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Predictors of out-group empathy among majority and minority children in a conflict-affected society

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Abstract

We examined the predictors of out-group empathy in children growing up in a city devastated during the fall of the Former Yugoslavia. Children ($N = 155$; 76 male, 79 female) from both majority (64.5% Croatian) and minority (35.5% Serbian) ethnic groups, ranging from 6 to 11 years old (M = 8.77, SD = 1.15) participated. A multiple-group path analysis in Mplus found that age, general empathy, quality contact and perceived intergroup conflict related to higher out-group empathy. There were no significant links from gender, quantity contact or out-group friends to out-group empathy. The findings were consistent across majority and minority ethnic groups. Implications are discussed.

KEYWORDS
children, Croatia, intergroup conflict, intergroup contact, out-group empathy

Empathy has been identified as an important predictor of improved intergroup relations and prosocial behaviour across group lines (Batson et al., 1997), particularly in conflict settings (e.g. Hall & Kahn, 2020; Hasson et al., 2018; Taylor et al., 2020a). Empathy has also been found to mediate the link between intergroup contact and prejudice reduction (Pettigrew & Tropp, 2008). In settings of intergroup conflict, specifically, empathy has also been proposed to be a mechanism

underlying altruism (Staub & Vollhardt, 2008; Vollhardt, 2009) and peacebuilding among children (Taylor, 2020). Nevertheless, empathy changes across development (Overgaauw et al., 2017; Sierksma et al., 2014), particularly in middle childhood (Schwenck et al., 2014). Empathy may be experienced differently towards in-group and out-group members (Sierksma et al., 2015), including conflict rivals in settings of political divide (Turner et al., 2013).

Integrating developmental and social psychology theories, this research investigates the predictors of children's out-group empathy, particularly for a conflict rival. This research teases apart general empathy or the overall state level of empathetic concern when the identity of the target is not specified. This research will also explore out-group-specific empathy, or that experienced explicitly for an out-group member. This research focuses on middle childhood; by this period, children have developed the capacity for empathetic concern and can distinguish between socially relevant groups, such as ethnicity (Deeb et al., 2011; Srinivasan et al., 2019; Taylor et al., 2020a). Finally, the current study includes children from the majority (Croat) and minority (Serb) communities in Vukovar, Croatia (Ajdukovic & Čorkalo Biruški, 2008) to explore the potential group differences in predictors of out-group empathy for a conflict rival.

Empathy in middle childhood

Empathic abilities develop at a young age, observed as early as 14 to 36 months old (Zahn-Waxler et al., 1992), with implications for prosocial behaviour across development (Eisenberg & Miller, 1987). A range of factors can influence empathy (see Silke et al., 2018 for a review), including political violence (Jahnke et al., 2021) and group membership of the empathy target (Cikara et al., 2011; Tarrant et al., 2009). Although empathy is a multidimensional construct, this paper focuses on empathetic concern (Decety & Jackson, 2004; De Vignemont & Singer, 2006) or the emotional response to the experience of another (Eisenberg & Miller, 1987). This form of general empathy has been of increasing focus in intergroup relations research among young people (Miklikowska, 2017, 2018; Taylor & McKeown, 2021), though much of this has been conducted only among majority youth. Furthermore, the current paper builds upon previous research recommendations as it simultaneously considers both general empathy *and* out-group- specific empathy in middle childhood.

Relatedly, specifying the empathy target is increasingly important for settings of intergroup conflict (Taylor, 2020). That is, does general empathy translate to empathy experienced for members of other groups? For example, greater empathy has been found towards ethnic and racial in-group members in adults (e.g. Avenanti et al., 2010; Xu et al., 2009); this pattern may emerge earlier in development (Masten et al., 2010; Nesdale et al., 2005). Moreover, even in a novel group paradigm, children have revealed more pronounced empathy for in-group members in social threat situations (Masten et al., 2010). Consistent with developmental literature, it is expected that general empathy is related to out-group empathy, particularly in middle childhood. Apart from age effects, this growing literature suggests the need to study other predictors of out-group empathy among children in conflict settings.

Intergroup contact as a predictor of empathy

A substantial body of theoretical and empirical research has suggested the potentially transformative power of intergroup contact (e.g. Paolini et al., 2021; Pettigrew & Tropp, 2006) or

bringing children together from opposing sides of the conflict. Different dimensions of contact, such as the quantity, or amount, as well as the quality, or positive-negative valence, of the contact encounter have been delineated (e.g. Ajdukovic & Čorkalo Biruški, 2008; McKeown & Taylor, 2017), with implications for empathy in adults (Pettigrew & Tropp, 2008). Another dimension of contact, cross-group friendships, has been positively linked with empathy among children in a divided society (Turner et al., 2013; Vezzali et al., 2016). In addition, differential effects of quality contact and cross-ethnic friendships on intergroup relations were found among a sample of majority children in the UK; more specifically, friendship was a stronger predictor of approach behaviours than quality contact (Cameron et al., 2011). Thus, extending findings from the adult literature and more limited research with children, this research hypothesises that greater quantity and quality contact, and more out-group friends, should relate to higher out-group empathy.

However, the influence of intergroup contact on child outcomes may vary across majority and minority groups (e.g. Mousa, 2020; Pettigrew & Tropp, 2006). For example, recent field studies in real-life settings have called into question the long-term effects and the potential equivalence of prejudice reduction for majority and minority group members (Mousa, 2020). In Croatia, earlier research with children aged 12 to 16 found group differences in the degree of intergroup contact among them, but not the number of out-group friends. Youth from the Serbian (minority) community reported that they had out-group 'acquaintances', on average, while youth from the Croatian (majority) community reported that they only had 'accidental' contact with the out-group on average (Adjukovic & Čorkalo Biruški, 2008). Although these studies suggest potential majority/minority group differences in contact dimensions or a link between contact and prejudice reduction, they did not directly measure empathy.

A meta-analysis, however, found a positive, moderate direct effect of contact on empathy across 14 studies (Pettigrew & Tropp, 2008). The meta-analysis did not distinguish between contact dimensions, such as the quantity or quality, or the type of empathy assessed, such as general, induced or out-group-specific. Moreover, the strength or direction of the direct effect was not analysed separately for majority/minority group status. There is evidence, however, that both quantity and quality contact positively link to empathy (Johnson & Glasford, 2018). Given this evidence for some majority/minority group differences in the link between contact and child empathy outcomes, as well as an overall effect of contact (broadly defined) on empathy, the potential differences across majority and minority groups in the link between different dimensions of contact and out-group empathy are exploratory.

