
- suggestions made by each, but no agreement (i.e., "Let's do this", "No, let's do this"; nothing more and each play own thing)
- the beginnings of possibly playing together (1 playing, 1 looking on and about to possibly interact)
- parallel play with some verbal interaction
- one ignoring other or disengaging from task for part of the time
- slight / minor disagreements

Level 3:
- follows suggestion of peer
- occasional tentative attempts at cooperation
- shares and helps if requested
- responds to questions and comments of most occasions but may fail to reply on occasion
- brief sustained conversation
- some evidence of competition
- playing together with no problems
- playing separately, but talking to each other

**Level 4:**
- occasionally cooperative
- decision making based on democratic principles over a period of time
- allows peer to take lead
- offers help to peer
- fair amount of mutual engagement

**Level 5:**
- frequent attempts to cooperate
- responds promptly to suggestions or questions
- frequent sustained conversations
- makes novel suggestions for cooperative play
- friendly imitations
- may praise
- helping behaviors
- lets peer win games
- spontaneously helps or shares
- turn taking
- sharing
- giving
- mutual exchanges between peers
- fairness
- respectful of peer
- mutuality of engagement
- decision making based on democratic principles efficiently
- shows no hesitation in allowing peer to take the lead
- helps peer without hesitation
- high intensity of mutual engagement
Communication Skills (Free-Play)

Key Elements: Listening

Level 0:
- no talking, therefore no listening; parallel play

Level 1:
- very little eye contact
- not responding / ignoring for majority of the time
- active ignoring

Level 2:
- responding off-topic
- not responding some times
- talking out of turn
- long times of silence, with some talk between the children
- listening only, little or no verbal contribution
- target talks to peer through the entire episode while playing by self
- some ignoring

Level 3:
- some smiles
- some eye contact
- appropriately responding to peer some of the time
- delay in responding to peer (i.e., not in a timely fashion)
- some silence
- listening, but following the lead of the peer; no verbal
- partially attending to peer

Level 4:
- eye contact
- some laughter
- appropriately responding to peer majority of time
- attending to peer

Level 5:
- smiles and laughter
- consistent eye contact
- consistently responding to peer in an appropriate manner
- respecting peer's initiations and feelings
- conversational turn taking
- responding to peer without hesitation
Communication Skills (Free-Play)

**Key Elements:** Expressing oneself

**Level 0:**
- says nothing / no interaction / neutral

**Level 1:**
- negative tone (with neutral content)
- more negative than positive remarks
- very little eye contact
- talking to self most of the time (i.e., role playing by self out loud; excluding peer)
- very little talking between the two children
- threats of tattling
- bossy / overly directive
- argumentative / whining
- non-verbal actions (i.e., passive-aggressive)

**Level 2:**
- some negative remarks / discouraging
- talking out of turn
- talking to self
- long times of silence, with some talk between the children
- telling, not teaching
- drawing attention to oneself (i.e., "Look at what I found!"; walking away and stating "Let's play this.")
- peer doing most of the talking
- somewhat directive / bossy (i.e., including passive-aggressive actions)

**Level 3:**
- neutral tone
- some smiles
- some positive remarks
- some eye contact
- initiating conversation a small portion of the time
- conversation exists between peers is distinct and individual (i.e., just a question and an answer)
- teaching by telling (i.e., more directive with some explanation; "let's play
house; you can be the mom and I'll be the baby.
-
- some silence
- talking together through the use of role play characters

**Level 4:**
- warm tone (i.e., some interest)
- offers positive remarks
- encourages peer to participate in conversation (asking questions (i.e., "I'm doing this, what are you doing?") or opinions, making suggestions)
- expresses feelings when responding to peer some of the time and with hesitation
- eye contact
- some laughter
- initiates conversation with peer some of the time
- offers praise
- conversational turn-taking
- slightly expressive intonation

**Level 5:**
- warm and friendly tone
- positive evaluation / remarks
- smiles and laughter
- consistent eye contact
- highly encouraging
- clearly expressing wants and needs (i.e., using "I" statements)
- initiating conversations
- respecting peer's initiations and feelings
- conversational turn taking
- conversation lasts for more than just an individual exchange (i.e., just a question and an answer)
- teaching, not telling (i.e., a thorough explanation)
- high degree of interest / mutual engagement
- expressive intonation
Persuasion and Negotiation (Free-Play)

