Improving Intergroup Relations with Extended Contact among Young Children: Mediation by Intergroup Empathy and Moderation by Direct Intergroup Contact

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Running head: Extended contact in young children

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Abstract

A correlational study investigated extended contact as a strategy to improve outgroup attitudes and stereotyping and to prepare children for future contact. Additional aims were to investigate when and why the effects of extended contact occur. In particular, intergroup empathy was tested as a mediator and direct contact (i.e., cross-group friendship) as a moderator of extended contact. Participants were Italian and immigrant elementary school children. Results showed that extended contact was associated with improved intergroup empathy, which, in turn, was associated with more positive outgroup attitudes, stereotypes and behavioural intentions. These effects were significant only among participants with a low or moderate level of direct contact. The theoretical and practical implications of findings are discussed.

Keywords: extended contact, indirect contact, intergroup contact, cross-group friendship, intergroup empathy.

Decades of research have consistently demonstrated that direct (i.e., face-to-face) intergroup contact is an extremely useful strategy for reducing prejudice (Allport, 1954; Hodson & Hewstone, 2013). Despite their effectiveness, however, strategies based on face-to-face contact have important limitations. First, they are unlikely to be implemented in segregated contexts or, in any case, where there are few opportunities for contact (Turner, Hewstone, Voci, Paolini, & Christ, 2007). Second, contact is generally less effective for minorities than for majorities (Tropp & Pettigrew, 2005). These limitations can be overcome by focusing on indirect contact strategies, such as extended contact (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). The aim of this study is to investigate whether, when and how extended contact improves outgroup attitudes and behavioural intentions among children. In fact, although there is a wide literature on extended contact among adults, only few studies examined extended contact in young samples. It is therefore important to test whether extended contact works similarly for children as for adults. Since intergroup experiences during childhood serve as building blocks for the formation of outgroup attitudes and consequently outgroup behaviour and intergroup relations among adults (Abrams & Killen, 2014), and since schools are an ideal context for running prejudice-reduction interventions (Cameron & Turner, in press), we believe that investigating possible ways to improve outgroup attitudes in educational contexts among children should be a priority for psychologists (Turner & Cameron, 2016).

To assess predicted effects, we will consider outgroup attitudes and stereotypes as well as intentions to have contact with outgroup members in the future. We examine direct contact as a moderator of extended contact effects, because previous work has shown that extended contact is most effective when prior direct contact is low (Christ et

al., 2010). Moreover, we will evaluate intergroup empathy as a new mediator of extended contact. We are not aware of any study testing the effects of extended contact on outgroup attitudes, stereotypes and behavioural intentions among both majority and minority group children.

The extended contact hypothesis

According to the extended contact hypothesis (Wright et al., 1997), merely knowing that an ingroup member has a close relationship with one or more outgroup members can reduce prejudice. Extended contact has several advantages over direct contact (Turner, Hewstone, Voci, et al., 2007; Wright et al., 1997). First, for extended contact to work, individuals do not need to personally know an outgroup member; rather, it is sufficient that they are exposed to a friendly relation between at least one ingroup and one outgroup member. Second, to the extent that group membership is more likely to be salient to an observer than to a person directly involved in contact, generalization of positive attitudes is favoured (Brown & Hewstone, 2005). Third, observing an intergroup encounter rather than taking active part in it should evoke less intergroup anxiety, which has been shown to produce detrimental effects on intergroup relations (Stephan, 2014).

A recent extensive review by Vezzali, Hewstone, Capozza, Giovannini and Wölfer (2014) revealed widespread effects of extended contact across several outcome variables, target-groups, contexts and age-groups. Notably, in contrast to direct contact, extended contact is equally effective for both majority and minority members (Turner, Hewstone, & Voci, 2007; see Vezzali et al., 2014). Despite the increasing interest in the effects of extended contact, however, few studies have investigated its effects among children.[1] The only experimental test of extended contact among children of which we

are aware was conducted by Vezzali, Stathi, Giovannini, Capozza and Visintin (2015). They asked Italian elementary and high-school children to work in small ethnically homogeneous groups with the cover story of competing for the best essay on cross-group friendships. By this means, children exchanged information on their friendships with outgroup members (represented by immigrants). Results revealed that the intervention increased the number of participants' outgroup friends three months after the intervention, an effect sequentially mediated by ingroup and outgroup norms, and by intentions to have contact with outgroup members (assessed one week after the intervention).