Empathy in conflict-affected societies

The Developmental Peacebuilding Model (DPM; Taylor, 2020) integrates theories previously tested with adults and adapts them to explain antecedents of youth's peacebuilding behaviours. For example, altruism born of suffering (ABS) explains how experiencing intergroup conflict may increase empathetic responding to others' suffering (Vollhardt, 2009), which in turn, can motivate prosocial behaviours, even towards conflict rivals (Staub & Vollhardt, 2008). This approach differs from previous experimental research with adults using novel groups, for example, which found that competition and threat dampened out-group empathy (Cikara et al., 2014). In contrast, Vollhardt (2009) explains that through ABS, following collective suffering, 'other victims' experiences [are] more comprehensible' (p. 69); that is, empathy and perspective taking may be a motivational response to conflict. In an experimental study, individuals who had

suffered from adverse life events were more likely to feel empathy, and in turn, help the out-group (Vollhardt & Staub, 2011).

Moreover, ABS proposes that empathy may be a response to experiencing intergroup threat. Empirical support for this theory has been found with adults in conflict-affected societies (e.g. Hasson et al., 2018; Rosler et al., 2017). Among emerging adults in a post-accord generation, past adverse life events accentuated the link from perceived harm to empathy for a conflict rival (Taylor & Hanna, 2018). Although not a direct test of ABS, general empathy was linked with prosocial behaviour towards conflict rival out-groups in children and adolescents (Taylor et al., 2020a). Across these studies, however, there is variation in the operationalisation of general, induced and out-group-specific empathy.

Moreover, the constituent pieces of ABS have not, to our knowledge, been tested among children. Therefore, the current paper considers how perceived intergroup conflict relates to out-group empathy in middle childhood. Based on previous research and ABS, a positive link is expected between perceived intergroup conflict and out-group empathy in middle childhood. This research expects children who perceive greater intergroup conflict will report higher out-group empathy.

Vukovar, Croatia

During the war in Croatia (1991–1995), Vukovar and surrounding areas suffered massive destruction and victimisation. Before the war, Vukovar was a highly functional and tolerant multi-ethnic community; however, it became a textbook example of a disrupted multi-ethnic community (Ajdukovic & Čorkalo Biruški, 2008; Taylor et al., 2020b). Following the war, Vukovar was divided along ethnic lines between the Croatian majority and Serbian minority. The use of such ethnic labels remains a salient part of daily life in Vukovar (Štambuk et al., 2020), even for children (Ajdukovic & Čorkalo Biruški, 2008).

Following the war, the Croatian government and Serbian representatives signed an agreement stating that Serbian children were entitled to instruction in the Serbian language (Čorkalo Biruški & Ajduković, 2007). Schools in Vukovar are now divided by language and ethnicity (Čorkalo Biruški et al., 2019). Attending separate classes, children in Vukovar often do not have the opportunity to meet their peers from other ethnic groups (Čorkalo Biruški & Ajduković, 2007), a trend that continues even into their decisions about third-level education (Čorkalo Biruški et al., 2020). Moreover, because this generation was born after the war, they have no prior experience of an integrated multi-ethnic community (Ajdukovic & Čorkalo Biruški, 2008; Reidy et al., 2015). Despite this separation, children are starting to endorse a shared approach to education (Čorkalo Biruški et al., 2020), which holds promise for future peacebuilding.

Current study

The current study investigates the predictors of out-group empathy among children from majority and minority ethnic groups growing up in a divided society with a recent history of intergroup conflict. More specifically, guided by intergroup contact theory and altruism born of suffering, this research examines how such constructs relate to out-group empathy while simultaneously considering children's general empathy and demographic characteristics (Turner et al., 2020). This research aims to investigate if the quantity and quality of intergroup contact, number of

out-group friends, and perceived intergroup conflict predict any additional variance in empathy for a member of a conflict rival ethnic group. This research also explores potential differences in each of these associations across children from Croat (majority) and Serb (minority) backgrounds (Ajdukovic & Čorkalo Biruški, 2008; Mousa, 2020).

Regarding the role of demographic variables, such as age and gender, the implications for empathy are mixed. Across different cultures, children as young as 3 years old can differentiate between happy and unhappy emotions of others, with a more complex understanding of emotions by age six (Borke, 1973). Girls have also been found to recognise the emotions of others more readily than boys (Dadds et al., 2008), a difference that has been found to increase in adolescence (Schwenck et al., 2014) and persist across the life span (Christov-Moore et al., 2014). Thus, age and gender will be included as predictors in this study.

METHOD

Participants

Two schools from Eastern Croatia (Vukovar and surrounding towns) participated, in which classes are separated by Croatian or Serbian language. The local co-investigator recruited both schools. We received between 58 and 78% parental consent for pupils that have classes in the Croatian language and 35–42% parental consent for pupils in the Serbian language classes. In the two participating schools, children were distributed roughly evenly across 27 classes, with an average of 6–9 students participating per class across the four grades (M = 39, SD = 12). Parental report SES was gathered with parental consent form; 100% (n = 155) of parents indicated that their family had an 'average income'.

All children with parental consent were invited to participate. Based on our exclusion criteria, the data from eight children were removed from this analysis (i.e. n = 1 Croatian child in Serbian class, n = 7 Serbian children in Croatian class). The analyses focused on children who identified as the ethnicity consistent with the language of their class, reflecting the reality of most children in Vukovar (Čorkalo Biruški et al., 2020). The final sample included 155 students (76 male, 79 female) with ages ranging from 6 to 11 (M = 8.77, SD = 1.15; 64.5% Croatian/35.5% Serbian).

Procedure

Children completed the tasks during a 20-min, one-on-one session with a trained research assistant in a designated quiet area of their schools. Research assistants, undergraduate or graduate students of the University of Osijek, were trained as part of the *Helping Kids!* lab. Experimenters practiced and followed a script written first in English and then translated into both Croatian and Serbian. Tasks were delivered using tablets or laptops via Qualtrics software in the language of participants' ethnic backgrounds (see sample response scales in Appendix A).

Informational flyers were delivered alongside the parental consent forms to ensure informed consent. Each child participant also provided assent prior to each testing session.

The session began with demographic questions for each child. Each task began with an introductory slide where the researcher provided a brief overview, reassured the participant that there were no right or wrong answers, and asked if they had any questions before beginning.

After completing the testing session, children received a certificate and a small prize. The Ethics Committee approved all procedures at Queen's University Belfast.

Measures

Quantity contact

Children responded to how much time they would like to spend with the out-group (e.g. [Serbian/Croatian]) children using a 5-point Likert scale (adapted from Tausch et al., 2007). This construct has been similarly assessed among youth in settings of intergroup conflict, with relevant predictive validity (e.g. Armstrong et al., 2016; McKeown & Taylor, 2017, 2018; Tausch et al., 2007). The points on the scale were illustrated clocks ranging from 0 = *none of my time* (nothing coloured in on the clock face) to 4 = *all of my time* (fully coloured-in clock face). Higher scores indicated more time spent with out-group children.

