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# The Role of Parental Practices and Warmth in Toddler's Prosocial Behavior

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**Samenvatting**

De huidige studie onderzocht de associatie tussen prosociaal opvoedingsgegrag van ouders en ouderlijke warmte aan prosociaal gedrag in peuters. Bovendien werd onderzocht of ouderlijke warmte een moderator was in de relatie tussen prosocial opvoedingsgegrag en prosociaal gedrag in peuters. Prosociale observatietaken werden uitgevoerd onder 114 peuters tussen 16-33 maanden oud uit een eerste golf van een longitudinale studie genoemd The Little Helpers, en hun ouders vulden vragenlijsten in. Regressieanalyses werden gebruikt om gegevens te analyseren. Prosociaal opvoedingsgegrag en ouderlijke warmte waren geen significante voorspellers van prosociaal gedrag van peuters. Er was echter een aanzienlijk matigingseffect van de ouderlijke warmte op de associatie tussen ouderlijke praktijken en de instrumentele hulp van peuters. In tegenstelling tot de verwachtingen, bleek dat van de kleuters die een lage ouderlijke warmte ontvingen, hoge niveaus van ouderlijke praktijken een significant hoger niveau van peuters als instrumentele hulp voorspelden. Voor peuters die hoge of gemiddelde niveaus van ouderlijke warmte ontvangen, werd er geen verband gevonden tussen ouderlijke praktijken en instrumentele hulp. Verder onderzoek is nodig om de relatie tussen niveaus van ouderlijke warmte en ouderpraktijken beter te begrijpen om interventies van ouders te verbeteren die gericht zijn op het stimuleren van prosociaal gedrag door hun peuters
*Key words: prosociaal opvoedingsgegrag, ouderlijke warmte, prosociaal gedrag*

**Abstract**

The current study examined the association between parental practices and parental warmth with toddler's prosocial behavior. Moreover, it was studied whether parental warmth was a moderator in enhancing the effectiveness of parental practices in regard to prosocial behavior. Prosocial observation tasks were conducted among 114 toddlers between 16-33 months old from a first-wave of a longitudinal study called *The Little Helpers*. In addition, parents completed questionnaires regarding parental practices and warmth. Regression analyses were used to analyze data. Parental practices and parental warmth were not found to be significant predictors of toddler's prosocial behavior. However, there was a significant moderation effect of parental warmth on the association between parental practices and toddlers' instrumental helping. Contrary to expectations, it was found that among toddlers receiving low parental warmth, high levels of parental practices predicted significant higher levels of toddlers instrumental helping. For toddlers receiving high or average levels of parental warmth no association between parental practices and instrumental helping was found Further research is necessary in order to better understand the relationship between levels of parental warmth and parental practices in order to improve parental interventions targeted at stimulating prosocial behavior by their toddlers.
*Key words: prosocial behavior, parental practices, parental warmth*

# The Role of Parental Practices and Parental Warmth in toddler's Prosocial Behavior

There is an increasing interest in studying the ways in which toddlers can foster prosocial behavior. This seems necessary especially nowadays given the significant number of stories in the news media and elsewhere about crimes and acts of bullying committed by youngsters. Thus, to counter this negative situation and to prevent the development of antisocial behavior, research now also focuses on developing prosocial behavior. The general purpose of this study is to contribute with information in regard to two factors that might play a role in the development of prosocial behavior.

Prosocial behavior can be defined as voluntary behavior intended to benefit others (Hastings, Utendale & Sullivan, 2007; Eisenberg, Fabes & Spinrad, 2006). According to some researchers, starting in children at two years of age, a major development of specific prosocial behaviors such as helping and sharing, is often witnessed (Kärtner, Keller & Chaudhary, 2010; Svetlova, Nichols & Brownell, 2010). For example, instrumental helping, defined as interpreting another's instrumental need based on the observation as well as identifying the obstacle and understanding how to overcome it, seems to appear between 12 and 16 months old. Sharing, defined as recognizing inequality between oneself and another and overcoming the desire to keep the resource for oneself, seems to appear between 12 and 30 months old. Emotional helping, interpreting and responding to another's emotional display of need, might emerge between 18 and 24 months of age (Brownell, Svetlova & Nichols, 2009; Dunfield, Kuhlmeier, O'Connell, & Elizabeth Kelley, 2011).