**Key Elements:** Appropriately asserts own goals (positive and negative strategies/techniques)

**Level 0:**
- absolutely NO interaction between the two children (to be used sparingly!)

**Level 1:**
- insulting
- physically grabbing
- angered tone or verbalization
- highly competitive with peer when not a real "win/loss" situation
- directing / controlling in situations
- justifying statements in "me" terms (i.e., "No, I'm doing this!")
- frequently bossy
- over exertion of authority
- use of intimidation
- gives up easily if things aren't going their way
- demanding
- threats of tattling
- actively ignoring peer / rejecting (i.e., no negotiation)
- bribery

**Level 2:**
- asking the "air" / talking to oneself while doing own thing without peer
- evidence of competition
- somewhat bossy
- enforces unequal trade-off
- continual attempts to draw peer's attention back even after previous failed attempts
- unsuccessful attempts at changing peer's focus (i.e., "Look, look here, come here, ..")
- complaining / whining (i.e., "Why is it always your way?")
- protesting violation of rules
- doing own thing in passive/aggressive or sulky way
- plays peers activity, not equal engagement
- being told what to do by peer (i.e., role play, game,....)
- sulking
- wandering around / "stuck" not knowing what to do

**Level 3:**
- mock compromising
- directing situation in coordination with peer
- somewhat encouraging
- helpful in explaining things / task
- tries to change peer's mind
- attempts to draw peer's attention back to activity in a directive or questioning manner (i.e., "You have to do this" or "I thought we were playing this?")
- asserting oneself (i.e., "I" statements)
- willingly plays peers activity without reservation
- drawing attention to oneself
- does own thing regardless of peers involvement
- passive attempt to change activity (i.e., "I wonder where the ball is?")

**Level 4:**
- offering
- showing and explaining
- justifying statement on the basis of authority
- initiating and withdrawing
- invoking conventional rules
- offers an equal trade-off
- attempts to draw peers interest (back) to activity in a positive manner (i.e., makes activity look intriguing)
- asserting own goal in verbal statement
- takes initiative to find new activity
- takes the "lead" in joint activity
- success unknown in making suggestions for joint activity (i.e., "Do you want to" ....or We could do this?)

**Level 5:**
- coaxing
- invoking rules
- asserting thoughts / feelings
- offering
- showing / explaining
- justifying statements in "We" terms
- successfully making suggestions for joint activity (i.e., "Do you want to" ....or We could do this?"; “Sure!” )
- raising issues of fairness
- attempts to draw peers attention back to activity are successful
- explains things / tasks efficiently
Persuasion and Negotiation (Free-Play)

Key Elements: Respecting peers goals

Level 0:
- absolutely NO interaction between the two children (to be used sparingly!)

Level 1:
- insulting
- physically grabbing
- disregarding rules (i.e., changing rules to suit oneself without any discussion)
- aggression / intrusive
- highly competitive with peer when not a real "win/loss" situation
- bribery
- denying and rejecting others / excluding peer
- directing / controlling in situations
- tries to change peers mind (forcefully and/or negatively)
- ignores peers suggestions
- frequently bossy
- over exertion of authority
- use of intimidation
- gives up easily if things aren't going their way
- disengages from task before mutual completion
- demanding
- threats of tattling
- sarcastic
- actively ignoring peer / rejecting (i.e., no negotiation)

Level 2:
- evidence of competition
- somewhat bossy
- enforces unequal trade-off
- continual attempts to draw peer's attention away from their task
- protesting violation of rules (i.e., "They said not to so stop it!")
- listening, but no talking
- engages peer in "their" activity and then ignores them
- requests / or attends to peer, but for own purposes / gain
- turns down peers suggestion for joint activity
- rarely pays attention to peer’s activity
- disagreement between children (not hostile)
- discourages peer
- mildly directing situation / slightly bossy

**Level 3:**
- mock compromising
- directing situation in coordination with peer
- somewhat encouraging
- helpful in explaining things / task
- attempts to draw peer's attention back to activity in a directive manner (i.e., "You have to do this.")
- suggests choices to increase engagement of peer and allows peer to decide (doesn't force them)
- pays attention to peer’s activity part of the time

**Level 4:**
- offering
- showing and explaining
- asking for information
- justifying statement on the basis of authority
- initiating and withdrawing
- offers an equal trade-off
- including peer (i.e., "Can I play? -- Sure!")
- makes suggestions for joint activity (i.e., "We could do this?")
- passively pays attention to peer's task for majority of time (interested onlooker)
- plays peers activity
- allows peer to take initiative / join in target's activity
- respects opposing decisions