Quality contact

Children used a 4-point Likert scale using thumbs up/down, ranging from 0 = *always bad* (thumbs down) to 3 = *always good* (thumbs up), to indicate what they thought the quality of their experiences with out-group (e.g. [Serbian/Croatian]) children would be (adapted from Tausch et al., 2007). A similar single item of this construct has been used with youth in conflict-affected settings (e.g. Brown et al., 2007; McKeown & Taylor, 2017, 2018). Higher scores indicated more positive quality contact.

Out-group friends

Children also indicated how many of their close friends are from the out-group (e.g. [Serbian/Croatian]), described as 'friends you spend a lot of time with and have lots of fun with'. They responded using a 4-point Likert scale (0 = *none*, 1 = *some*, 2 = *most*, 3 = *all*), illustrated with an increasing number of stick figures (adapted from Paolini et al., 2004). Similarly, simple measures of friendships across ethnic boundaries have been used with this age group (Armstrong et al., 2016; Killen et al., 2010; Vezzali et al., 2012). Higher scores indicate more out-group friends.

Perceived intergroup conflict

Researchers presented a cartoon of two gender-matched children struggling over a toy to assess perceived conflict and described it as an example of 'conflict' (adapted from Dautel, 2012). Children indicated how much conflict they perceived between Croats and Serbs in Croatia using a 5-point Likert scale ranging from 1 = *none* (smallest, tiny balloon) to 5 = *a whole lot* (largest balloon), illustrated with increasing sized balloons. Higher scores suggest more perceived intergroup conflict.

TABLE 1 The means, standard deviations, ranges and bivariate correlations for all study constructs ($N = 155$)

	M	SD	Range	1	2	3	4	5	6	7	8	9
1 Girl	51% Female/49% Male			—	0.001	−0.01	0.19*	−0.05	0.02	−0.09	−0.10	0.17*
2 Croat	64.5% Croat/35.5% Serb				—	0.09	−0.003	−0.19*	−0.11	−0.22**	0.02	−0.18*
3 Age	8.77	1.15	6–11			—	−0.02	0.11	−0.09	0.22**	−0.16*	0.09
4 General empathy	2.20	0.68	0–3				—	0.18*	0.11	0.12	−0.04	0.64***
5 Quantity contact	2.32	1.08	0–4					—	0.51***	0.46***	−0.02	0.35***
6 Quality contact	2.27	0.77	0–3						—	0.22***	−0.03	0.34***
7 Out-group friends	1.23	0.90	0–3							—	0.01	0.22**
8 Perceived intergroup conflict	3.09	1.18	1–5								—	0.07
9 Out-group empathy	1.77	0.79	0–3									—

Note: *p < .05; **p < .01; ***p < .001.

General empathy

Three items were used to assess general empathy (e.g. child no one wanted to play with; child was sad or in trouble; injured animal) (Nesdale et al., 2005). Children responded how they would feel using a 4-point Likert scale, illustrated with cartoon faces displayed emotions ranging from 4 = *very awful* (big frown and a tear) to 1 = *not happy/not sad* (neutral, straight-line mouth); responses were coded such that higher scores indicated more empathy. The internal consistency of this scale was adequate ($\alpha = 0.66$) and did not improve if any item was removed.

Out-group empathy

Two items were used to measure empathy for an out-group member (e.g. [Serbian/Croatian] child was injured; [Serbian/Croatian] child was sad) were adapted from the general empathy scale (Nesdale et al., 2005). Children used the same 4-point Likert scale with cartoon faces about how they would feel. The internal consistency was also adequate ($\alpha = 0.67$); the average of the two items was calculated, and higher scores indicated more out-group empathy.

Data analytic plan

The primary model was tested in a multiple group framework in MPlus. All single-item measures were included as a manifest variable. A latent variable was fitted to general empathy, which had three indicators, and the two-item out-group empathy was included as a composite manifest variable. To account for potential multicollinearity, all predictors were allowed to correlate (Dorman et al., 2013). Model fit was evaluated using established criteria: Tucker Lewis Index (TLI) and comparative fit index (CFI) ≥ 0.90, root mean square residual (RMSEA) and standardized root mean square residual (SRMR) $″0.08$ (Hu & Bentler, 1999). To account for the potential that data are missing at random, the paths were also estimated using full information maximum likelihood, which produced unbiased coefficients (Enders, 2010).

The step-up approach in the multiple group framework was used to explore potential majority/minority group differences in the link from predictors to out-group empathy (Brown, 2006). First, the model was estimated with all paths estimated separately for each group. In each subsequent 'step', a single path was constrained to be equal across groups; if the model fit was not significantly worst, determined by the χ^2 difference test and a change in CFI < 0.01 (Cheung & Rensvold, 2002), the constraint was retained. If the model fit significantly worse, that path was allowed to be estimated separately for each group. The step-up approach systematically identifies the most parsimonious model for the data while allowing for distinct group differences to emerge (Brown, 2006).

RESULTS

Preliminary analyses

The means, standard deviations, ranges and bivariate correlations for the demographic variables and each construct are displayed in Table 1. A latent variable was fitted to general empathy in

the multiple group framework; there were no significant group differences in the factor loadings (Table 2) and it was a good fit to the data ($N = 155$, $\chi^2(3) = 0.73$, $p > .05$; CFI = 1.00; TLI = 1.07; SRMR = 0.019; RMSEA = 0.00 (CI: 0.000, 0.099)). Within-subjects t-tests were also conducted to explore differences among closely related constructs. Children reported, on average, significantly higher general empathy (M = 2.20, SD = 0.68) compared to out-group empathy (M = 1.77, SD = 0.79; t(153) = 8.55, $p < .001$), as well as significantly higher quality contact (M = 2.27, SD = 0.77) compared to out-group friends (M = 1.23, SD = 0.90; t(153) = 12.43, $p < .001$). Although correlated, these tests support the approach of including each construct as a discrete variable.

Primary analyses

To examine the predictors of out-group empathy, the step-up approach in multiple group framework found no significant differences in the regression paths between children from majority and minority backgrounds (Table 3). Namely, all paths were able to be constrained across the groups with a single estimated coefficient.

The final model was a good fit to the data (Figure 1; $N = 155$, $\chi^2(59) = 54.66$, $p > .05$; CFI = 1.00; TLI = 1.03; SRMR = 0.086; RMSEA = 0.00 (CI: 0.000, 0.060)) and all predictors were allowed to correlate (Table 4). As expected, there was a significant link between general empathy and out-group-specific empathy ($\beta = 0.72$, $p < .001$). Regarding the demographic variables, age was positively related to out-group empathy ($\beta = 0.19$, $p = .003$); that is, older children reported higher out-group empathy compared to younger children. There was no significant difference in the level of out-group empathy between boys and girls in this sample.

