Costs of Helping Only Influence Children's Intention To Help Ethnic Out-Group Peers

Jellie Sierksma[1,2]

[1] Waisman Center, University of Wisconsin-Madison, 1500 Highland Ave, Madison, WI 53705, USA, sierksma@wisc.edu

[2] Behavioural Science Institute, Radboud University, The Netherlands

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Abstract

Studies show that children are often inclined to help less when costs of helping increase. However, these studies do not take into account *who* children are helping. Yet, developmental intergroup research has shown that the intergroup context influences children's reasoning about helping behavior. Two experimental vignette studies are presented that examine the influence of the costs of helping on children's (8-13 years) intention to help in an ethnic intergroup context. Study 1 (n = 320) shows that the costs of helping reduce children's willingness to help ethnic out-group peers but do not influence children's intention to help ethnic in-group peers. Study 2 (n = 166) replicates the results of Study 1 for a different ethnic out-group context. Moreover, children's reduced willingness to help ethnic out-group peers when costs increase was not contingent on their ethnic in-group or out-group evaluation or their age. Taken together, this research for the first time shows that the costs of helping reduce children's willingness to help ethnic out-group peers but not ethnic in-group peers.

Keywords: helping, costs, intergroup, ethnicity, social cognition

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Children strongly value helping others (e.g., Killen & Turiel, 1998; Smetana et al., 2009). At the same time, children's helping and reasoning about helping is selective and is influenced by the costs of helping (e.g., Eisenberg & Shell, 1986; Sierksma, Thijs, Verkuyten, & Komter, 2014a) and the intergroup context (e.g., Sierksma, Thijs & Verkuyten, 2015; Weller & Lagattuta, 2013). How the costs of helping influence children's willingness to help might thus depend on *who* the recipient of help is. Therefore, the present experimental vignette research examines how the costs of helping influence children's (8-13 years) intention to help ethnic in-group and out-group peers. Discrimination and prejudice early in life can have detrimental effects on children's social- and academic development and perpetuate social inequality. Therefore, understanding when and how the group context and costs affect children's prosocial cognition is crucially important to foster helping across group boundaries.

Costs of helping

Helping behaviour is defined as voluntary behaviour that is intended to benefit another person (Eisenberg, 1986), for example, by helping a peer with homework or assisting him or her with finding a lost key. Helping can involve different levels of costs, such as the level of effort, the amount of time, and the particular rewards forgone. In general, research shows that adults' intention to help depends on costs: When costs of helping increase, it becomes less likely that people want to help (for a review see Dovidio, Piliavin, Gaertner, Schroeder, & Clark, 1991). Likewise, children consider refusing to help in low costs situations as very blameworthy, but when helping involves high costs for the helper this is evaluated as an acceptable reason to refuse help (Sierksma et al., 2014a). Moreover, children expect peers to feel worse when they are unable to reciprocate high cost compared to low cost help (De Cooke, 1997), and children consider their own needs more when helping involves

high costs compared to low costs (Eisenberg-Berg & Neal, 1981). Additionally, young adults reason that helping is more obligated than fulfilling personal desires (Neff, Turiel, & Anshel, 2002). One study (Eisenberg & Shell, 1986) has also demonstrated that costs influence children's helping in an actual (peer) encounter. Pre-schoolers were given the opportunity to help create a game for poor children in the hospital. They were either asked to help (i.e. low costs) or were asked to choose between helping and playing with toys (i.e. high costs). Results showed that more children helped in the low cost compared to the high cost condition.

Although few studies have focused on how costs influence children's helping, more studies have examined children's sharing and distributing behavior. These studies typically ask children to allocate resources when this is either costly or non-costly for the participating child (i.e. giving away resources that are owned by the child or not). There are some key differences in the costs involved in sharing and helping. For example, helping others almost always involves some costs to the self (e.g., time, effort) while distributing resources can be non-costly to the self (e.g., Fehr, Bernhard, & Rockenbach, 2008; Paulus & Moore, 2014). In addition, the costs involved in sharing are often clear-cut, such as giving up one or two stickers or pieces of candy. In contrast, the costs involved in helping are less tangible, as the amount of effort might depend on the person and the type of help. Moreover, the psychological mechanisms that underlie sharing and helping behavior likely differ in many other aspects as well (see Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Sierksma & Thijs, 2017). However, both are considered prosocial behavior and therefore studies on the role of costs and the group context in children's sharing and distributing behavior are also discussed here.

Many studies that focused on sharing and the distribution of resources show that children are less likely to share when it is costly compared to non-costly (e.g., Benozio &

Diesendruck, 2015; Eisenberg-Berg, Haake, Hand, & Sadalla, 1979; McGuigan, Fisher, & Glasgow, 2016; Paulus, Becker, Scheub, & König, 2016; Svetlova, Nichols, & Brownell, 2010). However, there are also studies showing that children are willing to incur some costs when sharing (e.g., Hay, Caplan, Castle, & Stimson 1991; Thompson, Barresi, & Moore; 1997) and some studies find no influence of costs whatsoever (Chernyak & Kushnir, 2013; Williams, O'Driscoll, & Moore, 2014). These studies suggest that when children share or distribute resources, they sometimes take costs into account, but other times costs are less of a consideration. It is therefore important to understand the mechanisms underlying costly and less costly prosociality, as such insight might allow us to better understand the inconsistent findings and uncover methods to stimulate prosocial behavior in children even in high-cost scenarios. One such mechanism pertains to *who* the recipient of the prosocial act is.

Intergroup helping and costs

Social Identity Theory (Tajfel & Turner, 1979) postulates that people are motivated to maintain a positive social identity. As a consequence, people tend to favor their in-group over relevant out-groups. Social identity concerns influence children's reasoning about helping: children intend to help in-group peers more than out-group peers (Sierksma et al., 2015), find it more blameworthy when a peer refuses to help an in-group peer than an out-group peer (Sierksma, Thijs, & Verkuyten, 2014b), and expect others to feel better when helping in-group peers compared to out-group peers (Weller & Lagattuta, 2013). Moreover, even very young children are willing to pay a cost to stay loyal to their in-group (e.g., Misch, Over & Carpenter, 2016). Group boundaries and loyalty thus seem important when children consider helping others.

