British Journal of Developmental Psychology (2015)

The British Psychological Society

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Children's prosocial behavioural intentions towards outgroup members

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When will children decide to help outgroup peers? We examined how intergroup competition, social perspective taking (SPT), and empathy influence children's (5–10 years, $N = 287$) prosocial intentions towards outgroup members. Study 1 showed that, in a minimal group situation, prosociality was lower in an intergroup competitive than in a non-competitive or interpersonal context. Study 2 revealed that, in a real groups situation involving intergroup competition, prosociality was associated with higher empathy and lower competitive motivation. In a subsequent non-competitive context, there were age differences in the impact of SPT and competitive motivation. With age, relationships strengthened between SPT and prosociality (positively) and between competitiveness and prosociality (negatively). Among older children, there was a carry-over effect whereby feelings of intergroup competitiveness aroused by the intergroup competitive context suppressed outgroup prosociality in the following *non-competitive* context. Theoretical and practical implications for improving children's intergroup relationships are discussed.

Prosocial behaviours are motivated by wanting to benefit or increase the welfare of others (Penner, Dovidio, Piliavin, & Schroeder, 2005). Examples include helping, caring, and sharing. During the second to third year of age, children progress from engaging in simple prosocial behaviours, such as helping, to a variety of helpful acts (Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Hay & Cook, 2007; Vaish, Missana, & Tomasello, 2011; Warneken & Tomasello, 2007). However, such prosociality is not necessarily directed equally to all individuals, and this study focuses on the important distinction between children's interpersonal and intergroup prosociality.

Research on children's prosocial behaviour has concentrated on interpersonal helping and the role of individual dispositions, such as empathy (e.g., Catherine & Schonert-Reichl, 2011; Eisenberg, Fabes, & Spinrad, 2006). In contrast, group processes and intergroup relations research has concentrated on the impact of social context (e.g., social categories, group membership) on prejudice and discrimination while tending to ignore intergroup prosocial behaviour as an outcome (see Sturmer & Snyder, 2010). From an early age, children are less likely to give help or resources to outgroup than ingroup members (Dunham, Baron, & Carey, 2011; Fehr, Bernhard, & Rockenbach, 2008; Sierksma, Thijs, & Verkuyten, 2014; Weller & Lagattuta, 2013). However, this bias could

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DOI:10.1111/bjdp.12085

reflect their lower willingness to help outgroup members, higher willingness to help ingroup members, or a combination of both. Research on children's prejudice has revealed, for example, that response biases arise because children are aware that prejudice towards particular groups may receive disapproval from adults or peers (Rutland, Cameron, Milne, & McGeorge, 2005). Children are more likely to show biases when using positive rather than negative judgements of group members (Rutland, Brown, Cameron, & Ahmavaara, 2007; Weller & Lagattuta, 2014), suggesting that focusing on positive responses may provide a more sensitive measure of outgroup attitudes.

The present novel approach integrates complementary perspectives and methodologies from interpersonal prosocial behaviour research and group processes research to examine children's intentions to help an outgroup member in need, as compared with the baseline of their general tendency to be prosocial towards others (an interpersonal peer, Study 1, see also Note 1). We examine the prevalence of prosocial intentions towards outgroup members (Study 1), and the impact of competition (a social contextual variable; Study 1 and 2), and of empathy, perspective taking and competitive motivation (individual differences; Study 2) on prosocial intentions.

In examining prosociality among 5- to 10-year–olds, we also consider the particular cognitive abilities that may ultimately underpin adult prosociality (Study 2). For instance, in middle childhood, perspective taking and empathy become more sophisticated (Eisenberg *et al.*, 2006) and impact on children's interpersonal prosocial behaviour (see Batson, 1998; Eisenberg *et al.*, 1999; Hoffman, 2000). In addition, children's understanding of group membership becomes more nuanced (e.g., Abrams, 2011; Abrams, Rutland, Pelletier, & Ferrell, 2009). Studying the development of outgroup prosociality across this age range provides a unique opportunity to examine the importance of these abilities.

Outgroup prosociality in competitive contexts

When group memberships are salient, children show more intergroup bias (Bigler & Liben, 2007). Competition increases the salience of group membership, and intergroup biases in both adults (Bettencourt, Brewer, Rogers-Croak, & Miller, 1992; Brewer & Miller, 1984) and children (Nesdale, Griffiths, Durkin, & Maass, 2007; Sherif, 1966), and among adults, competition has been shown to reduce outgroup prosociality (Platow *et al.*, 1999).

From the age of five, in competitive contexts children view outgroup-directed prosocial behaviour as less acceptable and outgroup-directed antisocial behaviour as more acceptable (Rhodes & Brickman, 2011). When competition is primed, children also show ingroup bias in their resource allocations (Spielman, 2000). Implied by these findings is that we should expect prosocial intentions towards outgroup members to reduce when group membership and intergroup competition are more relevant or salient (Study 1).

Empathy and social perspective taking

Empathy involves the awareness of another's emotional state and a parallel emotional response to that state (Hoffman, 2000). In adults and children, empathy is positively associated with prosocial behaviour (see Eisenberg & Miller, 1987; Gaertner & Dovidio, 1977). Empathy is also likely to be important for *outgroup* prosociality. Indeed, recent research showed that state empathy could overcome intergroup bias in helping intentions (Sierksma *et al.*, 2014). Individual differences in interpersonal prosociality may be partly explained by dispositional empathy, implying that the same should be true for outgroup

prosociality. The current research extends this literature by examining (in Study 1) whether there are consistent individual differences in prosociality across interpersonal and outgroup contexts, and (in Study 2) whether dispositional empathy may also promote outgroup prosocially. We expect that higher dispositional empathy should be associated with greater prosociality.