Regarding predictors related to intergroup contact theory and altruism born of suffering, the only significant link between the intergroup contact dimensions assessed and out-group empathy was for quality contact ($\beta = 0.21$, $p = .006$). In other words, neither the quantity of time spent with the out-group nor the number of out-group friends were related to out-group empathy in the final model. As a follow-up, an exploratory model was tested that also included the interaction of quantity and quality contact; there was no significant effect of this interaction term on out-group empathy. Finally, greater perceived conflict was significantly related to more out-group empathy ($\beta = 0.15$, $p = .01$). In sum, out-group empathy was higher among older children, those with higher general empathy, better quality contact and who perceived greater conflict between the groups. This pattern of findings was not different for children from the majority or minority group.

TABLE 2 Chi-square difference test for the CFA of dispositional empathy for Croat and Serb children

	Chi-square	df	CFI
Unconstrained model	16.51	9	0.96
Constrained model	16.99	13	0.98

Note: Based on the chi-square values, the constrained model does not fit significantly worse than the unconstrained model. The CFI also indicates improvement in the constrained model.

TABLE 3 Chi-square difference test for predictors of out-group empathy for Croat and Serb children

	Chi-square	df	CFI
Unconstrained model	51.23	52	1.00
Age	51.65	53	1.00
Girl	52.17	54	1.00
Dispositional empathy	53.53	55	1.00
Quantity contact	53.84	56	1.00
Quality contact	53.87	57	1.00
Out-group friends	54.11	58	1.00
Perceived intergroup conflict (constrained model)	54.66	59	1.00

Note: Based on the chi-square values, the constrained model does not fit significantly worse than the unconstrained model.
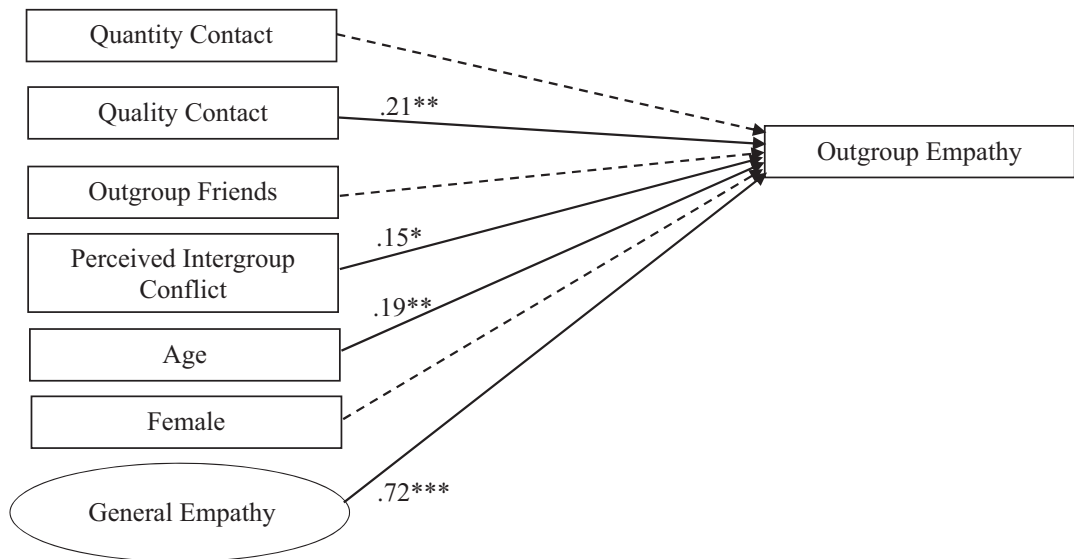
FIGURE 1 Multiple group final model predicting out-group empathy among majority (Croat; 64.5%) and minority (Serb; 35.5%) children in Vukovar, Croatia (*N* = 155, M = 8.77, SD = 1.15 years old; 51% female). All predictors allowed to correlate and standardised coefficients reported; *p* < .05; **p* < .01; ***p* < .001.

DISCUSSION

Among children in Vukovar, Croatia, who were raised a generation after the war, a multiple group path analysis found no differences in the pattern of predictors of out-group empathy across the majority (Croat) and minority (Serb) communities. General empathy, or how empathetic the child reported to be overall, was strongly related to out-group empathy. While age also predicted out-group empathy, gender did not. More specifically, out-group empathy was higher among 11-year-olds compared to 6-year-olds.

Regarding the intergroup contact dimensions, our hypotheses had mixed support. Although quality contact was positively related to out-group empathy, the quantity of contact and the number of out-group friends did not significantly relate to out-group empathy. Differing from other

TABLE 4   Bivariate correlations among predictors in the final model

		2	3	4	5	6	7
1	Girl	−0.01	0.24*	−0.05	0.02	−0.08	−0.10
2	Age	—	−0.11	0.12	−0.10	0.28***	−0.25**
3	Dispositional empathy		—	0.27*	0.22	0.23	−0.05
4	Quantity contact			—	0.50***	0.50***	−0.04
5	Quality contact				—	0.22*	−0.04
6	Out-group friends					—	0.06
7	Perceived intergroup conflict						—

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

settings of intergroup conflict (Turner et al., 2013), the number of cross-group friends were not related to empathy in the final model. Future research might examine if this pattern of findings is related to age effects. For example, age is related to the number of out-group friends but not other contact dimensions. As children age, they have greater autonomy and mobility outside the school classroom and family context. Thus, by late childhood / early adolescence, they may be able to form more friendships across group lines. This finding with primary school-aged children is consistent with the developmental changes found in a previous study with older youth; out-group friendships were higher among 16 compared to 12-year-olds in Vukovar (Ajdukovic & Čorkalo Biruški, 2008). Qualitative work with children ages 11 to 15 has also found examples of these potential age effects shaping the number of out-group friends (Reidy et al., 2015). Those findings are also supported by a recent review of how intimate contact or close and meaningful relationships or interactions may change across the lifespan (Marinucci et al., 2021). Given that all dimensions of contact were interrelated, one implication may be to promote more quantity *and* quality contact so that children have the opportunity to make out-group friends as they age.