Children may thus weigh the costs of helping differently when it concerns an in-group peer or out-group peer. Specifically, children could consider helping in-group peers as important and obligatory regardless of cost, whereas when helping out-group peers they

might pay more attention to the costs of helping and be less willing to invest in out-group peers. As a result, children could be inclined to help out-group peers less when costs increase. While this has not been studied in children's helping, some insight can be derived from studies on children's sharing and resource distribution. For example, Moore (2009) showed that the costs of sharing exerts a stronger influence on children's sharing with unfamiliar others compared to known liked individuals. Specifically, children always shared with friends but were less inclined to share with strangers when costs were high (i.e. giving up resources and delaying gratification) compared to low (i.e. delaying gratification). Likewise, in a minimal group setting, Benozio and Diesendruck (2015) showed that boys, but not girls, shared less with out-group peers than in-group peers when the costs of sharing were high. However, when resources were owned by others, they shared equally with in-group and out-group members. This suggests that the costs of sharing impact children's decisions to share with unfamiliar or out-group peers more than familiar or in-group peers.

In contrast to Moore's study (2009) and Benozio and Diesendruck's study (2015), there is also research showing that children do not weigh costs of sharing differently depending on their relation with the recipient. For example, increased costs reduce 7-8-year-old children's sharing with both in-group and out-group peers (Fehr et al., 2008), both liked and disliked peers (Paulus & Moore, 2014) and strangers, kin and friends alike (Lu & Chang, 2016). This implies that children's intention to help out-group and in-group peers is similarly influenced by the costs of helping. However, it is important to note that these studies focused on sharing and the distribution of resources and not helping behaviour. Because the costs involved in sharing and helping differ in many aspects, children might weigh costs differently in a sharing context compared to a helping situation.

The present research

The present research examined how the costs of helping influence Dutch children's intention to help ethnic in-group and out-group peers. Two ethnic intergroup contexts were studied that are relevant to the Dutch context. Study 1 focuses on children's intention to help Surinamese out-group peers. Suriname is a former colony of the Netherlands, and the Surinamese are one of the largest non-western immigrant groups in the Netherlands (Statistics Netherlands, 2014). Study 2 examined children's intention to help Moroccan out-group peers. Many Moroccans came to the Netherlands in the 1960s as guest workers and they are currently another one of the three largest non-western immigrant groups in the Netherlands (Statistics Netherlands, 2014). The Surinamese are generally evaluated more positively than the Moroccans by children and adults (Sierksma, Lansu, Karremans & Bijlstra, in press; Thijs, & Verkuyten, 2013) and have a better socio-economic status than Moroccans (Statistics Netherlands, 2014). Based on previous research focused on children's sharing and distribution behavior, it could be that the costs of helping lower children's intention to help out-group peers, but that costs will not influence children's intention to help in-group peers. However, it could also be that costs influence both children's in-group and out-group helping intentions.

The present research focused on children aged 8 to 13 years because at this age children have an in-depth understanding of intergroup processes; they are, for example, able to simultaneously weigh moral concerns and concerns about group identity (see Killen & Rutland, 2011; Levy & Killen, 2008). Children this age also understand the costs of helping (e.g., Sierksma et al., 2014a). Moreover, while research on children's cognition of negative intergroup behavior shows that during middle and late childhood children increasingly start to adhere to in-group norms, show better social perspective taking skills and become more aware of their ethnic identity (e.g., Abrams, Rutland, Cameron, & Marques, 2003; Killen & Rutland, 2011; Nesdale, 2004), no age differences emerged in previous research aimed at

understanding children's considerations of positive intergroup behavior, such as helping. For example, children aged 8 to 13 years were equally likely to consider ethnic group boundaries in their evaluation of help refusal (e.g., Sierksma et al., 2014b), and ethnic in-group bias was found across children aged 5 to 13 when children were asked to predict how peers would feel when helping others (Weller & Lagagutta, 2013). Moreover, children's evaluation of prosocial behaviors is consistently influenced by the costs of helping across this age range (Sierksma et al., 2014a). Therefore, no age differences were expected for the role of costs and ethnic group boundaries in children's intention to help.

Study 1

Method

Participants.

Cohen's (1992) guidelines were followed to estimate the minimum sample size of the current studies beforehand. A minimum of 64 children per cell were needed such that there was an 80% chance to detect a medium sized effect for the group context at an alpha level of .05. Because this survey was, however, part of a larger survey data was collected of a total of 401 children from 6 schools in The Netherlands. Only children who indicated that they and their parents were Dutch were included in analyses (N =320). In each school class the majority of children self-identified as Dutch. Children were in grades 4 through 6 and between 8 and 13 years of age (M = 10.61, SD = 0.96), and 49.8% were boys. Only children with parental consent participated.

Procedure. Children received a short booklet. Data collection was part of a larger survey and collected in participants' classrooms under the supervision of the teacher and a research assistant. At the time of data collection ethical approval was not required for survey research at the institute where the research was conducted. However, the research described adheres to APA´s ethical principles of psychologists and code of conduct[1]. Special efforts

were made to avoid socially desirable responding. First, children were told that their answers would be kept secret and that they did not have to write down their name anywhere. Second, children were always seated at a table of their own and separated from the tables of their classmates (the so-called 'test set-up'). Third, children were urged to freely express their own opinions. Fourth, group membership of the receiving peer was manipulated between-subjects so children were not explicitly made aware of the study design, thereby minimizing their tendency to avoid expressing group-based biases.

Materials.