Social perspective taking (SPT) is the cognitive capacity to understand the situation, thoughts, and intentions of another individual (Carlo, 2006). The cognitive complexity underlying this ability increases with age (Baron-Cohen, Leslie, & Frith, 1985), and as a function of their social experience (e.g., the number of social groups they belong to) (Abrams *et al.*, 2009). Although SPT increases with age, it does not necessarily imply greater *outgroup* prosociality. This is because older children with better SPT skills will also be more aware of and responsive to the requirements of social group membership such as ingroup loyalty (Abrams, 2011). It follows that, even if more advanced SPT may enhance prosociality towards individuals, it may not do so towards outgroup members, particularly if there is a competitive intergroup context. Therefore, the relationship between SPT and prosocial intention could depend on the child's age and whether intergroup competition is salient or not.

We expect that a competitive context may reduce children's willingness to respond to the needs of outgroup members. However, in the *absence* of competition, children with more advanced SPT should respond more prosocially because of their insight into the other person's perspective. This may be particularly evident in older children who should refer to the more general social norms to behave prosocially (Abrams, Rutland, Cameron, & Ferrell, 2007; Rutland *et al.*, 2005).

Competitive motivation

Study 2 also examines the impact of children's *feelings of competitiveness* ('competitive motivation') on outgroup prosociality in response to the competitive intergroup context. Choi, Johnson, and Johnson (2011) found that competitive predispositions among 7- to 11-year-olds positively predicted interpersonal harm-intended aggression. Whereas Choi *et al.*'s research was conducted within an interpersonal setting, the current study examines whether competitive motivations (or predispositions) predict prosocial intentions in a competitive intergroup context. We predict that a child who feels more competitive would be less inclined to help an outgroup member.

Overview

A minimal groups paradigm (MPG) was used in Study 1 and school groups in Study 2. Minimal groups were employed because real life groups come with their own history of conflict which can vary between individuals. Moreover, use of minimal and school groups are well established approaches, which are meaningful to children, and which typically elicit intergroup biases (e.g., Abrams, 2011; Abrams, Palmer, Rutland, Cameron, & Van de Vyver, 2014; Nesdale *et al.*, 2007). Study 1 tests whether a needy person's outgroup membership *per se* is sufficient to reduce children's prosociality, and whether the presence of intergroup competition accentuates this effect. Study 2 focuses on factors that could affect outgroup prosociality.

In the context of the present studies, we hypothesized (Study 1, H1) that children will be more willing to help interpersonal peers than outgroup members and (H2) that competition will reduce prosociality towards outgroup members. Moreover, we predict

consistent individual differences in prosociality across both contexts (H3). We further hypothesized (Study 2, H4) that dispositional empathy (positively) will be positively related to prosociality across contexts, whereas (H5) competitive motivation will be (negatively) associated with prosociality in competitive contexts. Furthermore (H6), SPT will be positively associated with prosociality in non-competitive contexts, but not in competitive contexts, and (H7) this difference will be largest among older children.

STUDY 1

Method

Design and participants

The study used a 2 (Target: Individual vs. outgroup member) within participants × 2 (Context: Competition vs. no competition) × 3 (Age group: Modal age 5 vs. 7 vs. 9 years) × 2 (Sequence of target: Individual target first vs. intergroup target first) between participants design. Target was counterbalanced with the Sequence factor to control for the possibility that children might tend to persist with whatever intentions they formed for the first target. Participants were randomly assigned to a context-target sequence condition.

One hundred and twelve (55 male, 57 female) children from two primary schools in Kent took part. Parents of all children gave consent, and participants were randomly selected from School Years 1, 3, and 5. The mean ages of these year groups were 5.32, 7.55, and 9.49 years, respectively. For simplicity, we refer to the modal age for each year group. Participants were predominantly born in the UK and over 95% were of Anglo-European ancestry.

Procedure

Children were tested individually by a trained researcher. First, the Context manipulation was introduced. Children were informed that they would be randomly assigned to one of two groups/teams (green or red, determined by drawing a hidden token from a bag); however, all children were in fact in the green group/team. Children were told that they would be asked to produce artwork later in the study for an exhibition, which would show artwork by both groups/teams. Context was manipulated by referring to *teams* in the competition condition, and to *groups* in the non-competition condition. Children in the competition condition were additionally told that there was an *art contest* between the teams and that judges at the exhibition would decide which team won.

Second, two situations were described, an interpersonal situation in which the target child was an unknown individual with no mention of group membership, and an intergroup situation in which the target child was described as belonging to the outgroup (the Target factor). The order of presentation was counterbalanced (the Sequence factor).

Measures

To measure interpersonal prosociality (Target), the participant and many other children were described as playing in a park. Three scenarios were introduced to assess three prosocial intentions – To share, help, and comfort (Eisenberg *et al.*, 1999; see Appendix S1). Children were asked: 'Would you share/help/comfort the other child?'

