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The Relationships among Sharing Behaviors, Social Skills, and Problem Behaviors in Preschool Children

Taylor P. Bulman
University at Albany, State University of New York

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Abstract

Over the past few decades, the field of developmental psychopathology has become increasingly interested in children's development during preschool, a time of immense cognitive and social growth (Parker et al., 2006). Past research indicates that prosocial behaviors exhibited during childhood can predict later adaptive functioning (Gresham et al., 2010). The goal of the present study was to explore the relationships among sharing behaviors, social skills, and problem behaviors in preschool children. Predominantly lower-income preschool children (N = 57, Male = 28) were recruited for participation. Teachers of the participants completed the Social Skills Improvement System (SSIS). A modified version of a coding system developed by Barton and Ascione (1979) was used to code children's sharing behaviors displayed during small-group play time. Analyses indicated a significant negative correlation between social skills and problem behaviors. Taken together, the results of this study have implications for the importance of research on prosocial behaviors and problem behaviors as they can substantially influence children throughout their lifespan.

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Developmental psychopathology is a fast-growing, scientific discipline within the field of psychology that came about during the 1970s (Cicchetti, 1995). The focus of developmental psychopathology revolves around the interaction between psychological, biological, and social-contextual features of normal and abnormal development within the life span (Cicchetti, 1995). One of the main goals of developmental psychopathology is to "bridge fields of study, span the life cycle, and aid in the discovery of important new truths about the processes underlying adaptation and maladaptation, as well as the best means of preventing or ameliorating psychopathology (Cicchetti, 1995, p. 2)." The perspective of developmental psychopathology is unique because it focuses on normal and abnormal, adaptive and maladaptive, developmental processes (Cicchetti & Toth, 2009).

The development of a person across their life span can be assessed through looking at the risk and protective factors and particular mechanisms operating outside and inside the individual with pertinence to a person's environment (Cicchetti, 1995). Process-level models of normal and abnormal psychology are a main focus when it comes to developmental psychopathology. Process-level models "acknowledge that multiple pathways exist to the same outcomes and that the effects of one component's value may vary in different systems, and an intensification of interest in biological and genetic factors, as well as in social and contextual factors related to the development of maladaptation and psychopathology" (Cicchetti, 1995, p. 3).

One of the essential focuses of developmental psychopathology is the boundary between normal and abnormal development (Cicchetti, 1995). In order to discern what is abnormal, normal development must first arise and be quantified. This viewpoint indicates how the

examination of risk and pathology can enhance our understanding of normal development but also knowledge from the study of normal development can help in the study of mental disorders (Cicchetti, 1984b, 1990; Sroufe, 1990 as cited by Cicchetti, 1995).

Two processes of psychopathology are equifinality and multifinality. It is known that more than one pathway can lead to a disorder, which is termed equifinality (Cicchetti & Toth, 2009). For example, Sroufe (1989) found that multiple causal pathways led to attention deficit hyperactive disorder (ADHD). Most of the pathways included were biological but some led to ADHD through insensitive caregiving. (Cicchetti & Toth, 2009). On the other hand, multifinality refers to the observation that the same pathways may lead to very unique outcomes (Cicchetti & Toth, 2009). An example would be the different developmental outcomes of children with insecure attachment relationships with a primary caregiver (Greenburg, Speltz, & DeKlyen, 1993, as cited by Cicchetti & Toth, 2009). Knowing that there are multiple pathways that lead to the same developmental outcomes and that there are multiple developmental outcomes from the same pathways, emphasizes the importance of studying the processes involved in the development of psychopathology.

The perspective of developmental psychopathology is applicable to the life span of an individual. The goal of developmental psychopathology is not only to search for the indicators or predictors of later disturbance, but also to figure out the interactive processes that contribute to the emergence of disturbed behaviors (Cicchetti, 1995). As Sroufe (1990) remarked, even before children develop psychopathology, there are different risk factors leading to the emergence of a mental disorder (Cicchetti, 1995). Therefore, it is important to look at developmental pathways in order to foresee possible future psychopathology. With this perspective in mind, the relationships among prosocial behavior, social skills and problem behaviors will be examined in

this study. A brief introduction to each follows. Collectively, they serve to motivate the present study.

Prosocial Behavior

Children's ability to exhibit prosocial behaviors early on in life is a significant adaptive skill that increases their likelihood of experiencing a positive developmental pathway. Prosocial behavior can be defined as "voluntary, intentional behavior that results in benefits for another; the motive is unspecified and may be positive, negative, or both" (Eisenberg, 1982; Staub, 1978 as cited by Eisenberg & Miller, 1987, p. 92). It is imperative to look at prosocial behavior because it is an important correlate of later social adjustment (Cole et al., 1990, as cited by Crick, 1996). For example, Crick (1996) found that low levels of prosocial behaviors and high levels of aversive behaviors (i.e., aggression) may prove to be problematic for adjustment later in a child's life. Furthermore, when researchers have tried to intervene in the life of maladjusted children, they focused on increasing prosocial behaviors rather than the reduction of aversive behaviors (Coie & Koeppl, 1990, as cited by Crick, 1996). Such findings show the importance of the development of prosocial behavior early in a child's life.

