

PRESCHOOLERS' PROSOCIAL BEHAVIORS AFTER PEER CONFLICT: AN  
EXAMINATION OF TEACHER SOCIALIZATION, PEER HOMOPHILY AND  
FRIENDSHIP

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## ABSTRACT

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Previous research has investigated prosocial behaviors in the context of free play among preschool-aged children. However, few of those studies have investigated how children use these behaviors in the context of conflict resolution. Further, none of those studies has investigated this topic with an ethnically diverse sample or using children from low socioeconomic backgrounds. Using a naturalistic observation research methodology, this study examined prosocial behaviors after conflict. Specifically, this study examined the conflict outcomes after prosocial behaviors, the role of child demographic individual demographic characteristics and dyadic homophily on prosocial behaviors after conflict, whether friendship between formerly conflicting partners influences the enactment of prosocial behaviors and how teacher intervention promotes prosocial behaviors after conflict episodes. A total of 105 ethnically diverse Head Start preschoolers were observed and interactions among the children during free play were videorecorded for 9 weeks. Results indicated that prosocial behaviors after conflict were relatively rare. After prosocial behaviors, preschoolers were most likely to remain together after conflict and were more likely to reconcile than after conflict episodes with no prosocial behavior. Social networking analyses determined that prosocial behaviors were significantly associated with teacher interventions. Sex homophily and friendship were the second and third most salient factors in prosocial interventions, though not significant. Overall, these findings suggest that preschoolers negotiate their own natural conflict resolution strategies with those taught via conflict intervention.

Further, the findings provide supporting initial evidence for continual exploration of the post-conflict prosociality of preschool children, particularly in those who are labeled “at-risk” as well as the factors that are related to the presence of prosocial behaviors in this population.

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## Introduction

From early on, children are encouraged to play “nice” with each other, with parents and teachers instructing children to share, help, and cooperate with each other. Adults' efforts are not for naught, as research indicates that *prosocial behaviors*, or those done for the benefit of others (Eisenberg, Guthrie, Murphy, Shepard, Cumberland & Carlo, 1999) are associated with many positive outcomes for children, including social adjustment (Crick, 1996), school success and lower levels of aggressive behavior (Spinrad & Eisenberg, 2009).

Unfortunately the field's understanding of prosocial behaviors is fairly limited, especially in comparison to problem behaviors, such as aggression (Grusec, Hastings & Almas, 2011). For preschoolers specifically, the literature primarily focuses on prosocial behaviors in play states such as cooperative play where children are engaged in common goal-directed activity (e.g., Fujisawa, Kutsukake & Hasegawa, 2008; Radke Yarrow et al, 1976). This overlooks the fact that children's play also involves conflict and, consequently, conflict resolution behaviors that could affect future play. Studying prosocial behaviors during conflict resolution might provide insight into how these behaviors may be used to end disputes. Accordingly, a primary goal of this dissertation study was to examine the extent to which preschoolers engage in prosocial behavior in post-conflict contexts, presumably in the service of conflict resolution and the maintenance of positive peer relationships (Roseth, Pellegrini, Dupuis, Bohn, Hickey et al., 2011).

Within preschool classrooms, teachers and peers act as socializing agents for prosocial behaviors (Eisenberg & Mussen, 1989), yet few studies have examined these processes in post-conflict contexts. A secondary goal of this dissertation study was to examine the role of teacher intervention and friendships in promoting prosocial behaviors after conflict.

Another limitation of the extant literature on preschoolers' prosocial behavior is that most studies focus on White, middle-class children's free play, resulting in a gap in knowledge about the role of social class and socioeconomic status in the underlying psychological and developmental processes (Diemer, Mistry, Wadsworth, López & Reimers, 2012). Emergent studies highlight the prosocial behaviors of African American Head Start preschoolers in play contexts (e.g., Spivak & Howes, 2011), yet little research exists that examines Latino preschoolers in the same situations. Further, neither group's prosocial behaviors have been examined in the context of conflict. Given the increasing racial and ethnic diversity in the United States as well as a broadening class divide (Grant & Sleeter, 2013), there is benefit to investigating the prosocial behaviors and interpersonal relationships that influence such behaviors in ethnic minority preschoolers from lower-class socioeconomic backgrounds. Thus, final goal of this dissertation study was to further examine the role of children's demographic characteristics on prosocial behaviors and post-conflict reconciliation in a diverse sample of Head Start preschoolers.

### **Prosocial Behaviors, Prosociality and Prosocial Resource Control**

*Prosocial behavior* is traditionally defined as behavior for the benefit of others. This kind of behavior is often voluntary and intentional; hence one cannot be prosocial under duress or accidentally (Eisenberg & Mussen, 1989). Altruism and empathy are two constructs thought to be related to prosocial behavior. *Altruism* is typically defined as "regard for, or devotion to, the interests or welfare of others" (Zahn-Waxler, Cummings & Iannotti, 1986, p. 7). Implicit in this definition is an internal motivation to do something solely for the benefit of others, and therefore altruism is considered a motivation for prosocial behavior. Importantly, while some prosocial behaviors are altruistic, not all are solely for the benefit of others. Prosocial behaviors can also be

advantageous for the actor, as evolutionary-oriented scholars have argued that doing for others also enhances survival (McAndrew, 2002 as cited by Grusec, Hastings & Almas, 2011). Thus, a prosocial behavior can also be performed in anticipation of reciprocation from another.

Prosocial behaviors, particularly in the form of altruism, can also rely on *empathy* or “an affective response that is identical to or very similar to what another person is feeling or is expected to feel” (Spinrad & Eisenberg, 2009). Empathy develops as children’s perspective-taking abilities mature; children who are able to anticipate the feelings and thoughts of others are more empathetic than those who are not. While not a necessary condition for prosocial behavior (Zahn-Waxler, Cummings & Iannotti, 1986), empathy is often viewed an emotional component of prosocial behaviors.

Eisenberg’s conceptualization of prosocial behavior differs from Hawley’s conceptualization of *prosocial resource control*, which refers to reaching goals through “socially acceptable behavior” (Hawley, 2007, p. 12). In functional terms, both prosocial behavior and prosocial resource control are thought to enhance and maintain positive relationships (Grusec, Hastings & Almas, 2011; Hay, 1994), but prosocial resource control typically focuses on a resource (an object or person) being commandeered by another through reciprocity (trading), cooperation (e.g., requesting or offering help) and alliance formation (Hawley, 2003, 2007). In this dissertation study, the focus was on the enactment of prosocial behaviors as traditionally defined by Eisenberg (i.e., doing for others), without the added assumption regarding the exchange of resources (cf. Hawley, 2007; Roseth et al., 2011). Having established this focus, the next section provides an overview of how prosocial behaviors have been operationalized and studied within the preschool literature.

**Types of prosocial behaviors.** Empirical research on prosocial behavior has been operationalized in four ways: sharing, cooperation, helping, and providing comfort (Marcus, 1986). One criticism of this body of work is the failure of researchers to define these constructs in congruent ways, as the type of prosocial behaviors that researchers focus on affects the units of analysis studied (e.g., the dyad or the individual) as well as whether the behavior qualifies an individual act or an interaction between individuals (Marcus, 1986). The following four prosocial behaviors were examined in this dissertation.

***Sharing.*** As an act, *sharing* is typically defined as “the child gives away or allows another use of an object that was previously in the child’s possession” (Marcus, 1989, p. 270). Sharing has also been categorized as physical or verbal (Barton & Ascione, 1979). For example, Barton and Ascione (1979) operationalized physical sharing included as giving an object to another child, allowing another to take an object, using material that another child used in a given time frame or using an object to complete a mutual task (which would fit the definition of cooperation, defined next). Verbal sharing, on the other hand, was operationalized as spoken interactions about an object to be shared (e.g., requests, invitations, and compliance with requests). In this study, both verbal and physical sharing were studied.

***Cooperation.*** Another prosocial behavior under investigation was cooperation. Studies that focus on *cooperation* as a prosocial behavior have an underlying conceptualization as individuals dividing labor or play to reach a common goal. The mutual nature of the task at hand is critical to this behavior (Dunn & Munn, 1986). As a result, prosocial behavior in the form of cooperation requires at least two individuals and analysis should capture that interaction.

***Helping.*** *Helping* is an act that consists of one child assisting another child in a number of ways that include providing information, requesting the help from another individual, or doing

something that aids another child in his or her endeavors (Chadha & Misra, 2006; Iannotti, 1985). All of these helping behaviors were included in the current study of prosocial behavior.

***Comfort.*** A number of studies have included *comfort*, or response to the emotional needs (e.g., sad, angry, hurt; Strayer, 1980) of another individual as a helping behavior (e.g., Marcus, 1986). For the purposes of this study, providing comfort was coded as distinct from helping because a prerequisite for comforting is a peer's negative emotional state. In previous research, comforting behaviors in children have been linked to the development of empathic reasoning in the child (Chapman, Zahn-Waxler, Cooperman & Iannotti, 1987).

**Empirical studies of preschoolers' prosocial behaviors.** Research on the development and enactment of prosocial behavior has taken various forms, with some focusing on individual differences, others on preschoolers' rationales (e.g., moral reasoning) for being prosocial, and still others focusing on the behaviors themselves. For preschoolers, the most frequently used methods to investigate prosocial behavior have been experimental and naturalistic observational studies.

***Experimental studies.*** Much of our understanding of preschoolers' prosocial behavior across cultures and development has relied on experimental research. The earliest experimental studies often investigated the participants' moral reasoning behind their decisions to be prosocial (Eisenberg, Boehnke, Schuhler & Sibereisen, 1985; Stewart & McBride-Chang, 2000), utilizing moral reasoning categories (Eisenberg & Neal, 1979) to determine the influence of individual's level of reasoning on sharing and helping tasks. For example, Eisenberg-Berg and Neal (1979) found that preschoolers were most likely to explain their sharing and helping behaviors as being other-oriented and pragmatic (i.e., mutually beneficial). Although this dissertation study does not

focus on the cognitions behind prosocial behaviors after conflict, these findings could help to explain the motivations behind the observed prosocial behaviors.

Through experimental methodologies, researchers have also examined ethnic and cultural differences in prosocial behavior. For instance, Asian and White second-graders in Hong Kong were compared, with Asian children in the experimental task sharing more than their White counterparts (Stewart & McBride-Chang, 2000). In another study, German and American children from preschool to grade four were given a task that called for prosocial behaviors in the form of sharing and helping (Eisenberg et al, 1985). Results showed the groups being similar in their moral reasoning and prosocial behaviors across grades, but American preschool children were more hedonistic, or focused more on self-gains compared to their German counterparts (Eisenberg et al, 1985). More recently, a quasi-experimental study investigated preschoolers from four countries on their emotional responses and helping prosocial behavior to a partner in distress (Trommsdorff, Friedlmeier & Mayer, 2007). Results showed that the German and Israeli preschoolers were more prosocial in the form of helping a play partner than children from Indonesia and Malaysia. Taken together, these studies suggest that preschoolers' prosocial behaviors vary across cultural groups and highlight the need to examine the construct in ethnic minority and lower class preschoolers.

***Naturalistic observation.*** Compared to experimental studies, naturalistic observation studies of prosocial behavior have been relatively rare, despite a consistent call for research to capture children in their everyday interactions with the individuals around them (e.g., Trommsdorff et al, 2007). This is unfortunate, of course, as naturalistic observation studies allow for understanding of how individuals interact in real time (Pellegrini, 1996). This methodology acknowledges that individuals' behaviors cannot be separated from the corresponding social and

physical situations. As such, naturalistic observation captures the environmental and interpersonal contexts in which behaviors are embedded (Pellegrini, 1996).

Naturalistic observation has been used to investigate prosocial behaviors between siblings (Dunn & Munn, 1986; Knott, Lewis & Williams, 2007; Munroe & Romney, 2006) and peers within (Pepler, Craig & Roberts, 1981) and outside the context of the classroom (Abramovitch, Corter, Pepler & Stanhope, 1986; Erhardt & Hindshaw, 1994; Strayer, 1980). In general, findings suggest that toddlers' prosocial behaviors increase with time in both typically developing children (Dunn & Munn, 1986) as well as children with Autism and Down's syndrome (Knott, Lewis & Williams, 2007). Comparisons of sibling dyads also reveal that older siblings are more prosocial than their younger siblings (Abramovitch et al., 1986). These findings highlight age-related developmental changes in prosocial behavior.