Stories. Two different stories were presented to each participant using a 2 (high costs vs. low costs) x 2 (in-group vs. out-group) between-subjects design. A photo of the recipient of help was presented above each story, and the gender of the recipient of help was counterbalanced across stories and within participants (i.e. each participant always read one story about a boy-recipient and one about a girl-recipient). Stories were designed to portray everyday childhood life events and were based on previous research (Sierksma et al., 2014a; Sierksma et al., 2014b).

For high costs and a boy recipient, the first story was as follows: "This is a story about you and [in-group or out-group name]. You are biking home after school. Then you run into [in-group or out-group name]. He is standing alongside the road because his bike broke down. The treadle fell off his bike. You know how to fix this. Fixing is a lot of work and takes a very long time". For low costs, the story ended as follows: "It's not a lot of work and thus easy to do". The second story for high costs and a girl recipient was as follows: "This is a story about you and [in-group or out-group name]. [In-group or out-group name] borrowed a couple of books at the library. These books need to be returned today otherwise she will receive a fine. However, she does not have time. She still needs to prepare her speech for tomorrow. She asks you to return the books. The library is very far away and it takes a long

time to get there". The low costs condition ended with: "The library is very close and it's thus easy to do". The correlation for children's intention to help between stories was significant, $r = .48$, $p < .001$.

Ethnic group context. Ethnic group membership was varied using different names and four photos. The out-group children were given typical Surinamese first names: Chalondra (girl) and Babu (boy), while typical Dutch names were used for in-group children: Peter (boy) and Anne (girl). Ethnic group membership was also varied by presenting children with a photo depicting the target of help. A set of 31 portraits were pretested with 26 adults. The selected portraits of Dutch and Surinamese children were matched within gender according to in-group typicality, age-estimates and intelligence. Unfortunately, no two photos of girls matched on happiness, therefore two photos were selected that were both rated as 'happy' with the littlest difference between them. As such, the pictures visually manipulated group membership (i.e. Surinamese are black; Dutch children are white) and previous research shows that children of this age infer group membership from such visual markers (e.g., Baron, Dunham, Banaji & Carey, 2014). The stories portrayed individual children rather than groups of children to avoid the activation of reputational concerns because bystanders were present (e.g., Leimgruber, Shaw, Santos, & Olson, 2012; Sierksma, Thijs, & Verkuyten, 2014c; Sierksma, Thijs, & Verkuyten, 2014d). Research shows that intergroup considerations also emerge when individual exemplars of an ethnic category are presented to children (e.g., Sierksma et al., 2014b; Weller & Lagattuta, 2013).

Helping intention. To measure children's intentions to help, after each story they were asked: "Would you help (*name recipient*)?". Answers were given on a 5-point scale ranging from 1 (*no*) to 3 (*maybe*) to 5 (*yes*).

Analyses. Analyses were carried out with MLwiN 2.35 (Rashbash, Browne, Healy, Cameron, & Charlton, 2015). Because the data have a nested structure (stories within

participants and participants within school classes) multilevel analysis is appropriate. Mixed models were specified consisting of three levels: the story level (level 1), the child level (level 2), and the classroom level (level 3).

There are two ways to analyze whether costs influences children's in-group and out-group helping intentions and both were planned a priori. In the first approach (i.e. full model), it is tested whether there is a difference *between* children's in-group and out-group intention to help in high and low costs situations. This approach is similar to statistical approaches taken in previous work on costs and intergroup sharing and as such makes the current work comparable to previous research. Thus, this full model includes main effects for the group context (in-group versus out-group), costs of helping (high versus low costs), children's age as well as the interactions between these independent variables.

In the second approach (i.e. model including contrasts), the idea that costs might influence children's intention to help the out-group but not the in-group is tested, which implies examining the role of costs *within* each group context. Therefore, this approach tests whether costs influences in-group and out-group helping intentions differently by including two planned orthogonal contrasts. The first contrast represented the difference between low costs (coded -1) and high costs (coded 1) for children's intention to help in-group peers, whereas the second contrast denoted this difference for intention to help out-group peers. In addition, in the second approach children's age (standardized) was also included as well as interactions with each contrast. Multilevel results for the full model can be seen in Table 1, and Table 2 reports results for the model using planned contrasts. MLwiN does not give effect sizes but standardized beta's can be compared.

Results

Descriptive results. In general children reported a strong intention to help (M = 4.03, SD = 0.87; story 1, M = 4.37, SD = 0.84; story 2, M = 3.69, SD = 1.14), and this mean score

was significantly above the neutral midpoint of the scale, $t(319) = 21.19$, $p < .001$. A main effect was found for children's gender ($b = -.26$, $p < .001$): girls intended to help more compared to boys (respectively, $M = 4.26$, $SD = 0.75$, $M = 3.80$, $SD = 0.92$). No interaction effects were found for children's gender with any of the independent variables. Therefore, data were collapsed across gender, but results are the same when gender was included in the models. In addition, gender of the recipient of help did not influence the results reported here (but see supplemental materials). Moreover, while a significant main effect emerged for story type ($p < .001$), no significant interactions emerged for story type and any of the independent variables. Therefore, story type was included as a control variable.

Full model. There was a main effect of costs ($p = .003$), which showed that children were more inclined to help in low compared to high cost help situations. There was no main effect of the ethnic group context or interaction between costs and the ethnic group context. Children's age did not significantly influence their intergroup intention to help.

Model including planned contrasts. The second model including planned orthogonal contrasts showed that when helping concerned a Dutch in-group member, children's intention to help was not influenced by the costs of helping. However, when helping concerned a Surinamese out-group child, children intended to help less when this was costly compared to less costly ($p = .003$; see Figure 1). Children's age did not influence children's intention to help the out-group and in-group.