**Level 5:**
- proposing compromise
- coaxing
- invoking rules
- inquiring into peer's thoughts/feelings
- checking things out with peer
- apologizing to peer when appropriate
- offering
- enjoys paying attention to peers activity
- showing / explaining
- asking permission
- justifying statements in "We" terms
- successfully making suggestions for joint activity (i.e., "Do you want to ...." or "We could do this?"; "Sure!")
- raising issues of fairness
- explains things / tasks efficiently
- respects peers goals (i.e., "Sure you can try this.")
- high degree of engagement in peer initiated activity
- allows / supports peers choice and decision making
Appendix B

Cooperation and Compromise (Lego)

Key Elements: Evidence of Mutuality (re: on-task behavior)

Level 0:
- absolutely NO interaction between the two children (to be used sparingly!)

Level 1:
- aggressive physically
- intrusive
- forcing peer to play their way
- disrespectful
- grabbing / taking things away from peer
- consistent refusals to cooperate
- ignores peer's conversational attempts
- ignores peer's suggestions for joint activity
- highly competitive
- over exertion of authority
- use of intimidation
- disagreement with no resolution
- 1 child on-task; 1 child off-task for the whole time (or where target is off-task for the entire segment)

Level 2:
- some resistance to following peers lead
- suggestions made by each, but no agreement (i.e., “Let’s do this”, “No, let’s do this”; nothing more and each work on own thing)
- parallel play with some verbal interaction
- one ignoring other or disengaging from task for part of the time
- slight / minor disagreements
- some evidence of competition
- both equally engaged in off-task behaviors
- slightly intrusive
- target forcing peer to watch; attempt to exclude them from activity, not for demonstration purposes
- some off-task behaviors
- 1 child on-task; 1 child not for the majority of the segment (where target
is on-task)

**Level 3:**
- follows suggestion of peer
- occasional tentative attempts at cooperation
- shares and helps if requested
- responds to questions and comments of most occasions but may fail to reply on occasion
- brief sustained conversation
- working together with no problems
- working separately, but talking to each other
- both on-task for the majority of time
- both engaged in activity; sometimes actively
- slightly intrusive, but quickly steps back (more for demonstration purposes)
- helping by doing part of task

**Level 4:**
- occasionally cooperative
- decision making based on democratic principles over a period of time (i.e., "How about I put one on and then you put one on?")
- allows peer to take lead
- offers help to peer (i.e., "Do you want me to do some?")
- fair amount of mutual engagement
- both on-task
- both actively engaged in task
- respects peers initiatives
- working together for a mutual goal
- teaching through use of a demonstration

**Level 5:**
- frequent attempts to cooperate
- responds promptly to suggestions or questions
- may praise
- spontaneously helps or shares
- turn taking
- sharing
- helping behaviors
- fairness
- respectful of peer
- mutuality of engagement
- decision making based on democratic principles efficiently
- shows no hesitation in allowing peer to take the lead
- helps peer without hesitation
- high intensity of mutual engagement
- points and / or guides peer's hand to help them
- both on-task
- both actively engaged (but stepping back and allowing peer to do the task; i.e., gives peer blocks but lets peer assemble)
- teaching through use of demonstration
- use of manners
Communication Skills (Lego)

Key Elements: Listening

Level 0:
- no talking, therefore no listening; parallel play

Level 1:
- very little eye contact
- not responding / ignoring for majority of the time
- active ignoring

Level 2:
- responding off-topic
- not responding some times
- talking out of turn
- long times of silence, with some talk between the children
- listening only, little or no verbal contribution
- target talks to peer through the entire episode while playing by self
- rarely attending to peer (more self-engaged)
- some intrusive responses (i.e., keeps instructing when peer has said "Stop")
- some ignoring

Level 3:
- some smiles
- some eye contact
- appropriately responding to peer some of the time
- delay in responding to peer (i.e., not in a timely fashion)
- some silence
- listening, but following the lead of the peer; no verbal
- partially attending to peer's task
- answering or talking to peer while focusing on own task

Level 4:
- eye contact
- some laughter
- appropriately responding to peer majority of time
- attending to peer
- answers peer's questions (i.e., responding and attending)
- continues to work while answering peer and sometimes paying attention to peer (i.e., target working but makes occasional eye contact with peer)

**Level 5:**
- smiles and laughter
- consistent eye contact
- consistently responding to peer in an appropriate manner
- respecting peer's initiations and feelings
- conversational turn taking
- responding to peer without hesitation
- answers peer's questions
- picking up on non-verbal cues of the peer (i.e., when peer is struggling or confused)
Communication Skills (Lego)

