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## Changing Children's Intergroup Attitudes Toward Refugees: Testing Different Models of Extended Contact

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The present research evaluated an intervention, derived from the "extended contact hypothesis," which aimed to change children's intergroup attitudes toward refugees. The study ( $n = 253$ ) tested 3 models of extended contact among 5- to 11-year-old children: dual identity, common ingroup identity, and decategorization. Children read friendship stories based upon these models featuring in- and outgroup members. Outgroup attitudes were significantly more positive in the extended contact conditions, compared with the control, and this was mediated by "inclusion of other in self." The dual identity intervention was the most effective extended contact model at improving outgroup attitudes. The effect of condition on outgroup intended behavior was moderated by subgroup identity. Implications for theoretically based prejudice-reduction interventions among children are discussed.

The present study examines British children's attitudes toward refugees. Currently in the United Kingdom there is heightened public and political concern about immigration and refugees in particular (e.g., MORI, 2003). The current research was conducted in the south of England, a region where tensions have periodically arisen between the majority community and refugees because it contains one of the major ports of entry for families and children seeking refuge. It was also set against a political context in which the British Government was simultaneously seeking to restrict the numbers of refugees to the country while also stressing the importance of integrating refugees into the host society (Home Office, 2003). One obvious way in which refugee children may be helped to integrate into their host society is by creating a positive school environment in which they are accepted and included by other pupils. It was with this ultimate objective in mind that the present research was undertaken.

The aim of the present paper is to evaluate the effectiveness among host society children of a relatively new hypothesis for improving intergroup attitudes. This is the "indirect cross friendship hy-

pothesis" or "extended contact effect," which suggests that reduced bias might result from vicarious experiences of friendship, that is, knowledge of ingroup members being friends with outgroup members (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Research suggests that direct contact between adult group members can reduce intergroup bias (Pettigrew & Tropp, 2006). Developmental research also indicates that childhood cross-race friendships may be a significant predictor of reduced prejudice (Aboud, Mendelson, & Purdy, 2003). For example, Aboud and colleagues found that White majority children who expressed higher levels of outgroup prejudice were more likely to exclude cross-race classmates and had fewer cross-race friends. However, there are several advantages to using "extended contact" rather than "direct contact" when attempting to reduce intergroup bias (Wright et al., 1997). There is evidence that negative emotions (e.g., anxiety) about contact with the outgroup can negate potential positive effects of contact and possibly worsen intergroup attitudes (Stephan & Stephan, 1985; Stephan & Stephan, 1992). Extended contact can allow participants to experience contact while avoiding any anxiety or negative feeling arising from direct contact.

Extended contact is also advantageous practically because the number of minority group members available for direct contact may be small. Therefore, through extended contact, a more widespread

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reduction in prejudice could potentially occur without the need for everyone to have an outgroup friend. In addition, extended contact can be administered before real, direct contact to improve actual intergroup interactions. Thus, extended contact could lead to prejudice reduction, and this change in attitude could lead to more direct contact. Significantly, evidence suggests that outgroup attitudes formed before direct contact with the outgroup are more malleable (Fazio & Zanna, 1981). Therefore, the use of extended contact is advantageous because it can be applied effectively before direct outgroup contact.

There is evidence to support the effectiveness of extended contact in adults and older children aged 13 and above (e.g., Liebkind & McAlister, 1999; Paolini, Hewstone, Cairns, & Voci, 2004; Wright et al., 1997). However, little research has been conducted examining the usefulness of extended contact when used with younger children. The present study aimed to evaluate the effectiveness of extended contact in changing 5- to 11-year-old children's views of refugees. Research suggests it is important to tailor interventions to the developmental stage of the child (Aboud & Levy, 2000; Bigler, 1999). Thus the present study aimed to determine whether extended contact could be modified for use with younger children.