Discussion

The aim of this study was to examine to what extent children's intention to help in-group and out-group peers was influenced by the costs of helping. The results show that the costs of helping influence children's intention to help ethnic in-group and out-group peers differently. Specifically, when helping concerned an ethnic out-group peer, children were less inclined to help when costs were high compared to low and these results did not depend on

children's age or story type. In contrast, the costs of helping did not influence children's intention to help ethnic in-group peers. This is in line with social identity processes (Tajfel & Turner, 1979) and loyalty concerns (Misch et al., 2016), which suggest that children consider helping the in-group as obligatory independent of the costs involved, while the decision to help ethnic out-group peers depends on the costs of helping such that children are less inclined to help when costs are high.

Importantly, results of the full model showed that while children were less inclined to help when costs increased overall, they were not more inclined to help in-group peers compared to out-group peers. This is in contrast to previous studies showing in-group bias in children's evaluation of intergroup helping (e.g., Sierksma et al., 2015; Weller & Lagattuta, 2013). Moreover, there was also no significant interaction for the costs of helping and the group context. This suggests that the costs of helping only had a subtle influence on children's intergroup helping intentions, such that they influenced out-group helping intentions, albeit not significantly different from in-group helping intentions.

Study 2

A second Study was conducted with two goals. First, Study 1 assessed children's intention to help Surinamese out-group peers, a group that is evaluated relatively positively by children (Sierksma et al., in press). The impact of costs on children's ethnic intergroup helping intentions might differ when it concerns an out-group that is evaluated more negatively. Children might be less inclined to help an out-group they dislike in both high and low costs helping contexts. It could also be that a disliked out-group peer might lower their intention to help when costs are high even more but leave the obligation to help in low costs situations unchanged (Sierksma et al., 2014). Another option is that influence of costs on children's helping intentions might not depend on the type of out-group or how this group is evaluated. Study 2 therefore examines children's intention to help Moroccan out-group peers,

a group that is generally evaluated negatively in Dutch society and by Dutch children (Thijs & Verkuyten, 2013).

Second, to examine whether out-group negativity is a crucial factor in how children weigh costs in their intention to help the out-group, children's ethnic out-group evaluation is also assessed. In addition, a measure of in-group evaluation was included in Study 2 to assure that children in the current sample evaluated the out-group more negatively than the in-group on a descriptive level, as hypothesized. Moreover, a long-standing debate in social psychology deals with the extent to which intergroup behavior is motivated by 'in-group love', 'out-group hate', or both (e.g., see Balliet, Wu, & De Dreu 2014; Aboud, 2003; Martin & Ruble, 2010). Therefore, the differential influence of costs on in-group and out-group help intentions could be due to in-group positivity, out-group negativity, or both. Such insight is critical to better understand why costs influenced out-group but not in-group helping intentions.

Method

Participants. A total of 208 children with parental consent participated from 2 schools in the Netherlands. Again, only Dutch children with Dutch parents were selected for the analysis (N = 166). In each school class the majority of children were Dutch. Children were aged between 9 and 13 years (M = 10.79, SD = 1.05) and 47.6% were boys.

Procedure. The experiment was programmed in Inquisit 4 (2015) and part of a larger survey on social cognition in children. All data was collected during the same session, in children's classroom with mini-laptops under the supervision of two research assistants and the children's teacher. Children's intention to help was always assessed first, and after several unrelated measures children were asked for their intergroup evaluations.

Materials.

Stories. The two stories were identical to Study 1 and again children's intention to help for both stories correlated significantly, $r = .40$, $p < .001$. Gender of the recipient of help was again counterbalanced across stories and within participants.

Group context. Typical Moroccan names were used for the out-group target of help: Yasmina (girl) and Ibrahim (boy). The names for the Dutch in-group were identical to those of Study 1. In addition, photos were presented to manipulate the ethnic group context. A total of 56 photos were pretested with 69 adult participants (26 photos of girls were evaluated by 37 participants and 20 photos of boys by 32 participants) on ethnic-group typicality, age and happiness. Photos were selected when rated as typical Dutch or Moroccan, and the selected pairs of photos (boys/girls) were matched on age and happiness.

Intergroup evaluation. Similar to previous research conducted on this age group (e.g., Sierksma et al., 2015; Verkuyten & Thijs, 2001), children were asked 'What do you think of Dutch people?' and 'What do you think of Moroccan people?'. Answers were given on a 7-point smiley-face scale, developed and validated by Yee and Brown (1992), ranging from very unhappy smiley (1) to very happy smiley (7).

Analysis.

The analysis was identical to Study 1. Additionally, children's in-group and out-group evaluations (standardized, z-scores) and interaction with each independent variable were added to the models. Multilevel results of the full model are reported in Table 1, result of the model with planned contrasts can be seen in Table 2.

Results

Descriptive results. Children were generally inclined to help ($M = 3.81$, $SD = 0.94$; story 1, $M = 3.63$, $SD = 1.17$; story 2, $M = 3.99$, $SD = 1.08$), and again this mean score was significantly above the neutral mid-point of the scale, $t(165) = 11.01$, $p < .001$. A main effect was found for gender, showing that girls intended to help more compared to boys

(respectively, $M = 4.01$, $SD = 0.83$, $M = 3.59$, $SD = 1.02$), $b = .40$, $p = .008$). No significant interactions were found for gender with either independent variable. Therefore, data were collapsed across gender, but results are similar when controlling for children's gender. In addition, gender of the recipient of help did not influence the results reported here (but see supplemental materials).

The Dutch in-group was evaluated very positively ($M = 6.58$, $SD = 0.71$) and more positively compared to the Moroccan out-group ($M = 4.49$, $SD = 1.73$), $t\,(165) = 14.60$, $p < .001$, although children's evaluation of the Moroccan out-group was above the neutral midpoint of the scale, $t\,(165) = 3.64$, $p < .001$.