In this regard, through observing a series of toddlers' helping and sharing tasks, a number of researchers have found that socialization is extremely important parental practice in fostering and supporting the emergence of prosocial behavior (Brownell, Svetlova, Anderson, Nichols & Drummond, 2013; Dahl, 2018; Giner Torréns & Kartner, 2017; Grusec, 2011; Kärtner, 2018; Paulus, 2014).

Parental socialization practices can be understood as the mechanisms through which parents directly help their child with their socialization abilities (Darling & Steinberg, 1993), with the goal being to develop and promote specific child behaviors. Moreover, through socialization practices parents influence toddler's motivation to behave prosocially, improve their social understanding, and shape their social skills which are required to implement a prosocial response (Brownell, Svetlova, Anderson,

Nichols and Drummond, 2013).

Researchers have identified strategies through which parental practices might encourage young children to develop prosocial behaviors. According to Brownell and colleagues (2013), these include: modeling, instruction and reinforcement; empathic, positive, and responsive caregiving; scaffolding and instrumental support; and conversations about emotions including other-oriented reasoning and inductive explanations. Also, according to Gross, Drummond, Satlof-Bedrick, Waugh, Svetlova & Brownell (2015) through negotiation, scaffolding and praise, parents can contribute their child's prosocial behavior development.

Some other previous studies have examined the early development of toddler's prosocial behavior in relation to specific socialization practices, the findings of which studies have produced mixed results. Brownell, Svetlova and Nichols (2009) observed that 18 and 25 months old child rely on the adults' explicit verbal expressions to inform them of their desire to obtain something. That is, infants' ability to act prosocially in response to others' needs may initially depend on explicit social and communicative supports provided by adults. Similarly, Svetlova, Nichols and Brownell (2010) observed that costly helping or altruistic helping was quite low in children between 18 and 30 months old and often occurred in response to an adult's direct and explicit request or direction.

Relatedly, Brownell and colleagues (2013) studied prosocial behaviors in children between 18 and 30 months of age. They found that younger toddlers needed greater communicative support and scaffolding from adults to understand others' feelings and needs. Also, they found that parents who often elicited talk about emotions from their children tended to have children who not only shared, but also helped more quickly and frequently than children who were engaged in fewer discussions about emotions. Moreover, Dahl (2015) through their observation of infants between 11 and 25 months of age in U.S and their parents in regard to natural and everyday opportunities for helping behavior found that most positive behaviors resulted from encouragement, praise, or thanking from caregivers, raising the possibility that such caregiver encouragement may contribute significantly to the emergence and early development of helping.

However, some investigators argue that the early development of prosocial behavior is might not be influenced by socialization. Dunfield and colleagues (2011) observed that helping and sharing behaviors towards a non-familiar adult in a group of

toddlers between 18 and 24 months old occurred spontaneously, suggesting a natural tendency toward prosociality that might prepare toddlers to react to various novel situations rapidly. Furthermore, Warneken and Tomasello (2013) conducted one observational study targeted at examining the impact of parental instruction and reinforcement on toddlers' helping behavior, with the results finding no effects of such parental instruction and reinforcement. They argued that when 24-month-olds were actively directed by either a parent or another adult to help an experimenter, they did not help any more than did children whose parents simply watched them or whose parents were absent. Based on these findings, they concluded that very young children's prosocial behavior was not dependent on adults' explicit efforts to encourage them but was a spontaneous and intrinsically motivated action.

The mixed results of these studies point to the need for further study regarding which factors have impact on the development of toddlers' prosocial behavior. In fact, a small but growing body of literature on the role of parenting in the early childhood development of prosocial behavior has suggested that the factor of parental warmth is also associated with the increase of prosocial behaviors (Daniel, Jenkins, Madigan, 2016; Davidov & Grusec, 2006; Hastings, Utendale, & Sullivan, 2007).

Parental warmth can be defined as parent's tendency to show support, affection, approval and be sensitive to their child's needs (Zhou et al., 2002). Further, it denotes the expression of positive affection and admiration toward the child and it involves manifestations of fondness and enjoyment of the child carried out when responding to children's needs (Davidov & Grusec, 2006). Considering Darling and Steinberg's Integrative Model of Socialization (1993), parental warmth might influence a child's responsiveness to socialization and render specific parenting practices more or less effective in promoting prosocial behavior. According to the researchers, parental warmth might moderate the relation between a given parenting practice and a child's subsequent prosocial behavior, primarily by influencing the child's responsiveness and openness to parental practice.