There are many developmental theorists who believe that prosocial behavior arises as a child develops and that children do not learn to be prosocial until a certain age. (Hay, Castle, Davies, Demetriou, & Stimson, 1999). It is expected that prosocial behavior will increase with age through cognitive maturation, successful socialization, and emotion regulation. This view is important to look at when talking about developmental psychopathology because it could be said that children who lack prosocial action may have been improperly reared due to abnormal maturation in a key developmental area such as emotion regulation. It could also mean that they may have extensive cognitive problems that have interfered with normal prosocial development.

Therefore, children who are less prosocial may have a variety of other developmental problems as well (Hay et al., 1999).

Some theorists believe that both prosocial behaviors and cooperative behaviors (sharing, helping others) are conceptually associated (Eisenberg & Miller, 1987). For the purpose of the present research on prosocial behaviors, sharing behaviors will be the main focus. The physical sharing of objects, verbal statements indicating a willingness to share, and verbal and physical actions that indicate a refusal to share will be the central sharing behaviors operationally defined and studied. As previously demarcated by Barton and Ascione (1979), physical sharing involves handing a material to another child, allowing another child to take his/her material, using the same material that another child had used during that particular interval period, or simultaneously working with another child on a common project while using the same materials.

Verbal sharing can be defined as any verbal utterances aimed to elicit physical sharing or verbal acceptance of attempts to share. (Barton & Ascione, 1979). Verbal sharing is broadly defined to include requests to share another's materials, compliance with request to share materials, invitations to share one's own materials, or acceptance of invitations to share. Lastly, refusal to share is defined as any instance in which noncompliance results when a peer shows attempts to share. Noncompliance can be defined as any instance in which a child refuses to share physically after being asked to do so by a peer. (Barton & Ascione, 1979). In the present study, it was also considered refusal to share if a child failed to share after agreeing to do so.

An ample amount of research has been done on sharing behaviors in children but most research has made an association between sharing behaviors and certain social skills. In past research, social skills, such as empathy, have been measured along with sharing behaviors. For example, Buckley, Ness, and Siegal (1979) found that empathy was positively correlated with

prosocial behavior. However, Eisenberg and Miller (1987) conducted a meta-analysis on the relation between empathy and prosocial behavior and found somewhat inconsistent outcomes that revealed that there was only a low to moderate positive relationship between empathy and prosocial behaviors. The inconsistent findings in the relations between empathy and prosocial behavior have been attributed to some degree to the different operational definitions used to study these constructs (Iannotti, 1985). Another study was conducted by Iannotti (1985), which involved naturalistic observation of prosocial acts, structured measures of empathy, two prosocial behaviors (sharing and helping), and teacher ratings of prosocial behaviors. The relationship between empathy and prosocial behavior is constantly being reexamined since there have been so many inconsistencies in the findings reported in the literature.

Damon (1988) described a developmental sequence through which sharing behaviors develop (as cited in Santrock, 2007). Any sharing behaviors done within the first three years of life are said to be enacted for nonempathetic reasons. In these early years, sharing only occurs because of imitation or because children are enjoying the fun of social play. When children reach age four (preschool years), empathetic awareness and adult encouragement produces a sense of obligation to share with others around them. However, this is not to say that preschool children are selfless because even though a lot of preschool children feel obligated to share, they do not necessarily believe they should be as generous to others as they are to themselves. Damon's developmental sequence parallels with Piaget's (1954) theory that suggests that preschool children exhibit egocentrism, which is shown in the preoperational stage. Egocentrism is the inability to differentiate between one's own perspective and someone else's. Usually children in this stage are seen as self-centered with the belief that the world revolves around them. This could explain why children in preschool have difficulty sharing possessions and are less likely to

give away things that they favor.

Social Skills

Social competence is important in the development of children because children who have deficits in social competence have been shown to have difficulties developing and maintaining satisfactory interpersonal relationships, problems being socially accepted by peers and teachers, and infrequently exhibit prosocial behaviors (Gresham, Cook, Elliott, Kettler, & Vance, 2010). Social competence is an evaluative term based on societal judgments that a social task is adequately performed (Gresham et al., 2010). Vygotsky (1978) suggests that interaction with peers is not only helpful, but it is crucial in the development of new skills and ideas (Elliot & Malecki, 2002).

In many cases, deficits in social competence lead to long-term difficulties in areas of educational and psychosocial domains of development (Kupersmidt, Coie, & Dodge, 1990; Newcomb, Bukowski, & Pattee, 1993; Parker & Asher, 1987 as cited by Gresham et al., 2010). Many studies have shown that children and youth who experience difficulty in interpersonal relationships typically were at risk for many negative outcomes such as juvenile delinquency and adulthood psychopathology (Gresham et al., 2010). In an analysis conducted by Asher and Parker (1987), it was concluded that disordered adults showed a history of problematic peer relationships. Even though evidence suggests that maladapted adults had peer relationship problems in childhood, that does not by itself mean that children with poor peer relationships will have later maladjustment. This analysis also found that low peer acceptance and aggressiveness are consistent predictors of later negative outcomes. Interestingly, low peer acceptance was predictive of dropping out of school and aggressiveness was predictive of later criminality.