Consistent with altruism born of suffering (Staub & Vollhardt, 2008; Vollhardt, 2009), greater perceived conflict was linked with higher out-group empathy in the full model. When considering the multiple influences on children's out-group empathy, there was a direct effect of perceived conflict. Complementing the growing work on out-group empathy in conflict settings with adults, this study offers an important developmental contribution. Over a generation has passed since the signing of a peace agreement, yet young children are still aware of the intergroup tensions (Taylor et al., 2020b). For example, on average, children reported 'some' conflict between Croats and Serbs, with 70% reporting that the current intergroup conflict ranged from 'a little' to 'a lot' in this study. In previous mixed methods research, adolescents in Vukovar also reported numerous forms of ongoing ethnic tension, such as Serbs and Croats getting into fights or ethnic slurs written on walls or playgrounds (Taylor et al., 2017). However, that awareness does not prevent children from empathising with members of the conflict rival group. Given the importance of empathy (Taylor et al., 2020a), particularly out-group empathy (O'Driscoll et al., 2021) for children's prosocial behaviour in conflict settings (Moran & Taylor, 2021; Taylor et al., 2021a), this finding has implications for the development peacebuilding model. In addition, the findings suggest that parents do not need to protect their children from knowing about the past (Reidy et al., 2015); they are already aware of how it affects the present. Instead, parents and schools might constructively engage with their children to talk about potential difficult topics such as the conflict, which has implications for developing out-group empathy (Bar-Tal & Rosen, 2009). Beyond relations among conflict rivals, these findings among majority and minority groups in

middle childhood support the growing body of work on empathy and intergroup relations in adolescence (Miklikowska, 2017, 2018; Taylor & McKeown, 2021; van Bommel et al., 2021).

Limitations and future research

This study is limited by the cross-sectional design. For instance, children who perceived more intergroup conflict were more empathetic towards their out-group. Although consistent with altruism born of suffering, an alternative interpretation could be that children who have higher levels of out-group empathy are more likely to notice and report conflict in their environment. Similarly, children who report higher levels of out-group empathy may also have other social skills that improve their contact experiences with out-group members, which relates to greater out-group empathy. For example, future research might expand on previous meta-analyses that found that empathy mediated the influence of contact on prejudice reduction (Pettigrew & Tropp, 2008) and explore how it specifically affects out-group empathy. Moreover, general empathy may interact with other predictors, which could be explored in future research.

Second, although the current analyses did not detect group differences in the paths, it could be under powered to detect small effects. For example, a priori statistical power calculation suggested that a sample size of at least 107 would be needed to detect a medium effect ($\beta = 0.15$) for regression with seven predictors (Rosen et al., 2016). To explore potential group differences, a sample size of 64 per group ($n = 128$) would be necessary to detect a mean difference of a medium effect size (d = 0.50) between the majority and minority groups (power = 0.80, $\alpha = 0.05$; Rosen et al., 2016). We, however, only had 55 children from the minority group. Collecting a larger sample of majority and minority groups across multiple timepoints will help to untangle the directionality of effects and dynamic processes influencing the development of out-group empathy.

Third, future research should diversify measures used in this study beyond self-report. For example, children's perceived intergroup conflict was measured by one explicit item addressing 'conflict' between Croats and Serbs. Qualitative measures of children's understanding of conflict, such as 'draw and tell' (Driessnack, 2006), in addition to further demographic and parent-report measures are needed to capture children's experience of intergroup conflict fully. Intergroup contact could be assessed with larger scales or to include both hypothetical and recent actual contact. Likewise, empathy would benefit from the investigation of behavioural measures, in addition to self-report measures Future research could use physiological measures of children's affective responses in an interaction with an out-group member, as well as measures of actual versus intended behaviour, for instance, sharing resources or helping out-group members (Moran & Taylor, 2021).

Lastly, the DPM informs this study design by varying the identity of the target when measuring children's empathy. However, other variables should also be considered in the study of children's out-group empathy to mirror the complexity of real-life scenarios (e.g., Neumann et al., 2013). Here, children's out-group empathy was measured for negative events (e.g. an out-group member is injured/sad). However, positive scenarios can also elicit empathic responses; 'negative empathy' and 'positive empathy' have been found to be related, but separate, processes (Andreychik & Migliaccio, 2015; Morelli et al., 2015). Measuring children's 'positive empathy' in contexts of intergroup conflict may inform best practices for peacebuilding through promoting positive shared experiences (e.g., Telle & Pfister, 2015). Moreover, while the current study focuses on empathy towards individuals, children may encounter

scenarios in contexts of intergroup division in which they feel empathy towards a group. Future research may investigate how engaging children in out-group empathy and prosocial behaviour at a collective level, as a form of collective action, can be a powerful tool of civic engagement for social change (Louis, 2009; Taylor & McKeown, 2021; van Zomeren & Louis, 2017).

CONCLUSION

These findings offer hope given the importance of out-group-specific empathy towards conflict rivals for peacebuilding and social reconstruction (e.g. Taylor et al., 2021b). Extending past research that examined out-group-specific empathy in this age group in a conflict setting (O'Driscoll et al., 2021), this study also included general empathy. That is, the effects reported are in addition to the child's general empathetic ability. Despite still perceiving intergroup conflict, children in primary school report out-group empathy. Moreover, even in a divided school setting, out-group empathy is higher in the later years of middle childhood. Although quantity contact and out-group friends did not, better quality cross-ethnic contact was positively related to out-group empathy. Over a generation after the end of the war, Vukovar remains largely divided. Nevertheless, children show the socio-emotional capacity for improving intergroup relations.

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REFERENCES
Ajdukovic, D., & Čorkalo Biruški, D. (2008). Caught between the ethnic sides: Children growing up in a divided post-war community. *International Journal of Behavioral Development*, *32*(4), 337–347. https://doi.org/10.1177/0165025408090975

Andreychik, M. R., & Migliaccio, N. (2015). Empathizing with others' pain versus empathizing with others' joy: Examining the separability of positive and negative empathy and their relation to different types of social behaviors and social emotions. *Basic and Applied Social Psychology*, *37*(5), 274–291. https://doi.org/10.1080/01973533.2015.1071256

Armstrong, M., Morris, C., Abraham, C., Ukoumunne, O. C., & Tarrant, T. (2016). Children's contact with people with disabilities and their attitudes towards disability: A cross-sectional study. *Disability and Rehabilitation*, *38*(9), 879–888. https://doi.org/10.3109/09638288.2015.1074727

Avenanti, A., Sirigu, A., & Aglioti, S. M. (2010). Racial bias reduces empathetic sensorimotor resonance with other-race pain. *Current Biology*, *20*(11), 1018–1022. https://doi.org/10.1016/j.cub.2010.03.071

Bar-Tal, D., & Rosen, Y. (2009). Peace education in societies involved in intractable conflicts: Direct and indirect models. *Review of Educational Research*, *79*(2), 557–575. https://doi.org/10.3102/0034654308330969

Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imaging how you would feel. *Personality and Social Psychology Bulletin*, *23*(7), 751–758. https://doi.org/10.1177/0146167297237008

Borke, H. (1973). The development of empathy in Chinese and American children between three and six years of age: A cross-cultural study. *Developmental Psychology*, *9*(1), 102–108. https://doi.org/10.1037/h0035080

