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Master's Thesis Clinical Child and Adolescent Psychology

The Role of affiliation in sharing behaviors between toddlers

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Abstract

The developmental origins of sharing behaviors between young preschoolers remain little understood. The present study aimed to examine whether contextual factors (affiliation and reciprocity) affect sharing behaviors between peers. Twenty Dutch children (13 girls, M_{age} = 34.45 months) were randomly assigned to participate either in interactive or parallel play sessions with a partner and were then asked to share toys with that partner in a subsequent session. The type of play children were engaged in, or whether the partner had previously shared with the child, was unrelated to the likelihood or willingness to share. Age and gender differences in sharing behavior, were not found. These results indicate that affiliation and reciprocity do not induce prosocial behaviors in young children. Possible implications of small sample size are discussed.

Keywords: affiliation- sharing behaviors- interactive play, parallel play

Introduction

Prosocial behaviors such as helping, sharing and comforting are some of the main features in human societies. The understanding of the development of prosocial behaviors has gained great research attention (Dovidio et. al., 2017). The way people choose to help, share and comfort others can provide us with a greater insight in the social relationships between them. Developmental psychologists have focused on the evolution of prosocial behaviors and have examined its types across the life span, with a closer attention to youth under 18 years of age (e.g., Handlon & Gross, 1959; Knafo & Plomin, 2006). There have been many debates about the definitions of prosocial behaviors. Some researchers sought to examine the altruistic motivation of the behaviors, pointing out the genuine concern for others (Batson, 1991), while others insisted that the prosocial behaviors do not require concern or cost (Hastings et. al., 2007). However, nowadays there is a common line that is followed and tends to conceptualize prosocial behaviors as "a voluntary action intended to benefit another or other groups, by such actions as helping, donating, sharing and confronting (Eisenberg et.al. 2016). In line with this definition, the nature of prosocial behaviors can be seen as "multi-dimensional" and it sets no restrictions as to whether it should be costly or not. That is, prosocial behaviors can result from pure concerns for others but also from rewards or reciprocity, and social-oriented motivations, which include obeying social norms or responding to others' requests (Eisenberg et al., 2016). In this study we focused on the sharing type of prosocial behaviors, which has been proven to be quite challenging among young preschoolers. Because of its challenges, the examination of the mechanisms that lead to sharing could be revealing.

Sharing behaviors in children

Numerous studies have been conducted on children's sharing behaviors, yet we know little about the mechanisms that constitute the basis of sharing. It is highly possible that any

single mechanism alone cannot explain the overall development of prosocial behaviors (Davidov, et al., 2016). Past research has shown that infants as young as 8 months showed spontaneous sharing behaviors towards their parents (Rheingold, Hay, & West, 1976). Later on, in the first year of life affiliate sharing begins in the social interactions with adults. Sharing behavior during the second year of life is undertaken for another's benefit. The findings of a recent study suggest that, between 18 and 24 months of age children tend to share increasingly more and the expression of sharing is more spontaneous and autonomous, with less encouragement from the recipient (Brownell et al., 2013). However, before the late preschool ages, sharing occurs less frequently compared to other types of prosocial behaviors such as helping and follows a different developmental path (Dunfield et al., 2011).

Young children's sharing behavior has almost exclusively been studied with an adult recipient an experimenter, a teacher or parent. Although, previous findings support that sharing is infrequent unless requested by an adult potential recipient (Hay, Castle, Demetriou & Stimson, 1999; Dunfield, Kulmeier, O'Connell, & Kelley, 2011), however, more recent studies suggest that by the end of the second year children become more autonomously prosocial, and thus are more likely to share even without an adult prompt (Brownell et. al., 2013). The first purpose of the current research was to examining the conditions under which sharing with peers is most likely to occur. Two fundamental aspects were examined: affiliation and reciprocity. The first purpose of the current research is to examine the role of affiliation in the sharing behaviors between peers. Prosocial behaviors and overall the actions that benefit others, play a central role in the social lives of both children and adolescents by helping them to be affiliated with and accepted by peers. In such a way the development of prosocial behaviors may impact social development and well-being. We share a variety of things with one another from physical resources such as toys and food to feelings and ideas. In children, sharing appears in several forms, including emotion sharing but also resource

sharing. All the above mentioned types refer to sharing behaviors, but they differ significantly in their respective functions and motivations.