For the purpose of the present research, it is important to make a distinction between social skills and social competence. Social skills "are a specific class of behaviors that an individual exhibits to successfully complete a social task" (Gresham et al., 2010,p. 157). Making friends, playing a game with peers, and sustaining a conversation are all examples of social tasks. Therefore, social skills can be described as certain behaviors displayed in specific situations which leads to the judgments by others that the behaviors are either seen as competent or incompetent at completing specific social tasks (Gresham & Elliot, 2008 as cited by Gresham et al., 2010). For example, stealing is a behavior in which society has deemed incompetent due to a person's lack of self-control. Therefore, judgments were made by others that stealing is a negative social behavior that shows an incompetency in certain social skills. Social skills include empathy, engagement, self-control, etc. Both social skills and social competence play a critical role in helping children acquire friendships and peer acceptance. In an analysis conducted by Ladd (1999), it was found that peer rejection is a stable characteristic that predicts both externalizing and internalizing problems. Peer rejection was also found to predict adjustment difficulties and grade retention during the transition into middle school. Both friendship and the quality of friendship were found to play an important role in children's emotional well-being and adjustment later in childhood and adolescents. The analysis also revealed that peer rejection increases children's risk for later maladaptation.

Skilled social behavior cannot be adequately demonstrated with language if children cannot verbalize their thoughts, feelings, and needs. Since the present research is looking at preschool children, it is important to understand language development during this age. Within the preschool years, children become more sensitive to spoken words both as listeners and as speakers. By this age, children use morphological rules such as using plural and possessive forms

of nouns (dogs and dog's) and putting correct endings on verbs (-ed for past tense). Preschool children also have a better command of the rules of syntax, which allows them to form acceptable phrases and sentences. Pragmatics is another advancement made by preschoolers, which is the appropriate use of language in a specific social context. For example, from about 4 years of age, children begin to have the ability to understand the needs of others in social conversations. This is important for the current research since the responsiveness to others in a social interaction is being analyzed. The speaking vocabulary of a child in preschool ranges from 8,000 to 14,000 words with an average rate of acquisition of 22 words a day (Santrock, 2007). Clearly, by the time children reach preschool, they are able to communicate in an understandable and efficient way, but there are many individual differences that may help us to understand prosocial behavior.

Problem Behaviors

Deficits in skilled social behavior may lead to problem behaviors. Problem behaviors are defined as behaviors that are seen as undesirable or unwanted by society eliciting a response to control those perceived negative behaviors. (Jessor & Jessor, 1997, as cited by Donovan & Jessor, 1985). Examples of problem behaviors in children are externalizing behaviors such as aggression, internalizing behaviors such as anxiety and depression, and hyperactivity (Gresham et al., 2010). Longitudinal studies show that aggression in childhood is a major predictor for future maladjustment (Casas, Crick, & Mosher, 1997). Most children view aggression as a mean and hostile act that causes harm and frequently comes out of anger. Studies find that aggressive children are more socially and emotionally maladjusted than their nonaggressive peers. A study done by Windle and Windle (1993) found that externalizing problem behaviors in children were associated with both internalizing (depression) and externalizing (delinquent behavior, alcohol

consumption) adolescent problem behaviors along with an earlier onset of substance abuse.

Many factors have been found to contribute to the development of externalizing behaviors such as parental conflict, low income, parental rejection, and harsh parenting (Shaw, Keenan, & Vondra, 1994). Ackerman, Izard, Kogos, Schoff, and Youngstrom, (1999) examined the relationship between family instability and problem behaviors in children from low-income families. In their study, family instability was defined as a chaotic and unpredictable family environment, and was measured by examining five different events including the number of residencies of the primary caregiver and child, the number of intimate adult relationships involving the caregiver, the number of families with whom the child has lived with, significant illnesses in the child's history that persisted, and negative life events that have occurred within 6 months of the study. Results showed a direct relationship between family instability and preschool children's externalizing behaviors.

From a developmental standpoint, starting as early as 2 or 3 years of age in boys, externalizing behaviors are exhibited (Shaw, Keenan, & Vondra, 1994). During the toddler years, precursors to externalizing behaviors may include behaviors that are judged to be aversive by others. Infant behaviors such as fussiness, non-compliance, and attention seeking, have been identified as contributing to a coercive parent-child relationship. For example, a fussy child that cries and whines all the time may lead to parents becoming distant and irritated with the child as a result of their aversive behavior. This can create a coercive parent-child relationship from a very young age, which can expand into adolescence and even adulthood. Researchers have also investigated parental factors during infancy that may have developmental precursors of externalizing behaviors. Many attachment theorists have proposed parental unresponsiveness as being most critical to the development of self-regulation skills. Attachment theorists also

formulate that insecurely attached children would have a less trusting view of adult behavior and would have less to lose by disobeying a parent (i.e. loss of love). In general, these children would be less likely to function in compliance situations and later in preschool years, and would act in more aggressive and disruptive ways to achieve attention from adults.

For example, Shaw, Keenan, and Vondra (1994) conducted a study that looked at developmental sequences leading from infant persistence and maternal responsiveness to later child disruptiveness at ages 2 and 3. Results revealed that, for boys, maternal unresponsiveness, infant attention-seeking, aggression, and noncompliance were early predictors for externalizing behaviors at age 2 and 3. For girls, externalizing and internalizing behaviors at age 3 had a precursor of infant noncompliance. The results of this study suggest that there are precursors in infancy of later externalizing problems.