To measure outgroup prosociality, children were first asked to draw their pictures for the group (non-competitive condition) or for the team (competitive condition) and were then presented with the three scenarios (sharing, helping, and comforting). These were adapted to relate to the intergroup context (see Appendix S1). This was necessary to induce intergroup salience. At the end of each scenario, children were asked: 'Would you share/help/comfort the child from the other group/team?'

Participants responded from 1 (definitely not) to 5 (definitely would). A factor analysis of each set of three items confirmed that they formed a single factor with all items loading strongly (>.5). The three items in each context were averaged to produce a single score for each context (interpersonal prosociality, intergroup prosociality) and these formed reliable scales (both αs > .80).

Intergroup bias

Children were asked to evaluate the ingroup as a whole and the outgroup as a whole: 'How much do you like your group/team?' and 'How much do you like the other group/team?' This was to check the effectiveness of the minimal group manipulation. Participants responded from 1 (big frown) to 5 (big smile).

Results

Data analytic plan

Context (competition vs. no competition) × Age (5, 7, 9 years) × Sequence (interpersonal vs. intergroup first) mixed model ANOVAs are conducted to test the impact of these factors on (1) intergroup bias (ingroup/outgroup is an additional within-participants factor) and on (2) prosociality (interpersonal/outgroup target is the within-participants factor) to test H1 and H2. Finally, correlation analyses are conducted to explore the relationship between interpersonal and outgroup prosociality to test H3. As there were no gender differences in the dependent variables, gender was not included as a factor.

Intergroup bias

This first ANOVA is a manipulation check to test whether the MGP effectively instigated intergroup bias (Within-participant factor Group: Evaluation of ingroup vs. outgroup). Context, Age, and Sequence are also included as between-participant factors. Based on random assignment to condition, there should be (and were) no effects of Sequence because children had not seen the targets when completing the bias measures.

There were no significant main effects or interactions among Age, Context, or Sequence (all F's < 3.06, p's > .08). However, there was a highly significant main effect of Group, $F(1, 100) = 61.68$, $p < .001$, $\eta^2 = .38$, ($M_{\text{ingroup}} = 4.40$, $SD = 0.81$; $M_{\text{outgroup}} = 2.70$, $SD = 1.57$). Participants favoured the ingroup more than the outgroup. This was qualified by a significant Group × Context interaction, $F(1, 100) = 7.58$, $p < .01$, $\eta^2 = .070$, as well as an Age × Group × Context interaction, $F(1, 100) = 4.05$, $p < .05$, $\eta^2 = .075$. All remaining effects were non-significant, Fs < 2.36, $ps > .11$.

To facilitate interpretation of the 3-way interaction, we computed an intergroup bias score (ingroup rating minus outgroup rating). Bias was significantly larger when the context was competitive ($M = 1.58$, $SD = 1.63$) than non-competitive ($M = 0.77$, $SD = 1.17$). Moreover, simple effects analyses showed that bias did not differ among

the age groups in the non-competitive condition, $F(2, 100) = 1.49$, $p > .20$, $\eta^2 = .029$, but bias differed between age groups in the competition condition, $F(2, 100) = 6.49$, $p < .01$, $\eta^2 = .115$. Seven-year-olds showed significantly more bias ($M = 2.17$, $SD = 1.46$) than 5-year-olds ($M = 1.82$, $SD = 1.56$; $p < .05$) and 9-year-olds ($M = 0.77$, $SD = 1.07$, $p < .001$). Thus, the MGP was effective in instigating intergroup bias. Moreover, intergroup bias was larger in competitive contexts and among 7-year-olds.

Prosociality

The second ANOVA tested whether Context, Age, and Sequence influenced prosociality towards the interpersonal peer versus the outgroup member (within-participant factor Target). There was a marginal Age × Context interaction, $F(1, 100) = 2.83$, $p = .064$, $\eta^2 = .054$, and all other main effects and interactions among between-participants variables were non-significant (F's, 100 df, < 2.02, all p's > .14).

There was a highly significant effect of Target, $F(1, 100) = 38.53$, $p < .001$, $\eta^2 = .278$. Prosociality was higher towards the interpersonal peer ($M = 4.45$, $SD = 0.61$) than towards the outgroup target ($M = 3.75$, $SD = 1.08$). There was also a significant interaction involving Target × Context, $F(1, 100) = 6.63$, $p = .012$, $\eta^2 = .062$. Simple effects analyses showed that prosociality towards the interpersonal peer was unaffected by whether the (presumably irrelevant) intergroup context was non-competitive ($M = 4.38$, $SD = 0.69$) or competitive ($M = 4.48$, $SD = 0.56$), $F(1, 100) = 0.41$, $p = .52$, $\eta^2 = .004$. However, prosociality was significantly higher towards the outgroup member when there was no competition ($M = 4.01$, $SD = 0.95$) than when there was competition ($M = 3.63$, $SD = 1.11$), $F(1, 100) = 4.16$, $p < .05$, $\eta^2 = .040$.