Brown, A. J. (2006). Spectral curve fitting for automatic hyperspectral data analysis. *IEEE Transactions on Geoscience and Remote Sensing*, *44*(6), 1601–1608. https://doi.org/10.1109/TGRS.2006.870435

Brown, R., Eller, A., Leeds, S., & Stace, K. (2007). Intergroup contact and intergroup attitudes: A longitudinal study. *European Journal of Social Psychology*, *37*(4), 692–2007. https://doi.org/10.1002/ejsp.384

Cameron, L., Rutland, A., Hossain, R., & Petley, R. (2011). When and why does extended contact work?: The role of high quality direct contact and group norms in the development of positive ethnic intergroup attitudes amongst children. *Group Processes & Intergroup Relations*, *14*(2), 193–206. https://doi.org/10.1177/1368430210390535

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *9*(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5

Christov-Moore, L., Simpson, E. A., Coudé, G., Grigaityte, K., Iacoboni, M., & Ferrari, P. F. (2014). Empathy: Gender effects in brain and behavior. *Neuroscience & Biobehavioral Reviews*, *46*(4), 604–627. https://doi.org/10.1016/j.neubiorev.2014.09.001

Cikara, M., Bruneau, E. G., & Saxe, R. R. (2011). Us and them: Intergroup failures of empathy. *Current Directions in Psychological Science*, *20*(3), 149–153. https://doi.org/10.1177/0963721411408713

Cikara, M., Bruneau, E., Van Bavel, J. J., & Saxe, R. (2014). Their pain gives us pleasure: How intergroup dynamics shape empathic failures and counter-empathic responses. *Journal of Experimental Social Psychology*, *55*, 110–125. https://doi.org/10.1016/j.jesp.2014.06.007

Čorkalo Biruški, D., & Ajduković, D. (2007). Separate schools—A divided community: The role of school in post-war social reconstruction. *Review of Psychology*, *14*, 93–108. https://hrcak.srce.hr/25575

Čorkalo Biruški, D., Jelić, M., Pavin Ivanec, T., Pehar, L., Uzelac, E., Rebernjak, B., & Kapović, I. (2019). *Obrazovanje nacionalnih manjina i međuetnički stavovi u Hrvatskoj: Stanje, izazovi, perspektive. [Minority education and interethnic attitudes in Croatia: State, challenges, perspectives].* Friedrich Ebert Stiftung.

Čorkalo Biruški, D., Pehar, L., Jelić, M., Pavin Ivanec, T., & Tomašić Humer, J. (2020). Obrazovni izbori i stavovi prema multikulturalizmu i asimilacionizmu većine i manjine u četiri hrvatske višeetničke zajednice. *Društvena Istraživanja*, *29*(1), 23–47. https://doi.org/10.5559/di.29.1.02

Dadds, M. R., Hunter, K., Hawes, D. J., Frost, A. D., Vassallo, S., Bunn, P., Merz, S., & El Masry, Y. (2008). A measure of cognitive and affective empathy in children using parent ratings. *Child Psychiatry Human Development*, *39*, 111–122. https://doi.org/10.1007/s10578-007-0075-4

Dautel, J. (2012). The cost of conflict: Children's reasoning about ethno-religious identity in Northern Ireland. *Perspectives on Europe*, *42*(2), 74–78.

De Vignemont, F., & Singer, T. (2006). The empathic brain: How, when and why? *Trends in Cognitive Sciences*, *10*(10), 435–441. https://doi.org/10.1016/j.tics.2006.08.008

Decety, J., & Jackson, P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, *3*(2), 71–100. https://doi.org/10.1177/1534582304267187

Deeb, I., Segall, G., Birnbaum, D., Ben-Eliyahu, A., & Diesendruck, G. (2011). Seeing isn't believing: The effect of intergroup exposure on children's essentialist beliefs about ethnic categories. *Journal of Personality and Social Psychology*, *101*(6), 1139–1156. https://doi.org/10.1037/a0026107

Dormann, C. F., Elith, J., Bacher, S., Buchmann, C., Carl, G., Carré, G., Marquéz, J. R. G., Gruber, B., Lafourcade, B., Leitão, P. J., Münkemüller, T., McClean, C., Osborne, P. E., Reineking, B., Schröder, B., Skidmore, A. K., Zurell, D., & Lautenbach, S. (2013). Collinearity: A review of methods to deal with it and a simulation study evaluating their performance. *Ecography*, *36*(1), 27–46. https://doi.org/10.1111/j.1600-0587.2012.07348.x

Driessnack, M. (2006). Draw-and-tell conversations with children about fear. *Qualitative Health Research*, *16*(10), 1414–1435. https://doi.org/10.1177/1049732306294127

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin*, *101*(1), 91–119. https://doi.org/10.1037/0033-2909.101.1.91

Enders, C. K. (2010). *Applied missing data analysis*. Guilford Publications.

Hall, J., & Kahn, D. T. (2020). Exposure to wartime trauma decreases positive emotions and altruism toward rival out-groups (but not nonrival out-groups): A survey experiment in a field setting among Syrian refugees. *Social Psychological and Personality Science*, *11*(4), 552–559. https://doi.org/10.1177/1948550619876631

Hasson, Y., Tamir, M., Brahms, K. S., Cohrs, J. C., & Halperin, E. (2018). Are liberals and conservatives equally motivated to feel empathy toward others? *Personality and Social Psychology Bulletin*, *44*(10), 1449–1459. https://doi.org/10.1177/0146167218769867

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Jahnke, S., Abad Borger, K., & Beelmann, A. (2021). Predictors of political violence outcomes among young people: A systematic review and meta-analysis. *Political Psychology*, *43*(1), 111. https://doi.org/10.1111/pops.12743

Johnson, B., & Glasford, D. E. (2018). Intergroup contact and helping: How quality contact and empathy shape outgroup helping. *Group Processes & Intergroup Relations*, *21*(8), 1185–1201. https://doi.org/10.1177/1368430217711770

Killen, M., Kelly, M., Richardson, C., Crystal, D., & Ruck, M. (2010). European-American children's and adolescents' evaluations of interracial exclusion. *Group Processes & Intergroup Relations*, *13*(3), 283–300. https://doi.org/10.1177/1368430209346700

Louis, W. R. (2009). Collective action—and then what? *Journal of Social Issues*, *65*(4), 727–748. https://doi.org/10.1111/j.1540-4560.2009.01623.x

Marinucci, M., Maunder, R., Sanchez, K., Thai, M., McKeown, S., Turner, R. N., & Stevenson, C. (2021). Intimate intergroup contact across the lifespan. *Journal of Social Issues*, *77*(1), 64–85. https://doi.org/10.1111/josi.12399