Additional evidence comes from two cross-sectional studies. In the first, Vezzali, Giovannini and Capozza (2012) examined the effects of extended contact among Italian elementary school children. Their results revealed that extended contact (number of immigrant friends of participants' best ingroup friend) was associated with reduced implicit prejudice, but only among those with fewer immigrant friends of their own. Pahlke, Bigler and Suizzo (2012) examined White preschool children and operationalized extended contact as the number of friends from minority groups reported by children's mothers. Results revealed that extended contact via mothers was associated with improved outgroup attitudes, over and above the effects of amount of cultural diversity in the children's school and in the neighbourhood.

In contrast with these results, Feddes, Noack and Rutland's (2009) longitudinal study of German (majority) and Turkish (minority) children aged 7-11 years did not find evidence for the effectiveness of extended contact. Their results showed that only direct cross-group friendships, but not extended contact (number of outgroup friends of children's three best friends), were longitudinally associated (seven months after the

first assessment) with more positive outgroup attitudes, and only among majority children. This finding may, however, be due to the extended contact measure used: participants were asked to report how many of their "friends" have outgroup friends, instead of reporting the number of *ingroup* friends' outgroup friends.

These prior studies, with the exception of that by Feddes et al. (2009), were conducted by considering only children belonging to the majority group. Thus, it is of primary importance to test extended contact by considering both majority and minority children. In the case of minority children, a further consideration arises. In Italian schools the number of immigrant children in a class is often very low, which reduces the opportunity for immigrant children to know about a fellow ingroup member (another migrant) who has outgroup friends. However, immigrant children may well have outgroup friends, and indeed research in Italy has found that minority members generally have a higher number of cross-group friends compared with the majority (Vezzali, Giovannini, & Capozza, 2010), as is to be expected given the relative proportions of each group. If minority children have friends from the majority group, who themselves have immigrant friends, then we should also take into account this form of extended contact, because it provides children with knowledge of ingroup and outgroup members engaging in contact (and not merely contact, but friendship).

How extended contact works

Wright et al. (1997) proposed four mechanisms through which extended contact should improve outgroup attitudes. First, extended contact should reduce intergroup anxiety which, in turn, should be associated with more positive outgroup attitudes (Vezzali et al., 2014). Second, observing a friendly interaction between an ingroup and

an outgroup member should bring the outgroup member closer to the self, and this in turn should improve outgroup attitudes.

The third proposed mediator is ingroup norms. Since group membership should be salient to an observer of an intergroup encounter, thus favouring the processes of self-categorization as group member and adherence to group norms (Jetten, Spears, & Manstead, 1996), observing an ingroup member acting in a friendly manner with an outgroup member can suggest that the ingroup has positive norms about intergroup contact. Positive ingroup norms, in turn, should be associated with improved outgroup attitudes. Outgroup norms are the fourth mechanism proposed by Wright et al. (1997). As for ingroup norms, observing a cross-group interaction may indicate that the outgroup is positively oriented towards intergroup contact, in turn fostering more positive attitudes towards its members.

Turner, Hewstone, Voci and Vonofakou (2008) conducted two correlational studies among White British and South-West Asian students in the UK that tested simultaneously the four mediators proposed by Wright et al. (1997). Results showed that reduced intergroup anxiety, increased IOS and perception that both ingroup and outgroup had favourable norms towards contact mediated the relationship between extended contact and more positive outgroup attitudes.

Other studies identified further mediators of extended contact, such as self-disclosure (Turner, Hewstone, & Voci, 2007, Studies 2 and 3; for a review, see Vezzali et al., 2014). However, little research has investigated the processes that mediate effects of extended contact among children. One exception was provided by the study by Vezzali et al. (2015), who found evidence for ingroup and outgroup norms and behavioural intentions as the mediators of extended contact.

Given this sparse empirical evidence, we believe it is important to examine in more depth whether, when and how extended contact is associated with improved outgroup attitudes in children. Based on the little evidence provided by studies conducted among children we expect no differences in how extended contact operates among children compared with adults (although, given the lack of studies, this is an empirical question that still needs to be answered). In particular, we expect that affective processes (in this case, intergroup empathy) will mediate the effects of extended contact on our dependent variables (but only for those with low levels of direct contact, see below). This test is especially important, given that we are not aware of any study testing mediation of extended contact effects by affective factors among elementary schoolchildren.