More strikingly, across conditions children intended to be more prosocial towards an interpersonal peer than an outgroup member. However, this effect was much smaller when the intergroup context was non-competitive, $F(1, 100) = 4.82$, $p < .05$, $\eta^2 = .046$, than when it was competitive, $F(1, 100) = 61.24$, $p < .001$, $\eta^2 = .380$, the effect sizes differing by a magnitude of over 10. These findings are depicted in Figure 1. Thus,

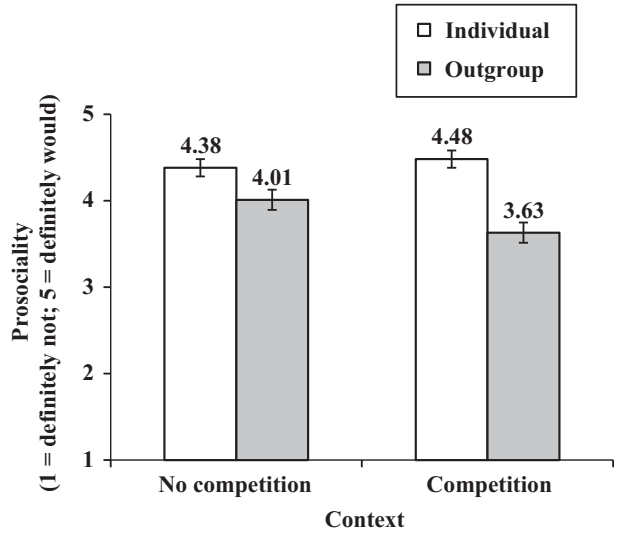

Figure 1. Prosociality towards an individual and to an outgroup member as a function of whether the intergroup context is non-competitive or competitive.

children were more likely to help an individual peer (interpersonal) than an outgroup member, and this effect was accentuated by the competitive context.

There was also a significant Target × Sequence interaction, $F(1, 100) = 3.98$, $p = .049$, $\eta^2 = .038$. Children had more prosocial intentions towards the interpersonal peer than the outgroup member in both sequences of presentation, and Sequence did not significantly affect prosociality towards the interpersonal peer, $F(1, 100) = .012, p = .91$, $\eta^2 < .001$ ($M_{\text{first}} = 4.46$, $SD = 0.58$; $M_{\text{second}} = 4.43$, $SD = 0.63$), or the outgroup member, $F(1, 100) = 3.27$, $p = .073$, $\eta^2 = .032$ ($M_{\text{first}} = 3.55$, $SD = 1.14$; $M_{\text{second}} = 3.92$, $SD = 0.99$). However, the difference between prosociality to the outgroup member and the interpersonal peer was larger when the outgroup target was presented first, $F(1, 100) = 32.00$, $p < .001$, $\eta^2 = .242$, rather than second, $F(1, 100) = 9.35$, $p < .01$, $\eta^2 = .085$. Thus, a carry-over effect occurred whereby children were less biased when they evaluated the interpersonal peer first.

Finally, the correlation between individual prosociality and outgroup prosociality was $r(112) = .37, p < .001$. The correlations were the same size and significant within both the competitive and non-competitive contexts, suggesting that consistent individual differences may affect prosociality across interpersonal and intergroup contexts.

Discussion

The correlation between prosociality in the two contexts revealed consistent individual differences in levels of prosociality (H3). However, as anticipated, children's prosociality was influenced by minimal group categorization. Children were less prosocial towards outgroup members than interpersonal peers (H1). This suggests that mere categorization can be sufficient to attenuate intentions to be prosocial. Importantly, this difference was magnified in the competitive context (H2). Interestingly, however, this difference was slightly weakened when children considered their prosocial intention towards an interpersonal peer before they did so with an outgroup member. This suggests that there may be some carry-over effect once children have determined their initial prosocial intention.

STUDY 2

Study 2 extends the exploration of the role of competition and group membership in predicting prosocial intentions, by considering the roles of empathy, SPT, and competitive motivation. As well as employing a more ecologically valid intergroup setting than Study 1, Study 2 also measured children's number of prior social group memberships because previous research has shown that prior social experience is related to children's SPT ability (Abrams, 2011).

Carry-over effects

Study 1 indicated that the difference in outgroup versus individual prosociality was larger when children first considered the outgroup scenario. This suggests that once group-based prosocial intentions are initiated, they may generalize from one context to another. In that case, competitive intergroup interactions may affect prosocial intentions in subsequent intergroup encounters, even if these are not competitive. This is an important consideration as children are often asked to compete against classmates in teams and are

then expected to work well with the same children in non-competitive circumstances. Study 2 explores the possible carry-over from competition by comparing prosociality towards an outgroup member in a competitive and subsequent non-competitive context. As middle childhood progresses, children are more likely to base their intergroup behaviour on their social identity motives (Nesdale, 2008). This suggests that with age, their ingroup memberships might have more enduring effects on their attitudes towards outgroup members. Therefore, once a competitive intergroup motivation has been elicited by intergroup competition, it may continue to affect older children's prosociality towards outgroup members, even when the context becomes non-competitive (H8).

Method

Design and participants

The study employed a quasi-experimental design. Participants indicated prosocial intentions towards outgroup members in a competitive context and then in a non-competitive context. The variables that served as predictors of prosociality were gender, age, empathy, SPT, and competitive motivation. Prior group memberships were recorded to establish discriminant validity of the perspective taking measure.

One hundred and twenty-nine children from three schools that were demographically similar to those from Study 1 in the south-east of the UK took part in this study. Children (with parental consent) were invited to volunteer to participate at the discretion of their classroom teachers. This resulted in a slight gender imbalance of 54 male and 75 female participants. Participants were distributed evenly across School Years two to five and were aged from five to 10 years (M = 7.64, SD = 1.68).