Similarly, a longitudinal study conducted by Hofstra, Van Der Ende, and Verhulst (2000) found that childhood problems persisted into adulthood. They tested 1,615 children from ages 4 to 16 from the general population. Their parents completed the Child Behavior Checklist (CBCL) at the initial assessment. Then at the 14-year follow-up, participants completed the Young Adult Self-Report (YASR) and their parents completed the Young Adult Behavior Checklist (YABCL). Out of the initial subjects that showed deviance, 41% showed deviance at the time of their 14-year follow-up according to the YABCL Total Problem score and 29% according to the YASR Total Problem score. Thought problems, delinquent behaviors, social problems, withdrawn and aggressive behavior scores were independent predictors of general levels of problem behavior. This study shows that behavior problems occurring early on in childhood are likely to persist into adolescence and possibly even adulthood.

Another study pointing to problem behaviors occurring in childhood and progressing into

adolescence was conducted by Berden, Eussen, Sanders-Woudstra, Van Der Ende, and Verhulst (1993). They conducted of a 6-year longitudinal study that looked at the persistence of psychiatric disorders in children through adolescence. The children ranged from age 4-11 and were chosen from the general population. Participants and their parents were clinically interviewed and children were then categorized a persisters, decreasers, or increasers. Results showed that children who had an overall level of psychopathology that persisted over time obtained a lifetime DSM diagnosis classified as externalizing: attention-deficit hyperactivity disorder, oppositional disorder, or conduct disorder. Children whose overall level of psychopathology was decreasing obtained a lifetime DSM diagnosis classified at internalizing: anxiety disorders, major depression, or dysthymic disorder. Lastly, children who had an overall level of psychopathology that increased over time obtained a diagnosis that was neither predominately classified as internalizing or externalizing.

Relationships among Prosocial Behavior, Social Skills, and Problem Behaviors

Motivation for the present study derives from the importance of examining prosocial behavior, social skills, and problem behaviors together particularly when talking about developmental psychopathology. Behaviors and skills learned early on in a person's life can predict later adaptive functioning, so it is important to look at each of these variables and how they interact with each other. In much of the research reviewed, it has been found that prosocial behavior and problem behaviors are negatively correlated. As the levels of problem behaviors (e.g. aggression) increase, the levels of prosocial behaviors decrease (Crick, 1996). High levels of problem behaviors are shown to be problematic to later adjustment in life whereas prosocial behaviors are shown to have positive impacts on later adjustment.

When exploring the relationship between prosocial behavior and problem behavior, it is

also important to investigate social skills. When children exhibit social skills they are considered to be socially competent, whereas, children with deficits in social competence exhibit less prosocial behavior and more problem behaviors (Gresham, Cook, Elliott, Kettler, & Vance, 2010).

Hypotheses

Preschool-age children go through immense developmental changes. For many children, attending preschool gives them their first opportunity to express their social skills in interactions with large numbers of peers. Because of this, the goal of this study was to study the relations among sharing behaviors, social skills, and problem behaviors in preschool-age children. Given the lack of research on children's sharing behaviors, the current study hoped to add to this literature by investigating how both verbal and physical forms of sharing behaviors were associated with social skills and problem behaviors.

In this study, it is hypothesized that increased social skills will be positively correlated with physical and verbal sharing behavior. Also, it is predicted that increased problem behaviors will be negatively correlated with physical and verbal sharing behavior. Lastly, it is hypothesized that increased problem behaviors will be positively correlated with refusal to share.

Method

Participants

This study tested children from six preschool classrooms in Upstate New York that were participating in a larger preschool intervention study. A total of 57 (N_{males} = 28) preschool children ranging in age from 48 to 60 months participated in this study. These children are identified as coming from a low-income school district and many of these children were enrolled in Head Start. Parents of the participants were notified of the study and signed consents that

outlined all procedures. The children's teachers also signed consents and participated in completion of questionnaires regarding their students' behaviors.

Procedure

Teachers rated each child's social skills and problem behaviors using the Social Skills Improvement System (SSIS; Gresham et al., 2010). This measure consists of is a series of questions and a rating scale that measures the frequency of various social skills and problem behaviors. For this study the total Social Skill score and the total Problem Behavior scores were used in data analyses. The SSIS is often used in schools and clinical settings. Behavior rating scales such as SISS have many advantages which includes: (a) assessing a broad range of behaviors (both social skills and problem behaviors), (b) multiple raters can be used so many different perspectives are taken into account (teachers, caregivers, students), (c) the information gathered is quantifiable, and (d) normative data provides a standard for comparing how severe a behavior is depending on the representative samples of the other individuals (Gresham & Elliot, 2008; McConaughy & Ritter, 2005, as cited by Gresham et al., 2010). The teachers completed the ratings of children's behaviors on the SSIS before the intervention component of the study began.

The other construct examined in this study was sharing behaviors. Sharing behaviors were measured by adapting a coding system used by Barton and Ascione (1979), which included both physical and verbal sharing behaviors. In this study, children were video-taped playing in small groups while seated at a table. Each group included between three and six children. The children where engaged in activities that allowed for either individual play or cooperative play (i.e., Play-Doh or blocks). Two research assistants later independently coded 8-minute video segments of each child's sharing behavior. Then after each child was coded, the research

assistants examined any discrepancies in coding and came to consensus regarding the behaviors in question.