Other studies have investigated toddlers and early preschoolers' prosocial responses to their peers' displays of emotion. For example, an examination of children ages 9-27 months in their attention to their peers' distress found that 11 of the 345 incidents of distress were responded to with a prosocial behavior (Lamb & Zakhireh, 1997). Another study of older children's (2-3 years of age) responses to their peers' emotional displays found that preschoolers were highly likely to respond with prosocial responses to match or reinforce peers' emotional displays (Denham, 1986). Although the study did not focus on prosocial behaviors after conflict, the author did examine preschoolers' responses to their peers' angry outbursts, finding that preschoolers were more likely to leave than provide a prosocial response. Developmentally, the toddlers in the Denham (1986) study were just beginning to be exposed to same-aged peers. The question remains as to whether preschool-aged children, with potentially more experience in

peer-play situations, would demonstrate similar behaviors to their peers' angry or distressed displays during conflict.

Among studies focusing on preschoolers, the participants were mostly racially homogeneous with only two studies focused on a non-White, non-U.S. group of preschoolers (e.g., India: Chadha & Misra, 2006; Japan: Fujisawa et al., 2008) and only one study focused on children of low socioeconomic status (Chadha & Misra, 2006). In this study, brief interviews directly after sharing, helping or comforting acts were used to capture reasoning for prosocial behaviors among children of low socioeconomic status. Interestingly, results showed that five-year-old preschool children were most likely to provide an authority/punishment avoidance orientation as a reason for prosocial behaviors. Here again, while this dissertation study does not focus on the cognitions behind post-conflict prosocial behaviors, this finding suggests that preschoolers' post-conflict prosocial behaviors may be associated with an avoidance cognitive orientation.

Fujisawa et al. (2008) found that preschool children who are offered objects from or are helped by their peers are more likely to reciprocate and that friendship positively enhanced reciprocation. These findings inform this dissertation study in that they suggest that friendship patterns influence prosocial behaviors. However, these findings are limited in that they were found only in general play, and conflict in the midst of play may also have an impact on reciprocity (and acceptance of prosocial behaviors). This study addressed this issue by examining prosocial behaviors in the context of peer conflict. Further, these outcomes might not translate to the United States (i.e., U.S. children might not reciprocate prosocial behaviors in naturalistic settings).



While both of the international studies (i.e., Chadha & Misra, 2006; Fujisawa et al., 2008) provide insight into diverse ethnic samples, several limitations should be noted. First, both studies focused on ethnically homogeneous preschoolers, as was the case in the U.S. studies. This dissertation study therefore added to this literature by exploring the prosocial behaviors of a racially diverse group of preschoolers. This is particularly important for the study of Black and Latino preschoolers because culture could be a key influence on prosocial behaviors. For example, a concept often studied in Latino families is *familismo*, or the “caring foremost for the welfare of the family” (Esparza & Sánchez, 2008, p. 193). Familismo might be a mechanism through which prosocial behaviors are learned by providing Latino children with a structure within which to be prosocial within the family. This and similar cultural facets could be influential on the prosocial behaviors demonstrated in the classroom by Black and Latino preschoolers.

Additionally, the way the two studies defined prosocial behaviors was inconsistent, and the range of prosocial behaviors were not exhaustive. For example, Fujisawa et al.'s (2008) concept of "object sharing" was conceptualized as "sharing" in Chadha and Mishra's study, and neither study explicitly examined cooperation as a unique prosocial behavior, instead combining it with 'help' behaviors. This inconsistent conceptualization highlights a need to code observed prosocial behaviors using categories more consistent with the prosocial behavior literature as a lack of consistency may influence the validity of the construct. Even though the types of prosocial behaviors were not examined separately, this consistency issue is especially relevant to this dissertation as it extended the documentation of prosocial behaviors to post-conflict contexts.

## **Prosocial Behavior in Post-conflict Contexts**

Since prosocial behavior is a deliberate act, it follows logically that individuals may use these behaviors towards a variety of goals. For example, prosocial behaviors may be used to resolve conflict between individuals, repairing potential harm caused by conflict so as to maintain positive peer relationships. *Conflict* is often conceptualized as “incompatible behaviors or goals” between individuals (Shantz, 1987, p. 284). Individuals enter conflict with those they live in groups with and interact with (Aureli & de Waal, 2000). Although conflict might be viewed as a negative event, existing research has shown that conflicts also have positive effects on children’s development (e.g., Killen & de Waal, 2000; Verbeek, Hartup, & Collins, 2000). For instance, conflict events provide opportunities for children to learn how to negotiate with others and their environments (Shantz, 1987). Such events could also promote children’s social cognition development as well as social competence (Rubin & Rose-Krasnor, 1992).

Conflictual events are common in interpersonal relationships, with children having conflict with their siblings and peers. For peers, the equal status of the conflicting dyad offers a unique opportunity for children to resolve conflict and develop morally (Killen & de Waal, 2000). Through the resolution of conflict, children have opportunities to learn how to negotiate relationships with peers while balancing autonomy needs (Ladd, 2005). The positive benefits of conflict and conflict resolution to child development have been well-documented. Thus, prosocial behaviors within conflict contexts may be a tool with which preschoolers resolve conflict and maintain positive relationships with their peers.

There are a number of outcomes that can result after a conflictual bout. For instance, peers can disengage, turn away (Laursen & Hartup, 1989), or reconcile. Thus, conflict resolution in the form of reconciliation is only one way that children can learn to work together.

*Reconciliation* is defined as “peaceful associations between formerly conflicting parties following conflict-induced separations” (deWaal & Yoshihara, 1983, as cited in Roethlisberger et al., 2008). Reconciliation behaviors include apology, compromises and invitations to play (Fujisawa et al., 2005). Evolutionarily, conflict reconciliation is thought to enhance a species’ survival (Aureli & de Waal, 2000). Similarly, in interpersonal relationships, reconciling after conflict maintains bonds between individuals, which promotes the relationship’s survival.

Previous naturalistic observation research using preschoolers (e.g., de Waal & Yoshihara, 1983; Pellegrini et al., 2007; Roethlisberger et al., 2011) has used the PC-MC or *attracted pairs* method to test for reconciliation between formerly conflicting individuals. The attracted pairs method tests first, whether affiliation after conflict happens than during free play and second, whether affiliation occurs selectively between formerly conflicting individuals. In order to test for these outcomes, observations must be completed immediately after conflict (i.e., post-conflict or PC observations) as well as at the same time of day but without a prior conflict event (i.e., match-control or MC observation). For the purposes of this dissertation study, the attracted pairs method will be used to test for reconciliation.

To date, only four studies have investigated the existence of prosocial behaviors in preschoolers’ conflict resolution, each focusing on conciliatory or affiliative prosocial behaviors after conflict. Although prosocial behaviors are used in conciliatory efforts, the specific behaviors under investigation differ from Eisenberg’s conceptualizations of prosocial behavior. Further, prosocial behaviors may not always lead to reconciliation between the members of the conflicting dyad but can be used to terminate the conflict. For instance, in an investigation of affiliative (prosocial) behaviors among young boys (e.g., ages 4-6), Ljungberg, Westlund and Forsberg (1999) reported a high percentage of aggressive conflicts ending in affiliative behaviors

as well as a high proportion of acceptance (e.g., a nod, smile or 'yes' response) of those behaviors. After the acceptance of those prosocial behaviors, aggression and displacement from the play situation were low in comparison to the non-acceptance of an affiliative offer. These findings highlight the dyadic nature of conflict resolution as it involves both prosocial behavior and the acceptance of that behavior after conflict. In their study, as well as in this dissertation study, conflicts were analyzed on a dyadic level, or as involving two preschoolers. Polyadic conflicts (i.e., those including three or more children) were shown to be no different qualitatively than dyadic, and as such, were coded as separate dyads. This dissertation study advances Ljungberg et al.'s (1999) work by first broadening the conceptualization of conflict beyond aggressive bouts to object conflicts (i.e., object disputes) and relational conflicts (where the relationship between peers is threatened). By doing so, the relationship between types of prosocial behaviors and types of conflict can be readily examined. Perhaps particular types of conflict allow for prosocial behaviors more than others. The current study examines this question. This dissertation study also tested the generalizability of previous findings by including both male and female preschoolers, as Ljungberg et al. (1999) only included male preschoolers.

The second study investigated the post conflict prosocial behaviors of a mixed-sex preschool classroom (Fujisawa, Kutsukake & Hasegawa, 2005). The authors conceptualized conciliatory behaviors as either explicit (e.g., apologizing or offering objects) and implicit (e.g., proximity and being friendly). Similar to Ljungberg et al. (1999), they found a moderate percentage of children reconciled after aggressive conflict. They also found that explicit conciliatory behaviors were more evident in children immediately after conflict, and younger children were more likely to use these behaviors as the aggressor than as the victim. Ironically, perhaps, this finding suggests that aggressive children may be more likely to develop

conciliatory skills than non-aggressors, presumably to repair and maintain peer relationships after agonistic interactions (Rose et al., 2011). Further, Fujisawa et al. tested the factors that influenced conciliatory attempts, determining that friendship and the presence of intervening bystanders (i.e., teachers) positively influenced reconciliation attempts. This dissertation study extends these findings in three ways. First, by utilizing Eisenberg's conceptualization of prosocial behaviors (i.e., helping, cooperating, sharing and comfort), this study examines whether preschoolers' employ a broad or narrow range of post-conflict prosocial behaviors. Second, by utilizing a larger and more diverse sample than Fujisawa et al., this study also tests the generalizability of previous findings. Third, this study also advances understanding of the role of teacher intervention beyond the presence or absence of intervention by coding how exactly teachers facilitated prosocial behaviors after conflict. Additional details about teacher intervention are provided below.

The third study, conducted in the United States, also focused on the role of post-conflict conciliatory behaviors in predominately White, middle to upper class preschoolers' (ages 32-71 months) peaceful associations after conflict (Verbeek & de Waal, 1996). Conciliatory termination behaviors (e.g., apology, cooperative proposition, and offer of valuable possession) were observed between friends and nonfriends (as determined by time spent in social play) in two contexts (classroom and playground). Similar to previous findings, the authors found that conciliatory behaviors were more likely to end in together outcomes, regardless of the context of the conflict. Further, friends stayed together more than nonfriends but were not more likely to reunite after conflict. As with Fujisawa et al.'s study, this dissertation study advances Verbeek and de Waal's findings by using Eisenberg's prosocial behaviors during conflict resolution as well as examining a more ethnically diverse sample.

The final study investigated reconciliation among preschool children (ages 29-60 months) after coercive conflict bouts (Roseth et al., 2011). Attention was paid to reconciliation as a strategy to compensate for coercive resource control attempts. The role of friendship on reconciliation was also examined. Roseth et al. (2011) found that 42% of conflicts reconciled after initial separation and that neutral associates (i.e., peers who did not mutually nominate each other as friends) were more likely to reconcile than friends. This dissertation advances Roseth et al.'s (2011) findings by examining specific prosocial behaviors after conflict bouts that promote reconciliation as well as those that end conflict with together outcomes. Further, while Roseth et al. (2011) investigated the role of friendship on reconciliation, this dissertation study also examines the role of demographic characteristics on these outcomes. Finally, this dissertation study includes the role of teachers in reconciliation, a limitation that Roseth et al. discussed in their work.

To summarize, the literature on prosocial behavior highlights the various contexts and situations in which prosocial behaviors are manifested. Naturalistic observation methods also take different types of interpersonal relationships into consideration, including relationships with teachers and peers within the preschool classroom. These interpersonal relationships are likely to influence preschoolers' prosocial behavior within and outside the context of conflict, yet no previous studies have examined prosocial behavior in post-conflict contexts, nor has there been a consideration of the explicit role of teacher intervention in the socialization prosocial behaviors after conflict. Further, this dissertation study used social network analysis, which is a contribution to the literature in that none of the previous studies examined prosocial behaviors as part of a larger classroom organization. In the next section, a systems view of socialization is

introduced to help understand the way peer and teacher relationships may influence prosocial behavior.