Key Elements: Expressing oneself (in the teaching role; i.e., getting across instructions)

Level 0:
- says nothing / no interaction / neutral

Level 1:
- negative tone (with neutral content)
- more negative than positive remarks
- very little eye contact
- target talking self through the task for most of the time
- very little talking between the two children
- off topic conversation for the entire segment
- target is mostly silent

Level 2:
- some negative remarks / discouraging (i.e., "You have to do it"; You screwed up" with a neutral tone; "Are you doing it right?"; "You just watch me"; "You just hand me the blocks")
- talking out of turn
- each talking self through task aloud
- long times of silence, with some talk between the children
- telling, not teaching
- drawing attention to oneself (i.e., "Look at this!"
- peer doing most of the talking
- ineffective or repeating same instructions with peer not following
- instructions too long
- disagreeing
- minimal instructions
- small amount of off-topic conversation

Level 3:
- neutral tone encouragement (i.e., "It's hard")
- some smiles
- some positive remarks
- some eye contact
- teaching by telling (i.e., more directive with some explanation)
- some silence
- each doing self-talk to help them
- on-topic discussion but few instructions / talking in general about the task
- self-talk / teaching while target builds model
- no use of descriptors (i.e., "Get that one and put it there.")

**Level 4:**
- warm tone
- offers positive remarks / verbal support (i.e., "It's real hard, but we can do it")
- encourages peer to participate in conversation (asking questions [i.e., "I'm doing this, what are you doing?"] or opinions, making suggestions)
- expresses feelings when responding to peer some of the time and with hesitation
- eye contact
- some laughter
- initiates conversation with peer some of the time
- offers praise
- slightly expressive intonation
- some self-talk
- clear / polite instructions
- reassurances provided
- teaching with use of questions (i.e., "What block comes next?")
- teaching through suggestions and/or demonstrations
- uses model (with verbal) as an aid
- positively works through differences (with the use of reasoning)
- use of descriptors (i.e., "Get the big green block.")

**Level 5:**
- warm and friendly tone
- positive evaluation / remarks
- smiles and laughter
- consistent eye contact
- highly encouraging
- clearly expressing wants and needs (i.e., using "I" statements)
- initiating conversations
- conversational turn taking
- teaching, not telling (i.e., a thorough explanation; through suggestions / demonstration)
- high degree of interest / mutual engagement
- expressive intonation
- uses model (with verbal) as an aid
- clear / polite instructions
- teaching with use of questions (i.e., "What block comes next?")
- verbal support and encouragement / praise
Persuasion and Negotiation (Lego)

Key Elements: Appropriately asserts own goals (positive and negative strategies/techniques for getting the peer engaged in on-task behavior)

Level 0:
- absolutely NO interaction between the two children (to be used sparingly!)

Level 1:
- insulting
- physically grabbing / intrusive; taking blocks away in a negative or forceful way
- angered tone or verbalization
- highly competitive with peer when not a real "win/loss" situation
- directing / controlling in situations
- justifying statements in "me" terms (i.e., "No, I'm doing this!")
- frequently bossy
- over exertion of authority (i.e., I'm the teacher!)
- use of intimidation
- gives up easily if things aren't going their way
- demanding
- threats of tattling
- actively ignoring peer / rejecting (i.e., no negotiation)
- mutually engaged in off-task behavior
- target off-task for the entire segment
- argumentative / whining

Level 2:
- somewhat controlling (i.e., "You won't get it. I'll do it all and show you.")
- somewhat intrusive (i.e., takes blocks away temporarily to help assemble design)
- evidence of competition
- somewhat bossy
- enforces unequal trade-off
- complaining / whining (i.e., "Why is it always your way?")
- protesting violation of rules (i.e., "You're always doing it wrong!")
- doing own thing in passive/aggressive or sulky way
- being told what to do by peer / asking peer what they should do
- sulking
- brief on-task behavior for part of the segment
- 1 child on-task, 1 child off-task for part of segment (or target on-task)
- on-task but target says little / nothing
- target physically off-task but on-task discussion between children (i.e., wandering around the room but talking about the lego task)

**Level 3:**
- directing situation in coordination with peer
- attempts to draw peer's attention back to activity in a directive or questioning manner (i.e., "You have to do this" or "I thought we were playing this?")
- asserting oneself (i.e., "I" statements)
- willingly plays peers lead without reservation
- drawing attention to oneself
- does own task related thing regardless of peers involvement
- both children working on the task
- on-task discussion
- directive instructions
- offers reassurances / suggestions but no real help or instructions (i.e., "This part's hard;" or "I think it's going to break?")
- opposes peers decision through whining explanation and uses reasoning
- on-task the majority of the segment
- justifying statement on the basis of authority (i.e., "The teacher said I have to teach you!")
- doing it while peer watches (little or no instructions; or off-topic discussion)
- makes peer go at their pace (i.e., "Wait!" or tries to slow them down)