Procedure and measures

Children were tested individually as in Study 1.

Group membership experience

Group membership was measured in the introductory part of the interview by asking children to list all the groups to which they belonged within their school (see also Abrams *et al.*, 2009).

Competition scenario

Using cartoon illustrations, children were told about a sandcastle competition involving teams from their own and another nearby school. The team that built the biggest and best castle would win a big prize and trophy. To avoid any pre-existing knowledge of or bias towards the opposing or school, the outgroup school was fictitious (see also, Abrams *et al.*, 2014).

Competitive motivation

Competitiveness was assessed by asking children 'how much do you want your team to win?' (using a scale of increasingly large circles with labels from 1 = not at all to 5 = very much), and 'how would you feel if your team won?' (from 1 = very sad face and 5 = very

happy face). Responses to these two items were reliably correlated ($r = .49$, $p < .001$), and averaged into one score.

Competitive prosociality

As in Study 1, children responded to three scenarios (helping, sharing, and comfort). To ensure they understood the potential tension between assisting the outgroup and serving the ingroup's interests, each scenario made it clear that assisting the outgroup member could potentially be a disadvantage to the ingroup (see Appendix S1). At the end of each scenario, children were asked: 'Would you share/help/comfort the child from the team?' Questions were answered from 1 (definitely not) to 5 (definitely would).

Non-competitive prosociality

The children were then told, 'a few weeks later, you are playing together in the park and there are lots of children there, including some from your school and the other school'. Three new scenarios were then introduced to assess their willingness to help, share, and comfort (see Appendix S1). Questions were answered from 1 (definitely not) to 5 (definitely would). Factor analyses of each set of three items in the competitive and non-competitive contexts confirmed that the responses were unidimensional, and the three prosocial items were averaged for each context (competitive and non-competitive, both αs $> .80$).

Empathy

We had piloted a shortened version of Bryant's (1982) scale (as used by Nesdale, Milliner, Duffy, & Griffiths, 2009). However, this revealed a multifactorial structure. In subsequent pilot work, we therefore derived a dispositional empathy measure that was similarly brief (ten items) drawn from highest loading items from the 33-item empathy inventory previously used with adults (Mehrabian & Epstein, 1972). The ten items used in the present research were selected based on their factorial coherence, relevance, and interpretability among children in middle childhood. Reliability ($\alpha = .64$) was similar to that obtained by Nesdale *et al.* (2009) with the Bryant scale. Children were asked to respond from 1 (definitely disagree), 5 (definitely agree). Example items were as follows: 'it makes me sad when I see someone who can't find anyone to play with'; 'people who kiss and hug in public are silly'; and 'seeing someone who is crying makes me feel like crying'.

Social perspective taking

We used Abrams *et al.*'s (2009; Abrams, 2011) Theory of Social Mind (ToSM) task, a socially focused second-order mental state understanding measure of SPT ability. The task tests whether children can understand that other children may evaluate a third person differently from the child's own evaluation of that person. Children are presented with a scenario in which two own gender children are playing together for the first time. One of the children leaves, and the second steals a toy belonging to the first child while that child is out of the room. Children are then asked whether or not the first child is aware that the toys have been stolen (the correct

answer is no); whether or not the first child likes the second (the correct answer is yes or don't know); and why they think the first child would feel that way (correct answer is that he is unaware that the second stole the toys). A cumulative score was calculated from the responses to these questions, with a possible range from zero to three. Children were debriefed as in Study 1.

Results

Data analytic plan

A mixed model ANOVA is conducted to test (H2) whether prosocial intentions differ by Context (competitive vs. non-competitive) and to check for interactions with gender. Three sets of regression analyses are then conducted. The first aims to test the statistical distinctiveness of empathy and SPT by testing whether they are affected differently by age and group membership. The second set tests the predictive effects of age, empathy, SPT, competitive motivation, and each of their interactions with age on prosociality. This analysis is repeated using prosociality in each context to test H4–H8. Finally, path analyses are conducted to establish whether the different paths for each context remain significant when analysing the two scenarios (competitive vs. non-competitive) together.

Competitive vs. non-competitive prosociality

A mixed model ANOVA with gender as a between-participants factor and Context (competitive vs. non-competitive prosociality) as a within-participants factor was conducted. A large and highly significant effect of Context showed that prosociality was lower in the competitive (M = 2.99, SD = 1.05) than in the non-competitive context (M = 4.00, SD = 0.97), $F(1, 127) = 159.05$, $p < .001$, $\eta^2 = .556$. In the competitive context, prosociality did not differ significantly from the scale midpoint, $t(128) = 0.08$, $p > .90$, whereas in the non-competitive context, it was significantly higher, than the midpoint, $t(128) = 11.75$, $p < .001$. Thus, similar to Study 1, prosociality was reduced in a competitive (vs. non-competitive) context.

The main effect and interaction involving gender were not significant, $F(1, 127) = 2.82$ and 0.57, ps = .10, .45, respectively. Therefore, gender was not included in further analyses.

Empathy vs. social perspective taking

Because we had distinct hypotheses regarding the roles of empathy and SPT, it was important to establish whether these variables were distinctive statistically. We examined the relationship between empathy and SPT and between those and two quite different variables, age, and number of group memberships.