Masten, C. L., Gillen-O'Neel, C., & Brown, C. S. (2010). Children's intergroup empathic processing: The roles of novel ingroup identification, situational distress, and social anxiety. *Journal of Experimental Child Psychology*, *106*(2–3), 115–128. https://doi.org/10.1016/j.jecp.2010.01.002

McKeown, S., & Taylor, L. K. (2017). Intergroup contact and peacebuilding: Promoting youth civic engagement in Northern Ireland. *Journal of Social and Political Psychology*, *5*(2), 415–434. https://doi.org/10.5964/jspp.v5i2.769

McKeown, S., & Taylor, L. K. (2018). Perceived peer and school norm effects on youth antisocial and prosocial behaviours through intergroup contact in Northern Ireland. *British Journal of Social Psychology*, *57*(3), 652–665. https://doi.org/10.1111/bjso.12257

Miklikowska, M. (2017). Development of anti-immigrant attitudes in adolescence: The role of parents, peers, intergroup friendships, and empathy. *British Journal of Psychology*, *108*, 626–648. https://doi.org/10.1111/bjop.12236

Miklikowska, M. (2018). Empathy trumps prejudice: The longitudinal relation between empathy and anti-immigrant attitudes in adolescence. *Developmental Psychology*, *54*, 703–717. https://doi.org/10.1037/dev0000474

Moran, D., & Taylor, L. K. (2021). Outgroup prosocial behaviour among children and adolescents in conflict settings. *Current Opinion in Psychology*, *44*, 69–73. https://doi.org/10.1016/j.copsyc.2021.08.030

Morelli, S. A., Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, *9*(2), 57–68. https://doi.org/10.1111/spc3.12157

Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, *369*(6505), 866–870. https://doi.org/10.1126/science.abb3153

Nesdale, D., Griffith, J., Durkin, K., & Maass, A. (2005). Empathy, group norms and children's ethnic attitudes. *Journal of Applied Developmental Psychology*, *26*(6), 623–637. https://doi.org/10.1016/j.appdev.2005.08.003

Neumann, D. L., Boyle, G. J., & Chan, R. C. K. (2013). Empathy towards individuals of the same and different ethnicity when depicted in negative and positive contexts. *Personality and Individual Differences*, *55*(1), 8–13. https://doi.org/10.1016/j.paid.2013.01.022

O'Driscoll, D., Taylor, L. K., & Dautel, J. B. (2021). Essentialist beliefs affect children's outgroup empathy, attitudes and prosocial behaviours in a setting of intergroup conflict. *International Journal of Psychology*, *56*(1), 151–156. https://doi.org/10.1002/ijop.12679

Overgaauw, S., Fieffe, C., Broekhof, E., Crone, E. A., & Güroğlu, B. (2017). Assessing empathy across childhood and adolescence: Validation of the empathy questionnaire for children and adolescents (EmQue-CA). *Frontiers in Psychology*, *8*(870), 1–9. https://doi.org/10.3389/fpsyg.2017.00870

Paolini, S., Hewstone, M., Cairns, E., & Voci, A. (2004). Effects of direct and indirect cross-group friendships on judgments of Catholics and Protestants in Northern Ireland: The mediating role of an anxiety-reduction mechanism. *Personality and Social Psychology Bulletin*, *30*(6), 770–786. https://doi.org/10.1177/0146167203262848

Paolini, S., White, F. A., Tropp, L. R., Turner, R. N., Page-Gould, E., Barlow, F. K., & Gomez, A. (2021). Intergroup contact research in the 21st century: Lessons learned and forward progress if we remain open. *Journal of Social Issues*, *77*(1), 11–37. https://doi.org/10.1111/josi.12427

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–783. https://doi.org/10.1037/0022-3514.90.5.751

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, *38*(6), 922–934. https://doi.org/10.1002/ejsp.504

Reidy, C. M., Taylor, L. K., Merrilees, C. E., Ajduković, D., Čorkalo Biruški, D., & Cummings, E. M. (2015). The political socialization of youth in a post-conflict community. *International Journal of Intercultural Relations*, *45*, 11–23. https://doi.org/10.1016/j.ijintrel.2014.12.005

Rosen, J. B., Brand, M., & Kalbe, E. (2016). Empathy mediates the effects of age and sex on altruistic moral decision making. *Frontiers in Behavioral Neuroscience*, *10*(67), 1–16. https://doi.org/10.3389/fnbeh.2016.00067

Rosler, N., Cohen-Chen, S., & Halperin, E. (2017). The distinctive effects of empathy and hope in intractable conflicts. *Journal of Conflict Resolution*, *61*(1), 114–139. https://doi.org/10.1177/0022002715569772

Schwenck, C., Göhle, B., Hauf, J., Warnke, A., Freitag, C. M., & Schneider, W. (2014). Cognitive and emotional empathy in typically developing children: The influence of age, gender, and intelligence. *European Journal of Developmental Psychology*, *11*(1), 63–76. https://doi.org/10.1080/17405629.2013.808994

Sierksma, J., Thijs, J., & Verkuyten, M. (2014). Children's intergroup helping: The role of empathy and peer group norms. *Journal of Experimental Child Psychology*, *126*, 369–383. https://doi.org/10.1016/j.jecp.2014.06.002

Sierksma, J., Thijs, J., & Verkuyten, M. (2015). In-group bias in children's intention to help can be overpowered by inducing empathy. *British Journal of Developmental Psychology*, *33*, 45–56. https://doi.org/10.1111/bjdp.12065

Silke, C., Brady, B., Boylan, C., & Dolan, P. (2018). Factors influencing the development of empathy and pro-social behaviour among adolescents: A systematic review. *Children and Youth Services Review*, *94*, 421–436. https://doi.org/10.1016/j.childyouth.2018.07.027

Srinivasan, M., Kaplan, E., & Dahl, A. (2019). Reasoning about the scope of religious norms: Evidence from Hindu and Muslim children in Inida. *Child Development*, *90*(6), 783–802. https://doi.org/10.1111/cdev.13102

Štambuk, M., Taylor, L. K., Löw, A., Čorkalo Biruški, D., Merrilees, C. E., Ajduković, D., & Cummings, E. M. (2020). Parental competitive victimhood and interethnic discrimination among their children: The mediating role of ethnic socialization and symbolic threat to the in-group. *British Journal of Social Psychology*, *59*(1), 87–110. https://doi.org/10.1111/bjso.12321

Staub, E., & Vollhardt, J. (2008). Altruism born of suffering: The roots of caring and helping after victimization and other trauma. *American Journal of Orthopsychiatry*, *78*(3), 267–280. https://doi.org/10.1037/a0014223

Tarrant, M., Dazeley, S., & Cottom, T. (2009). Social categorization and empathy for outgroup members. *British Journal of Social Psychology*, *48*(3), 427–446. https://doi.org/10.1348/014466608X373589

Tausch, N., Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2007). Individual-level and group-level mediators of contact effects in Northern Ireland: The moderating role of social identification. *British Journal of Social Psychology*, *46*(3), 541–556. https://doi.org/10.1348/014466606X155150

Taylor, L. K. (2020). The developmental peacebuilding model (DPM) of children's prosocial behaviors in settings of intergroup conflict. *Child Development Perspectives*, *14*(3), 127–134. https://doi.org/10.1111/cdep.12377

Taylor, L. K., Dautel, J., Maloku, E., & Tomovska Misoska, A. (2021a). Children's outgroup prosocial giving in settings of intergroup conflict: The developmental role of ingroup symbol preference. *Developmental Psychology*, *57*(8), 1350–1358.