### **Prosocial Behaviors in the Context of Interpersonal Relationships**

Research drawing upon a systems framework acknowledges that individuals, behaviors, contexts, and relationships are “units composed of sets of interrelated parts that act in organized, interdependent ways to promote the adaptation or the survival of the whole unit” (Pianta, 1999, p. 24). This perspective acknowledges that people are nested in several relationships and environments that interact with each other to influence the individual. Ecologically, proximal environments are embedded in larger cultural and societal structures, called macrosystems (Bronfenbrenner, 1994) that all influence and individual and interpersonal relationships therein.

Given the multiple parts of a system, a systems theory explains how the parts relate to each other. First, any outcome within the system is multicausal in that multiple parts coordinate (Smith & Thelen, 2003). However, the parts of the system are self-organized in that no particular part is more important or causes certain outcomes over others and that no external influence controls the system (Schaffer, 2008). Systems have been conceptualized as various types. Similar to Bronfenbrenner’s ecological model, the various contexts highlight proximal and distal influences on the individual from the broader societal context to the biological aspects that influence the individual.

One environment that can be understood as a system is the preschool classroom. Within that environment, every part—i.e., the individuals (children and teachers), the interpersonal relationships among the members, the setting of the room and the larger school and community contexts—influences the other. Thus, just as there exist social codes within families and larger society that regulate behavior (Sameroff, 1989), within the preschool classroom, there are codes

that the members therein abide by. Such codes include practices such as discipline, play, and instruction (Pianta, 1999) which influence the child so as to form participating members in the classroom system (i.e., socialize children).

**Interpersonal relationships as a socializing system.** The interpersonal relationships within a classroom represent the most proximal system to the child. Interpersonal relationships are influenced by the interactions between individuals (Rubin, Bukowski & Parker, 2006). Peers, for example, behave differently within relationships than with less familiar peers (Rubin et al., 2006). Research has indicated that stronger interpersonal relationships between preschoolers are related to increased conflict (Laursen & Hartup, 1989). Interpersonal relationships also include “perceptions, fears, expectations...that each has about each other and the future course of the relationship” (Hinde & Stevenson-Hinde, 1987, p. 2). As a history of interactions, relationships take the past interactive occasions of the individuals as well as anticipations for the future. For the purposes of this dissertation, relationships were conceptualized as dyadic (i.e., consisting of two people). In the preschool classroom, relationships exist within a child’s networks of other interpersonal relationships with teachers and peers.

Like the larger classroom system, interpersonal relationships include microregulations that are brief instances of interactions between the members of the dyad (Sameroff, 1989). These microregulations promote or decrease certain behaviors in the classroom and are enacted in the interactions between individuals. It is through these microregulations that socialization occurs. In terms of prosocial behavior, the goal is that students internalize these behaviors in order to fit the environment through interactions with both teachers and peers. A goal of socialization is that children internalize “norms and values from which they take their rules, standards and beliefs



about appropriate conduct and attitudes” (Turner, 1987, as cited by Harris, 1995, p. 466). Those norms then influence future behaviors, thoughts and attitudes.

Within the classroom, teachers and peers operate differently as socialization agents of the individual child. As adults, teachers act as models for prosocial behavior and, in their role as head of the classroom, promote prosocial behaviors through education, discipline and nurturance (Zahn-Waxler & Smith, 1992). In many ways, teachers resemble parents in their prosocial socialization efforts; the warmth and high status of the teacher (Grusec, Hastings & Almas, 2011; Hastings, Utendale & Sullivan, 2007). Less research exists on teacher prosocial socialization efforts than parental socialization. In fact, only one study has examined the socialization of prosocial behavior in the form of feedback after girls’ prosocial behaviors, indicating that teachers provided little positive feedback (Eisenberg, Cameron, Tryon & Dodez, 1981). One explanation for the low feedback could be the teacher’s physical distance from the child. This study continues to examine how teachers promote prosocial behaviors explicitly and concomitantly.

More research exists on peers as socializing agents. Social interactions between children differ from those with teachers and other adults because of in peer groups, children have relatively equal status. As a result, they are more likely to be both a ‘doer’ and a beneficiary of prosocial behaviors, instead of solely the recipient (Grusec, Davidnov & Lundell, 2002). Children’s peer groups are important for socialization because through them, children adopt peer groups norms due to identification with those similar to them in terms of age (Harris, 1998). The power of peer socialization has been investigated in unacceptable behavior in adolescents (Shi & Xie, 2011) which often results in parents’ wishes to offset the negative influences peers can have on behavior. However, peers can have positive influences on children’s prosocial behaviors as

well, fostering acceptable behaviors in various contexts. In order to encourage prosocial behaviors, preschool peers can reinforce with praise, reciprocation, verbal approval or prolonged interactions with the benefactor (Eisenberg, Cameron, Tryon & Dodez, 1981). Verbal and nonverbal requests can be means of socializing peers to prosocial behavior. Peers can also model others' prosocial behaviors and produce their own based on their observations (Grusec, Hastings & Almas, 2011).

Interpersonal relationships are a broad framework to understand how peers are connected to each other. One specific relationship would be *friendship*, which is often characterized by attraction "to someone in return with parity governing the social exchanges between the individuals involved" (Hartup & Stevens, 1997). Friendships are shaped by bilateral bonds between individuals (Ladd, 2005). Having friends requires that a person has particular social skills that allow him or her to adjust. In preschool, friendships help children develop the social skills that influence future friendships (Howes, 1983).

Studies examining preschool dyadic friendships have operationalized the friendship concept in numerous ways. For example, Howes (1983) defined friendships in terms of affective connections between individuals that are identified by positive exchanges and a high probability of interactions. Friendships among preschoolers have been defined in terms of frequent play interactions (Ladd, 2005) as well as mutual sociometric nominations, whereby children indicate those with whom they like to interact (Sebanc, 2003). This dissertation will examine friendships in terms of sociometric nominations. Because of the increased salience of friendship as a relationship, they might influence prosociality within the dyad. In other words, it is possible that friendships influence prosocial behaviors beyond simple peer interactions. In regular play,

however, these questions have not been addressed using naturalistic observations in preschool children.

**Prosocial behavior, interpersonal relationships and conflict resolution.** Conflict resolution provides an additional context for prosocial behaviors to manifest. Within interpersonal interactions and relationships, there are opportunities for the socialization of prosocial behaviors.

**Teachers.** In the event of conflict, teachers can often intervene in order to end the conflict event as well as to promote particular social skills, including prosocial behaviors. Teachers have been shown to scaffold their toddler students through the termination of a conflict by using a number of strategies (e.g., providing feedback for children's behavior and articulating reasons for certain behaviors; Bayer, Whaley & May, 1995). Their qualitative study showed that teachers intervened in approximately half of the conflict disputes. However, the study did not examine the outcomes of those interventions. This study examined the effects of teacher intervention on conflict resolution.

The role of teacher reinforcement and induction on prosocial behaviors in Head Start preschool classrooms have been examined using an experimental design (Ramaswamy & Bergin, 2009). The study of 98 Head Start (mostly African American) children found that, over time and with reinforcement, prosocial behaviors in the form of affection, helping, cooperating, sharing and comforting increased in classrooms more than solely inducing prosocial behaviors. Affection was the most frequent prosocial behavior. However, they did not focus on prosocial behaviors in the context of conflict. The present dissertation study addressed this limitation by focusing on post-conflict prosocial behaviors in a naturalistic setting.

In studies capturing conflictual events, preschool children have been found to be more likely to separate than stay together after teacher intervention (Roseth et al., 2008). For example, Roseth et al. (2008) differentiated between *direct* (i.e., stopping the conflict or telling children to stop) and *indirect* (assisting the children in ending conflict) interventions, however, results did not highlight the rates of direct and indirect interventions. Perhaps interventions whereby teachers promoted prosocial behaviors would be more successful in producing together outcomes. Further, the sample of Head Start teachers and preschoolers in the current study might elicit different outcomes than a racially homogenous university preschool setting such as that used by Roseth et al. Finally, this study's use of videos to capture conflict allowed for influence attempts and relational conflict instead of relying on live-coding to capture aggressive bouts.

***Friends.*** Since the purpose of reconciliation is to preserve the relationship (Aureli & de Waal, 2000), even in preschool children (Westlund, Horowitz, Jansson & Ljungberg, 2008), perhaps friends are more likely to be prosocial without solicitation after conflict than nonfriends. A number of studies have shown that this is the case (Verbeek & de Waal, 2001). Other studies with further differentiated friendship patterns found similar results: Friends were more likely than neutral associates, or those who neither indicated liking or disliking for their partner, to reconcile after conflict (Roseth et al., 2011) and interact with each other after conflict (Hartup, et al., 1988). However, the literature is mixed with regards to this outcome. For example, after conflict, affiliative, conciliatory behaviors have been found to be more likely for nonfriends than friends in older preschool children (Fujisawa, Kutsukake & Hasegawa, 2005). Subsequent studies with preschoolers have found similar results (e.g., Fujisawa, Kutsukake & Hasegawa, 2006). While seemingly counterintuitive, these results might indicate an attempt to further promote friendships among nonfriends whereas the already established friendship may not be in

danger after a conflict. Hence, prosocial behaviors might be more impactful for nonfriends. Continued work using naturalistic observation methods focusing on prosocial behaviors before and after conflict is needed to provide further understanding of these outcomes. Further, these studies operationally defined friendship in dissimilar ways (i.e., using teacher nominations versus play interactions vs. sociometric nominations) which could be a confounding factor in these results. By employing sociometric nominations, this dissertation study extends the existing literature on mutually nominated friendships and prosocial behavior in post-conflict contexts (e.g., Roeth et al., 2011).

### **Prosocial Behavior and Child Demographic Characteristics**

The relationship between children's demographic characteristics (i.e., sex, race/ethnicity and age) and prosocial behaviors relevant to the this dissertation study because participating children were of the same socioeconomic status, as Head Start only admits children from families with low incomes (Capital Area Head Start, 2012). The Head Start program is a federally funded program that attempt to promote the school readiness of children from economically disadvantaged families (Ludwig & Miller, 2007). A significant percentage of Head Start preschool students are from ethnic minority backgrounds (Magnuson & Waldfogel, 2005). This ethnic diversity differs from the university preschools in which prosocial behavior research is often conducted, where children are typically White and from middle class backgrounds. As such, a focused investigation of low SES children from diverse racial/ethnic groups will provide the literature with a broader scope of how prosocial behaviors are enacted after conflict. Furhter, this dissertation study was the first to not only consider individual preschoolers' demographic characteristics in the context of prosocial behavior, it also considered dyadic demographic similarities using social network analysis. This section will review empirical research focusing

on age, race and sex at the intersection of socioeconomic status as demographic variables that may be related to prosocial behavior.

**Age.** Researchers have studied the development of prosocial behavior across the lifespan. During infancy, infants have been shown to exhibit impulsive, global empathy (Eisenberg, Fabes & Spinrad, 2006). The infants' empathy is manifest reactions to other children who display distress. Infants cry with other babies cry (Hay, 1994). Based on Hoffman's theory, Hay (1994) hypothesized that during infancy, prosocial behaviors are universal because of a general interest in other individuals. In the first two years, prosocial interactions appear to be impulsive. With age, children are increasingly able to self-regulate and understand which prosocial behaviors are appropriate under which circumstances. They are also better able to reason about prosocial behavior.

After the first two years, literature on the development of prosocial behavior provides differing developmental outcomes. Generally, prosocial behaviors increase with age (Eisenberg & Mussen, 1989). However, in some accounts, young children show increases of prosocial behavior through preschool into elementary school (Zahn-Waxler & Smith, 1992). Other accounts demonstrate a slight decrease in prosocial behaviors during the preschool years, the result of children making decisions about to whom they will direct their other-oriented behavior (Eisenberg, Fabes & Spinrad, 2006). This decline could also be due to preschoolers learning the social appropriateness of prosocial behaviors as well as a more sophisticated understanding of how behaviors benefit others can also be in one's self-interest. The existing literature on preschool prosocial behaviors paints an inconclusive picture. However, perhaps age similarity within the dyad would better explain the prosocial behaviors in post-conflict contexts. This

dissertation study expands the literature by examining age as both an individual and dyadic characteristic.