The present study

The aim of the present study was to test the effectiveness of extended contact among children. As outcome variables, we decided to assess outgroup attitudes and stereotypes to be consistent with most of previous research. Since extended contact is considered as a preparatory strategy for future contact, and because intentions are the most proximal antecedent of actual behaviour (Ajzen, 1991), we also included a measure assessing the desire to engage in contact with outgroup members. We also sought to identify when and why the effects of the extended contact occur.

In this study, we tested for the first time intergroup empathy as a mediator of extended contact. Empathy can be defined as the emotional response to the emotions felt by outgroup members (Stephan & Finlay, 1999). There is an extensive literature showing that intergroup empathy has beneficial effects on outgroup attitudes (Batson, 2010; Galinsky, Gilin, & Massux, 2011). Moreover, intergroup empathy is a key

mediator of direct contact (Brown & Hewstone, 2005). Children start developing empathic feelings during their preschool years (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983) and research has revealed that, as for adults, empathy in children is associated with increased prosocial behaviour (Litvack-Miller, McDougall, & Romney, 1997). However, despite the well-established effects of empathy in children, there is a paucity of research on *intergroup* empathy in this age group.

Few studies have examined the association between empathy towards the outgroup and outgroup attitudes. Nesdale and collaborators found, using samples of children between 5 and 12 years of age, that empathy towards outgroup members improved outgroup attitudes (Nesdale, Griffiths, Durkin, & Maass, 2005) and reduced intergroup aggression tendencies (Nesdale, Milliner, Duffy, & Griffiths, 2009). We hypothesized that extended contact, by bringing outgroup members closer to the self, would facilitate the understanding of their feelings (i.e., would be associated with increased intergroup empathy), which in turn should be associated with improved outgroup attitudes.

To learn more about the boundary conditions that may limit the effectiveness of extended contact, we also tested direct contact as a moderator of the hypothesized effects. Research has shown that attitudes are stronger and more resistant to change when they are formed on the basis of personal experiences (Fazio, Powell, & Herr, 1983), a claim confirmed specifically for direct intergroup contact and strength of outgroup attitudes (Vonofakou, Hewstone, & Voci, 2007). Thus, attitudes will form primarily as a function of direct experience with an attitude object. However, if personal experiences are scarce or unavailable, individuals will rely on indirect experiences as a source of information for attitude formation, and over time such indirect experiences (in

the form of extended contact) are associated with stronger outgroup attitudes, but only for respondents in segregated settings or for individuals with less experience of direct, personal contact with the outgroup (e.g., Christ et al., 2010).

We therefore hypothesized that extended contact (indirect experience) would be used as a source of information, and thus would be associated with more positive outgroup attitudes, via intergroup empathy, only for those who have less direct experience of cross-group interactions (i.e., for participants with less direct contact). In other words, we expected a pattern of moderated mediation, where empathy is the mediator and direct contact is the moderator. The theoretical model is shown in Figure 1.

Figure 1

Previous studies on extended contact conducted with young samples assessed only mediating (e.g., Turner, Tam, Hewstone, Kenworthy, & Cairns, 2013) *or* moderating (e.g., Vezzali, Giovannini, et al., 2012) processes, but to our knowledge they did not combine mediating and moderating processes in a single design. This is however of primary importance, both theoretically and practically, because extended contact may exert its effects differently for different categories of people. Specifically, it is not sufficient to know whether intergroup empathy mediates the effects of extended contact. Rather, it is important to understand whether extended contact impacts on dependent variables depending on one's level of direct contact, and whether intergroup empathy plays a different role in mediating extended contact effects depending on participants' level of direct contact. Results will provide indications (a) on the need to examine further mediators of extended contact for the various levels of direct contact,

and (b) on how to conduct interventions and on which variables to focus to improve outgroup attitudes among children varying in their level of direct contact.

Method

Participants and Procedure

The sample consisted of 308 children (168 males, 140 females) enrolled in mixed elementary school classes in Northern Italy. Mean age was 10 years 5 months. Two hundred and twenty-seven children were Italians (121 males, 106 females; mean age = 10 years 4 months; age ranged from 8 years 9 months to 11 years 11 months); 81 participants were immigrants (47 males, 34 females; mean age = 10 years 6 months; age ranged from 8 years 11 months to 12 years 4 months). The greatest number of immigrants had Africa as their country of origin (43.2%), followed by Asia (39.6%), Eastern Europe (16%) and South America (1.2%). Participants completed a questionnaire during classes. The questionnaires for Italians and immigrants were identical, except that Italians were asked about their relations with immigrants, whereas immigrants were asked about their relations with Italians.