In the current research, we explore resource sharing behaviors among toddlers with other toddlers. It should be noted that human sharing and resource allocation usually take place in situations where two or more persons' interests are involved (Fehr & Fischbacher, 2004). According to Trivers's (1971), theory of reciprocal altruism provides an ultimate, evolutionary explanation for helpful acts that occur between individuals in close relationships. At a proximate, psychological level, individuals may prefer to aid those with whom they share close social bonds (Preston & de Waal, 2002). Nonhuman primates form stable, close social relationships that can be identified by persistent patterns of preferential proximity, frequent affiliation and rare aggression (Silk, 2002). Thus, one contextual feature that is likely to influence prosociality is the social relationship between actors. That is one of the reasons that we chose to study more closely this phenomenon and examine further the role that cues for reciprocity can play in the expression of sharing behaviors, in toddlers.

The role of affiliation in the emergence of prosocial behaviors has been a topic of research interest (e.g., Carpenter, Uebel, &Tomasello, 2013; Cirelli, Einarson, & Trainor, 2014). The majority of the studies have examined the role of affiliation in prosocial behaviors such as instrumental helping. More specifically, a study by Over and Carpenter (2009) showed that 18 months-olds' instrumental helping, increased after priming with affiliation. These findings suggest that the link between the social affiliation to the group and prosocial behaviors is so fundamental that it can be autonomic and it can be seen even in the young children (Over & Carpenter, 2009).

Building up on the aforementioned studies, more recent ones have examined the affiliation effect on instrumental helping, manipulating affiliation through different ways. Barragan and Dweck (2014) conducted several studies, with 25-month-olds who also showed

increased instrumental helping towards an experimenter who interacted with them (i.e. interactional play, study 1 and 2) compared to conditions where they did not interact but were in proximity to each other (parallel play). Results showed that when reciprocal interactions (interactive play between the experimenter and the child) prior to the helping tasks, then it would be more likely for the 1 and 2-year-olds to exhibit higher levels of altruistic behavior, while in the parallel play condition, children reported lower levels of benevolence (Barragan & Dweck, 2014).

In comparison to the studies on instrumental helping, fewer studies have focused on the affiliation effect on sharing. By directly manipulating affiliation, two studies found that 4-year-olds demonstrated increased sharing towards an experimenter who previously interacted with them in a prior play session, by rolling a ball back and forth for one minute, compared to children who were with an experimenter who did not interact with them, by only giving them a ball and for him playing with an identical ball with no further interaction for one minute. (i.e., interactional play, study 3 and 4, Barragan & Dweck, 2014). In another study, 4- and 6-year-olds completed a resource allocation task, making forced-choice decisions on how to distribute stickers between themselves and others. Two experiments were conducted, the first in which the sharing partners were either minimal in-and out-group members and the second in which children had either the same or different interests (Sparks, Schinkel & Moore, 2017). Thus, both experiments' manipulation affected feelings of affiliation and subsequent sharing. Children made more generous allocations towards in-group members and to recipients who shared their interests compared to out-group members and those with different interests, respectively. These findings highlight the broad impact of affiliation on young children's sharing behavior. If the relationships between affiliation and prosocial behaviors are fundamental (Over & Carpenter, 2009), then we could expect that affiliation also affects sharing behaviors between young preschoolers. More specifically, would young preschoolers

be more likely to share with their peers, if they have interacted before the sharing occurs? Aiming to answer this question, the current study focused on the role of affiliation in the sharing behaviors.

Besides affiliation, a large body of research tested a more complex concept, reciprocity, which requires children to take costs and benefits of the exchange into account (e.g. Warneken, 2015). As a result, even though reciprocity did not seem to play a role in the sharing behavior of 30-month-olds', it does not mean that the affiliation did not affect their sharing. Thus, in the current study we are going to study directly the affiliation rather than reciprocity, through the formulation of two priming conditions (interactive play and parallel play). In another study 3-year-olds' were more likely to help someone who treated others well rather than poorly (Vaish, Carpenter, & Tomasello, 2010). Suggesting that children at this age may be more likely to act prosocially towards recipients with whom they have had positive interactions with before.