**Level 4:**
- initiating and withdrawing
- invoking conventional rules
- offers an equal trade-off
- attempts to draw peers interest (back) to activity in a positive manner (i.e., makes activity look intriguing)
- asserting own goal in verbal statement
- takes the "lead" in joint activity
- polite
- on-task; target guiding and peer doing
- target instructing while doing it
- attempts to (re)focus peer

**Level 5:**
- coaxing
- invoking rules
- asserting thoughts/feelings
- justifying statements in "We" terms
- raising issues of fairness
- attempts to draw peers attention back to activity are successful
- polite and respectful
- respects peer while instructing (i.e., target: "Put the block here"; peer: "No, I'm doing this part now"; target: "OK, put 4 green ones on then")
- helps peer problem solve
Persuasion and Negotiation (Lego)

Key Elements: Respecting peers goals

Level 0:
- absolutely NO interaction between the two children (to be used sparingly!)

Level 1:
- insulting
- physically grabbing
- disregarding rules (i.e., changing rules to suit oneself without any discussion)
- aggression / intrusive (i.e., takes the blocks away in a negative or forceful way; "NO! Like this!")
- highly competitive with peer in a cooperative task
- denying, rejecting, or excluding peer
- directing / controlling situation
- tries to change peers mind (forcefully and/or negatively)
- ignores peers suggestions
- frequently bossy
- over exertion of authority
- use of intimidation
- gives up easily if things aren't going their way
- disengages from task before mutual completion
- demanding
- threats of tattling
- sarcastic
- actively ignoring peer / rejecting (i.e., no negotiation)
- excluding peer the entire segment
- mutually off-task (where target leads peer off-task)

Level 2:
- evidence of competition
- somewhat bossy / mildly directing the situation
- enforces unequal trade-off
- continual attempts to draw peer's attention away from their task
- protesting violation of rules (i.e., “They said not to so stop it!”)
- listening, but no talking
- turns down peers initiatives for joint involvement
- rarely pays attention to peer's activity
- disagreement between children (not hostile)
- excluding peer for part of the time and / or verbally (i.e., "We - no, I ....")
- discouraging peer (i.e., "You screwed up.")
- somewhat intrusive (takes blocks temporarily to help assemble)
- target actively completing task while peer sits and watches
- off-task behaviors for part of the segment
- 1 child on-task, 1 child off-task (where target is on-task)
- mutually off-task OR target follows peer off task

Level 3:
- directing situation in coordination with peer
- attempts to draw peer's attention back to activity in a directive manner (i.e., "You have to do this.")
- suggests choices to increase engagement of peer and allows peer to decide (doesn't force them)
- pays attention to peer's activity part of the time
- justifying statements on the basis of authority
- on-task discussion
- allows peer to do own thing (task related) by themselves (target not involved)
- both children actively constructing / involved
- on-task the majority of the segment
- occasional positive statements
- makes peer go at target's pace (i.e., "Wait!" or tries to slow them down)
- instructing while target is building
- politely declines to follow peers suggestions

Level 4:
- offers reassurances
- initiating and withdrawing
- offers an equal trade-off
- including peer (i.e., "Can I help? -- Sure!")
- allows peer to take initiative (i.e., peer: "I'm going to do this part"; target: "OK")
- monitoring peer's success
- guides peer's hand, but allows peer to do it
- sets up blocks for peer to push together
- offers help / guidance to peer (evidence of scaffolding)
- target goes at peer's pace
- uses "we" statements sometimes
- follows peers suggestions / lead
- allows peer to build the model

**Level 5:**
- coaxing
- inquiring into peer's thoughts / feelings
- checking things out with peer
- apologizing to peer when appropriate
- offers reassurances
- enjoys paying attention to peers activity
- asking permission
- justifying statements in "We" terms
- raising issues of fairness
- explains things / tasks efficiently
- respects peers goals (i.e., "Sure you can try this"; uses words such as please, thank-you, welcome)
- high degree of engagement in peer initiated activity
- allows / supports peers choice and decision making
- offers help / guidance to peer (evidence of scaffolding)
- allows peer to build the model themselves
- attends and monitors peers success
- target goes at peer's pace
- helps peer problem-solve