Measures

Direct and extended contact. Measures were adapted from Feddes et al. (2009) and from Vezzali, Giovannini et al. (2012). To assess direct contact, participants were asked to give the names of up to three best friends. Children were then asked to indicate whether these friends were Italians or came from another country. Scores ranged from 0 (*no outgroup friends*) to 3 (*three outgroup friends*). To measure extended contact, children indicated on a 5-point scale (ranging from 1 = *none* to 5 = *all*) how many outgroup friends their single best friend had. If the best friend was an outgroup member,

then extended contact was measured as this outgroup member's friendships with members of the participant's ingroup.

Intergroup empathy. Intergroup empathy was assessed with two items adapted from Capozza, Trifiletti, Vezzali and Favara (2013): "Do you understand the emotions felt by immigrant [Italian] children?"; "Do you feel the same emotions felt by immigrant [Italian] children?". The 5-point scale was anchored by 1 (*not at all*) and 5 (*very much*). The two items were averaged to form a composite measure of intergroup empathy ($r = .38$, $p < .001$), with higher scores reflecting stronger empathy towards the outgroup.

Outgroup attitudes. We used a measure of social distance, adapted from Esses and Dovidio (2002), consisting of three items assessing children's willingness to accept an unknown immigrant [Italian] child as a neighbour, classmate or close friend. A 5-point scale was used, ranging from 1 (*absolutely not*) to 5 (*absolutely yes*); 3 was the mid-point (*maybe yes, maybe not*). Responses were averaged across the three items to form a scale (alpha = .85), with higher scores indicating more positive outgroup attitudes.

Outgroup stereotypes. Participants indicated how many outgroup members possessed each of four traits (taken from Vezzali, Stathi, & Giovannini, 2012): nice (reverse-scored), good (reverse-scored), bad, dirty. The 5-point response scale was anchored by 1 (*none*) and 5 (*all*). Items were aggregated in a single index of negative outgroup stereotypes (alpha = .69).

Outgroup behavioural intentions. We adapted three items from Cameron and Rutland (2006). Participants were asked to think about meeting an unknown immigrant [Italian] child at the park and to indicate on a 5- point scale (1 = *absolutely not*; 5 =

absolutely yes; 3 = *maybe yes, maybe not*) whether they would be happy to meet him/her, would like to play with him/her, and would invite him/her to go and have an ice-cream together. Ratings, reflecting more positive intended behaviour towards the outgroup, were averaged (alpha = .80).

Results

Means, standard deviations and correlations among items are shown in Table 1. In Table 2 we present differences between Italian and immigrant children.

Tables 1, 2

As shown in Table 1, both direct and extended contact were positively associated with intergroup empathy; intergroup empathy was positively associated with our hypothesized dependent variables. As shown in Table 2, immigrants had more direct cross-group friends and extended contact than did Italians. Moreover, immigrants reported higher degrees of intergroup empathy, more positive outgroup attitudes and intentions to meet outgroup members than did Italians. In contrast, outgroup stereotypes were not very negative and did not differ between the two groups. These findings replicate previous studies showing that immigrants perceived intergroup relations as more positive compared to Italians (e.g., Vezzali et al., 2010), possibly due to their greater level of intergroup contact.

Main analyses: Moderated mediation

To test hypotheses, we first conducted a hierarchical regression to examine whether the effects of extended contact on intergroup empathy depended on the level of direct contact reported by participants. Centred scores for extended and direct contact were entered in the first step; the two-way interaction was added in the second step. In line with predictions, the two-way interaction was significant, $b = -.14$, $SE = .06$, $p <$

.05, *F*change (1, 304) = 5.24, $p < .05$. Decomposition of the interaction revealed that extended contact was associated with higher intergroup empathy only among participants with fewer cross-group friendships (-1 *SD*), $b = .27$, $SE = .10$, $p < .01$, or with an average level of cross-group friendships, $b = .14$, $SE = .06$, $p < .05$, but not among those with more cross-group friends (+1 *SD*), $b = .00$, $SE = .08$, $p = .998$ (Figure 2).