Previous research into the effect of extended contact on outgroup attitudes has relied on self-report measures (e.g., Paolini et al. 2004) and has tended to focus on personal friendships with ingroup members who are also friends with outgroup members. However, Wright et al. (1997) assumed that any ingroup member would do as long as there was some self-identification with the member. Indeed, Liebkind and McAlister (1999), in their extended contact study, exposed adolescents to unknown ingroup members who had a positive friendship with an outgroup member. The present research also used an extended contact intervention in which the participants did not personally know the ingroup child in a cross-group friendship.

How does extended contact work? Wright et al. (1997) suggest the ability to "include other in the self" (IOS, i.e., to spontaneously identify oneself with ingroup members and others) is a key mediator of effective extended contact. Research with adults has shown that within the context of close relationships individuals spontaneously perceive an overlap in concepts of themselves and the other (Aron, Aron, & Smollan, 1992; Sedikides, Olsen, & Reis, 1993; Smith & Henry, 1996). This process means the self begins to treat ingroup members, to some extent, like the self. Thus, when an ingroup member, and thus

part of the self, has an outgroup close friendship, that person and perhaps the outgroup itself is seen positively as part of the self.

There is reason to believe that the ability to "include other in the self" develops during middle childhood, thus enabling effective extended contact interventions. There are two significant developmental landmarks in middle childhood that promote the acquisition of the ability to "include other in the self." First, social categories are no longer understood simply with reference to overt physical characteristics (e.g., dark skin), but increasingly in social psychological terms (e.g., norms, values). This "concrete" to "social psychological" shift appears to be an important developmental milestone that makes social identities significant to the self by the end of middle childhood (Barenboim, 1981; Livesley & Bromley, 1973). Another important stage is the onset of ethnic group constancy in early to middle childhood (i.e., 3–9 years: Ocampo, Bernal, & Knight, 1993; Rutland, Cameron, Bennett, & Ferrell, 2005). The development of constancy involves learning that group membership is not changeable but is stable over time and consistent across superficial transformations in appearance or context. This developmental landmark is significant because its mastery propels the child to seek out appropriate information about their group (e.g., stereotypes), thus enriching the meaning of their social identity (Ocampo et al., 1993).

The use of extended contact could also be used to answer theoretically interesting questions regarding the characteristics of effective intergroup contact among children. Since the original formulation of the contact hypothesis (Allport, 1954), a number of different approaches to intergroup contact have been developed, which have implications for the characteristics of successful extended contact. Prominent among these new models are decategorization (Brewer & Miller, 1984), common ingroup identity (Gaertner, Mann, Murrell, & Dovidio, 1989) and dual identity (Gaertner & Dovidio, 2000), the latter being an amalgam of Gaertner et al.'s (1989) common ingroup identity model and Hewstone and Brown's (1986) category salience model. There has been little empirical research examining the applicability of these models to intergroup contact in children in general, and to *extended* contact with children in particular.

*Decategorization model.* According to Brewer and Miller's (1984) contact theory, prejudice is a consequence of basing intergroup behavior and evaluations on category membership alone, and ignoring

individuating information. Thus to minimize prejudice, intergroup contact should be structured in such a way that category memberships are de-emphasized so that members are individuated and are not perceived as belonging to a group.

One important issue in the contact literature is generalization of changes in attitude beyond the contact situation. In other words, can the change in outgroup orientation be generalized from the contacted outgroup member to the outgroup as a whole? Brewer and Miller (1984) argue that decategorized contact will lead to generalization of positive outgroup attitudes beyond the contact situation because, if one experiences personalized contact with several different members of the outgroup, then the outgroup will become individuated and eventually outgroup membership will become meaningless.

Research on the decategorization model of contact has produced mixed results (Bettencourt, Brewer, Rogers-Croak, & Miller, 1992; Gonzalez & Brown, 2003; Maras & Brown, 2000). The link between cross-group friendships and prejudice might also support the decategorization approach to contact. Although contact with the outgroup in general is linked to lower prejudice, close personal friendships with particular outgroup members are especially related to lower levels of prejudice toward that group (Aboud et al., 2003; Pettigrew & Tropp, 2006). It is plausible to assume that, in many cases, close friendships with outgroup members are associated with lessened category salience although, strictly speaking, such an assumption is neither psychologically necessary nor often empirically assessed (Brown & Hewstone, 2005).