Furthermore, warmth can be related to prosocial behavior in two ways. First, it may enhance the development of prosociality by promoting mutuality in caring behaviors between parent and child. Secondly, it might promote the development of prosociality by serving as a model to toddlers for compassionate behavior that is intended to benefit another (Darling & Steinberg, 1993; Davidov & Grusec, 2010; Hastings, Utendale & Sullivan, 2007).

An observational study with 18-month-old toddlers and their mothers suggested that parenting behaviors that involve warm, contingent, and supportive responses to children lead to higher levels of prosocial behavior by engaging young children into a relationship of mutual responsiveness to another's emotions and needs (Newton, Thompson & Goodman, 2016). Moreover, Daniel, Jenkins & Madigan, (2016) found through parent reported questionnaires, that warmth at 18 months of age exerted an enduring effect over prosocial behavior at 36 and 54 months of age. Additionally, some studies found that warmth was associated with school age students' empathy (Zhou and colleagues, 2002), as well as to better regulation of positive affect and to greater peer acceptance (Davidov and Grusec, 2006), but no directly to prosocial behavior. Thus, parental warmth seems to create an emotionally supportive approach to parenting that results in the child being more open to socialize and responsive to their parents' socialization practices.

This suggests that it is important to conduct further study on the influence of parental warmth because it may increase the likelihood of toddlers to accept guided learning provided by their parents, who provide them with guidance and coached tasks. Consequently, it may influence the amount of impact that parenting practices have on child prosocial behavior. In other words, warmth may stimulate and create openness to socialization on the part of the child that, in turn, can moderate the association between parenting practices and child prosocial outcomes.

The question whether parental practices and parental warmth individually are associated with prosocial behavior remains unsolved because some studies have found no associations. However, exploring interactions between practices and warmth could bring a better understanding of the ways in which their combined effects might contribute to the development of toddlers' prosocial behavior. To our knowledge, this relation has not been studied before; therefore, this current study may provide important information regarding the influences of parental warmth and parenting practices, acting separately and together, on child prosocial behavior.

This study examines whether there is an association between parental practices and prosocial behavior; an association between parental warmth and prosocial behavior; and whether parental warmth moderates the relationship between parental practices and prosocial behavior. It is expected the both parental practices and parental warmth are positively associated with toddler's prosocial behavior. Also, it is expected that the association between parenting practices and toddlers' prosocial behavior would be

stronger when parents show high levels of warmth; conversely, when parental warmth is low the association between parental practices and prosocial behavior will be weaker.

## Method

### Participants

Children were drawn from a three-wave longitudinal study called "Little Helpers Project" among 114 toddlers from 16 to 33 months old and their parents.
For the current study, the first wave was used. This sample consisted of 61 (53%) boys and 53 (46.5 %) girls. Most parents were born in the Netherlands (91.8%), from a middle-class background and were either married and living together with their partner (52.2%), or were not married but living together (30.4%).

### Measures

General Procedure

Participants were recruited through daycares in several urban areas across the Netherlands. Before the testing, signed informed consents were obtained from the parents. The Ethical Committee approved the study.

Prosocial Behavior Tasks

Testing was lead by a female experimenter (E) with the help of a female assistant (AE). The assessments took place either in a separate classroom at the daycare (> 90%) or a quiet area of the playroom. All the sessions were video-recorded with two cameras, one for the participant and one for the main experimenter for later coding.

The experimental procedure included a sharing, helping task and an empathic helping task. The sharing task took place first, followed by the helping and comforting tasks. The whole session lasted approximately nine minutes.

Before the first sessions E and AE joined the class for a warm up period, helping the teacher for at least 30 minutes so the children would be more familiar with them.

Teachers or parents were not present during the testing, except for three cases where the children were too fussy to leave the teacher. In these cases, they sat on their teacher's lap while being tested. Finally, after each experiment toddlers were thanked for participating. Details for each trial are provided below.