Physical sharing behaviors. There were four physical sharing behaviors that were coded: (1) *Handing an object to another child* was coded if the target child had a toy (e.g. a block) in his/her hand and gave it to another child. (2) *Physically allowing another child to take his/her toy* was coded if the target child was playing with a certain toy but then a different child went to take the toy being used. If the target child allowed the other child to take his/her toy then that would be coded as allowing. (3) *Accepting material from another child* was coded if one child is playing with a toy, sets it down, and within three seconds the target child picks up the toy previously played with. If the target child picked up the toy that the other child put down, that behavior would be coded as accepting. (4) *Simultaneously using an object or material* with another child to work on a common project was coded if two or more children were working together on one project (e.g. two children building the same house together using blocks).

Verbal sharing behaviors. There were four behaviors coded as verbal sharing: (1) *Requests to share another child's objects* were coded based on if the target child verbally asked another child for a toy. (2) *Compliance with a request to share* was coded if the target child verbally agreed to share their material with another child if the other child verbally asked for a request to share. (3) *Invitations to share one's own material or objects* were coded when the target child verbally asked another child to play with the target child's toys. (4) The last verbal behavior coded was *acceptance of invitations to share*, which was coded when another child initiates the sharing behavior and the target child responds verbally saying that he/she will play with the other child.

Refusal to Share Behaviors. This behavior included two behaviors: *non-compliance* and *failure to share after agreeing to do so*. *Non-compliance* was defined as any instance where a child's behavior did not allow another peer to share physically. For example, this would include the target child saying "no" or continuing to play with a toy alone while ignoring the other child, or physically blocking the other child from accessing one's objects. *Failure to share after agreeing to do so* would be coded if the target child asked another child to play with him/her but then when the other child went to play with the target child's toys, the target child did not allow the other child to do so.

Results

Descriptive Statistics

Analysis of the teacher reports showed that the mean and standard deviation (SD) Problem Behaviors was 104.96 (SD= 16.174). For males, the mean standard score for Problem Behaviors was 111.88 (SD= 15.698) and for females the mean standard score for Problem Behaviors was 98.54 (SD= 14.012). When looking at Social Skills, the mean standard score for the full group of children was 89.52 (SD= 13.090). For males, the mean standard score for Social Skills was 86.08 (SD= 11.589) and for females the mean standard score for Social Skills was 92.71 (SD= 13.784).

Gender Differences in Sharing Behavior

Interesting patterns arise when exploring the frequency count in each coded category between genders. As can be seen from the frequencies that are presented in Table 1, the general patterns showed that overall, boys were more active during the play activity than girls. Verbal invitations to share one's objects were more prevalent in boys than in girls, whereas the actual

physical sharing of objects was more prevalent in girls than in boys. Both boys and girls showed many instances of non-compliance and failure to share

Independent t-tests were used to examine gender differences in sharing behavior. Group means and standard deviations appear in Table 2. The analyses indicated that there were significant differences between males and females in the categories of "physical allowing" and "verbal invitation to share." There was a significant effect for gender, $t(55) = 2.215$, $p < .05$, where males were more likely to engage in physical allowing behaviors than females. Also, there was a significant effect for gender, $t(55) = 2.06$, $p < .05$, where males were more likely to engage in verbal invitations to share than females. In both cases, males were more likely to engage in the specified behavior than females. This showed that boys invited other children to share their objects and also allowed them to use their objects more than did the girls. No other significant differences were found.

Relations Among Sharing Behaviors

Since the direction of the proposed association was specified a priori, all correlational analyses were one-tailed. Of the hypothesized relationships, only the following sharing behaviors were significant. In the whole sample, there was a statistically significant positive correlation ($r(55) = .314$) between failure to share after agreeing to do so and non-compliance, $p < .01$. For females, the positive correlation ($r(27) = .347$) between failure to share after agreeing to do so and non-compliance was also statistically significant at $p < .05$. Within the whole sample, there was a significantly positive correlation ($r(55) = .326$) between sharing simultaneously and physically handing an object to another child, $p < .01$. For females, the positive correlation ($r(27) = .352$) between sharing simultaneously and physically handing an object to another child was statistically significant at $p < .05$. For females alone, a negative correlation ($r(27) = -.314$)

between physically accepting an object from another child and non-compliance was found to be statistically significant, $p < .05$.

In the whole sample, a positive correlation ($r(55) = .583$) between verbal acceptance of an invitation to share and failure to share after agreeing to do so was found to be statistically significant, $p < .01$. This relation also was present for males alone and for females alone ($r(26) = .759$, $p < .01$ and $r(27) = .367$ respectively). Also in females, a positive correlation ($r(27) = .326$) between verbal compliance with a request to share and physical allowing a child to take an object was found to be statistically significant, $p < .05$. In the whole sample and for both males and for females, a positive correlation between the target child making a verbal invitation to share an object and failure to share after having agreed to do so statistically significant, ($r(55) = .614$; $r(26) = .715$; $r(27) = .709$, $p < .01$, respectively). It is important to note that these correlations would be expected to be high because for a behavior to be coded as "failure to share after having agreed to do so," the target child would have had to invite another child to play with his/her objects.