**Race/ethnicity.** Empirical research on the prosocial behaviors of preschool children has largely focused on White preschoolers, with less emphasis on African American and Latino children. The empirical work on the latter group has relied on experimental designs comparing them to White American children in terms of social motives for prosocial behaviors (Kagan & Knight, 1981) and prosocial and competitive behavior development (Knight & Kagan, 1977b). Elementary school children chose to allocate chips to themselves or their peers using the Social Behavior Scale. The studies found Mexican American children to share chips and display less competitive behaviors than their White counterparts. Further, studies on the generational status of the Mexican American children found that with increased generational status, the more Mexican American children resemble their White counterparts (Knight & Kagan, 1977a). These findings were attributed to membership in a traditional culture that emphasizes cooperation over competition (Eisenberg & Mussen, 1989). Although these findings highlight group differences, as with all experimental studies, the real-time, naturalistic expression of prosocial behaviors is not captured. Studies that take place outside of the laboratory that highlight how Mexican American children are prosocial, particularly in post-conflict contexts in the classroom are necessary to further understand prosocial behavior within this ethnic group. Additionally, there was no consideration of whether the Mexican-American children would show similar levels of prosociality when their partners are of a different racial or ethnic group. This study will address this question.

More recent studies have shed more light on the prosocial behaviors of ethnic minority preschoolers. For instance, in a study of the prosocial behaviors in the context of interpersonal

interactions and relationships, special attention was paid to differences between the ethnic groups (Euro American, African American and Latino; Spivak & Howes, 2011). They found that African American preschoolers were more likely to engage in prosocial behaviors than their counterparts, which combats the deficit perspective from which African American children are often viewed (Garcia Coll et al., 1996). Just as with studies focusing on Mexican-American children, contextualizing these outcomes in post-conflict would further elucidate the nature of these children's prosocial behaviors, as well as consideration of the racial backgrounds of the recipients of the prosocial behaviors.

**Sex.** As children age, their prosocial behaviors have been shown to differentiate according to sex (Hay, 1994). For example, girls are typically found to be more prosocial than boys (Hay, 1994; Zahn-Waxler & Smith, 1992), but this result might be misleading for a number of reasons. First, researchers highlight the role of gender norms on these outcomes. Stereotypes of female behavior as being more responsive and caring towards others than males might inform the notion that girls are more prosocial (Eisenberg, Fabes & Spinrad, 2006). These stereotypes can be particularly prominent in studies that rely on teacher or parent reports of prosocial behaviors, as these third-parties might carry stereotypical gender biases (Ostrov, Krick & Keating, 2005).

Further, sex differences in prosocial behaviors depend on the type of prosocial behavior under investigation. For example, adolescent boys have been shown to be more prosocial in "action-oriented" situations, showing their agency (Eagly & Crowley, 1986). In naturalistic observation studies involving same-sex preschool- and school-aged sibling pairs, females have been found to be consistently more prosocial than males in nurturing behaviors (Abramovitch, Corter & Lando, 1979). In other studies, boys were more prosocial than their same-aged female



counterparts (Brody, Stoneman, MacKinnon & MacKinnon, 1985). This dissertation contributes to this literature a number of ways. First, by examining both boys and girls in same-sex and mixed-sex dyads in their prosocial behaviors after conflict highlighted the differences and similarities in boys and girls post-conflict prosocial interactions. Second, by examining the dyadic nature of these interactions between children of the same-sex or mixed-sex dyads, this study considers post-conflict prosocial behaviors as dyadic and not solely individual behaviors.

**Peer homophily.** As described above, in the preschool classroom, the demographic characteristics described above can be shared among peers. Shared characteristics can facilitate interactions and relationships among young children. *Homophily*, or “consistency across members in...personal characteristics” (Rubin, Bukowski & Parker, 2006, p 579) in terms of sex and age, is evident even in preschoolers: Children are likely to be friends with similar peers. Homophilic influences on prosocial behavior are less known, particularly in the case of conflict resolution. A question that remains is how similarity between friends (e.g., same sex friend vs. different sex friend) may influence conciliatory behaviors among formerly conflicting peers.

### **Current Study**

In summary, the aim of this dissertation is to explore how the interpersonal relationships within Head Start classrooms influence reconciliation after conflict. Specifically, this dissertation study addresses the following research questions:

1. After conflict, what prosocial behaviors do preschoolers exhibit? Is there a relationship between types of conflict and prosocial behaviors offered? To what extent are postconflict prosocial behaviors accepted by peers? Is there a relationship between the type of postconflict prosocial behavior and peer acceptance?

2. What are the outcomes (i.e., together, separate, reconciled) of prosocial behavior after conflict?
3. What are the types of interventions do teachers use to end conflict? What is the relationship between preschool teachers' prosocial conflict interventions and together outcomes in conflicting dyads? How do teachers use intervention to promote prosocial behavior?
4. What individual characteristics (e.g., race/ethnicity, sex, friendship) are associated with prosocial behaviors? What roles do dyadic homophily and teacher intervention play in prosocial interactions?

### **Method**

The data for this dissertation were previously collected in seven classrooms located at four Head Start centers in a Midwestern United States city in the Spring of 2009 (February through April). Three of the classrooms met five mornings per week, and the other four classrooms met five afternoons per week. Procedures associated with this study were reviewed and approved by the sponsoring university's Institutional Review Board, IRB #08-823D, revision ID r042534, and also by the Head Start District Office and the individual classroom teachers. Permission slips were sent home by each classroom teacher and children with signed permission slips participated in the study.

### **Participants**

*Preschoolers.* A total of 104 preschool children participated across seven classrooms. Children's ages ranged from 41 to 73 months ( $M = 55.71$ ,  $SD = 7.17$ ). Classrooms included multi-aged students. Across the sample, 39% of the children were African or African American, 19% were Hispanic, 20% European American, 2% Asian-American, and 20% were Black-White

biracial. In terms of sex, the children were almost evenly split: 54% of the children were girls ( $n = 56$ ) and 46% were boys ( $n = 48$ ). Admission into Head Start is based on income; families must meet state low-income eligibility requirements, with an income range of 100-130% of the federal poverty threshold (CACS Head Start, 2012). The sample included one child on the autism spectrum who was not included in analyses. Four children left the school during data collection and six children joined the school during the year. Of the latecomers, only the preschoolers whose parents completed consent forms were eligible for participation in this study.

*Teachers.* There were a total of 15 teachers across the seven classrooms. Teachers ages ranged from 19-54 years ( $M = 38.23$ ,  $SD = 11.307$ ) and all were women. There were equal numbers of African American and European American teachers ( $n = 5$ , 33.3% each), and 13% of teachers were Hispanic ( $n = 2$ ). Teachers varied in terms of their educational backgrounds: 40% of teachers had some college education ( $n = 6$ ), 20% completed an Associate's degree ( $n = 3$ ), and 33% had a Bachelor's degree. Years of experience working in preschool settings ranged from 0 years (new teachers) to 20 years of experience ( $M = 7.87$ ,  $SD = 7.736$ ).

## **Observational Procedures**

Prior to entering classrooms, the researchers participated in a training regimen that involved videotape viewing and discussions. Before data collection began, research assistants went to the Head Start classrooms for two weeks to acclimatize the students to their presence and conducted mock-recordings of the students during free play. Video recordings of free play were conducted every weekday the preschool was in session during the eight week observational period by ten graduate and undergraduate student researchers. Video coding provides many advantages compared to live coding, such as the ability to take multiple passes, discrepancy discussions to avoid observer drift and blind interobserver checks (Yoder & Symons, 2010).

Data collection began after two weeks of practice taping. Reactivity to the observers was likely minimal as the children became accustomed to the researchers' presence (Pellegrini et al., 2007). Researchers observed the preschoolers during their hour-long free-play time four days a week (Monday through Thursday). Each day, observers entered a classroom with a pre-determined, randomized list of children to videotape. Children were observed in their classrooms, gymnasiums, and playgrounds. In all locations, researchers moved around the room to film the focal child in a manner unobtrusive to the children. Across the semester, on average, each student was recorded 6 times. Numbers varied due to absences from school.

**Focal sampling.** Children were observed according to focal and event sampling procedures and continuous recording rules. Focal sampling/continuous recording rules (Pellegrini, 2004) governed focal observations. Working from randomized lists, observers located individual children and recorded behaviors in a 10-minute period. A variety of behaviors were recorded, including children's play states.

**Event sampling.** Due to the rare nature of conflictual events, event sampling took precedence over focal observations. Event sampling with continuous recording rules (Pellegrini, 2008) were followed when an observer saw an conflict event in which once child shows resistance (e.g., posture, tone of voice or resource control), physical or verbal aggression in opposition to the influence attempt, resource control attempt, aggression or argument of another child (Verbeek & de Waal, 2001; see also Shantz, 1987). Conflict types included *object/position* where preschoolers fought over the use of a toy or other desired resource or place in the classroom, *cause harm* (i.e., preschoolers were physically aggressive with an intent to inflict pain), *entry-based* (i.e., a preschooler attempted to enter the play situation of another

preschooler), and *peer control* where one preschooler attempts to influence another preschooler during play.

This study focused only on conflict events involving both a resource control attempt and resistance to said attempt. In the event of an conflict event not involving the focal child, the research assistants would end the focal observation and direct taping towards the conflict. For each conflict, observers recorded the time of the conflict as well as the names of the students in the dyad. At the end of the conflict, researchers noted the identity of the child who initiated the conflict as well as the target child. The winner and loser were also designated. The winner was the child who obtains the desired object while the loser lost control of the resource (Hartup, Laursen, Stewart & Eastenson, 1988).

**Intervention observations.** At any time during a conflict event, an intervention may occur. Interventions were included in the conflict observations when possible. Both peers and teachers could act as interveners. The time of the intervention was recorded as well as the name of the intervener and the intervention behavior. Intervenors could redirect the students' attention or physically separate the students, reprimand, model conciliatory behavior, mediate between the parties, arbitrate without referencing class rules, or enforce classroom rules. For the purposes of this dissertation study, interventions that promoted prosocial behaviors were the emphasis.

**Post-conflict observations.** Immediately after each conflict and the children separated, a post-conflict (PC) observation was taken, where the reactor (or most affected child) of the conflict was observed for 10 minutes, or until the conflict dyad reunited. During the post-conflict observation, the reactor was watched to determine the level of stress the conflict caused to the child as well the amount of time it takes the dyad to reconcile (if at all). PC observations ended when the conflicting dyad reunited. In this study, PC observations were noted for prosocial

conciliatory behaviors including: apology, cooperative proposition, where the performer indicates friendly intentions and suggestions (e.g., sharing, offering to take turns, offering a favor, etc.); symbolic offer, which is an offer of something that is not immediately available; object offer of a valuable possession or the object of dispute and physical contact. The target of the prosocial reconciliation attempt could accept or deny the reconciliation attempt. In the case of reconciliation, the acceptance or rejection of conciliatory behavior was recorded as well as the time the dyad reunited. PC observations could also be interrupted in the event of a new conflict. Post-conflict observations were only taken in the event that the students separated and there was no noticeable communication or interaction (also known as a separate outcome). If at the conflict's termination the children continue being in close proximity while communicating or interacting in a non-agonistic manner, the research assistant would record for one minute then move on to the next observation.

**Match-control observations.** Like previous research on post-conflict reconciliation (e.g., Roseth et al., 2011), this study utilizes the PC-MC method to examine reconciliation. On the school day after the conflict (or Monday if the conflict occurred on Thursday), a match-control (MC) observation was taken to determine if the preschoolers coming together during PC was more or less likely than interacting during free play. The MC observation focused on the same dyad that was in conflict the day before, matching contextual variables of the match-control to those of the PC (e.g., the two individuals are separated, time of day, location). Thus, the match-control is meant to 'match' the PC observation in all ways save the presence of conflict before the peers separate.

During match-control observations, the research assistant (RA) had a data sheet with the assigned focal and match-control observations for the day with room for notes for specific

occurrences. The RA watched to see if the dyad played together or stayed apart during that time. Unlike conflict events and focal behaviors, match-control observations were not recorded because the dichotomous outcome of interest (i.e., whether the two individuals came together (or not) during the match-control period) was simple enough to code en vivo (see Roseth et al., 2011, for similar methodology. If one of the students was absent, the match-control observation was taken on the next day both students were present.

### **Video Coding**

After filming, videos were transferred onto computers for behavioral coding using Mangold Interact, a video coding software program. A team of four graduate and undergraduate researchers coded conflict behaviors and play states as previously defined. In the instance that a conflict event was discovered during coding, researchers would code conflict behaviors. However, match control observations were not possible for these post-hoc conflict events. If multiple play states occurred within a ten-second interval, the play state that the child was predominantly engaged in (<5.01 seconds) was coded. During focal and event sampling, peers and teachers with whom the focal child was interacting with, playing near, or observing were coded. Interrater agreement was established by double coding a randomly selected 10% of the conflict observations ( $k = .94$ ). Any discrepancies during coding were resolved through discussion.