Figure 2

Second, we conducted a series of similar hierarchical regressions, one for each dependent variable. In each regression, intergroup empathy was entered as an additional predictor. Results revealed that intergroup empathy was associated with outcome variables over and above the effects of the other predictors. Specifically, intergroup empathy was associated with improved outgroup attitudes ($b = .23$, $SE = .04$, $p < .001$), less negative outgroup stereotypes ($b = -.13$, $SE = .04$, $p < .001$), and more positive behavioural intentions towards the outgroup ($b = .22$, $SE = .04$, $p < .001$).

To test whether the hypothesized moderated mediation effects were significant, we used the PROCESS macro for SPSS provided by Hayes (2012, Model 8).[2] In line with predictions, the moderated mediation effect was significant for all dependent variables. As can be seen in Table 3, the indirect association of extended contact with the criterion variables via higher intergroup empathy was significant among those with fewer cross-group friendships, *p*s < .05, but not among those with more outgroup friends. The indirect effect of extended contact was also reliable among participants with a moderate level of direct contact, *p*s < .05 (Table 3).[3, 4]

Table 3

Additional analyses: Moderation by participants' ethnic group

Replicating prior research (Vezzali et al., 2010), Italian and immigrant children differed on most variables (Table 2). Therefore, although not a focus of this article since we did not expect differences in how extended contact would operate for majority and minority respondents (Vezzali et al., 2014), we repeated the analyses presented above by testing whether ethnic group moderated some of the effects. Given differences between Italians and immigrants, reported in Table 2, it is important to test whether ethnic group moderates extended contact effects.

In particular, group (Italian = 1, immigrant = -1) was added to the list of predictors (direct and extended contact); in the second step we added the two-way interactions; in the third step we included the three-way interaction.

The two-way interaction between direct contact and group was significant for outgroup attitudes (b = .15, SE = .06, p < .05, Fchange (3, 300) = 2.91, p < .05) and behavioural intentions (b = .17, SE = .06, p < .05, Fchange (3, 300) = 2.98, p < .05), but not for negative outgroup stereotypes. In the latter case, in fact, although the interaction term was significant (b = -.10, SE = .05, p < .05), the portion of variance explained did not significantly differ from the model where two-way interactions were not included (Fchange (3, 300) = 1.42, p = .236). Decomposition of the interactions revealed that cross-group friendships were associated with more positive behavioural intentions (b = .25, SE = .08, p < .01) and outgroup attitudes (b = .16, SE = .08, p = .05) among Italians. In contrast, among immigrants, the effects of cross-group friendships on behavioural intentions (b = -.10, SE = .09, p = .265) and outgroup attitudes (b = -.13, SE = .09, p = .150) were nonsignificant. These results are in line with previous studies showing that the effects of contact are stronger for majority group members (Tropp & Pettigrew, 2005).

Supporting the contention that effects of extended contact do not differ between majority and minority respondents (Vezzali et al., 2014), none of the two-way interaction terms including extended contact and group reached statistical significance, *p*s > .309. Moreover, the three-way interaction was not significant for either intergroup empathy or for the three dependent variables, *p*s > .279.[5]

Discussion

In this correlational study we sought to test whether, when and how extended contact has positive effects on outgroup attitudes, stereotypes and behavioural intentions among majority (Italians) and minority (immigrant) elementary school children. Results of the proposed moderated mediation model confirmed that extended contact was associated with higher empathy which, in turn, was associated with more positive outgroup attitudes, stereotypes and behavioural intentions. These effects were, however, only significant among participants with a low or moderate level of direct contact.

On a theoretical level, our findings are consistent with previous studies showing beneficial effects of extended contact in children (e.g., Vezzali, Giovannini, et al. 2012). Some authors have suggested that extended contact can be useful as a preparatory strategy for real group interactions (Turner, Hewstone, Voci, et al., 2007), which can be stressful and anxiety-provoking. By increasing the desire to engage in contact with outgroup members, extended contact should facilitate the formation of cross-group friendships (see Vezzali et al., 2015) and, in general, yield smoother intergroup interactions. Our findings, showing an effect on willingness to engage in contact with outgroup members, thus support the role of this type of indirect contact as a preparatory strategy for direct intergroup experiences.