In the whole sample, and for only males, a positive correlation between verbal requests to share another child's objects and non-compliance was found to be statistically significant, ($r(55) = .234$; $r(26) = .369$, $p < .05$). In the whole sample, a positive correlation ($r(55) = .325$) between verbal requests to share another child's objects and physically allowing another child to take an object was found to be statistically significant, $p < .05$. For males, significant positive correlations were found between verbal requests to share another child's objects and physically allowing another child to take an object ($r(26) = .407$, $p < .05$) as well as physically handing an object to another child ($r(26) = .447$, $p < .01$).

In the whole sample, a positive correlation ($r(55) = .624$) between verbal invitation to share and object and verbal acceptance of another child's offer to play was found to be statistically significant, $p < .01$. For males, a positive correlation ($r(26) = .716$) between verbal invitation and verbal acceptance was also found to be statistically significant, $p < .01$. In the whole sample, a negative correlation ($r(55) = -.267$) between verbal requests to share another child's objects and sharing simultaneously was found to be statistically significant, $p < .05$.

Relations between Social Skills, Problem Behaviors, and Sharing Behaviors

The results of bivariate correlations testing the relations between social skills, behavior problems, and sharing behaviors appear in Table 3. Analyses revealed several significant relations between social skills and sharing behaviors. In the whole sample, a negative correlation ($r(52) = -.336$) between social skills and non-compliance was found to be statistically significant, $p< .01$. For females, a negative correlation ($r(26) = -.412$) between social skills and non-compliance was found to be statistically significant, $p< .05$. In males, a positive correlation ($r(24) = .345$) between social skills and physical allowing another child to take an object was found to be statistically significant, $p < .05$. Also in males, a negative correlation ($r(24) = .390$) between social skills and physical using was found to be statistically significant, $p < .05$.

As predicted, several significant correlations were also found between problem behaviors and sharing behaviors. In the whole sample, a positive correlation was found between problem behaviors and verbal acceptance of an offer to share ($r(53) = .334$, $p < .01$). A positive relation between problem behaviors and verbal acceptance of an offer to share was also found for males and females ($r(25) = .338$; $r(26) = .352$, $p < .05$, respectively). Also, within the whole sample, a positive correlation ($r(53) = .360$) between problem behaviors and verbal invitations to share was found to be statistically significant, $p < .01$. In males, a positive correlation ($r(25) = .334$)

between problem behaviors and verbal invitations was also found to be statistically significant, $p < .05$.

A few gender differences in the pattern of correlations were found as well. In males, a negative correlation ($r(25) = -.380$) between problem behaviors and physical allowing another child to take an object was found to be statistically significant, $p < .05$. Also in males, a positive correlation ($r(25) = .411$) between problem behaviors and physically accepting another child's object was found to be statistically significant, $p < .05$. In females, a positive correlation ($r(26) = .434$) between problem behaviors and non-compliance was found to be statistically significant, $p < .05$. Also in females, a negative correlation ($r(26) = -.342$) between problem behaviors and verbal requests to share another child's object was found to be statistically significant, $p < .05$.

Finally, as expected, in the whole sample there was a negative correlation ($r(52) = -.735$) between social skills and problem behaviors. A negative correlation between social skills and problem behaviors was also found for both males and females ($r(24) = -.681$, $p < .01$) and $r(26) =. -759$, $p < .01$, respectively).

Discussion

This study sought to investigate the relationship between sharing behaviors, problem behaviors, and social skills in preschool children. Results of this study indicated that there was a significant negative correlation between social skills and problem behaviors. That is, a child with high levels of social skills exhibits low levels of problem behaviors. This finding is consistent with past research by Gresham et al. (2010) who found that children with deficits in social skills displayed less prosocial behavior and more problem behaviors.

As hypothesized, children with higher social skills scores exhibited less non-compliance during play. This is not surprising since the more social skills a child has, the less likely they will

refuse to share with another child. Also supporting the hypothesis is the finding that increased social skills positively correlated with physically allowing in males. In other words, boys with higher social skills were more likely to allow other children to take their toys than boys with lower social skills. These results are consistent with the study done by Buckley, Ness and Siegal (1979) showing that children who have higher social skills are more likely to display empathy when participating in prosocial behaviors such as sharing. Thus, the significant relations found in this study between social skills and sharing behaviors are consistent with prior research.

A significant result was that males who have higher social skills are less likely to use other children's toys immediately after their playmate put them down. Initially, using another child's toy after he/she was done with it was seen as a positive sharing behavior; however, the results shed some light on the idea that this sharing behavior could be seen as a negative behavior. It is possible that boys see using another child's material, even if the material is not presently in use, as undesirable behavior and therefore abstain from doing so. Therefore a boy with high social skills is less likely to use the material from another child because he believes that he would be using someone else's toy. In this case, empathy is exhibited and remains consistent with the research done by Buckley, Ness, and Siegal (1979) and Eisenberg and Miller (1987) who found a positive correlation between prosocial behavior and empathy.