Full model. Results for the first model including costs of helping, group context, story type, children's age, evaluation of the Dutch in-group and evaluation of the Moroccan out-group yielded four significant effects. A significant main effect was found for the costs of helping ($p = .006$), suggesting children were more inclined to help in low costs compared to high cost scenario's. In addition, a main effect was found for children's evaluation of Moroccans ($p < .004$), suggesting children were more inclined to help when they were more positive about the out-group. In addition, an interaction for the group context and story type ($p = .006$) was found. Simple effects analyses for each story showed that children were somewhat more inclined to help out-group peers than in-group peers in the first story, but not significantly so ($b = -.15$, $p = .08$), whereas children wanted to help in-group and out-group peers equally in the second story ($b = .11$, $p = .19$). No significant effects were found for children's age and evaluation of the in-group.

Model including planned contrasts. Similar to Study 1, children intended to help in-group peers equally when helping was costly or less costly. The contrast for children's intention to help out-group peers yielded a significant effect ($p = .01$; see Figure 2), showing that children were inclined to help out-group peers more in the low cost compared to high

costs helping context. Furthermore, results showed no main effect or interactions for children's in-group evaluation with either contrast. A main effect was found for children's out-group evaluation ($p < .001$), showing that a more positive out-group evaluation was related to a stronger intention to help but no significant interactions were found. Moreover, children's age did not result in significant main effects or interactions and story type only resulted in a significant main effect ($p < .001$).

Discussion

The first goal of Study 2 was to examine to what extent the results of Study 1 depend on the type of ethnic group context. The results replicate the findings of Study 1: children intended to help ethnic in-group peers equally in low and high costs helping contexts. However, children were less willing to help ethnic out-group peers in high costs compared to low cost helping contexts. These results did not depend on children's age or the type of story. This suggests that costs of helping reduces children intention to help ethnic out-group peers, also when the particular out-group is perceived rather negatively (Thijs & Verkuyten, 2013).

The second goal was to understand whether children's in-group or out-group evaluation influenced their intergroup intention to help. The results show that children evaluated the Dutch in-group more positively compared to the Moroccan out-group. Moreover, a more positive evaluation of the Moroccan out-group was related to a stronger intention to help. However, children's in-group or out-group evaluations did not influence their intention to help ethnic in-group and ethnic out-group peers in low and high cost situations. This suggests that out-group negativity or in-group positivity does not influence how children weigh the costs in their intention to help in-group or out-group peers.

In line with Study 1 and previous research (e.g., Sierksma et al, 2014), the full model showed that children's overall inclination to help was again lowered when costs increase. Although children seemed somewhat more inclined to help out-group peers than in-group

peers when it involved a broken bike, this difference was not significant. In addition, when helping involved returning books to the library children intended to help in-group and out-group peers equally. This suggests that the ethnic group context overall again did not influence children's intention to help nor was there a significant interaction for the costs of helping and the group context.

General Discussion

Children grow up in increasingly diverse environments and despite global efforts, prejudice and discrimination continue to persist across cultures. Much research focuses on negative intergroup behavior in childhood, such as discrimination and exclusion (e.g., see Killen & Rutland, 2011; Levy & Killen, 2008), and there is a paucity of careful work on how group boundaries influence children's cognition about positive behavior, such as helping. However, a better understanding of how and when group boundaries influence children's cognition about helping is critical for designing interventions that promote intergroup prosociality early in life.

Previous research shows that costs of helping reduce children's intention to help and helping behavior (e.g., Eisenberg & Shell, 1986; Sierksma et al., 2014a) and that children are often inclined to help in-group peers more than out-group peers (e.g., Sierksma et al., 2015; Weller & Lagattuta, 2013). Bringing together these two lines of research, the current research for the first time shows that costs of helping only influence children intention to help ethnic out-group peers. Specifically, across two studies, children were less inclined to help ethnic out-group peers (Surinamese out-group, Moroccan out-group) in high compared to low costs situations, whereas costs did not influence children's intention to provide help to ethnic in-group peers. Importantly, differential helping in high and low cost contexts only emerged when analysed within the group contexts separately using planned contrasts, rather than comparing in-group and out-group intentions to help overall. As helping interactions often

occur between a helper and one target of help rather than a helper who decides between two targets of help, the planned contrasts used have practical meaning and ecological validity. Namely, results suggests that when children meet an ethnic out-group peer in need of help, they are less willing to provide that help when it is costly. The same trade-off however does not occur when meeting an ethnic in-group peer in need of help. This illustrates that differential treatment of out-group members can be rather subtle in children, in line with the large literature in adults showing the many refined ways in which adults discriminate in their helping (for an overview see Van Leeuwen & Zagefka, 2017). While much previous research has shown that children can be very helpful from a young age onwards even when helping is costly—for example, when they have to overcome obstacles (Warneken, Hare, Melis, Hanus, & Tomasello, 2007) or leave a fun toy behind (Warneken & Tomasello, 2008)—these studies do not examine *who* children are helping. The current research highlights the significance of taking into account the recipient's group membership when studying children's prosociality. Importantly, across the two studies, ethnicity was never explicitly pointed out in the vignettes and could only be inferred from features such as the target's skin color and first name, suggesting that for children's intention to help to be influenced by ethnicity, explicit labelling of group membership is not a necessary condition.

Children's proclivity to weigh costs differently for in-group and out-group peers was found across different types of ethnic out-groups. While the Surinamese (Study 1) and Moroccan (Study 2) out-group are perceived differently by Dutch children (Sierksma et al, in press; Thijs & Verkuyten, 2013), increased costs reduced children's intention to help across both group contexts. This indicates that the influence of the costs of helping did not depend on the type of out-group. Moreover, children's explicit intergroup evaluations could not explain the differential influence of costs on children's intention to help in-group and out-group peers. This is in line with earlier work showing that American children's resource

allocation to White and Black peers was not influenced by their social preferences (Renno & Shutts, 2015) as was also found in a study using minimal groups (Rhodes, Leslie, Saunders, Dunham, & Cimpian, 2017) and when Dutch children's ethnic intergroup helping was assessed (Sierksma et al., in press). It further corroborates that the results do not depend on explicit in-group preference or on disliking the out-group (see also Warneken, 2011). Why, then, are the costs of helping important when children consider helping out-group peers, but not when helping in-group peers? The current work did not examine children's justifications for their intention to help and can therefore not shed light on why costs of helping were more important for children's intention to help out-group peers, but some suggestions are offered that should be considered in future research.