For the purposes of this dissertation study, post-conflict observations were further coded to capture prosocial behaviors: sharing, cooperation, helping, comfort, and invitations to play. Prosocial conciliatory behaviors (described above) were also coded in the event of post-conflict. Prosocial behaviors immediately following conflict, even in the event that children do not separate, were also coded. To control for the fact that preschoolers were in varying numbers of

conflict, all prosocial behaviors were transformed into rates by dividing the number of prosocial behaviors done by an individual preschoolers by the number of conflict observations in which that preschooler was the initiator or reactor. This allows for relative comparison across cases. Interrator agreement was established by double coding randomly selected 10% of the conflict observations ( $\kappa = 1.0$ ).

### **Sociometric Nominations**

Sociometric interviews were conducted with individual children with interview questions based on a peer-nomination measure used in prior research with preschool-age children (Crick, Casas & Mosher, 1997). Children were interviewed by one of the researchers. Procedurally, peer nominations began with the adult holding up a picture board containing individual pictures of each of the child's classmates, including opposite-sex peers. Following standard procedures, children were asked to point to three peers in response to the following questions: someone you like to play with, someone you don't like to play with, and a special friend. Mutual nominations (i.e., friendships) and one-way nominations (i.e., aspirational ties) were noted for each child.

### **Social Network Analysis**

Because of the dynamic nature of the classroom system and peer interactions therein, social network analysis was used to examine the interdependencies and relations among the children in the classrooms. In addition to examining the individual factors that influence prosocial behavior, through social network analysis, the ties among individuals, or *actors*, are readily studied (Frank & Fahrback, 1999). Further, social network analysis takes into account the composition and structure of the networks within a system (Wellman & Frank, 1999) as well as reciprocity and mutuality among individuals. There are two commonly used social network models: *influence* (whereby networks develop out of the social context which affect behaviors



and beliefs) and *selection* (how individuals' interactions and relationships develop; Frank, 1998). For the purposes of this dissertation study, the selection (or p2) model was used to examine whether teacher intervention, homophily and/or friendship influenced preschoolers' prosocial behaviors. Prosocial interactions were examined using multilevel modeling (i.e., at two levels). Level 1 analyses examined the shared characteristics within the *dyad* (i.e., pair of individuals), taking into account the relationship to another peer. Homophily in terms of age was determined by taking the absolute value of the age difference between each pair of preschoolers. Because of the racial diversity in the classrooms, race was dummy coded as Black (yes/no) or White (yes/no). Biracial children were coded as both white and black. Level 2 analyses consider the *individual* attributes that would predict prosocial behavior (e.g., age, sex, race/ethnicity, etc.).

### **Reconciliation Analyses**

Reconciliation after separation was tested using two methods: the "PC-MC method" (de Waal & Yoshihara, 1983) and the "time-rule method" (Aureli, van Schaik & van Hooft, 1989). First, in the PC-MC method, reconciliation between a conflicting dyad was tested by comparing the post-conflict (PC) and match-control (MC) observations to determine if formerly conflicting dyad was more likely to come together after conflict-induced separation than in the absence of conflict. Pairs were considered *attracted* if their first interaction after separation occurred only in the post-conflict (PC) or earlier in PC than in match control (MC), *dispersed* if interaction occurred only in MC or earlier in MC than in PC, and *neutral* if no affiliative interaction occurred in either PC or MC observations, or occurred at the same time during both. Children were considered to be reconciled when the number of attracted pairs and dispersed pairs differed significantly.

The attracted pairs method allows for determining the corrected conciliatory tendency (CCT), defined as (the number of attracted PC-MC pairs – the number of dispersed PC-MC pairs)/the total number of PC-MC pairs (Veenema, Das & Aureli, 1994). The CCT allows for the comparison of conciliatory tendency among individuals (e.g., friends and homophilic dyads) and groups (e.g., classrooms).

The second method used for testing reconciliation was the time-rule method which emphasizes the timeframe in which reconciliation occurs. Here, the frequency distribution of first affiliative contacts between former opponents during PCs and MCs are compared. Reconciliation was inferred if the frequency of first affiliative contact is higher in PCs than MCs.

### **Thematic Analysis of Teacher Intervention**

Intervention interactions between teachers and preschoolers were transcribed and analyzed using thematic analysis (Corbin & Strauss, 2008). Thematic analysis allowed for the examination of the context of intervention as well as the dialogue between teacher interveners and the preschoolers. In this analysis, all videos were watched, and the conflict episodes that included prosocial teacher interventions were noted. The parts of those interventions (e.g., what teachers said during intervention, with whom they interacted, behaviors during interaction, etc.) were coded. After noting the possible parts of the prosocial interventions, the major theme was determined that most affected how teachers intervened with the preschoolers.

## **Results**

### **Descriptives**

Across the eight week observation period and all seven classrooms there were a total of 345 dyadic conflicts. Out of the 345 total conflicts, 133 (38.6%) were identified during video recording and 212 (61.4%) were identified during post-hoc coding. Thus, the vast majority of

conflicts were object/position disputes ( $n = 263$ , 75.8%), 35 (10.1%) were entry-based conflicts, and 28 (8.1%) peer control conflicts. There were only 6 (1.7%) conflicts where a preschool child caused harm through an aggressive act and 15 (4.3%) other types of conflict.

In all there were  $n = 40$  preschoolers (38.5% of total sample) who engaged in post-conflict prosocial behavior (the number of prosocial preschoolers by classroom is shown in Figure 1). The average age of the children who were prosocial after conflict was 56.2 months. Prosocial preschoolers ranged from 42 months to 65 months in age. Eight (20%) prosocial preschoolers were between 42 and 48 months, 14 (35%) were between 49 and 60 months, and 15 (37.5%) were over 60 months in age. Racially, the majority of post-conflict prosocial behaviors were enacted by African American children ( $n = 19$ , 47.5%), followed by white ( $n = 7$ , 17.5%), Latino ( $n = 7$ , 17.5%), biracial children ( $n = 6$ , 15%) and Asian children ( $n = 1$ , 2.5%). Prosocial preschoolers were evenly divided in terms of sex. Equal numbers of male and female preschoolers were prosocial after conflict (20 each; 50% male, 50% female).

### **Types of Prosocial Behaviors**

Of the 345 total conflicts, 52 (15.1%) ended with a prosocial behavior by either the initiator or reactor of the conflict. Of the conflicts ending in prosocial behaviors, there were only 4 conflicts (7.7%) where a child initiated more than one prosocial behavior, and one conflict where both children in the dyad were prosocial. The vast majority of prosocial behaviors ( $n = 51$ , 96.2%) occurred after object/position conflicts, whereby the dispute was over a desired resource or location in the classroom. Prosocial behaviors also occurred after one peer control conflict (i.e., when a preschooler attempted to exert control over a peer) and one entry-based conflict (i.e., when a preschooler attempted to enter a play situation).

The total number of post conflict prosocial behaviors in the sample total 57, with 59 out of 104 children (56.7%) involved in prosocial interactions (i.e., as the giver or receiver). In all, 20 (35.1%) of the post-conflict prosocial interactions only involved the giver and receiver of prosocial behaviors (i.e., there were no bystanders as witnesses to the behaviors). There were 32 (56.1%) prosocial post-conflict behaviors that had one to two bystanders and 5 (8.8%) had three to four bystanders. The majority of prosocial behaviors happened in the presence of other preschoolers ( $n = 37$ , 64.9%).

Of the four prosocial behaviors under investigation, only three (sharing, cooperating, and helping) were present in the sample. No children were observed comforting their partner after conflict. Sharing behaviors were the most offered of the 57 total prosocial behaviors (41; 71.9%) while there were 8 instances each of helping and cooperation (14% each). A  $\chi^2$  goodness-of-fit test showed that there was a significant relationship between the type of conflict and the type of prosocial behavior offered  $\chi^2 (2, n = 51) = 42.824$ ,  $p < .001$ , indicating that sharing prosocial behaviors were more likely after object disputes than expected by chance.

The majority of prosocial behaviors offered were clearly accepted (42; 73.7%) and 3 (5.3%) were passively accepted (i.e., accepted as indicated by a lack refusal of the prosocial offer). The remaining 12 prosocial offers were denied outright ( $n = 11$ , 19.3%) or passively ( $n = 1$ , 1.8%). A  $\chi^2$  goodness-of-fit test showed that the relationship between the type of postconflict prosocial behavior and peer acceptance of that behavior was significant  $\chi^2 (2, n = 41) = 42.341$ ,  $p < .001$ , indicating that sharing prosocial behaviors were more likely to be accepted than expected by chance.

### **Outcomes (together, separate, reconciled) of Prosocial Behavior After Conflict**

Out of the 345 total conflicts, 211 ended in together outcomes (61.2%) and 133 conflict episodes ended in separation (38.6%). The outcome of one conflict could not be determined because the camera shifted focus. Of the conflict events that ended in separation, 24 dyads (18%) established affiliative interactions during post-conflict observations. Of the 133 conflicts that ended in separation, 56 were originally video recorded and as such, accessible for analysis.

Two methods were used to test for reconciliation: the attracted pairs method and the time-rule method. The following sections highlight the findings of both analysis methods.

**Attracted pairs.** In the larger conflict sample, out of the 133 conflict episodes where the dyad separated, 34 PC-MC samples were available for analysis. Results showed 2 attracted pairs, 13 dispersed pairs and 19 neutral pairs. The number of attracted and dispersed pairs differed significantly from a 1:1 expectation (exact binomial:  $p < .01$ ), however, the overall conciliatory tendency (CCT) was -32.4%. Because there were fewer attracted pairs than dispersed pairs (i.e., the negative CCT), these results suggest that, in this sample, reconciliation after conflict less likely than the possibility that children would be playing together outside of post conflict.

Of the 52 dyadic conflicts ending with prosocial behaviors, 37 (71.2%) ended in together outcomes and continuing affiliative play, and 15 (28.8%) ended in separation. Of those conflicts that ended in separation, 6 dyads (40%) established PC affiliation after initial separation, and 4 PC-MC samples were accessible for analysis. Results showed 2 attracted pairs and 1 dispersed and neutral pair each. The number of attracted and dispersed pairs did not differ from a 1:1 expectation (exact binomial:  $p = 1.0$ ). The CCT was 25 percent. There were 8 children (4 dyads) involved in available PC-MC pairs, only 0.2 percent of the 1856 possible dyads in the entire sample. The positive CCT after prosocial behaviors (while not significant) suggests that

reconciliation was more likely after post-conflict prosocial behaviors than in conflicts where no prosocial behaviors were offered.

**Time-rule.** The time-rule method tested for reconciliation by examining whether the distribution of first affiliative contacts was greater in PC than in MC. For overall conflict, a Kolmogorov-Smirnoff test showed a nonsignificant difference between the PC and MC distributions ( $z = .992, p = .279$ ). For conflicts ending in prosocial behavior, a K-S test also showed a nonsignificant difference ( $z = .882, p = .418$ ). Thus, reconciliation could not be inferred using the attracted pairs nor the time-rule method.

### **Prosocial Teacher Interventions**

Out of the 345 total conflicts, 92 (26.7%) were intervened by teachers. In all there were 158 intervention behaviors enacted by teachers. Arbitrate was the most frequently used conflict intervention (29.1%) followed by mediation (19.1%) and redirect/separation (14.6%). Prosocial teacher interventions were among the least likely intervention behaviors, making up only 3.8% of interventions, followed by reprimanding (1.9%). Table 2 shows the frequency and percentages of all the teacher interventions in this sample.

Of the 52 conflict episodes ending in prosocial behaviors, 15 (28.8%) ended with a teacher intervention. A 2 independent samples test Kolmogorov-Smirnoff showed that there were no significant differences between intervention distributions between the general conflict and those with prosocial behaviors ( $z = .62, p = .82$ ), suggesting that interventions were equally likely in conflicts with ending in prosocial behaviors than those that do not (see Figure 2 for the frequency of teacher interventions and prosocial behaviors per classroom and figure 3 for frequency of teacher interventions ending in prosocial behaviors compared to those that do not). Only 6 (1.7%) of the 349 conflicts ended with a prosocial teacher intervention, however only 5

(9.6 % of conflict episodes) of these interventions emphasized prosocial behaviors (see Figure 3).