*Sharing task.*

The sharing task was adapted from Aknin, Hamlin and Dunn (2012). In the

introduction phase, E showed the toddler four stuffed animals: a mouse, a rabbit, a cat and a panda and indicated that the animals liked treats. Bowls for snacks were placed in front of the child and each animal. E gave one snack to the animals and moved the treat into the bowl while making the sound "Mmmmmmmmmm yum yum yum!" to indicate that the animal was eating the treat. Then, E gave a treat to the child. After that, E took out another bowl with five extra treats in it and put it next to child's bowl and asked the child *"Do you want to give everyone a treat from this bowl? Why don't you put one treat in everyone's bowl? One for mouse, one for rabbit, one for cat, one for panda and one for you"*. If the child hesitated, the experimenter prompted the action by (a) asking the child to share a treat with each puppet, (b) pointing at the treat then the puppet's bowl, (c) picking up the treat, (d) giving the treat to the child, (e) telling the child their parent approves it, (f) E modeling treat giving again. These prompts were used only if needed.

To start the formal experiment, the animals and their bowls were placed out of the children's sight and they were introduced to one new puppet called "Monkey". Monkey and the child received empty bowls. Then, E told the child that she found two more treats, which were given to the toddler. After this, three conditions were played out: A) E gave a treat to Monkey. B) E asked the child to give a treat to Monkey. C) E told the child " I don't see any more treats. Will you give Monkey one of your treats".

Helping Tasks.

During the Helping tasks E demonstrated difficulty or distress, which could be alleviated by giving her a particular object that was out of her reach but within the child's reach.

*Instrumental Helping*. The *Instrumental Helping Task* was adapted from the action condition 'wrapping task' conducted by Svetlova, Nichols and Brownell (2010). E placed 5 napkins on the table and told the toddler that the blocks had to be wrapped with them. E placed one napkin discretely in front of the toddler, out her reach with the other four napkins by E. Then, she started wrapping blocks showing and narrating what she was doing. When she ran out of wrappers on the final block, she provided up to eight progressively more explicit cues for the child to help her with an interval of 5 seconds before each of them: (1) using a facial/bodily expression (looking at the blocks, palms up), (2) naming action ("I can't wrap anymore"), (3) expressing need ("I need something to wrap with"), (4) naming object ("Napkins!"), (5) alternating gaze toward the object and the child (looking at napkins on the desk and the child), (6) gesture for

reaching the object (open hand toward napkins), (7) general instruction asking help of the child ("Can you help me?"), (8) specific instruction requesting the object ("Can you give me more napkins?"). Answers were coded from 0 to 1 (0=Not Help; 2 = Help). They were also coded from 0 to 8, as follows: (0 = not help at all; 1= specific verbal request (e.g., "Can you bring me the napking"); 2= general verbal request for help ("Can you help me?"); 3= reach and gesture toward the object, as more explicit request to get the objetc; 4= alternating gaze between the object and the child, as a nonverbal request to get the object; 5= naming the specific object that would meet the need (e.g., " A napking!"); 6= verbal expression of a general need (e.g., "I need something to wrap with");7= naming the interrupted action (e.g., "I can't wrap it); 8= facial/bodily/vocal expression of general need (e.g., hands up, looking around, "hmmm").

*Emotional Helping Task. The Emotional Helping Task* was the same as conducted in the "empathic helping" task used by Svetlova, Nichols and Brownell (2010). E started by showing a blanket to the child; reminding the child that it makes her feel warm. She then pretended to be looking for a toy to play, and left the blanket on the table near the child but out of her reach. She then found the toy and suddenly became cold shivering rubbing her arms and asked for help using eight progressive cues: (1) facial/bodily expression: vocalizing "Brrrrr", (2) naming an internal state: mentioning she was cold, (3) expressing need: E mentioned that she needs something to make her feel warm, (4) naming the object: "My blanket", (5) alternated gazing toward the object and the child, (6) gesture: Reaching the object with open hand towards the blanket, (7) general instruction: asking the toddler to help her, (8) specific instruction: Asking the toddler to give her the blanket. The child's target behavior is to hand the blanket to E. If it was achieved, E put the blanket on herself; if not, E took the blanket herself and wrapped it around her shoulders. Answers were coded from 0 to 8 (0 =not help at all; 1= specific verbal request (e.g., "Can you bring me the blanket?"); 2=general verbal request for help ("Can you help me?"); 3= reach and gesture toward the object as more explicit request to get the object; 4= alternating gaze between the object and the child, as a nonverbal request to get the object; 5= naming the specific object that would meet the need (e.g., " A blanket"); 6= verbal expression of a general need (e.g., "I need something to make me feel warm");7= naming the internal step (e.g., "I am cold"); 8= facial/bodily/vocal expression of general need (e.g., hands up, looking around, "hmmm") or "Brrrr").