We regressed age and the number of groups that children listed onto their empathy and SPT scores. Empathy was unrelated to age or to the number of groups children nominated, $R^2 = .013$, $F(2, 126) = 0.81$, $p > .44$. In contrast, SPT was significantly related to both variables, $R^2 = .144$, $F(2, 126) = 10.56$, $p < .001$. Older children had higher SPT scores, $\beta = .25$, $t(1, 126) = 2.91$, $p < .01$, and children who nominated a larger number of groups also had higher SPT scores, $\beta = .22$, $t(1, 126) = 2.56$, $p < .05$. Finally, empathy and SPT scores were not significantly related to

one another, $r(129) = .10$, $p > .25$, attesting to the empirical, as well as conceptual, independence of these variables. Thus, empathy and SPT were statistically distinctive.

Predictors of outgroup prosociality

Competitive context

Nearly a fifth of the variance was accounted for by the independent variables. As hypothesized, prosociality was associated with higher empathy, $\beta = .40$, $t(1, 124) = 4.90$, $p < .001$, and less competitive motivation, $\beta = -.23$, $t(1, 124) = 2.60$, $p < .05$, but not with SPT. Nor were there age differences in prosociality, $\beta = -.11$, $t(1, 124) = 1.35$, $p = .18$. Addition of the interaction terms did not improve the model fit F change (3, 121) = 1.97, $p = .123$, R^2 change = .037, total $R^2 = .232$. (see Table 1).

Non-competitive context

Over a quarter of the variance in prosociality was accounted for by the independent variables. As in the competitive context, empathy was significantly associated with more prosociality, $\beta = .43$, $t(1, 124) = 5.27$, $p < .001$. Prosociality was associated with more advanced SPT, $\beta = .20$, $t(1, 124) = 2.26$, $p < .05$. In contrast, prosociality was not associated with age or competitive motivation, $\beta = -.009$, $t(1, 124) = .44$, $p = .659$ and $\beta = -.007$, $t(1, 124) = .33$, $p = .742$, respectively (see Table 1).

There were two significant interactions involving age, as shown in Figure 2. First, the positive relationship between SPT and prosociality increased with age, $\beta = -.181$, $t(1, 124) = 2.22$, $p < .05$, as shown in Figure 2a. Second, the negative relationship between competitive motivation and prosociality also increased with age, $\beta = -.20$, $t(1, 124) = 2.33$, $p < .05$, as shown in Figure 2b. The interaction effects accounted for a significant increase in variance above the main effects model, F change (3, 121) = 3.77, $p = .012$, R^2 change = .066, total $R^2 = .293$.

Thus, empathy predicted prosociality (positively) in both the competitive and non-competitive contexts. Competitive motivation predicted prosociality (negatively) in the competitive context, but only among older children in the non-competitive context. SPT predicted prosociality (positively) only in the non-competitive context, and this effect increased with age.

Path analyses. Finally, to establish whether it is reasonable to conclude that there are distinctive effects for the two dependent variables, we used AMOS to test a path model (maximum-likelihood estimation) in which both dependent variables were included and were allowed to correlate. The model fits the data well, $\chi^2(19) = 13.809$, $p = .795$, NFI = .931, RMSEA = .000, and the significance/non-significance of all the standardized paths remains consistent with those in the regression analyses. No modification indices for additional paths are offered by AMOS to improve fit. We removed the non-significant paths and verified that the fit remained good, $\chi^2(25) = 20.138$, $p = .740$, NFI = .90, RMSEA = .000, with no suggested modifications. The two models fit equally well, χ^2 diff (6) = 6.329, *ns*. Thus, the reduced model is more parsimonious and indicates that differences in effects on the two dependent variables are not attributable to untested relationships among the variables.

Table 1. Summary of multiple regression analysis for variables predicting outgroup prosociality

		Competitive context $M = 2.99$ ($SD = 1.06$) $R^2 = .232$, $F(124\ df) = 5.21$, $p < .001$					Non-competitive context $M = 4.07$, $SD = 1.04$ $R^2 = .293$, $F(124\ df) = 5.69$, $p < .001$				
Variable	Mean (*SD*)	*B*	*SE B*	β	*t*	*p*	*B*	*SE B*	β	*t*	*p*
Age	7.65 (1.69)	−.071	.053	−.114	1.350	.180	−.022	.050	−.009	0.442	.659
Empathy	3.45 (0.60)	.690	.141	.397	4.902	<.001	.075	.013	.107	5.617	<.001
Perspective taking	1.86 (1.01)	.142	.092	.136	1.535	.127	.209	.087	.050	2.388	.018
Competitiveness	4.69 (0.58)	−.414	.159	−.226	2.596	.011	−.050	.151	−.007	0.330	.742
Age × empathy		.136	.086	.133	1.586	.115	.010	.008	.024	1.197	.234
Age × perspective taking		.104	.063	.139	1.635	.105	.133	.060	.047	2.219	.028
Age × competitiveness		−.071	.079	−.08	0.901	.370	−.175	.075	−.049	2.233	.021

Note. All measures were scored from 1 (usually meant not at all) to 5 (usually meant very much). One exception was SPT, which was scored from 0 (lowest score) to 3 (highest score). Ages ranged from five to 10 years. Correlations among measures are all $r < +/- .17$, *ns*, except those of perspective taking with age ($r = .31$, $p < .001$) and non-competitive prosociality ($r = .20$, $p < .05$), and those of empathy with competitive and non-competitive prosociality ($rs = .37, .45$, $ps < .001$), and between the two prosociality measures ($r = .66$, $p < .001$). All variables were mean-centred prior to analyses.