Gender differences in prosocial behaviors

A second purpose of the current study is to examine whether there are gender differences in sharing behavior. Within a social framework, gender differences and similarities have usefully been applied to provide explanations on a wide range of psychological phenomena, including prosocial behaviors (Diekman & Eagly, 2008). However, in a recent study, concerning prosocial behaviors in children, there are some controversies with regards to gender differences. By examining instrumental helping in 18 and 20 months-olds, it was found that girls tended to be more prosocial by providing more assistance than boys (Newman, Goodman & Thompson, 2014). In line with these findings, the relation between dispositional prosocial behavior and sympathy and personal distress in kindergarten to third-graders, revealed that girls were rated as more prosocial by parents, teachers and peers (Holmgren, Eisenberg, Fabes, 1998). In spite of the fact that girls are

usually conceptualized as more prosocial, there are recent findings that are not consistent with this notion. In a study by Svetlova, Nichols and Brownell (2010), examining the subtypes of instrumental helping, no gender differences were reported. In addition to that, no gender differences were found on 18 and 20 months-olds' sharing behaviors (Brownell, Iesue, Nichols & Svetlova, 2013). Thus, due to the inconsistency in findings with regards to gender differences, we sought to examine whether gender can be related to sharing behaviors, in young preschoolers.

Current Study

These findings highlight the broad impact of affiliation on the young children's sharing behaviors. However, more studies are needed to validate these findings. Therefore, the first purpose of the current study is to examine the role of affiliation in sharing behaviors among toddlers. Subsequently, besides affiliation, reciprocity may also play a role in the sharing behavior. For this reason, the second purpose of our study was to focus on the role of reciprocity. That is, we examine whether the children who experienced sharing from a peer in a prior condition, would be more likely to share with that same peer subsequently compared to children whose partner did not share with them in a prior condition. Finally, we also explored whether gender differences in these effects are found.

Method

Study Design

The present study of experimental design sought to examine the affiliation and reciprocity in sharing behaviors between toddlers. This study derived data from the third and last wave of a longitudinal study called ‟little helpers project‟.

Participants

A total of 20 healthy, typically developing Dutch children (ages 28-40 months) participated in the study. The Dutch participants were young preschoolers (20-48 months *M*

age = 34.45, *SD*. = 3.73), who participated in the last wave of a 3-wave longitudinal study concerning prosocial development from early toddlerhood to early preschool age. In total the sample consisted of 13 girls (65%) and 7 boys (35%). While the pairs were randomly paired, the ones consisted only from girls were 5, while 4 pairs of children were of mixed genders. The sample was mainly recruited through daycares in several urban areas across the Netherlands and were from middle to upper middle-class families.

This research was approved by the Ethics Committee of the Faculty of Social and Behavioral Sciences, Utrecht University. Informed written consent was obtained from the parents of the children who participated in the study. The parents were also asked to give their consent for the video-taping part of the experiment.

General Procedure

A main experimenter (E) conducted the tasks, with the help of an assistant experimenter (AE). Experiments mainly took place at the daycare, either in a single play room or in a semi-closed off area (e.g., a corner of a big playroom or the classroom) and were videotaped. The E and AE joined the class and helped the teacher before the play sessions, either by reading a book to the children or by joining an activity in the classroom, in order for the children to become more familiar with them. The parents or the teacher were not present during the testing. The AE was blind to the hypotheses of the study.

The experimental procedure consisted of three phases: priming phase, with two conditions (parallel play or interactive play), the test phase (structured sharing tasks) and the final play phase, during which the children were told to play together. We observed 10 pairs of children, who were paired randomly by the experimenter per classroom with 5 pairs assigned to a parallel play session and 5 pairs of children to an interactive play session.

Priming Phase. In the beginning, the experimenter introduced the toys to the children. The toys were 4 food shaped toys (in order: green apple, yellow apple, tomato, orange) and 4

animal shaped toys (in order: elephant, giraffe, lion, horse). During the manipulation conditions in either the parallel or the interactive play, children were allowed to play for two minutes. The children who fall into the interactive play condition were told to play together "Now you can play together". During the parallel play condition, one child was given 4 toys, and the other 4 toys were allocated to the other child, and they were told to play separately.

Test phase. During the test phase, children were observed in two 1-minute play sessions. In the first session, one of the children (A) had an abundance of 8 toys (first lucky child), while the other child (B) had none (second unlucky child), in the second session, the roles were reversed where the unlucky child became the lucky child and vice versa. Within each of these first two sessions after 30 seconds, if the lucky child did not share anything with the unlucky child, the experimenter said "do you want to share some toys with XXX (the unlucky child's name)? If the child refused the experimenter told them to share some toys with the phrase: "please share some toys with XXX". After one minute had passed, the next play session began.

Final play session. The final 1-minute play session, the experimenter gave each child 4 toys (2 animals and 2 pieces of fruit) and the children were told to play together for 1 minute with no further instructions. If any disputes occurred over toys, the experimenter ignored it for 5 seconds but intervened if it continued saying "you should play with the toys you were given". If the children shared toys but there were no arguments then the experimenter sat there and said nothing. After 60 seconds the experimenter said "Ok, good job, thanks for playing with these toys today" and accompanied them back to the classroom.