Consistent with the hypotheses, problem behaviors in males were negatively correlated with physical allowing another child to take an object. In simpler terms, boys who exhibited higher problem behaviors were less likely to allow other children to share with them. It was also found that in females, more problem behaviors resulted in more instances of non-compliance. Additionally, in males, as problem behaviors increased, physically accepting materials from another child increased as well. For example, a boy with high levels of problem behaviors was

more likely to use another child's toy immediately after the child was done playing with it. This significant finding also goes along with the result discussed earlier that higher levels of social skills results in lower likelihood of physical accepting materials from another child in males. All of these results are consistent with past literature in that as the levels of problem behaviors increase, the levels of prosocial behaviors decrease (Crick, 1996). This is important because as prior studies have found, problem behaviors exhibited in childhood are more likely to persist into adolescence and possibly adulthood (Hofstra, Van Der Ende, & Verhulst, 2000).

Some interesting results were found in this study that were not in the hypothesized direction, but provide insightful possibilities for future investigation. Significant results revealed that as problem behaviors increased, verbal requests to share another child's objects decreased in female. Therefore, if a girl displayed high levels of problem behaviors, she was less likely to ask other children if they would share with her. Analyses also indicated that higher levels of problem behaviors were associated with more verbal invitations to share one's own objects. This means that children who displayed more problem behaviors asked other children to play more often. It is possible that because these results are contrary to the original hypotheses, other factors not originally considered may be implicated.

It was found that as problem behaviors increased, verbal acceptance of invitations to share with others also increased. It may be the case that even though this is defined as a sharing behavior, verbal acceptance has to do with accepting another child's request to play with them and not necessarily sharing their own toys with other children. This finding relates to Damon (1988) and Piaget's (1954) evidence that children, at the preschool age, are egocentric and are likely more concerned with their own needs rather than those of others. It appears that even if children have high levels of problem behaviors, they still have the desire to play with other

children when invited to do so, since this may give them a chance to play with new toys or objects of interest.

There were many significant findings between the coded sharing behaviors. Both failure to share after agreeing to do so and non-compliance were positively correlated ($r(55) = .314$; $p < .01$). For example, children who had a high frequency of failure to share also had a high frequency of non-compliance. Since these were both considered refusal to share behaviors, this correlation was expected. Results of this study also found that children who verbally invited other children to play with them also exhibited more failure to share behaviors. Verbal acceptance of invitations to share was also positively correlated with failure to share ($r(55) = .583$; $p < .01$). Non-compliance was positively correlated with verbal requests ($r(55) = .234$; $p < .05$). These results are interesting because it shows that children exhibiting refusal to share behaviors are more likely to ask for toys from other children and to accept a sharing invitation than to extend one. This is consistent with Piaget's (1954) preoperational stage in which children in preschool are seen as egocentric. Even though verbal acceptance of invitations to share and requests of others to share are operationally defined as sharing behaviors, these results have given interesting insight into whether or not children make requests and accept them because they want to share or whether it is to satisfy their own needs and desires as Piaget (1954) suggested.

Results showed, in females, that an increase in non-compliance correlated with a decrease in physically accepting objects from others ($r(27) = -.314$; $p < .05$). This indicates that girls who exhibited high levels of non-compliance were less likely to use a toy that another child had used previously. This result may show that girls who refuse to share do not want to share regardless of whether or not a toy is in use at the time or not. Results of this study revealed that verbal requests

to share another child's materials are negatively correlated with sharing simultaneously. It could be the case that children who request to share materials of another child want the materials for themselves and do not want to share on a common project. As proposed earlier by Piaget (1954), these results could be due to the egocentric and selfish nature of young children.

Sharing simultaneously was positively correlated with physically handing objects to another child. It could be the case that children who were working on a common project, such as building a block house, were exchanging toys and materials more than children playing alone. Children playing together were more likely to share their materials than children who were not sharing together. It was also found that verbal compliance with requests to share was positively correlated with physical allowing another child to take an object. In this circumstance, a child who verbally said they will share their toys actually did so, providing evidence that prosocial behavior may develop as early on as during preschool for some children (Hay, Castle, Davies, Demetriou, & Stimson, 1999).

Other positive sharing behaviors found included a positive correlation between verbal requests to share objects and physical allowing a child to share objects. For example, children who asked for other children's toys were more likely to allow other children to take their own toys. Also, verbal requests are positively correlated with physical handing. In this circumstance, a child who requested to use another child's toy was more likely to give their peers their own toys. It was also found that verbal invitations to share one's own objects and verbal acceptance of invitations to share the objects of others are positively correlated. This means that children who requested others to play with them and share their toys were also more likely to accept requests to play with their peers when other children asked them to play. As Buckley, Ness, and Siegal

(1979) may have pointed out, empathy and awareness of the feelings of others may explain why children act prosocially starting at such a young age.

It appears that some results were in agreement with Piaget's (1954) and Damon's (1988) theories that young children are egocentric and selfish while other results have shown that prosocial behavior does exist at a young age. It may be the case that some children have not fully developed their verbal skills, which would explain why some children appear to be more verbal while others seem not to be. Therefore, some children may be more likely to physically share than to verbally share. There may be many confounding variables and limitations in this study. Since the participants in this study were only from inner-city schools, future research should consider involving urban and rural schools for more generalizable results. Another limitation of this study would be the fact that the SSIS was only filled out by teachers. Asking the parents and/or family members to fill out the SSIS may have provided more valid information about the participants since they are around the children more so than the teachers. Also, having both parents as well as teachers report on the same behaviors increases the validity and reliability of those behaviors (Gresham, Cook, Elliott, Kettler, & Vance, 2010). However, parents typically do not have the same opportunity as teachers, to observe children interacting in larger peer-group setting. So, it is possible that teachers are in fact better judges of young children's social and problem behaviors within a peer setting.