## Questionnaires

The questionnaires were given to the daycare teachers so they could send them to the parents to complete before the experiment date.

### *Parental Warmth*

Parental warmth was measured with a combination of items from existing Dutch questionnaires: 4 items were about bonding from the Nijmeegse Ouderlijke Stress Index-NOSI (De Brock, Vermulst, Gerris, & Abidin, 1992), and four involved affection (Gerris, Verlmust, van Boxtel, Janssens, van Zutphen, Felling, 1993). All the items were rated on a seven-point Likert scale ranging from 1 (Not true at all), to 7 (Exactly right). Items 3,4 and 6 were reversed coded with higher scores indicating more closeness with their child. Reliability was computed (α=. 72).

### *Prosocial Parenting Practices*

The Parents filled in the Prosocial Behavior Questionnaire (adapted from Gross et al., 2015)**.** Parents answered 21 items, with the first 12 items being about the strategies the parents used to encourage helping behavior, with the remaining nine covering the strategies they used to promote sharing. Answers were ranged from 1 (Never), to 6 (A lot). Reliability was computed (α= .88).

## Strategy of analysis

All the data was interpreted with SPSS (version 25). All the predictors were centered prior to computing interaction terms (Field, 2018). The sharing score was computed by the percentage of treats shared after the experimenter asked. For the instrumental helping and emotional helping the number of cues needed were utilized, with fewer cues indicating a higher prosocial score. Mean scores were used for parent-reported parental practices and warmth.

Linear regression analyses were performed to examine whether parental practices predicted toddler's prosocial behavior and whether parental warmth predicted Toddler's Prosocial Behavior. Also, it was used the moderation analysis using IBM PROCESS v3.0 by Andrew F. Hayes, with parental warmth being the moderator; parental practices, the independent variable; and sharing, instrumental helping and emotional helping the dependent variables.

## Results

### *Descriptive Results*

The proportion, means and standard deviations of the observed prosocial tasks, reported parental practices and parental warmth are provided in Table 1.

Table 1
*Distribution of questionnaires and experiments mean scores*

| | *N* | *M (SD)* | *Min* | *Max* |
|---|---|---|---|---|
| *Sharing (Proportion of items shared)* | 56 | 26% (2.14) | .5 | 8 |
| *Instrumental Helping (Cue score)* | 110 | 3.75 (2.88) | 0 | 8 |
| *Emphatic Helping (Cue score)* | 113 | 1.45 (1.86) | 0 | 7 |
| *Parental Practices* | 87 | 3.90 (.65) | 1.90 | 5.29 |
| *Parental Warmth* | 88 | 6.74 (.41) | 4.88 | 7.00 |

Before interpreting the results of the regression analyses, several assumptions were tested. First, stem-and-leaf plots and boxplots indicated the variables parental warmth and sharing did not meet the normal distribution assumption and appeared to be left skewed. Outliers were detected within the variables related to parental practices, parental warmth and emotional helping. Second, inspection of the normal probability plot and the scatterplot indicated that the assumptions of linearity and homoscedasticity of residuals were met. Third, relatively high tolerances for all predictors in the regression model indicated that multicollinearity would not interfere with interpretation of the model. Given the robustness of the PROCESS model, regression analyses were conducted.

### *Main Effects of Parental Practices and Warmth*

To answer whether prosocial practices and parental warmth were associated with prosocial behavior in toddlerhood, regression analyses were conducted (see Table 2). Parental practices did not predict any of the child prosocial behaviors. Similarly,

parental warmth did not predict any of the toddlers' prosocial behaviors. Thus, no main effects of parental practices and warmth were found.

***Moderation on the relationship between Parental Practices and Toddler's prosocial behavior by Parental Warmth***

Next, the interaction between parental practices and warmth was examined. A significant interaction between parental warmth and parental practices was found for instrumental helping (*ß=. -32, p<. 05)*, but not for sharing and emotional helping. In order to interpret the significant interaction, simple slope analyses were conducted that estimated the relation between parental practices and prosocial behavior at values of parental warmth at the mean and one standard deviation above or below the mean. These estimates are plotted in Figure 1. As illustrated in Figure 1, among toddlers receiving low parental warmth, higher level of parental practices predicted significant higher levels of instrumental helping (*ß* =1.62, *p*=. 02). In contrast, for those receiving average and high levels of parental warmth, parental practices was not related to instrumental helping (*ß*=. 53, *p*=. 29 and *ß*= .17, *p*=. 76, respectively).