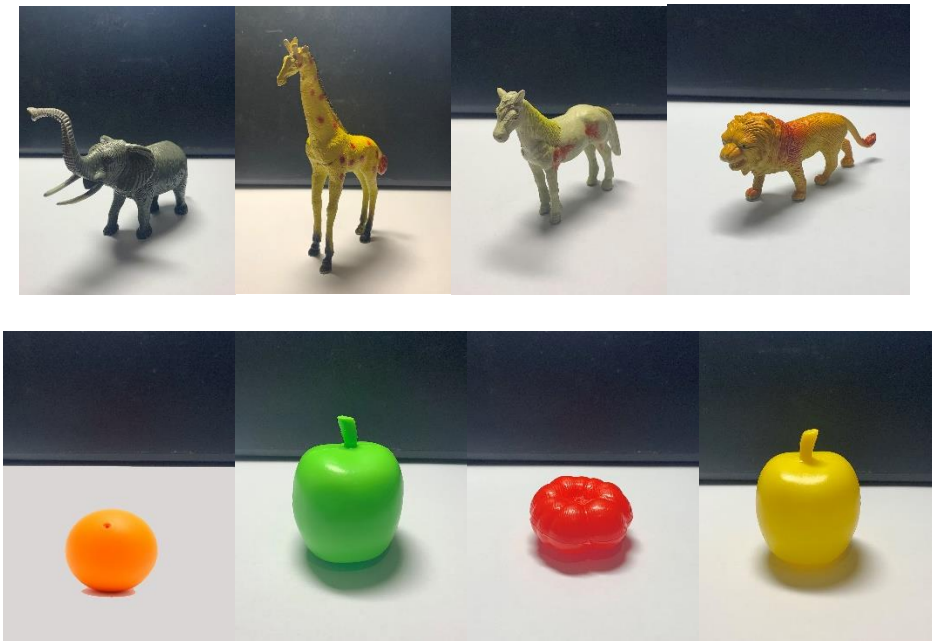

Figure 1. Materials: four animal shaped toys (elephant, giraffe, horse, and lion) and four fruit shaped toys (orange, green apple, tomato, yellow apple).

Behavioral Coding

Two independent raters (blind to the hypothesis) watched videos of the structured interaction tasks of children.

During the priming condition which included either the interactive or parallel play the raters coded the general quality of the interaction as positive, neutral or negative. They also coded whether any sharing of toys occurred. Sharing behavior was coded as involving whether one child taking the toy offered from the hand of the other child or when one child was allowed to play with the toy that the other child was assigned. The non-sharing condition included both children playing with different toys and not interchanging the toys they were playing with.

During the test phase, each child's sharing behavior was coded. Sharing was coded as having occurred or not (throughout the session) and whether it occurred spontaneously (no

prompts by E), after the first prompt, or after the second prompt. In the analyses, two measures of sharing were used: whether the child shared or not (at any point) and willingness to share where 0=did not share, 1=shared after 2 prompts, 2= shared after 1 prompt and 3= shared spontaneously)

The final play session of the experiment was not recorded as it was not aimed to use it in the research analyses. It contained one minute of interactive play.

Results

Preliminary Analysis

A Pearson's correlation sought to examine any potential existing relationship between the age of the child (in months) and the child's readiness to share. No significant relationship between age and willingness to share was found, r (20) = .018, p>.05, therefore age was not controlled in subsequent analyses.

The role of affiliation

As it may be seen on the Table 1, the frequencies of the willingness to share per condition are displayed. In the parallel play condition, the percentage of the young preschoolers, who exhibited sharing behavior is 80% while the percentage of children who shared in the interactive play condition, was 70%. It can be concluded that, 15 out of 20 children of our sample exhibited sharing behavior, either spontaneously, on first or second prompt.

Table 1

Frequencies of Willingness to share in both conditions

		Never Shared	2 Prompts	1 Prompt	Spontaneous
Condition	Parallel	2	3	4	1
	Interactive	3	2	3	2
Total		5	5	7	3
Percentage		25%	25%	35%	15%

Test Hypotheses

To test our hypothesis on whether the type of play was associated to children's likelihood to share, we employed a Chi-square test comparing the proportion of children who shared across the interactive and parallel play conditions. Results revealed a nonsignificant difference across conditions X^2 (3) =1.667, p> .05. That is, children in the interactive play condition were not more likely to share than children in the parallel play condition. A t-test was used to examine whether children were more willing to share across conditions. Results revealed that children in the interactive play condition (M = 1.40) were not more willing to share than children in the parallel play condition (M =1.40) with t (18) = .00, p =.071.