One explanation might be that loyalty motivates children's in-group prosociality and therefore costs are unimportant. Loyalty concerns exert a strong influence on both adults (e.g., Graham et al., 2011) and children's positive intergroup cognition and behavior (Misch et al., 2016). Moreover, children evaluate the refusal to help as more blameworthy when it occurs between peers from the same ethnic group compared to different ethnic groups (Sierksma, et al, 2014b), which suggests that intragroup helping is seen as more important by children than intergroup helping. Children are socialized from a young age onwards to help close others and might therefore be willing to help in-group peers independent of the costs involved. These concerns about loyalty are probably not relevant in children's consideration to help out-group peers and therefore costs become a discriminating factor.

Another related underlying motivation that might explain why children are more inclined to take into account the costs of helping when it concerns out-group peers is that of reciprocity. Children aged 8 to 13 strongly value reciprocity in helping (Sierksma et al, 2014a) and they may take into account from whom they are more likely to receive help in return. The likelihood that in-group peers reciprocate help is probably higher compared to

out-group peers, because the in-group is expected to be loyal while out-group peers might never be seen again. In support of this proposal, Renno and Shutts (2015) showed that children expect gender and racial in-group peers to behave more prosocially towards them, and this expectation was positively related to their own resource allocations (in which they showed in-group bias). Moreover, adults have been found to expect more cooperation from in-group members than out-group members in economic games (Balliet et al., 2014). To better understand why costs influence intention to help the out-group but not the in-group, it is important that future studies focus on asking children for their considerations when helping in-group and out-group peers in high and low costs situations.

It is important to note, however, that the absence of a relation between children's intergroup evaluations and their helping intentions could also be due to a methodological issue. First of all, children generally evaluated the in-group highly positive with very little variation between children. This hints at a possible ceiling effect. In addition, children's ethnic intergroup evaluations were assessed using explicit measures. During middle childhood, children become aware of anti-discrimination norms and their explicit group based biases start to decline (Raabe & Beelman, 2011). However, when indirect (e.g., McGlothlin & Killen, 2006) or implicit measures (e.g., Dunham, Baron, & Banaji, 2006) are used, prejudice is still present through late childhood. This is also evident in the results because although children were less positive about the out-group compared to the in-group, on an absolute level they did not report out-group negativity. Given that the vignettes form a more indirect measure of how the ethnic group context impacts children's social cognition, there might have been a mismatch between children's explicit evaluations and helping intentions. Future studies should consider using indirect and implicit measures to understand how intergroup evaluations relate to children's intention to provide costly and less costly help in an ethnic intergroup context. Such insight is crucial for knowing whether to target intergroup

attitudes in efforts to enhance prosociality across group boundaries independent of the costs involved.

In addition, results for the full model were also very similar across Study 1 and 2. Whereas, costs of helping consistently lowered children's intention to help, across the two studies no in-group bias was found in children's intention to help. This contrasts earlier work on children's evaluations of intergroup helping and their sharing behaviour (e.g., Fehr et al., 2008; Sierksma, et al., 2015; Weller & Lagattuta, 2013). Previous studies on children's prosocial selectivity have been conducted on various group and interpersonal contexts (i.e. based on racial-, school-, friendship-, liked and disliked-, kin-, and minimal group boundaries) and in many cultural contexts (i.e. U.S.A, The Netherlands, Germany, Canada). One thing that results of the current study suggest is that children's selectivity might depend to a great extent on such factors, and straightforward in-group bias is not the norm. The challenge for future research lies in unravelling what mechanisms explain when children favour the in-group and when they do not, or when they even favour the out-group in their (reasoning about) helping behaviour (see also Sierksma et al., in press).

Moreover, the finding that costs only influence children's out-group helping intentions are conceptually in line with research on interpersonal sharing by Moore (2009), in which costs of sharing influenced children's prosociality toward strangers but not friends. However, the findings did not show that costs in in-group and out-group helping differed overall, as was found in the study by Moore (2009). Moreover, the results oppose earlier findings on intergroup prosociality (Fehr et al, 2008) and other studies on interpersonal sharing (Lu & Chang, 2016; Paulus & Moore, 2014) in which the recipient of help did not influence how children weigh costs. One key resemblance between Moore's (2009) study and the research presented here is that in both studies, the low costs condition involved at least some costs (i.e. delay of gratification, some work and time), whereas the studies in which

costs influenced sharing independent of the recipient (i.e. Fehr et al., 2008; Lu & Change, 2016; Paulus & Moore, 2014) involved giving up resources (high costs) and distributing resources that are not owned by the participating child (no costs). It is likely that when sharing involves no costs, children consider it obligatory to share, also when it concerns an out-group peer (see Sierksma et al., 2014a). This is also in line with the argument that when children are asked to distribute resources without a benefit to themselves, concerns about fairness are especially salient (Starmans, Sheskin & Bloom, 2017). But when prosociality involves some costs, the group or interpersonal context is taken into account (but see Benozio & Giesendruck, 2015). This suggests that future studies should go beyond the strong contrast of costly and non-costly prosociality and also examine intermediate levels of costs.