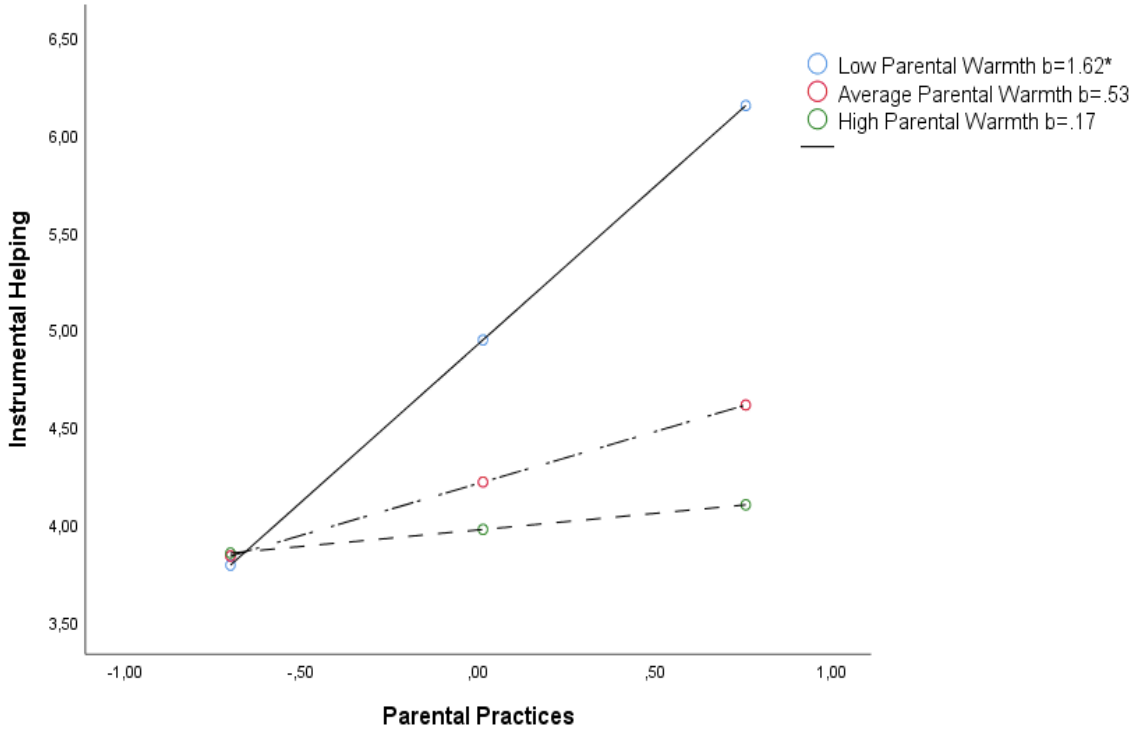


Figure 1. Linear relation between parental practices and instrumental helping, computed at one standard deviation below the mean (low), the mean (average) and one standard deviation above the mean (high) of parental warmth.
*$p < 0.05$

Table 2.

*Unstandardized (B) and Standardized (β) Regression Coefficients, and Standard Errors (*SE*) For Each Predictor Variable on Each Step of Hierarchical Multiple Regression Analysis, Predicting Concurrent Prosocial Behavior*

| | Prosocial Behavior | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sharing | | | | | Instrumental Helping | | | | | Emotional Helping | | | | |
| | $R^2$ | *B* | *SE* | *β* | *95% CI* | $R^2$ | *B* | *SE* | *β* | *95% CI* | $R^2$ | *B* | *SE* | *β* | *95% CI* |
| Parental Practices | -1.01 | -1.86 | .63 | -.41 | | .61 | .69 | .51 | .16 | | .38 | .45 | .34 | .16 | |
| Parental Warmth | 1.02 | 1.80 | .70 | .40 | | -.02 | -.37 | .82 | -.05 | | .19 | -.15 | .54 | -.03 | |
| Parental Practices x Parental Warmth | .21 | -1.03 | 1.32 | -.16 | | .80* | -2.90 | 1.32 | -.32 | [-5.52 -.27] | .03 | -.87 | .87 | -.14 | |