Reciprocity

To test our second hypothesis on whether the sharing behavior of the first child would be related to the sharing behavior of the second lucky child, we also used a Pearson Chi-square exact test. Of the 10 first lucky children, 70 % shared. In comparison with the number of children who shared as the second lucky child, 5 children shared if the first lucky child

shared (71.4 %) and 2 of them shared if the first lucky child did not share (28.5%). The exact results of Pearson Chi-square yielded non-significant association with X^2 (1) = 1.071, $p > .05$. An independent sample t-test used for the willingness to share between the children who were shared compared to the children who were not shared and revealed no significant differences in the willingness to share t (8) = 1.18 , p= .27 ; M = 1.14, where first lucky child had shared, compared to M = 2.00 where second lucky child had shared . Thus, it may be concluded that whether their playing partner shared or did not share toys with them was not associated to their reciprocation of sharing toys in the next phase.

Gender differences

A Chi square test was employed to test whether gender would be associated to the likelihood of sharing. The results revealed no significant difference in the percentage of boys and girls who shared X^2 (1, N=20) = 2.857 $p > .05$; with 35 % of boys and 75% of girls exhibiting sharing behavior. An independent sample t-test used to test for gender differences in willingness to share collapsed across play conditions. Results revealed a non-significant gender difference (t (18) = 2.39, p=.071; M = 2.17 for boys, compared to M = 1.07 for girls). Thus, it can be concluded that the gender did not play a role on the willingness to share.

Discussion

Aiming to examine the effects of affiliation and reciprocity in the sharing behaviors between toddlers, we combined the strengths of naturalistic and experimental procedures. In this way, this study of experimental design sought to further examine through structured tasks, how social contextual factors such as reciprocity and affiliation would affect the sharing behaviors between young preschoolers. To our knowledge, there are no previous studies which examined the role of affiliation or reciprocity on the sharing behaviors between peers. Therefore, the aim of the current study was to bring the field forward by investigating exactly this association. The affiliation and reciprocity were not found to play a role in the

sharing behavior between toddlers. Toddler's age and gender also did not seem to affect the emergence of this type of prosocial behavior.

As for the affiliation part, we explored whether the type of play that the children would engage in, could lead to sharing behavior during the test phase. We hypothesized that the children who engaged in the interactive type of play would be more likely to share in the main sharing task. That is, the positive experience of a sharing behavior in a prior level, would make the sharing behavior more likely to occur in a subsequent level. In the current study we conceptualized that the interaction between the children would serve as an affiliation prime and thus it would increase the sharing behavior. Previous research suggests that the synchronized movement (Cirelli, Einarson &Trainor, 2014), the mimicry (Carpenter, Uebel, &Tomasello, 2013) and the interactive play (Barragan & Dweck, 2014), would serve as affiliation primes of prosocial behaviors. The findings of a study by Barragan and Dweck (2014) demonstrated that 1 and 2-y-olds who engaged in a warm-up period of reciprocal play, with the experimenter helped at a significant higher level than the children who participated in the parallel play condition. The results of this study highlight the notion that young children used reciprocity as a cue for helping. One potential answer is that the reciprocal experiences made children perceive the interaction with the experimenter in a positive way and thus this affective positivity can be accounted for children's subsequent helping behavior. In line with these findings, Over and Carpenter (2009) found that 18-month-olds were more likely to engage in instrumental helping and helped more quickly after being exposed to affiliation primes. While little research has been done with regards to the sharing behavior, in the current study we focused on this type of prosocial behavior. By assigning the children in two groups, 5 pairs of children in the parallel play condition and 5 pairs in the interactive play, we examined whether the children who engaged in interactive play, would be more likely to share in a subsequent play interaction. We found that the type of play did not relate

to the sharing behavior of the children, as the majority of children shared regardless the type of play they engaged in and children did not differ in the number of prompts needed to share (willingness to share). Our results are in contrast with to Barragan and Dweck (2014) who found that after participating in interactive play, instrumental helping would increase. Several studies have shown that affiliation primes affect prosocial behaviors among children and adults (e.g. Thomson, 2015; Weltzien, Marsh, & Hood, 2018). However, it is unclear if type of affiliation (e.g. friendship) affects prosocial behaviors and how. Specifically, we examined the affiliation though interactive play. Some evidence shows that prosocial behaviors are becoming increasingly selective as children mature (e.g., young preschoolers shared more towards recipients with whom they had closer connections, for review, see Martin & Olson, 2015). It is plausible that, before children develop strategies for becoming more discriminative in their behaviors, a prime of general affiliation, like what we used here, may not be sufficient to induce prosocial behaviors. However, more studies are needed to examine this possibility and further compare how different types of affiliation may promote or hinder prosocial behaviors. Different types of affiliation could be established through longer sessions of interactive play, which would let children get familiar with one another.