We also reported evidence for a new mediator of extended contact: intergroup empathy. Extending previous research conducted with adults (e.g., Galinsky et al., 2011) and children (Nesdale et al., 2005, 2009), we demonstrated that intergroup empathy stemming from extended contact can be pivotal in improving outgroup attitudes and stereotypes and in promoting willingness to approach the outgroup. Future studies should examine additional mediators of extended contact in children. There is some evidence that cognitive mediators such as group norms (e.g., Vezzali et al., 2015), self-disclosure (Turner, Hewstone, & Voci, 2007, Studies 2 and 3) and IOS (e.g., Turner et al., 2008, Study 2) mediate extended contact effects in non-adult samples. However, in parallel with research on adults, evidence for mediation of extended contact by affective factors is scarce and mostly focused on intergroup anxiety. Future studies might examine more closely whether other affective processes act as mediators of extended contact.

Crucially, the indirect effects of extended contact via intergroup empathy were reliable for children with a low or moderate level of direct contact, but not for those who reported higher levels of cross-group friendships. Thus, it seems that children rely on indirect contact experiences (e.g., extended contact) only when they do not have sufficient direct experience of intergroup contact. It should be noted that the fact that direct contact moderates the effects of extended contact does not mean that the two strategies are not complementary. Indeed, there is evidence that extended and direct contact have additive and mutually-reinforcing effects on outgroup attitudes (e.g., Turner et al., 2008). However, when direct contact is not present, or is low, extended contact is an especially useful tool for reducing prejudice and preparing people for successful cross-group interactions.

In our study we proposed a moderated mediation model, combining both moderation (i.e., direct contact) and mediation (i.e., intergroup empathy) processes in a single theoretical model. We believe this approach constitutes an important step in extended contact research with children, which had previously focused on moderator and mediation processes separately. It also has important theoretical and practical implications. For instance, the fact that extended contact was not associated with dependent variables for participants with high levels of direct contact does not mean that extended contact cannot be used for individuals who already have direct contact experiences. Rather, our combined approach suggests that intergroup empathy does not promote effects of extended contact for these individuals. Possibly, other mediators might show effects of extended contact effects for children high in direct contact. For instance, it is possible that, for children with positive experience of direct contact (i.e., children with high direct contact), extended contact contributes to enhancing a one-group representation and in turn more positive outgroup attitudes. Future research should test this possibility.

The effects of extended contact were not, however, moderated by participants' ethnic group. This result is in line with prior research on extended contact in adults (e.g., Turner, Hewstone, & Voci, 2007), showing that, in contrast to direct contact (Tropp & Pettigrew, 2005), extended contact is equally effective for both majority and minority members. Our results represent strong evidence for the extended contact hypothesis applied to majority and minority children, and imply that strategies based on extended contact can be successfully used in educational contexts whether children belong to the majority or to the minority group.

Our research extends previous literature in three major ways. First, it tests extended contact as a strategy for improving outgroup orientations in both majority and minority children, using various types of dependent variables. These dependent variables also include intergroup behavioural intentions, which have rarely been tested as the outcome of extended contact among children. Second, it sheds light on the process underlying improvement of outgroup attitudes, by identifying a new mediator of extended contact (i.e., intergroup empathy). Third, it examines the boundary conditions that limit the effects of extended contact, namely level of direct contact.

Our findings have important practical implications for educational policies. Structured interventions based on extended contact, which can be directed simultaneously to majority and minority children, should strengthen the importance of understanding what outgroup members feel. Enhanced intergroup empathy is then the key factor allowing the achievement of more positive outgroup attitudes and the formation of new cross-group friendships. New cross-group friendships can increase confidence in contact and foster a virtuous circle where individuals seek out even more contact (Turner & Cameron, 2016). These interventions should not be carried out in isolation, but they may fruitfully be combined with other interventions, such as those based on imagined contact (Crisp & Turner, 2012), and can represent a pre-contact tool to be used before children belonging to different groups have the opportunity to engage in direct, face-to-face contact.

Notwithstanding these encouraging conclusions, we acknowledge some limitations. First, results are based on correlational data. Clearly we now need experimental and longitudinal data to support the new findings of this study. This is especially true because we have included a variable (intergroup empathy) which had

never been tested as a mediator of extended contact among children. Testing mediation in correlational designs may, in fact, be misleading (Cohen, Cohen, West, & Aiken, 2003) and mediator models would ideally require manipulation of both independent and mediator variables in order to make stronger causal claims (Spencer, Zanna, & Fong, 2015).