**p <.05*

## DISCUSSION

The current study sought to examine the role of parental practices and parental warmth in toddler's prosocial behavior. First, it focused on analyzing the influence of parental socialization practices towards children's prosociality. Previous studies found that infants' ability to act prosocially to others' needs may initially depend on explicit social and communicative supports provided by adults (Brownell et al., 2013). Further, toddlers whose parents talked about their emotions with them or appropriately scaffolded them helped and shared more quickly (Brownell et al., 2013, Dahl, 2015; Svetlova, Nichols and Brownell, 2010). Thus, it was hypothesized that children of parents who used more prosocial practices would show more prosocial behavior. However, the results of this study showed that, although the majority of the participants engaged in at least some prosocial behavior, there was no relation between parental practices' main effects and prosocial behavior, and thereby not confirming our hypothesis.

These results are congruent with a previous study of Warneken and Tomasello (2013) where it was found that parental presence and encouragement did not influence helping behavior in 18 month old children. Also it is consistent with Dunfield, Kuhlmeier, O'Connell & Kelley's research (2011) where it was suggested that 18 and 24 months old toddler's helping, sharing and comforting occurred spontaneously. According to this, the results provided relevant evidence to consider that children's altruistic behavior might not be developed only due to socialization practices and therefore, it open the question of whether an intrinsic motivation to help others could have played a role. Although, these ideas might be considered a possible way to understand the current results, the mentioned researchers used experimental procedures that differed from those utilized in the current study. For example, they included parents' participation (Warneken & Tomasello, 2013), as well as a control group and only non-verbal requests from the experimenter (Dunfield et al., 2011), which allowed them to make comparisons of the effect of parental influences between groups.

The unconfirmed association between parental practices and toddler's prosocial behavior is not in accordance with previous studies (Brownell et al., 2013, Dahl, 2015; Svetlova, Nichols and Brownell, 2010). Considering that most participants (72%) were younger than 2 years old and thus going through the emergence process of prosocial behaviors, the possibilities of observing the influence of parental practices on toddler's

prosocial behaviors may increase, as they get older. Therefore, further researches should consider analyzing this association with the subsequent waves in order to gain a wider view regarding this subject.

Moreover, according to Darling & Steinberg (1993) the influence of any particular parenting practices on child might get lost among the complexity of other parental attributes. Hence, in order to better understand parental practices' effect on toddler's prosocial behavior it could be also convenient to study parent's socialization practices among other parenting factors.

Second, the study also focused on parental warmth in relation to prosocial behavior. Previous studies have stressed the contributing role of parental warmth toward youngsters' prosociality by promoting mutuality in caring behaviors as well as serving as a model to toddlers for compassionate behavior (Daniel, Jenkins, Madigan, 2016; Grusec & Davidov, 2010; Hastings, Utendale & Sullivan, 2007). Thus, parental warmth was expected to be positively associated with prosocial behavior. Although the majority of the parent's participants reported high rates of parental warmth and mostly all participants engaged in at least some prosocial behavior, results showed that there was no association between parental warmth and toddler's prosocial behaviors, therefore, not confirming our hypothesis in this regard.

There have been different results in studies as to whether parental warmth contributes to prosocial development. Davidov and Grusec (2006) found a link between parental warmth and positive emotion regulation, but warmth did not emerge as a reliable predictor of 6-8 years old children's empathic capacity. According to the researchers, warmth facilitated child's ability to have fun with others without getting carried away, but it did not afford any of the necessary opportunities for learning how to cope effectively with others' distress. Consistent with this, Zhou and colleagues (2002) found that parental warmth was associated to school age students' empathy and social functioning to prosocial behavior. This means that parents who were warm, supportive and tended to express more positive emotions to their children had a positive impact on their child's emotion regulation as well as their empathy, but not necessarily in their behavior towards others.

Moreover, according to Darling and Steinberg (1993) because the effects of parenting change with the child's age it still remains unclear how the influences of parental warmth and practices change across the life course. The previously mentioned studies with school age students found and association between emotion regulation and

empathy, thus, further studies are needed in order to facilitate a more developmental approach to the study of the influence of parental warmth, specifically, in toddlers' prosociality. Furthermore, although there is one recent study that found a positive association between parental warmth and infants' prosocial behavior some of the differences with our results might be attributable to the different assessment methods used. Through mother and father's parent report questionnaires, Daniel, Jenkins, Madigan (2016) interestingly found that warm and sensitive parents promote prosociality by serving as a model for caring and nurturing behavior. The present study did use questionnaires to measure parental warmth, however, toddler's prosocial behavior was assessed using observation tasks, which might have reduced the social desirability and thus, increased the reliability of the actual results.