Taylor, L. K., & Hanna, J. R. (2018). Altruism born of suffering among emerging adults in Northern Ireland. *Journal of Aggression, Conflict and Peace Research*, *10*(3), 157–169. https://doi.org/10.1108/JACPR-01-2017-0271

Taylor, L. K., & McKeown, S. (2021). Adolescent outgroup helping, collective action, and political activism in a setting of protracted conflict. *International Journal of Intercultural Relations*, *85*, 37–46. https://doi.org/10.1016/j.ijintrel.2021.09.001

Taylor, L. K., Merrilees, C. E., Ajduković, D., Čorkalo Biruški, D., & Cummings, E. M. (2017). Complexity of risk: Mixed methods approach to understanding risk and insecurity in post-conflict settings. *Journal of Adolescent Research*, *32*(5), 585–613. https://doi.org/10.1177/0743558416684950

Taylor, L. K., O'Driscoll, D., Dautel, J. B., & McKeown, S. (2020a). Empathy to action: Child and adolescent outgroup attitudes and prosocial behaviors in a setting of intergroup conflict. *Social Development*, *29*(2), 461–477. https://doi.org/10.1111/sode.12421

Taylor, L. K., O'Driscoll, D., Merrilees, C. E., Goeke-Morey, G., Shirlow, P., & Cummings, E. M. (2021b). Trust, forgiveness and peace: The influence of adolescent social identity in a setting of intergroup conflict. *International Journal of Behavioral Development*. https://doi.org/10.1177/01650254211066768

Taylor, L. K., Štambuk, M., Čorkalo Biruški, D., & O'Driscoll, D. (2020b). Transgenerational transmission of collective victimhood through a developmental intergroup framework: The lasting power of group narratives of suffering. In J. Vollhardt (Ed.), *The social psychology of collective victimhood* (pp. 37–55). Oxford University Press.

Telle, N.-T., & Pfister, H.-R. (2015). Positive empathy and prosocial behavior: A neglected link. *Emotion Review*, *8*(2), 154–163. https://doi.org/10.1177/1754073915586817

Turner, R. N., Hodson, G., & Dhont, K. (2020). The role of individual differences in understanding and enhancing intergroup contact. *Social and Personality Psychology Compass*, *14*(6). https://doi.org/10.1111/spc3.12533

Turner, R. N., Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2013). Contact between catholic and protestant schoolchildren in Northern Ireland. *Journal of Applied Social Psychology*, *43*, 216–228. https://doi.org/10.1111/jasp.12018

van Bommel, G., Thijs, J., & Miklikowska, M. (2021). Parallel empathy and group attitudes in late childhood: The role of perceived peer group attitudes. *Journal of Social Psychology*, *161*(3), 337–350. https://doi.org/10.1080/00224545.2020.1840326

Van Zomeren, M., & Louis, W. R. (2017). Culture meets collective action: Exciting synergies and some lessons to learn for the future. *Group Processes & Intergroup Relations*, *20*(3), 277–284. https://doi.org/10.1177/1368430217690238

Vezzali, L., Giovannini, D., & Capozza, D. (2012). Social antecedents of children's implicit prejudice: Direct contact, extended contact, explicit and implicit teachers' prejudice. *European Journal of Developmental Psychology*, *9*(5), 569–581. https://doi.org/10.1080/17405629.2011.631298

Vezzali, L., Hewstone, M., Capozza, D., Trifiletti, E., & di Bernardo, G. A. (2016). Improving intergroup relations with extended Contact among young children: Mediation by intergroup empathy and moderation by direct intergroup contact. *Journal of Community and Applied Social Psychology*, *27*(1), 35–49. https://doi.org/10.1002/casp.2292

Vollhardt, J. R. (2009). Altruism born of suffering and prosocial behavior following adverse life events: A review and conceptualization. *Social Justice Research*, *22*(1), 53–97. https://doi.org/10.1007/s11211-009-0088-1

Vollhardt, J. R., & Staub, E. (2011). Inclusive altruism born of suffering: The relationship between adversity and prosocial attitudes and behavior toward disadvantaged outgroups. *American Journal of Orthopsychiatry*, *81*(3), 307–315. https://doi.org/10.1111/j.1939-0025.2011.01099.x.

Xu, X., Zuo, X., Wang, X., & Han, S. (2009). Do you feel my pain? Racial group membership modulates empathetic neural responses. *Journal of Neuroscience*, *29*(26), 8525–8529. https://doi.org/10.1523/JNEUROSCI.2418-09.2009

Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). Development of concern for others. *Developmental Psychology*, *28*(1), 126. https://doi.org/10.1037/0012-1649.28.1.126

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APPENDIX A.

Response scales for items described in the Measures section [outgroup label in brackets].

Quantity contact.

How much time would you like to spend with [Croatian/Serbian] children?
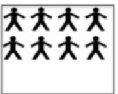
| None | A Little | Half | A Lot | All of my time |

Quality contact.

How good or bad do you think your experiences would be with [Croatian/Serbian] children?

| Always bad | Sometimes bad | Sometimes good | Always good |

Outgroup friends.

How many close friends are [Croatian/Serbian]?

| None | Some | Most | All |

Perceived intergroup conflict.

The kids in this photo do not get along and this is called conflict.

How much conflict is there between Croatian and Serbian people here in Croatia?

| None | A little | Some | A lot | A whole lot |

Dispositional empathy.

How would you feel if you heard about a child who can't find anyone to play with?

| Very Awful | Awful | Not good | Not Happy/Not Sad |

How would you feel if you heard some children were sad or in trouble?

| Very Awful | Awful | Not good | Not Happy/Not Sad |

How would you feel if you heard that an animal was hurt?

| Very Awful | Awful | Not good | Not Happy/Not Sad |

Outgroup empathy.

How would you feel if you heard that a [Croatian/Serbian] child was hurt?

| Very Awful | Awful | Not good | Not Happy/Not Sad |

How would you feel if you heard that a [Croatian/Serbian] child was feeling sad?

| Very Awful | Awful | Not good | Not Happy/Not Sad |