Second, as data were collected in Northern Italy with respect to the relationship between Italian and immigrant children, we should be cautious about the generalizability of these results to other intergroup contexts. Future research should include settings where different minorities are present, where they are present in greater or lesser numbers, and where the receiving society is more or less tolerant than in Italy. Third, the two items we used to capture intergroup empathy may be too abstract for children. This may be reflected in the moderate correlation we found between the two items. Future studies should use more reliable and simpler measures of empathy, carefully pre-tested to ensure that they are understood by children of the target age group.

To conclude, the present study provides further support for the extended contact hypothesis (Wright et al., 1997). Since interventions based on direct contact are often impractical due to factors such as segregation or low numbers of the minority, and can be costly, we believe that it is of primary importance to advance our understanding of alternative flexible and low-cost prejudice-reduction strategies such as extended contact.

Footnotes

1. Various studies demonstrated that reading stories depicting friendship between ingroup and outgroup members improves outgroup attitudes and behavioural intentions within educational contexts (e.g., Cameron & Rutland, 2006; Liebkind, Mahonen, Solares, Solheim, & Jasinskaja-Lahti, 2014; Vezzali, Stathi, & Giovannini, 2012). These studies, however, in addition to only considering majority members, concern vicarious rather than extended contact, consisting in the observation (also through mass media) of cross-group relationships.
2. Testing moderated mediation with PROCESS Model 8 (Hayes, 2012), which considers the interaction between predictor and moderator on both mediator and outcome variables, may seem inconsistent with the theoretical model presented in Figure 1, hypothesizing moderation only on the mediator variable. We chose to consider Model 8 in order to perform more conservative analyses; additional analyses using PROCESS Model 7 yield similar results, with extended contact being associated with outcome variables via intergroup empathy among those with low or average levels of direct contact.
3. Results did not change when gender and age were included as covariates. Moreover, since the correlation between the two items measuring empathy was only moderate, we ran analyses again by considering the two items separately. Results closely mirror those presented in the text: both with the first or the second empathy item used as mediator, direct contact has an indirect effect on the three outcome variables via increased intergroup empathy among those with low direct contact, but not among those with high direct contact. Results of additional analyses available, on request, from the first author.

4. We conducted additional analyses by considering the usual measure of extended contact, based on the reported number of outgroup friends of only one's best *ingroup* friend. To do so, we deleted participants who reported an outgroup member as their best friend, resulting in the exclusion of 31 Italians (13.66% of the Italian sample) and 50 immigrants (61.73% of the immigrant sample). The required number of deletions indirectly supports results from previous studies conducted in the Italian context showing that a larger proportion of immigrants than Italians have outgroup friends (Vezzali et al., 2010). Results using the conventional measure of extended contact closely replicate those presented in the main text, by revealing that the moderated mediation effects for the three dependent variables considered remained significant. Results of additional analyses available, on request, from the first author.
5. All analyses are available from the first author.

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Table 1. Means, standard deviations and correlations among variables.

		1	2	3	4	5	6
1. Direct contact		-					
2. Extended contact		.23***	-				
3. Intergroup empathy		.12*	.12*	-			
4. Outgroup attitudes		.20***	.21***	.34***	-		
5. Outgroup stereotypes		-.11†	-.14*	-.23***	-.46***	-	
6. Outgroup behavioural intentions		.18***	.14*	.33***	.74***	-.39***	-
	M	0.76	2.46	3.39	4.08	2.19	4.23
	SD	0.98	0.99	1.10	0.84	0.68	0.80

Note. The scale ranges from 1 to 5 for all measures except the measure of direct contact, which ranges from 0 to 3.

$^{\dagger}p < .10$. *$p < .05$. **$p < .01$. ***$p \leq .001$.

Table 2. Mean differences between Italian and immigrant children (standard deviations are reported in parentheses).

	Ethnic group		
Measure	Italians	Immigrants	*t-test*
Direct contact	0.39 (0.67)	1.81 (0.96)	12.26***
Extended contact	2.36 (0.94)	2.74 (1.08)	2.96**
Intergroup empathy	3.32 (1.14)	3.60 (0.94)	2.13*
Outgroup attitudes	3.97 (0.85)	4.38 (0.73)	4.13***
Outgroup stereotypes	2.21 (0.71)	2.12 (0.57)	1.02
Outgroup behavioural intentions	4.15 (0.83)	4.44 (0.66)	3.11**

Note. The scale ranges from 1 to 5 for all measures except the measure of direct contact, which ranges from 0 to 3.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Conditional indirect effects of extended contact on dependent variables via intergroup empathy (mediator) for different levels of direct contact (moderator) (5,000 bootstrap resamples).