Five of the 6 prosocial conflict interventions occurred in the same classroom (classroom 5). In classroom 5, two teachers intervened in conflict emphasizing prosocial behaviors: Ms. Patricia intervened in 3 conflicts and Ms. Lisa intervened in 2. Out of the five conflicts in classroom 5, 4 interventions were directed towards the same child, Darnel, who was an African American male preschooler, 46 months of age. Across the observation period, Darnel was involved in 23 conflicts with his peers. Compliance and noncompliance with the interventions were assessed in the preschoolers' response to teachers' interventions. Four of the 6 instances of prosocial intervention were clearly recorded and in the other two, the camera shifted before the event was completed and as such could not be included in this analysis. Preschoolers clearly complied (their compliance was recorded) with 4 of 6 prosocial interventions (66.7%). In all of the prosocial interventions, teachers encouraged conflicting preschoolers to share the resources under dispute.

Using thematic analysis, a theme that emerged from the data was the distance the teacher interveners were from the conflicting preschoolers. Teachers would intervene in close proximity (i.e., within 6 feet of the conflicting dyad) or from a distance of more than beyond 6 feet. The differences in distance from the conflict events coincided with how the teachers intervened. As a result, these differences in proximity served as subthemes to understand the prosocial interventions.

**Proximal interventions.** In four out of the six prosocial interventions, teachers were within 6 feet of the conflict. In these interventions, teachers showed in-depth involvement in the intervention's outcomes, as indicated by complex verbal statements. Proximal interventions

provided greater opportunities for scaffolding prosocial behaviors and for guiding the preschoolers through prosocial outcomes. Scaffolding took verbal or physical forms. For example, Ms. Patricia<sup>1</sup> emphasized paying attention to his peer's feelings: "No Darnel, don't take it away. Look how sad she is. You need to share and take turns. Take turns." She used the opportunity to show Darnel his peer's negative emotions in addition to socializing sharing behaviors. During her interactions with the children, Ms. Patricia stood within the play environment outside of the play group and spoke to the children calmly. In this particular intervention, Ms. Patricia also took physical control of the object under dispute (a toy microwave) and placed it in a location in the play area where children could have equal access to it.

Taking control of the object of conflict was evident in other conflicts as well. For example, in a dispute over Play-Doh, Ms. Patricia physically divided a lump of Play-Doh between the two conflicting male preschoolers and instructed Michael, "You have a lot of Play-Doh, you can share." She continued by including the second child, Xavier, "You can sit in one chair, and you can sit in another, and you can all play." While directing the children to where they should sit, she leaned over in the midst of the children while speaking to them and pointed to the assigned seats. In her intervention, she physically demonstrated to the children how sharing can be enacted to end this conflict (and possibly prevent future similar conflicts). Similarly, in another prosocial scaffolding intervention, Ms. Mira took the shovel from the sand table where the conflict event occurred and maintained control while determining who should use the toy shovel. Ms. Mira then asked Mellie "So what should I do with this? Do you want to give it back to Zack, or do you want to use it?" The teacher posed questions to scaffold Mellie to

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<sup>1</sup> All of the names of the preschoolers and teachers have been changed.



a prosocial decision. Mellie chose to share. During the conflict intervention, Ms. Mellie leaned over the sand table and talked to the children calmly.

Across the four proximal prosocial interventions, teachers' nearby position to the conflicting dyad afforded the opportunity to show children how to be prosocial. Verbally, teachers' directives were elaborate and used multiple statements and questions to promote prosocial behavior. Nonverbal behaviors also indicated the socialization of prosocial behavior beyond delivering an order to be complied. During the interventions, the target children mostly paid attention to the teacher, responding to posed questions and asking about the terms of sharing for future play. After these proximal interventions, the children in these conflicts shared (i.e., captured on camera) the desired resource three of four times, indicating that the interventions were successful in promoting prosocial behaviors.

**Distal intervention.** In the remaining two of the six prosocial interventions, teachers were beyond six feet from the conflicting dyad (and off-camera) when they intervened. Unlike the more proximal interventions, teachers used single sentences that instructed preschoolers to share. In both conflicts that involved Darnel, Ms. Lisa gave simple directives: "Darnel, you need to share the microwave" and "Darnel, please share the toys. Share." The teacher was made aware of the conflict by Mark, a child who was in conflict with Darnel and sought the teacher to intervene. In both interventions, the teacher's voice was loud enough to be heard, but she did not use harsh tones when directing Darnel. Because she was off-camera, there was no evidence of additional nonverbal cues the teacher used to emphasize her directives.

These interventions from a distance provided little opportunity for direct instruction and scaffolding of prosocial behaviors. Darnel focused on the teacher in one of the prosocial interventions, and in the other, he continued to play with the toy under dispute without turning to

face the teacher. Darnel clearly complied with the distal intervention once. Because the camera shifted focus for the second intervention, it is unclear if Darnel shared the toy with his conflict partner.

**Outcomes after intervention.** After prosocial interventions, conflicting dyads remained together for 5 conflicts (83%) and came back together after initial separation in the sixth conflict. The sixth conflict outcome was not captured on video, so a together or separate outcome could not be determined.

### **The Role of Race, Ethnicity, Sex, Friendship and Intervention on Prosocial Behaviors**

This set of analyses examined the influence of teacher intervention, demographic factors and friendship on prosocial behaviors after conflict. In order to address this question, the selection (p2) model of social networking analysis was used. Specifically, two-level hierarchical linear modeling was used to examine individual (level 2) and dyadic (level 1) effects on prosocial behavior (Table 2).

#### **LEVEL 1:**

$$\log \frac{p(\text{prosocial}_{ii'})}{1-p(\text{prosocial}_{ii'})} = \theta_0 + \theta_{1ii'} (\text{similar-sex}) + \theta_{2ii'} (\text{similar-race/ethnicity}) + \theta_{3ii'} (\text{Abs.Age}) + \theta_{4ii'} (\text{Friendship nomination}) + \theta_{5ii'} (\text{teacher intervention})$$

#### **LEVEL 2:**

$$\theta_0 = \gamma_{00} + \gamma_{01} (\text{sex}) + \gamma_{02} (\text{age}) + \gamma_{03} (\text{race/ethnicity})$$

$$\theta_{1i} = \gamma_{10}$$

$$\theta_{2i} = \gamma_{20}$$

$$\theta_{3i} = \gamma_{30}$$

$$\theta_{4i} = \gamma_{40}$$

$$\theta_{5i} = \gamma_{50}$$

Results showed that prosocial behavior rates within dyads or between pairs of preschoolers were marginally significantly associated with sex homophily ( $b = .013, p = .052$ ) and with the frequency of teacher intervention on the pair's conflict ( $b = .031, p < .01$ ). Mutual friendship nominations were also marginally associated with prosocial behaviors ( $b = .025, p = .119$ ). There was no evidence that homophily in race and age predicted prosocial behaviors. At the individual level, there was also no evidence that sex, age, or race/ethnicity influenced prosocial behaviors after conflict.

## **Discussion**

By-and-large, the existing literature on preschool prosocial behaviors has examined those behaviors in various contexts. The purpose of this dissertation study was to expand the literature by focusing on post-conflict prosocial behaviors. Emphasizing conflict contexts highlights the ways in which preschoolers utilize prosocial behaviors as a socially and developmentally appropriate way to negotiate relationships during clashes with their peers. Consequently, prosocial behaviors might serve to end conflicts as well as to maintain relationships, which might not be the case during free play. Through the present naturalistic observation study, preschoolers' use and teachers' socialization of prosocial behaviors after conflict were examined, focusing on the role of homophily and friendship as well as teachers' socialization of prosocial behavior after conflict.

### **Prosocial Behavior after Conflict**

First, this study focused on the enactment prosocial behaviors in the conflict context as well as the characteristics of the children who were prosocial. Findings showed that only 15% of

conflict episodes ended in prosocial behaviors, making these behaviors infrequent in the context of conflict. Previous studies that investigated affiliative interactions after conflict provide a mixed picture, showing high (Ljungberg, Westlund & Forsberg, 1999) and relatively low (Fujisawa, Kutsukake & Hasegawa, 2005) rates of these behaviors after conflict. Additionally, in this diverse sample, there was no demographic group that enacted the vast majority of prosocial behaviors, however, African American and children between 42 and 60 months showed the highest frequency of prosocial behavior. Previous research has indicated that prosocial behaviors tend to increase with age (Eisenberg & Mussen, 1989). The initial findings that African American preschoolers show relatively high prosocial behaviors in the context of conflict demonstrates the need for continued research investigating the prosocial behaviors of children from diverse backgrounds, particularly when examined in conjunction with previous literature. Investigating the contexts of prosocial behavior enactment would complicate the idea that “at-risk” preschoolers are deficient in these developmentally appropriate behaviors.

This study also found a significant relationship between object disputes and sharing behaviors. No previous research has investigated the relationship between conflict type and prosocial behavior types, however, these findings were consistent with expectations. It stands to reason that particular types of conflict would engender specific prosocial strategies, possibly for the maintenance of interactions with the opponent or continued access to the object of dispute. That relationship helps explain the low frequency of helping and cooperating behaviors. Perhaps preschool-aged children are able to use the conflict context to determine which prosocial behavior would be the most fitting. Because this is the first study to examine these outcomes, future studies should continue to examine this relationship and contributing factors.

Not surprisingly, and consistent with expectations, preschoolers accepted the prosocial offers made by their peers after most conflict events. These outcomes are somewhat consistent with previous literature on the preschoolers' reactions to prosocial behaviors where children would mostly neutrally accept the offer without any other reactions (Eisenberg, Cameron, Tryon & Dodez, 1981). Further, because the majority of prosocial behaviors dealt with the sharing of the object under dispute, it is possible that these behaviors were accepted because the responder did not want to lose access to the desired resource. Due to the ethological nature of the data, there is no understanding of the cognitions behind the reactors' acceptance of prosocial offers. Future studies on this topic would benefit from exploration the conditions under which preschoolers accept and/or deny prosocial outcomes as well as the reasoning behind acceptance. For example, Chadha and Misra (2006) conducted a study on the prosocial reasoning of Indian children as young as 5 years old across socioeconomic statuses, and older studies have explicitly examined the reasoning behind middle class preschool children (see Eisenberg-berg & Neal, 1979; Eisenberg, Pasternack, Cameron & Tryon, 1984). A similar protocol could be conducted that captures why children opted to continue with play with their former opponent.

### **Outcomes (together, separate, reconciled) of Prosocial Behavior after Conflict**

The second goal of this dissertation study was to examine the outcomes after conflict generally and specifically, when prosocial behaviors were performed. Overall, children were more likely to stay together after conflict, regardless of the presence of prosocial behavior. However, compared to general conflict observations, dyads that had prosocial interactions were more likely to stay together, and show affiliation after initial separation. Results indicated that preschoolers mostly stayed together with their partners after post-conflict prosocial behaviors (71%). The majority together outcomes after prosocial behaviors were consistent with

expectations, however, previous literature paints an uncertain picture of together outcomes after prosocial behaviors. For instance, one study noted that conciliatory behaviors (e.g., apologies, symbolic offers, and physical contact) were positively correlated with together outcomes (Verbeek, 2001) and in another, separate outcomes were more common (Fujisawa, Kutsukake & Hasegawa, 2005). The uncertainty is due in part to differing definitions of prosocial behaviors after conflict (i.e., conciliatory versus affiliative behaviors). These results provide initial evidence of the role of Eisenberg's prosocial behaviors on conflict outcomes.

For reconciliation in all conflicts and those with prosocial behaviors, neither the attracted pairs method nor the time-rule method provided conclusive evidence for reconciliation after conflict, although preschoolers came together in post conflict observations after a number of conflict events. This was the case for both conflict events broadly and those ending in prosocial behaviors, but an examination of the attracted pairs method could provide insight into reconciliation outcomes after prosocial behaviors. This sample's overall conflict CCT was negative due to significantly low post-conflict affiliative interactions in comparison to a control condition. Conversely, the CCT after prosocial behavior was positive, albeit low. This result provides additional evidence for the role of prosocial behaviors in maintaining interactions between formerly conflicting dyads, possibly more than other affiliative behaviors. A major concern for this study is the lack of match control (MC) observations in relation to post conflict (PC) observations. Based on expectations, if peers are prosocial after conflict, the importance of the resource (and possibly the relationship) may promote reconciliation after initial separation. Research with more MC observational data would further elucidate the manifestation of reconciliation after prosocial behavior after conflictual events.