A limitation of the current studies is that children's intention to help was assessed across only two stories. The two vignettes presented to participants described distinct helping situations but nonetheless elicited very similar considerations for the ethnic group contexts, which suggests that the results might generalize to other situations as well. However, it is important for future research to examine this possibility. Moreover, given that helping can involve different types of costs—for example, effort, time, or forgone rewards—another suggestion for future research is to assess whether the influence of varying costs differs for children's intergroup intention to help. The present research solely focused on children's cognition about helping and it remains an open question how children will behave in actual high and low cost intergroup helping situations. Previous research has documented a behaviour-judgment gap in children's sharing, and shows that around the age of 8 years children's cognition about sharing aligns with their actual behaviour (Smith, Blake & Harris, 2013), whereas 5-year olds own sharing is already related to their expectations of sharing in others (Paulus & Moore, 2014). It would therefore be worthwhile to extend the present findings to younger children's actual helping as well. Moreover, future research should

include other types of out-groups, such as those based on more malleable group distinctions (e.g., friendship, sport-teams) and those that differ in status and likeability (e.g., higher status minority group).

The current research provides novel evidence that costs of helping influences children intention to help ethnic out-group peers but not ethnic in-group peers. This shows that taking into account the intergroup context when studying children's prosociality is of crucial importance. Such insight can help us better understand why children choose to help others on some occasions but not others. Given that meaningful help to others very often requires that we take the time and invest effort in others, this research can help us better understand when and why children might refrain from doing so. In the long run, this understanding will provide research scholars, educators and parents with a better understanding of how to stimulate children's helping across group boundaries and how to improve intergroup relations early in life.

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Table 1

Multilevel results for Study 1 and Study 2, full model

	Study 1	Study 2
Explanatory variables	*b*	*b*
Group	-.01	-.02
Costs	-.15**	-.19**
Group * Costs	.06	.06
Age	-.01	.06
Age * Group	.00	-.01
Age * Costs	.09	-.03
Age * Group * Costs	.03	.03
In-group evaluation		.04
In-group evaluation* Group		-.07
In-group evaluation* Costs		-.04
In-group evaluation* Group * Costs		.07
Out-group evaluation		.30***
Out -group evaluation* Group		-.02
Out -group evaluation* Costs		-.04
Out -group evaluation* Group * Costs		.05
Story type	.34***	-.18***
Story type * Group		-.13**

Story type * Costs		-.01
Story type * Group * Costs		-.00
Deviance	1706.83	949.51
Deviance difference compared to 0-model	132.17***	56.05***

Note. *$p < .05$, **$p < .01$, ***$p < .001$, two tailed

Table 2

Multilevel results for Study 1 and Study 2, model with contrasts

	Study 1	Study 2
Explanatory variables	*b*	*b*
In-group helping[1]	-.09	-.14
Out-group helping[2]	-.21**	-.24**
Age	-.05	.05
Age * In-group helping[1]	.12	-.01
Age * Out-group helping[2]	.07	-.05
In-group evaluation		.03
In-group evaluation* In-group helping[1]		.04
In-group evaluation* Out-group helping[2]		-.11
Out-group evaluation		.29***
Out-group evaluation* In-group helping[1]		.01
Out-group evaluation* Out-group helping[2]		-.08
Story type	.34***	-.18***
Deviance	1706.84	958.08
Deviance difference compared to 0-model	132.74***	47.48***

Note. [1] denotes the difference between high costs and low costs in intention to help the in-group. [2] denotes the difference between high costs and low costs in intention to help the out-group. *$p < .05$, **$p < .01$, ***$p < .001$, two tailed

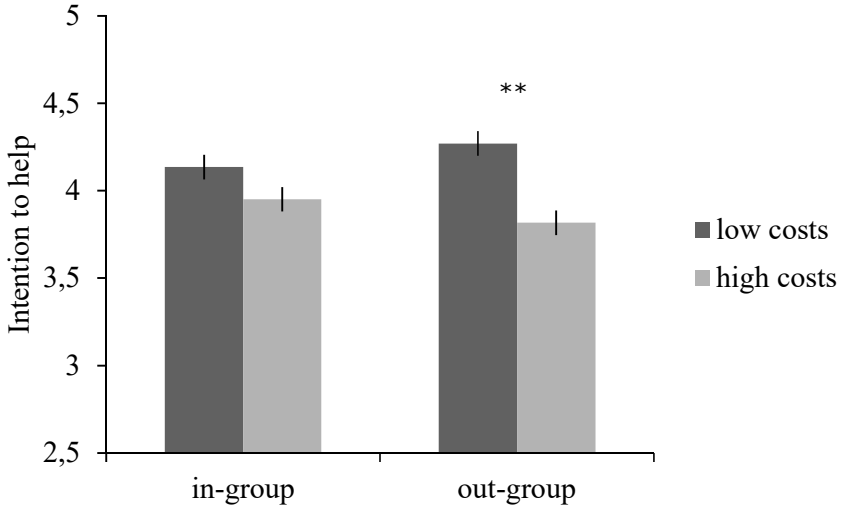

Figure 1. The influence of the costs of helping on children's intention to help ethnic in-group and out-group peers, Study 1. Error bars represent standard error.

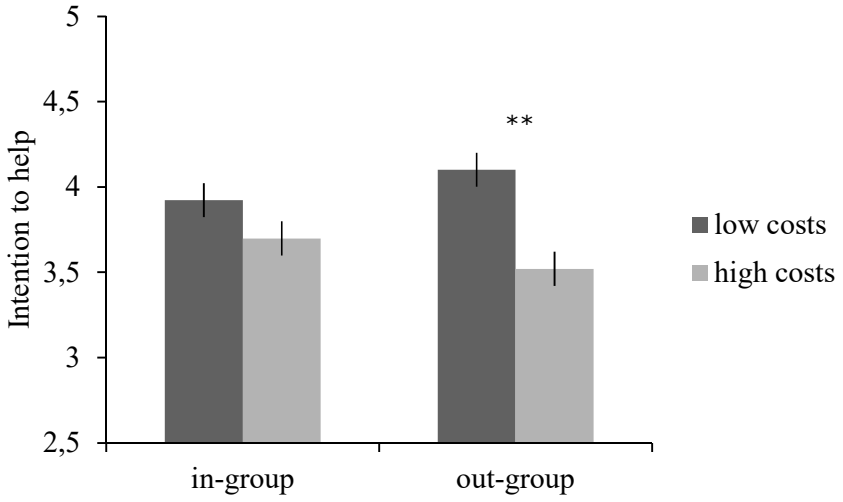

Figure 2. The influence of the costs of helping on children's intention to help ethnic in-group and out-group peers, Study 2. Error bars represent standard error.