	Dependent variable					
	Outgroup attitudes		Outgroup stereotypes		Outgroup behavioural intentions	
Level of direct contact	95% Confidence interval	Effect (*SE*)	95% Confidence interval	Effect (*SE*)	95% Confidence interval	Effect (*SE*)
Low	.019/.123	.06 (*.03*)	-.081/-.010	-.04 (*.02*)	.018/.119	.06 (*.02*)
Average	.003/.070	.03 (*.02*)	-.045/-.003	-.02 (*.01*)	.004/.066	.03 (*.02*)
High	-.038/.037	.00 (*.02*)	-.020/.022	.00 (*.01*)	-.035/.035	.00 (*.02*)

Note. Low/high levels of direct contact are at one standard deviation below/above the mean.

Figure caption

Figure 1. Proposed moderated mediation model.

Figure 2. Intergroup empathy as a function of direct and extended contact. High and low scores of direct contact denote one standard deviation above or below the mean.

Figure 1

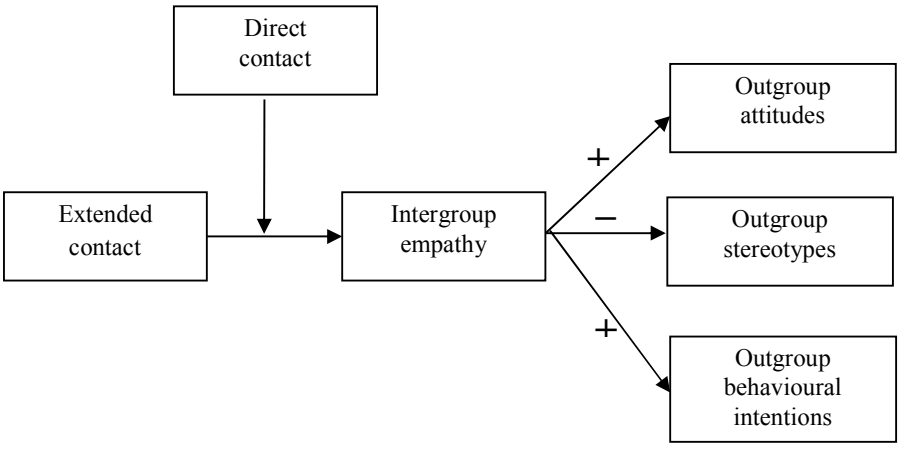
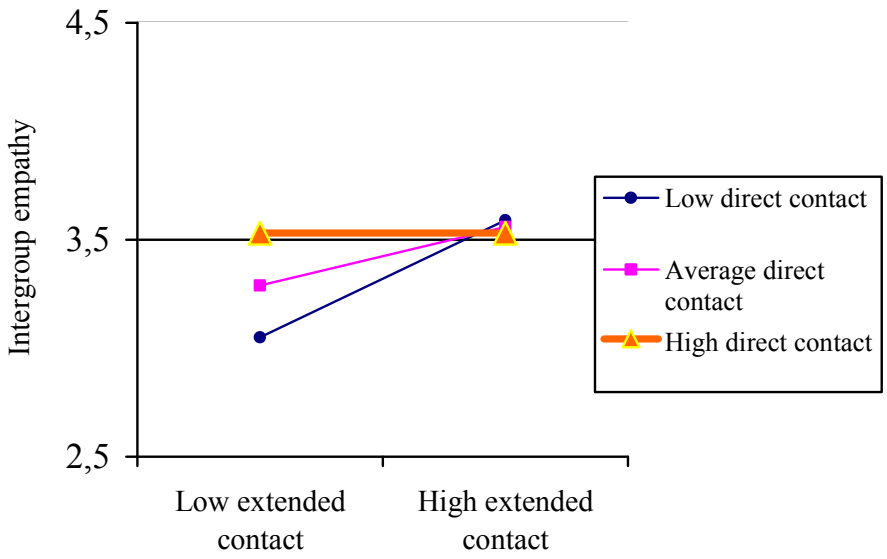

Direct contact
Extended contact
Intergroup empathy
+
−
+
Outgroup attitudes
Outgroup stereotypes
Outgroup behavioural intentions

Figure 2


4,5
3,5
2,5
Intergroup empathy
Low extended contact
High extended contact
Low direct contact
Average direct contact
High direct contact