Secondly, we explored the association between the reciprocity and the occurrence of sharing behavior. We found no effect on whether the children who experienced sharing behavior from their playing partner, were more likely or more willing to reciprocate toy sharing the second phase. In fact, we found, that in some pairs even if the first lucky child did not share at all, the second lucky child shared spontaneously during the second phase. A possible explanation for that, could be found in the different types of reciprocity and the way the children perceive them as discussed below. In the present study, we aimed to examine direct reciprocity, which is in line with “give what you get strategy”.Direct reciprocity, more

specifically, is the idea that cooperation emerges in repeated encounters between the same two individuals according to the principle 'I help you and you help me' (Trivers 1971).

However, there is another type of reciprocity, which is called upstream reciprocity and indicates that the person A would be more likely to share with the person B if they have already experienced the sharing of a third party (person C). In our case, the experimenter was the one that handed out the toys to the children before each task. Therefore, we propose that while children did not experience the effect of direct reciprocity, there is the possibility that the majority of them shared, due to the effect of upstream reciprocity.

Several limitations of the study should also be noted. First, the tasks were rather simple for the developmental stage for the children and therefore sharing behavior may no longer be affected by affiliation and reciprocity. After the second year of life the types of prosocial behaviors are transformed, for example by 2 years, toddlers have developed the social cognitive skills required for instrumental helping (Dunfield, 2014). However, sharing follows a slightly differentiated developmental path, as until the preschool years there is a continuous development of social cognitive skills needed for sharing, such as recognizing and rectifying an unequal distribution of resources (Dunfield, 2014). That is, it was not requested from our participants to make use of their cognitive skills for the sharing behavior. Through the structure's tasks, we prompted them to exhibit sharing behavior, something that by the preschool years is familiar and known to them.

Second, while the findings of the present study are largely exploratory, due to the small sample size we cannot draw generalizable conclusions. The small number of participants may have affected the statistical power of our analysis to a great extent. Third, the structure of the tasks may have induced sharing behaviors. The reason why the structure of the tasks could by default lead to the sharing behavior, could be because during the prior sessions of the experiment, children had an equal distribution of the toys. Apart from the

structure, we should also take into account that the experiment took place in a daycare setting, where sharing is usually expected from the teachers. For that reason, we propose that a valid way to examine sharing behaviors among other types of prosocial behaviors would be through observational peer play. If the tasks are not structured, and we focus on observing how the children at a preschool age choose to share with toys and with whom, we will gain a greater insight on the origins and motivations underlying sharing behaviors.

However, by examining the role of affiliation and reciprocity, through structured tasks, we found no clear association between these social contextual factors and sharing behaviors between peers. Thus, we propose that future research should focus on the nature of individual differences in prosociality such as temperamental variability and differences in executive functioning. Consistent with the notion that prosocial behaviors are developing dramatically throughout the first years of life, we propose that a research of longitudinal design should be conducted to further explore the development throughout the early years.

As for the gender differences while we did not report significant gender differences, we indicated that all 7 boys of our sample exhibited sharing behavior, while 75% of the girls did. Our results are in contrast with a study by Newman, Goodman and Thompson (2014) that found that 18 and 20 months-olds girls tended to be more prosocial than boys. However more recent research findings by Brownell, Iessue, Nichols and Svetlova, (2013) indicated no sex differences in sharing behaviors. Thus, we can conclude that there is still a controversy between the gender differences in sharing behaviors. The results of the current study with regards to gender differences cannot be generalizable due to the small sample size and it is also notable that only 35% of our sample consisted of boys.

The study of the underlying mechanisms that constitute the basis of sharing behavior and in general the prosocial behaviors are of high research interest. Gaining a greater understanding of how contextual factors induce prosociality, can help us as clinicians but also

teachers and parents learn ways to encourage and cultivate it through the interactions with young preschoolers.

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