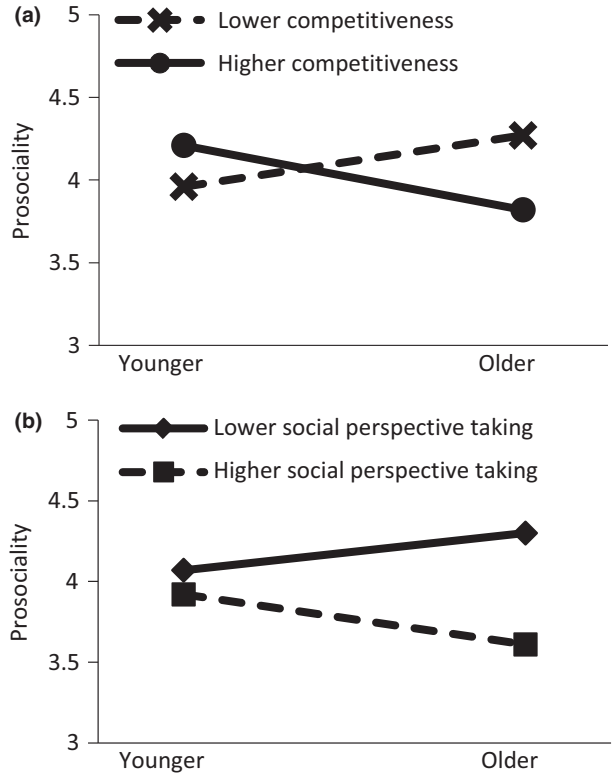

Figure 2. (a) Age differences in effects of social perspective taking on prosociality in a non-competitive context. *Note*. High and low, and younger and older refer to 1 *SD* above and below the mean value for the relevant variable. Although simple slopes for effects of age are non-significant at both levels of competitiveness, the slopes are in opposing directions: 6-year-olds, $B = .24$, $SE = .16$, $t = 1.55$, $p = .125$, 95% CI −0.07/0.56; 9-year-olds, $B = -.34$, $SE = .23$, $t = -1.50$, $p = .14$, 95% CI −0.79/0.11). The slope for age is non-significant for low competitive children, $B = .08$, $SE = .06$, $t = 1.23$, $p = .22$, 95% CI −0.05/0.20, and marginal for high competitive children, $B = -.12$, $SE = .07$, $t = -1.80$, $p = .074$, 95% CI −0.26/.01). (b) Effects of competitiveness on prosociality in a non-competitive context: As a function of age. *Note*. High and low, and younger and older refer to 1 *SD* above and below the mean value for the relevant variable. The effect of perspective taking is non-significant for 6-year-olds, $B = -.01$, $SE = .11$, $t = -.13$, $p = .90$, 95% CI −0.23/0.20) but significant for 9-year-olds, $B = .43$, $SE = .14$, $t = 2.32$, $p = .005$, 95% CI 0.13/0.73). Age has a marginal negative significant effect among low perspective takers, $B = -.16$, $SE = .08$, $t = -1.92$, $p = .057$, 95% CI −0.32/0.004, and a non-significant positive effect among high perspective takers, $B = .11$, $SE = .08$, $t = 1.48$, $p = .14$, 95% CI −0.04/0.26.

Discussion

Study 2 showed that children with higher dispositional empathy had more prosocial intentions across both contexts (H4). Moreover, in line with the results from Study 1, Study 2 showed that prosocial intentions were lower in a competitive than a non-competitive context (H2). Extending Study 1 to a more ecologically valid context, results showed a carry-over effect among older children whereby competitive motivation continued to reduce prosociality even when an outgroup member, rather than a non-

affiliated individual, was encountered in a non-competitive context (H8). Consistent with our expectation that competitiveness inhibits outgroup prosociality, when the context was competitive, children with greater competitive motivation were less prosocial (H5).

Developmentally, Study 2 showed that it was only among older children that the effect of competitiveness on outgroup prosociality persisted into the non-competitive context. Similarly, Study 2 showed that meaningful age differences arise in terms of the likely impact of SPT (H7). Social perspective taking was only associated with greater prosociality among older children and in the absence of intergroup competition (H6, 7).

GENERAL DISCUSSION

The present research is the first, to our knowledge, to examine the impact of both contextual changes (group salience and competition) and individual differences (empathy, SPT, and competitive motivation) on children's willingness to help needy outgroup members. Crucially, the current research focused on middle childhood, a period in which the social cognitive abilities of interest are emerging, allowing us to test our predictions developmentally. The research uniquely demonstrated the distinct contributions of three bases for children's intergroup prosocial intentions: Empathy, SPT, and competitive motivation.

Empathy

In line with prior research (e.g., Eisenberg & Miller, 1987), Study 2 showed that, across both competitive and non-competitive contexts, children higher in empathy also showed stronger prosocial intentions, reaffirming the important role that empathy can play in promoting positive relationships between groups. Thus, extending prior work on *interpersonal* prosociality, for the first time we have shown that individual differences in empathy during middle childhood can influence prosociality in the *intergroup* domain.