Footnote:

[1]At the time this research was conducted seeking ethical approval for non-invasive survey research was not common practice at the universities were the research was conducted. However, it was mandatory to adhere to strict ethical guidelines drafted by the university. In the current study we informed parents about the purpose of the research, expected duration and procedures. Children were always informed about their right to decline to participate or withdraw from the research. All data was anonymized and safely stored. Moreover, ethical approval was received recently for very similar vignette-research among children aged 8 to 13 with an identical procedure. I am therefore confident that the current research adheres to ethical guidelines.

Supplemental materials

For each study the role of the gender group context was also explored. Results are reported below.

Analysis.

Analyses for the gender group context are similar to those for the ethnic group context reported in the main manuscript. The first approach (see Table 1) included main and interaction effects for each independent variable (i.e., costs of helping, gender group context, children's age, story type). For the second approach (see Table 2), orthogonal contrasts were specified for in-group recipients and out-group recipients, representing the difference between low costs (coded -1) and high costs (coded 1).

Results Study 1

Full model. There was a main effect of costs ($p = .003$), which showed that children were more inclined to help in low compared to high cost help situations. In addition, a main effect for the gender group context emerged, which suggests that children's were more inclined to help gender in-group compared to gender out-group peers ($p < .001$). There was also a significant interaction for children's gender and gender of the recipient of help ($p < .001$). Follow-up analyses showed that gender in-group bias in children's intention to help was stronger in girls ($b = .13$, $p = .002$) compared to boys ($b = .11$, $p = .006$). No other significant effects were found for children's gender and no significant effects were found for children's age. While a main effect was found for story type ($p < .001$) no significant interactions were found for story type and any of the independent variables.

Model with contrasts. A main effect was found for the role of costs in children's intention to help gender out-group peers ($p < .001$). This suggests that children were more inclined to help gender out-group peers when costs were low compared to high. This finding

was not influenced by children's age or story type. Furthermore, while no main effect was found for the orthogonal contrast for children's intention to help gender in-group peers, a significant interaction was found for children's age and role of costs in their intention to help in-group peers (p = 0.02). Simple slope analyses showed that older children (i.e., 1 *SD* above the mean) intended to help gender in-group peers equally with it involves high and low costs (b = .04, p =.59), but increased costs reduced younger children's (i.e., 1 *SD* below the mean) intention to help in-group peers (b=-.23, p = .004). Apart from a main effect for story type (p < .001), story type did not influence the results. In addition, children's gender did not influence the results.

Results Study 2

Participant's gender did not influence the results and was therefore not included in the models.

Full model. There was a main effect for the costs of helping (p = .003). Moreover, there was a significant four-way interaction for story type, children's age, the costs of helping and the gender group context (p =.02). Simple slope analyses comparing older (1 SD above the mean) and younger children (1 SD below the mean) showed that the this interaction was stronger in older children (b = .20, p = .052), and absent in younger children (b = -.15, p = .15) and that the interaction was stronger for the second story (b = -.18, p = .04), and absent in the first story (b = .17, p = .053). However, none of the other follow up analyses yielded significant effects, likely because of insufficient power to detect a 4-four interaction. No other significant effects emerged for any of the other independent variables.

Model with contrasts. The two orthogonal contrasts for the role of costs in children's intention to help in-group and out-group peers yielded significant effects (gender in-group: p = .03; gender out-group: p = .005). This suggests that children were more inclined to help in-

group and out-group peers when costs were low compared to high. Similar to the full model, a significant 3-three way interaction was found for story type, intention to help the out-group and children's age (p = .02). However, none of the follow-up analyses yielded significant results.

Table 1

Multilevel results for Study 1 and Study 2, full model

	Study 1	Study 2
Explanatory variables	*b*	*b*
Costs	-.14**	-.21**
Gender group	.12***	.04
Gender group * Costs	.05	.03
Age	-.05	.09
Age * Costs	.07	.06
Age * Gender group	-.01	.00
Age * Gender group * Costs	.03	-.00
Story	.33***	-.18***
Story * Costs	.04	-.01
Story * Gender group	-.05	-.03
Story * Gender group * Costs	.01	.03
Story * Age	.05	-.05
Story * Age * Costs	.00	-.03
Story * Age * Gender group	-.01	-.02
Story * Age * Gender group* Costs	-.06	.17*
Participant Gender	.01	
Participant Gender * Costs	.05	

Participant Gender * Gender Group	-.22***	
Participant Gender * Costs * Gender group	.03	
Deviance	1657.99	968.90
Deviance difference compared to 0-model	182.13***	36.67***

Note. [1] *$p < .05$, **$p < .01$, ***$p < .001$, two tailed

Table 2

Multilevel results for Study 1 and Study 2, model with contrasts

	Study 1	Study 2
Explanatory variables	*b*	*b*
In-group helping[1]	-.09	-.19*
Out-group helping[2]	-.20***	-.24**
Age	-.06	.08
Age * In-group helping[1]	.14*	-.07
Age * Out-group helping[2]	.07	-.05
Story type	.34***	-.18***
Story type * In-group helping[1]	.05	.02
Story type * Out-group helping[2]	.02	.04
Story type * Age	.05	-.05
Story type * Age * In-group helping[1]	-.05	.14
Story type * Age * Out-group helping[2]	.07	-.21*
Deviance	1698.08	969.90
Deviance difference compared to 0-model	130.92***	35.66***

Note. [1] denotes the difference between high costs and low costs in intention to help the in-group. [2] denotes the difference between high costs and low costs in intention to help the out-group. *$p < .05$, **$p < .01$, ***$p < .001$, two tailed