Since this study only had 57 participants, a limitation of this study is sample size. With a larger sample size, more reliable results may have been found. The current analysis was not longitudinal in nature. A longitudinal study would have helped observe the developmental trajectories of the current participants. Since the literature talks about prosocial behaviors and

problem behaviors as developing across the lifespan, it would have been interesting to see if the results had any developmental implications.

Few studies examine the relations among prosocial behaviors, problem behaviors, and social skills, so more research is needed. More specifically it would be beneficial to look at sharing behaviors in children in greater detail. Certain sharing behaviors measured in this study, such as invitations and requests to share, may not be considered sharing by other researchers therefore, the coding scheme might need to be revised and modified in future studies. Along with all the behaviors coded in this study, it would be interesting, for example, to also look at grabbing behaviors. When coding the children's play behaviors, there were many instances of children grabbing toys out of other children's hands, however, because we did not think of grabbing as a form of sharing behavior, we did not count those behaviors. It would be interesting to see if there would be a correlation between grabbing behaviors and problem behaviors. Most likely, grabbing behaviors would be associated with negative sharing behaviors, such as refusal to share, so it is likely that it would be a correlated with problem behaviors.

It is still to be debated whether or not children are prosocial from a young age or if they act out of selfish desires. Regardless, research in developmental psychopathology has shown the importance of certain life circumstances and experiences occurring early on in life and throughout development. Evidence has also shown that prosocial behavior and social competence developing in childhood results in higher functioning in adolescence and adulthood, whereas problem behaviors early in childhood have the possibility of resulting in later maladjustment. Taken together, the results of this study have implications for the importance of future research on prosocial behaviors and problem behaviors, because they can substantially influence children's outcomes throughout their lifespan.

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Table 1

Frequencies of Sharing Behaviors in Males and Females

	Frequencies of Coded Behaviors	
	Males (N = 28)	Females (N = 29)
Failure to Share	4	3
Non-Compliance	34	36
Physical Allowing	18	7
Physical Handing	39	54
Using Simultaneously	11	18
Accepting Material	34	36
Verbal Acceptance	4	2
Verbal Invitation to Share	24	4
Verbal Request	23	14
Verbal Compliance	7	5

Table 2

Independent Samples T-Tests of Sharing Behaviors in Males and Females

	Coded Behaviors M (*SD*)		
	Males	Females	t
Failure to Share	0.14 (*0.45*)	0.10 (*0.49*)	0.347
Non-Compliance	1.21 (*1.97*)	1.24 (*1.33*)	-0.061
Physical Allowing	0.64 (*0.83*)	0.24 (*0.51*)	2.215*
Physical Handing	1.39 (*1.62*)	1.86 (*2.97*)	-0.736
Using Simultaneously	0.39 (*1.10*)	0.62 (*1.18*)	-0.754
Accepting Material	1.21 (*1.57*)	1.24 (*2.37*)	-0.051
Verbal Acceptance	0.14 (*0.59*)	0.07 (*0.26*)	0.616
Verbal Invitation to Share	0.86 (*1.80*)	0.14 (*0.44*)	2.06*
Verbal Request	0.82 (*1.12*)	0.48 (*0.83*)	1.298
Verbal Compliance	0.25 (*0.52*)	0.17 (*0.38*)	0.644

Note. *p < .05

Table 3

Correlations between Social Skills, Problem Behaviors, and Sharing Behaviors

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	Correlations of Coded Behaviors	
	SSIS-Social Skills	SSIS-Problem Behaviors
Failure to Share	-.134	.202
Non-Compliance	-.336**	.163
Allowing	.114	-.178
Handing	-.053	.052
Simultaneously	.150	-.010
Accepting Materials	-.016	.120
Verbal Accept	-.172	.334**
Verbal Invitation to share	-.209	.360**
Verbal Request	.003	-.085
Verbal Compliance	.049	-.122

Note. *. Correlation is significant at the 0.05 level (1-tailed).
**. Correlation is significant at the 0.01 level (1-tailed).

Table 4

Correlation Matrix of Sharing Behaviors

	1	2	3	4	5	6	7	8	9	10
Failure to share	1									
Non-compliance	.314**	1								
Physical Allowing	-.004	.035	1							
Physical Handing	-.095	.152	.034	1						
Using Simultaneously	-.058	-.072	.028	.326**	1					
Accepting Material	-.013	-.107	-.021	-.038	.082	1				
Verbal Acceptance	.583**	.135	-.035	-.013	-.037	.032	1			
Verbal Invitation	.614**	.214	.089	.013	-.167	.051	.624	1		
Verbal Request	-.023	.234*	.325**	.110	-.267*	-.103	-.76	.119	1	
Verbal Compliance	-.044	-.184	.153	-.075	-.212	-.015	-.111	.003	.128	1

Note: * $p < .05$; ** $p < .01$