Competitive motivation

Prior research has not evaluated the impact of competitive motivation on willingness to engage in prosocial acts towards outgroup members. Evidence from both Study 1 and Study 2 shows that invoking intergroup competitiveness can inhibit children's prosociality towards outgroup members. Moreover, Study 2 showed that, among older children, individual differences in feelings of intergroup competitiveness, aroused by an intergroup competition, continued to suppress their prosociality to outgroup members, even when the context shifted to a non-competitive situation.

Social perspective taking

The SPT findings are particularly interesting. Unlike empathy, which involves emotional engagement with the other's situation, SPT may enable children to *understand* the different perspective of others without necessarily sharing or agreeing with their views or motives. We had hypothesized that the salience of the competition (and children's own feelings of competitiveness) could inhibit children from sympathizing with the outgroup

members' perspective, perhaps because children were aware of implicit ingroup norms or outgroup antipathy (cf. Abrams, 2011). The results are consistent with the idea that children focused on the ingroup loyalty norm, perhaps believing that it would be less appropriate to help one of 'them'.

In contrast, once the context became non-competitive, children with more advanced SPT ability showed greater prosociality towards an outgroup member, and this effect strengthened with age. This suggests that older children who are better at taking other's social perspectives may be more aware that in a non-competitive context, it is socially appropriate to offer assistance to a child in need, regardless of that child's group membership (cf. Rutland *et al.*, 2005).

Limitations, directions for future research, and conclusions

We recognize certain limitations in the present research. Study 2 used a fixed sequence of presentation of the competitive and the non-competitive scenarios. Concerns about counterbalancing may be somewhat allayed because Study 1 showed that a competitive intergroup context lowered prosociality towards an outgroup member regardless of sequence. Ancillary studies also support the conclusion that prosocial behaviour towards outgroup members is lowered in competitive contexts, regardless of sequence of presentation.[1]

It will be particularly important to test whether the current findings translate into actual behaviour. We varied context as a within-participants variable but this may be less practical if testing behavioural outcomes. Moreover, it seems likely that contextual factors (e.g., the presence of adults, time constraints, etc.) could either augment or attenuate children's willingness or ability to enact their intentions. Therefore, future research is needed to examine the relationship between context, individual differences, and age in predicting children's prosocial intergroup behaviours.

A further interesting avenue for future research is the potential role of the personal cost of helping. Comforting or helping an outgroup competitor inevitably involves cost, and it is not clear whether minimizing perceived costs might be sufficient to increase prosocial intentions to outgroup competitors (cf. Eisenberg *et al.*, 2006).

Furthermore, the empathy literature has reported consistent gender differences (Eisenberg *et al.*, 2006), which did not emerge in this study. It is possible that additional patterns would emerge if the gender of the targets had been made explicit.

We are also aware that the generalizability of these findings needs to be explored in the contexts of different intergroup relationships (e.g., interethnic, gender), as well as cross-culturally. Importantly, factors that facilitate or inhibit prosociality towards outgroup individuals may play an important role in whether friendships can be established with

[1] *A follow up study tested whether overall prosociality in the schools intergroup context would differ if we presented the reversed sequence. Fifteen children aged 6–7 viewed the non-competitive followed by the competitive context. Prosociality was higher in the non-competitive context (*$M = 4.73$, $SD = .36$, *significantly above the scale midpoint of 3,* $t(14) = 13.61$, $p < .001$) *than in the competitive context, in which it was non-significantly below the scale midpoint (*$M = 2.80$, $SD = .95$, $t(14) = .82$, $p > .42$), *and similar to the levels found in Study 2. The two means differed,* $t(14) = 7.48$, $p < .001$. *We conclude that the competitive setting lowers prosocial intentions in either presentation order. A further study tested whether competition could strengthen prosociality toward ingroup members or whether it might inhibit prosociality both to outgroup and ingroup members. Thirty one children aged 6–7 were, or were not, informed that there was an intergroup sandcastle competition then responded to the same questions as in the noncompetitive context in Study 2 but with ingroup targets. Prosociality was above the scale mid-point of 3 in both the competitive (*$t(16) = 8.87$, $p < .001$, $M = 4.35$, $SD = .63$) *and non-competitive (*$t(15) = 7.41$, $p < .001$; $M = 4.46$, $SD = .79$) *contexts and did not differ between the two,* $t(31) = 0.67$. *Thus, competition per se does not reduce prosociality, but consistent with Studies 1 and 2, only prosociality toward outgroup members.*

outgroup members (e.g., through reciprocal prosociality). Thus, this research has implications for whether conditions exist for positive intergroup contact, which itself is an important determinant of prejudice reduction and improvement in intergroup relations (Tropp, O'Brien, & Migacheva, 2014).

A major global challenge is to prevent intergroup boundaries from generating conflict and from inhibiting mutual support and kindness (Rifkin, 2010). The present research shows that practitioners who wish to address this challenge by promoting children's prosociality towards outgroup members need to be aware of the distinct and important roles that empathy, SPT, and intergroup competitiveness can each play.

Acknowledgements

This research was conducted in collaboration with People United (www.peopleunited.org.uk) and supported by an ESRC-CASE studentship to the 2nd author (ES/J500148/1).

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Received 21 November 2014; revised version received 10 February 2015

Supporting Information

The following supporting information may be found in the online edition of the article:

Appendix S1. Supporting Information.