From all these studies, it can be better understood why parental warmth, by itself, may not have the expected effects on prosocial behaviors. In fact, while parental warmth might provide a basis for effective empathic responding, other tools or specific ways in regard to parental socialization practices teaching how to interact with others might also be necessary.

A third focus of this study was to investigate whether parental warmth acted as a moderator on the link between parental prosocial practices and prosocial behavior. Darling and Steinberg's (1993) Integrative Model of Socialization perspective suggested that parenting practices have a direct effect of specific child developmental outcomes. Also, they proposed that parental warmth might alter parents' capacity to socialize their children by changing the effectiveness of their parenting practices as well as increasing a toddler's openness to their socialization practices. Based on this, it was hypothesized that higher levels of parental warmth would strengthen the association between parental practices and prosocial behavior; while lower levels would weaken the relation. In other words, it was expected that among children whose parents who were responsive to needs, supportive and affectionate, children would be more receptive to parental socialization practices that promote helping and sharing with others and, therefore, these children would exhibit more prosocial outcomes. On the contrary, the results show that the association between parental practices and instrumental helping was strengthened when parents were less responsive and attentive to their needs.

The previously described findings of this study suggested that toddler's sharing and helping behaviors did not seem to be influenced by parental practices or parental warmth by themselves, but this additional finding result showed that their interaction

did. This result suggests that although parental warmth may offer a basis for effective empathic responding and emotional regulation, other tools and specific ways provided through their parents' socialization practices that teach them how to interact with others seems to be more important and useful especially during the ages of 16-33 months old.

Interestingly, this moderation effect only affected instrumental helping behavior. Instrumental helping emerges during between 12-16 months old (Brownell, Svetlova & Nichols, 2009) and most of the participants were younger than 2 years old thus, the task's goals might have been more achievable for them than the emotional helping and sharing tasks. In accordance to this, instrumental helping has been considered cognitively and behaviorally less challenging because it does not require inferring someone else internal state (e.g. emotional helping) or giving up to a belonging (e.g. sharing) (Svetlova, Nichols & Brownell, 2009).

Finally, this research suggests that parenting may not directly impact children's prosocial behavior by itself, but may be more salient in the presence of low parental warmth. This might suggest that adult instructions could be particularly beneficial to develop behavior intended to benefit others in children whose parents reported being less supportive, affectionate and sensitive. Thus, given the importance to promote toddlers prosocial for the current youngster's situation this work may have implications intervention programs. Hence, family-based interventions might be considered relevant and therefore, training techniques to promote parental practices may contribute to increases in children's prosocial responding to others instrumental needs.

**Limitations**

Some limitations of this study should be considered. Most of the participants were Dutch and from middle class backgrounds so this research is not a representative one in the Netherlands and should not be generalize to other samples. Also, parents reported parental practices and warmth by itself might be prone to social bias. Previous studies combining different measures such as observation of naturalistic interactions at home and interviews (Dahl, 2015) or the inclusion of two reporters of parental warmth (Daniel, Madigan & Jenkins, 2016) showed strengthened results. Thus, it can be considered adding these measures for future studies.

Despite these limitations, this study provides useful insights into the development of prosocial behavior in early childhood within the family context through the inclusion of observations of toddler's prosocial behavior related to certain tasks and

situations. Although parents observe their children over time and in multiple contexts, choosing to obtain information and data through a direct observation method instead of parental reports likely reduced the inevitable social desirability presented in previous studies (Brownell, Svetlova & Nichols, 2009).

## Conclusion and Future Study

This is the first study showing a moderation effect of parental warmth in regard to the relationship between parental practices and toddler's prosocial behavior. The results suggest that when parents' responsiveness and expressions of positive affection and admiration toward their child are low, parental practices may be enhanced as a contributor to higher levels of prosocial behaviors, specifically, the ones involving helping others in solving their instrumental needs. Further research is necessary in order to better understand the relationship between levels of parental warmth and parental practices in order to improve parental interventions targeted at stimulating prosocial behavior by their toddlers.

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