Although broad conclusions cannot be drawn about specific prosocial behaviors' effects on reconciliation after conflict episodes, the results of this study have implications for prosocial research and theory. A concern about the existing literature is the inconsistent conceptualization of prosocial behaviors after conflict. As such, the role of prosocial behavior on conflict resolution and reconciliation has been uncertain. The results of this study, while focusing on Eisenberg's conceptualization of prosocial behaviors, might inform future discussions on this topic. Perhaps the definition of prosocial behaviors as done for the benefit of another indicates a need for an expansion of the conceptualization of these behaviors in the context of conflict. The reliance on observable behaviors for prosociality might be a limitation of focusing on these behaviors after conflict. Perhaps conciliatory behaviors that have not traditionally been considered prosocial could also be for the benefit of another. For example, leaving the environment might be prosocial in that it provides the partner with space to regulate his or her emotions. Apologies are another conciliatory behavior that could be prosocial in nature (Ljungberg, Westlund & Forsberg, 1999) in that they might serve to appease the receiver of the apology. Future work would benefit from considering first, whether prosocial behaviors were indeed initiated for the benefit of the other person (taking intentionality into consideration), and second, systematically expanding Eisenberg's conceptualization of prosociality in the context of conflict.

### **Prosocial Teacher Interventions**

The third goal of this dissertation study was to examine teacher socialization of prosocial behaviors in the form of conflict intervention. In this study, teachers used a variety of conflict intervention strategies; however, prosocial interventions were rare, comprising only 6.5% of interventions. Thematic qualitative analyses focused on the process of teacher intervention and

demonstrated that the verbal and nonverbal intervention strategies teachers used varied as a function of proximity to the conflicting dyad. The closer teacher interveners were to the disputing preschoolers, the more complex their interventions were. These findings can have implications for classroom size. As teachers gain more experience in the classroom, they might better understand where to locate themselves relative to the conflicting dyad. Previous literature has indicated that type of teacher training is affiliated with beliefs about the role of conflict on children's conflict resolution strategy development (Chen & Smith, 2002). Perhaps those attitudes influence how teachers intervene in conflict as well. Teachers with more experience do not see conflict as being detrimental to class climate, which would influence how (and how often) they intervene in conflict. Specific to prosocial interventions, it is possible that with training and experience, teachers are better able to indirectly (i.e., from a distance) intervene prosocially, allowing preschoolers to develop their own strategies.

As a whole, formerly conflicting preschoolers were likely to stay together after teacher interventions that emphasized prosocial behaviors. Minimally, these results are inconsistent with previous research on outcomes of teacher intervention that found that together outcomes are less likely after teacher intervention (Roseth et al., 2008). However, as expected, perhaps the prosocial nature, as well as the level of involvement of the teacher interventions could explain these findings. Further, these findings highlight how teachers use intervention to socialize prosocial behaviors. Previous work has outlined steps for teachers while intervening in conflict events (Göncü & Cannella, 1996). Although researchers did not elaborate on conflict outcomes, their model for intervention (i.e., identification of the conflict, concerns about the emotional effect on the preschoolers, and working towards a solution) could be model for how teachers to promote prosocial (and other affiliative) behaviors after conflict. Future work should continue to



examine the process of prosocial teacher interventions while examining the affiliative outcomes of these interventions.

This dissertation study also has implications for teaching practice, particularly in Head Start programs. A goal of the Head Start curriculum is to promote social-emotional learning. For example, *The Al's Pals: Kids Making Healthy Choices* intervention has been one successful protocol in helping children from high-risk backgrounds learn how to make healthy prosocial and personal decisions. Through the use of puppets, role play, and creative play, children are taught to express empathy and understanding of others as well as socialize prosocial behaviors (Lynch, Gellar, & Schmidt, 2004). Because promoting positive behavior in children is an explicit goal of the Head Start program, the results of this dissertation elucidated the practice and effectiveness of teachers' socialization of prosocial behavior, especially after a conflict event where subsequent positive interactions are critical. The findings that the distances teachers intervene from children have an influence on outcomes can serve to inform teacher training programs specific to prosocial socialization.

### **The Role of Race, Ethnicity, Sex, Friendship and Intervention on Prosocial Behaviors**

The final goal of this study was to examine the role of demographic factors, peer homophily, friendship and teacher interventions on prosocial behaviors using social network analysis. This study was the first of its kind to use social networking analysis to examine the shared characteristics and experiences between the prosocial actors in the preschool classroom, particularly using naturalistic observation. Dyadic analyses revealed that paired teacher intervention experiences and sex homophily were significantly related to prosocial behaviors in conflict. Further, mutual friendship nominations were marginally associated with prosocial behaviors. The evidence of homophily based on gender is consistent with expectations and

previous literature (Sackin & Thelen, 1984), particularly when considered in conjunction with mutual friendships. Because existing literature indicates that same sex dyads are likely to interact (Rubin, Bukowski & Parker, 2006), it stands to reason that conflict and subsequently prosocial behavior would be more prevalent among peers who are similar in terms of sex.

The lack of association of race and age homophily with post-conflict prosocial behaviors requires further investigation. Previous studies investigating age homophily emphasized these behaviors during free play. Perhaps the mixed-age nature of preschool classrooms minimizes these effects as all children interact, and as a result, have conflict with each other. Further, conflict contexts might be the result of children of different ages interacting. It is possible that the more separate preschoolers are in age, the more likely they are to be in conflict.

The only study to investigate prosocial behaviors using Head Start preschoolers and that paid attention to racial/ethnic backgrounds, relied on teacher ratings, and did not focus on post-conflict contexts (Spivak & Howes, 2011). In this study, racial/ethnic homophily was not a statistically significant, however, there were prosocial dyads that were similar in terms of race (Figure 4). Racial/ethnic homophily has not been found in previous literature, so perhaps preschool children are more to align themselves according to sex, providing more opportunity for conflict than those of similar racial or ethnic backgrounds. This could especially be the case in racially diverse classrooms. Another explanation might be that preschool-age children are too young for racial/ethnic homophily to be evident. Future research should continue to investigate the association of age and race to prosocial behaviors in play states and after conflict to elucidate age and racial patterns. Specific to race and ethnicity, future studies should investigate the role of culture and cultural differences on the enactment of prosocial behaviors after conflict.

In this sample, teacher interventions were the most significant predictor of prosocial

behaviors after conflict. These results were consistent with previous literature finding that children's ability to resolve conflict increased with solicitation of teacher intervention (Chen, Fein, Killen & Tam, 2010). Although, in this sample, the majority of conflicts ending with prosocial behaviors had no intervention, these results might be indicative of the effect of socialization via teacher intervention over time. Future studies might address this question by conducting time-order analyses on teacher interventions after conflict events.

These results highlighting teacher intervention, and more broadly, teachers' socialization of prosocial behavior after conflict have implications for future research on this subject. First, these results call for a consideration of the role of teacher conflict intervention in preschoolers' natural conflict resolution. Where previous research has shown that teacher intervention has a negative effect on preschoolers negotiation of conflict (Killen & Turiel, 1991) and continued affiliative behaviors after conflict (Roseth, 2008), this study's findings suggest that teacher interventions might help facilitate post-conflict prosocial behaviors. There might need to be a balance between teachers' in-person involvement after conflict and children's own self-regulated abilities to handle these prosocial outcomes on their own. Previous research has highlighted the differences between teacher- and peer-directed prosocial behavior found that preschoolers were more likely to emphasize friendship ties for these behaviors when only peers were involved (Hay, 1994). Perhaps, the pursuit of relationship interests in conjunction with learning that occurs during previous interventions, preschoolers are able to be prosocial after conflict. Continued study on this subject will further elucidate this balance.

These results surrounding socialization speak to a larger question of the loci of conflict resolution behaviors (i.e., whether they are the product of socialization or a natural phenomenon). Although there may be a natural tendency for children to resolve conflict using

these behaviors, as mentioned previously, a goal of Head Start is to socialize prosocial behaviors in these preschoolers who are “at-risk” for negative developmental outcomes. Contextualizing prosocial behaviors within conflict resolution also allows for the examination of the influence of the system on these behaviors. As a system, the Head Start classroom’s microregulations shape the behaviors of the children therein (Pianta, 1999). Conflict, and subsequently conflict resolution can serve as microregulations that can further promote prosocial behaviors. Within the context of conflict, teacher intervention can serve the purpose of socializing prosocial behaviors as conflict resolution and influence children’s development of the skills to not only maintain positive relationships in the classroom after adverse interactions, but that are developmentally appropriate for later social competence (Chen, Fein, Killen & Tam, 2001) and morality (Killen & de Waal, 2000) in social relationships. Because Head Start seeks to promote these positive developmental outcomes, researching the influence of all of the parts of the classroom system allows for researchers and practitioners to better understand the mechanisms at play in the development of conflict resolution using prosocial behaviors.

In this study, friendship was not significantly associated with post-conflict prosocial behaviors. Previous literature investigating the correlation of friendship and prosocial behaviors after conflict has found mixed results, hence, it is unclear if friends are more likely to be prosocial after conflict than nonfriends. The lack of significance in this dissertation study aligns with one previous study (Fujisawa, Kutsukake & Hasegawa, 2005) which might indicate that preschoolers are more likely to use post-conflict prosocial behaviors to promote future friendships than to preserve existing ones. Further research that emphasizes preschool children’s rationale for being prosocial with particular classroom peers would shed light on this issue.

Social network analyses indicated that there were no individual factors that predicted

prosocial behavior. These findings were surprising given previous work on the association of race and sex on prosocial behavior, although the association of age on prosocial behavior was less certain based on existing literature. For example, previous studies have indicated that children of color show higher rates of prosocial behaviors than their White counterparts. Perhaps the context conflict diminishes some of those effects. Further, previous research has also indicated that girls show more prosocial behaviors than boys (Eisenberg, Fabes & Spinrad, 2006). Given the gendered stereotypes around doing things for others, perhaps preschool children have not yet internalized these messages surrounding prosocial behavior.

An explanation for the insignificant relationship of individual demographic factors on prosocial behaviors could be that previous literature focused on the individual giver. Perhaps prosocial behaviors (in the context of conflict) would better be understood as a dyadic-level phenomenon. For instance, while Mexican American children show more prosocial behaviors than their White peers (Knight & Kagan, 1977b), these results might be different if the recipients of those behaviors were not also Mexican American. There has been a call for studying prosocial behaviors in the context of peer relationships (Eisenberg, Fabes & Spinrad, 2006), however, more specifically, there should be continued investigation of how homophily within those relationships facilitate prosocial behaviors. Future research on prosocial behaviors after conflict would benefit from social network analysis to further understand the association of demographic characteristics.

### **Limitations and Conclusions**

This study has a few noteworthy limitations. First, although this study's sample took place in the racially diverse setting and focusing on children from low SES backgrounds, generalization to the larger population is a limitation of the study. The external validity is limited

because of the specific nature of the classrooms under observation, and Head Start classrooms in this Midwestern city may be qualitatively different from those in other cities. Further, the oversampling of African American and Latino preschoolers is not representative of the United States as a whole, further limiting generalizability.

Another limitation is the focus of behaviors and relationships in the classroom without taking into consideration the extra-classroom factors that influence behavior. For instance, parents and siblings act as socializing agents in preschoolers' lives. Without data on the additional socializing agents in the preschoolers' lives, particularly the Black and Latino students who are members of nondominant cultures, the story of their socialization is incomplete. Future studies should consider the influence of family socialization and other family factors that could influence prosocial behaviors. Further, this study investigated behaviors that might be culturally centered. Although this study considered race as a demographic factor in prosocial behavior, future work along these lines should consider how race extends beyond demographics, but also includes culture (Lee, 2003). As such, future naturalistic observational studies on this behavior in the context of conflict should systematically observe children in conflict within the home as well as incorporate parental socialization of prosocial behavior in order to begin to capture cultural influences on prosocial conflict resolution or incorporate parent reports of the cultural relevance of prosocial behavior.

The last limitation of this study is that it lacks a measure of how prosocial the focal children were during free play outside of the context of conflict. Perhaps the low frequency of prosocial behaviors after conflict events is indicative of low overall prosocial behaviors among these children at this point in development. The added emotional component of interpersonal conflict might reduce the likelihood that prosocial behaviors occur. Future research building on

this work should examine prosocial behaviors within and outside conflict episodes for a more complete understanding of prosocial behaviors in this population of preschoolers.

Despite the limitations discussed above, the results of this study have important implications for researchers and practitioners. First, this study expands the existing conceptualization of prosocial behavior by contextualizing these behaviors in conflict resolution. By expanding the situations in which preschool prosocial behaviors occur, future studies can continue to explore how different forms of social interactions influence the enactment of prosocial behaviors. Further, social network analyses provided evidence that sex homophily has a role on prosocial behavior after conflict and that dyadic experiences of teacher socialization through intervention significantly predicts prosocial behavior. The latter finding is relevant to teacher practice as early childhood educators seek to develop certain behaviors in the children with whom they interact in the classroom system. The thematic analysis of teacher interventions that emphasized prosocial behaviors provided further consideration of this socialization process. Consequently, there is a need for continued research on the connection between teacher intervention and prosocial behavior in preschool-aged children.

An additional contribution of this study is the emphasis of traditionally defined prosocial behaviors after conflict. Existing research has investigated the role of conciliatory and affiliative behaviors (including prosocial behaviors) after conflict (e.g., Roseth et al., 2010; Verbeek & de Waal, 1997). However, this dissertation study attempted to bridge the conflict literature highlighting prosocial behavior with the empirical studies that have looked at prosocial behaviors after conflict episodes. This study also offers some consistency to the operationalization of prosocial behaviors, a concern that has been voiced by previous scholars (Marcus, 1986). Future

studies should continue to clarify the behaviors under investigation as well as systematically consider the nature of prosocial behaviors in the context of conflict.

Finally, this study contributes to the existing literature on prosocial behavior by focusing on the prosocial behavior of children at the intersection ethnic minority and low socioeconomic status. A concern of previous literature on prosocial behaviors was that the samples were racially homogeneous and were from middle class backgrounds. Research on the behaviors of African American and Latino children and those who live below the poverty line provides a more thorough understanding of preschoolers' prosocial behaviors under different conditions. Further, continued examinations of how African American and Latino children are prosocial after conflict can further help eliminate the stereotype of decreased prosocial behaviors in these children.



Figure 1

*Number of Prosocial Preschoolers by Classroom*

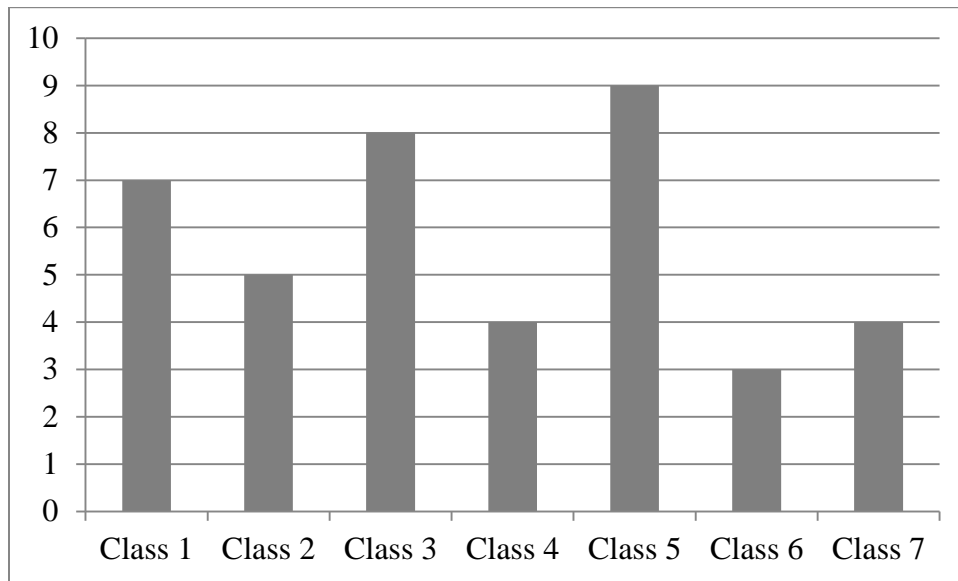


Table 1

*Frequency of Teacher Interventions*

Teacher Intervention Type	Frequency	Percentage
Arbitrate	46	29.1
Mediate	31	19.6
Redirect/Separate	23	14.6
Model Reconciliation	15	9.5
Rule Enforcement	14	8.8
Gaze/Physical Presence	9	5.7
Prosocial Behavior-focused	6	3.8
Reprimand	3	1.9
Other	11	7

Figure 2

*Teacher Interventions and Preschool Prosocial Behaviors by Classroom*

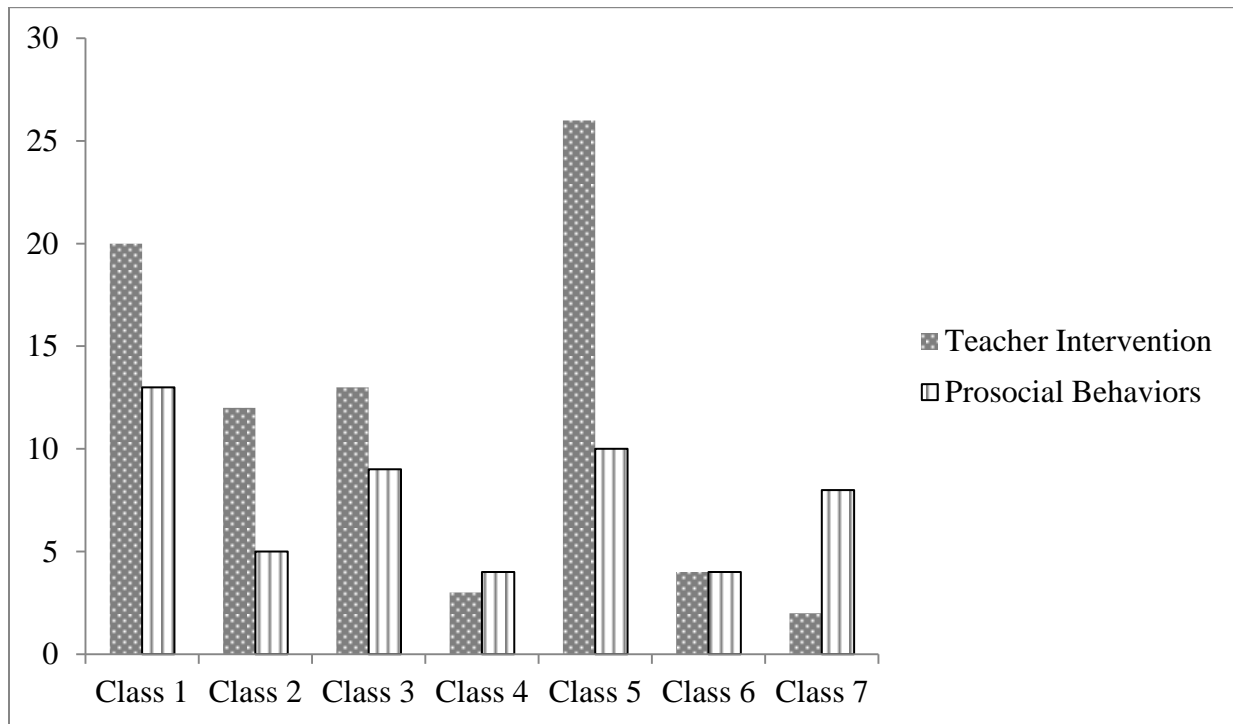


Figure 3

*Teacher Interventions in Conflicts Ending in Prosocial Behaviors*

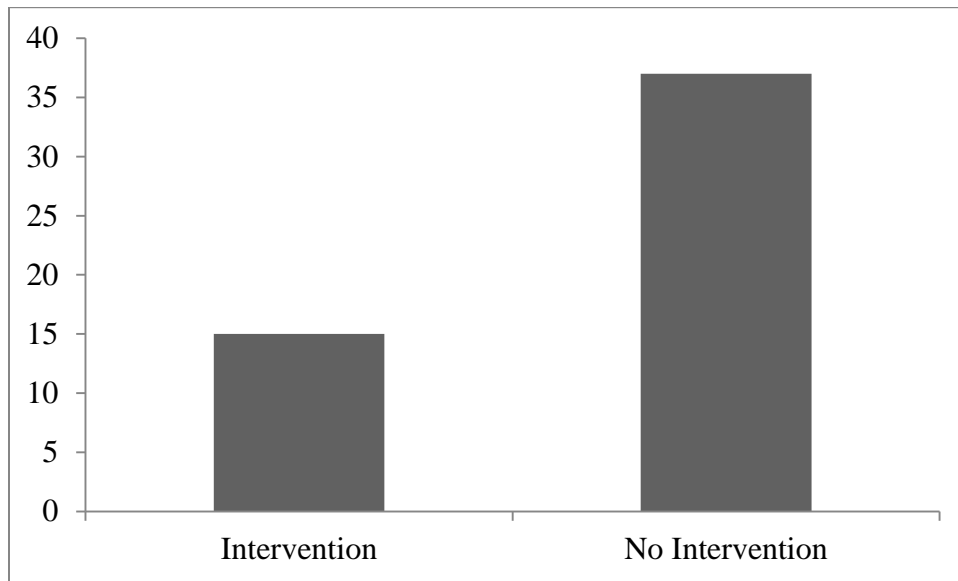


Table 2

*Demographic Characteristics, Homophily, Teacher Socialization, Friendship and Prosocial Behaviors*

Independent Variables	Prosocial Behavior
Level 1	
Teacher intervention frequency	.031** (.02)
Mutual friendship nomination	.025 (.02)
Same race/ethnicity	.0001 (.01)
Same sex	.013* (.00)
Similar age	.0002 (.00)
Level 2	
Race/ethnicity (White)	.01 (.00)
Age	.00045 (.00)
Sex	.0016 (.00)
Intercept	.026 (.02)

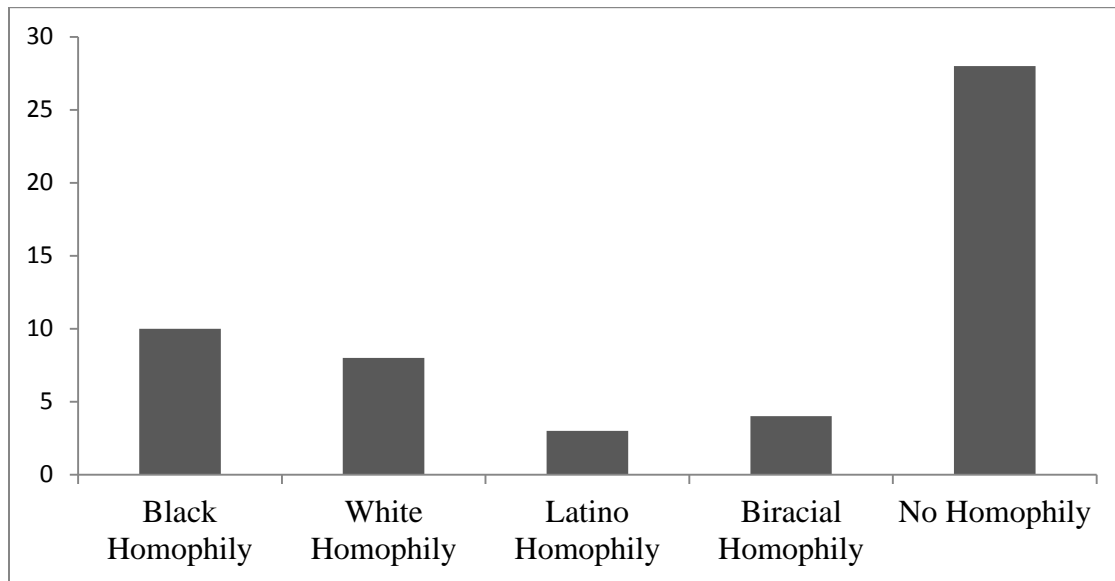
*Note.* Standard errors are in parentheses.

\* $p \leq .05$

\*\* $p \leq .01$

Figure 4

*Frequency of Prosocial Dyads by Racial/ethnic Homophily*



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