*Common ingroup identity model.* Gaertner et al. (1989) developed an alternative to the decategorization model. This approach, like that of Brewer and Miller, also emphasizes the importance of reducing the salience of intergroup boundaries. However, while the decategorization model recommends the dissolution of these boundaries by focusing on the individual, Gaertner and Dovidio's approach proposes the replacement of old intergroup boundaries with new, more inclusive ones. Gaertner and Dovidio recommend the creation of a "common ingroup" that includes the ingroup and former outgroup members in one superordinate category. The positive orientation toward ingroup members should then be applied to new ingroup members, those erstwhile outgroup members. From this perspective, cooperative interaction is effective because it increases the perception of one common group rather than two opposing groups.

Research supporting this model of contact comes from a variety of settings: step-families trying to

become one family unit (e.g., Banker & Gaertner, 1998) and minimal group studies (e.g., Gaertner et al., 1989), and there is some support from the context of multiethnic schools (e.g., Houlette et al., 2004). In these varied settings, when induced to perceive themselves and former outgroup members as belonging to one group, participants were more positive toward the outgroup.

*Dual identity model.* An alternative to the wholesale implementation of a single common ingroup identity is the dual identity strategy (Gaertner & Dovidio, 2000; Gonzalez & Brown, 2003). In this model, the aim is to invoke a superordinate identity while simultaneously encouraging the retention of its constituent subgroup identities. Its advantages are that it should not only facilitate generalization from individual to group because some subgroup salience is maintained (Hewstone & Brown, 1986), but it should also be regarded as a psychologically less costly strategy for minority groups who might most fear being assimilated into a larger category. Evidence is beginning to emerge that it is, indeed, associated with less intergroup bias, especially among minority groups (Gonzalez & Brown, 2003; Zagefka & Brown, 2002).

The effectiveness of this model may also depend on the degree of subgroup identification. A dual identity intervention might be most useful among low identifiers as it should promote the effectiveness of extended contact by boosting the relatively low level of subgroup salience among this group. Therefore, the children's degree of identification with the subgroup was measured in the present study. Like the decategorization and common ingroup identity models before it, the dual identity model has not previously been tested with young children or in extended contact settings. Thus, the current research directly compared the three models in an extended contact elementary school intervention.

Developmental research (e.g., Aboud, 2003; Bar-enboim, 1981; Bigler, 1995) suggests that older (i.e., over 7–8 years) rather than younger children can simultaneously consider multiple and abstract classifications (i.e., subordinate categories, superordinate categories). Therefore it is conceivable that only older children will develop more positive attitudes from the interventions based on the dual identity and common ingroup identity models, because these interventions require children to consider multiple and higher order abstract categories. This proposition was tested in the present study by examining the effect of these extended contact interventions among 6- to 8-year-old and 9- to 11-year-old children.

Before formally stating the hypotheses, a brief overview of the design of the study may be helpful. An intervention was devised that could be implemented in British primary (elementary) schools with (White) majority children. This consisted of reading several stories to children that portrayed friendships between majority and refugee children. In some of these stories the category memberships of the protagonists were little emphasized and their individual identities were stressed (decategorization); in others the superordinate (school) category membership was a recurring theme (common ingroup identity); in still others, the subgroup identities of the protagonists as host majority members and refugees were salient while also underlining their common school identity (dual identity). There was also a control group of children who were exposed to no stories. At the conclusion of the intervention, the children's intergroup attitudes, intended behaviors and subgroup identification were assessed.

The specific hypotheses within the present study were: (1) children in the three extended contact conditions will demonstrate more positive attitudes toward refugees than those in the control condition; (2) the dual identity condition will be the most effective intervention in creating positive attitudes toward the refugee outgroup; (3) the effect of extended contact will be mediated by inclusion of "other in the self"; (4) the dual and common ingroup extended contact interventions will be more effective with older children.

## Method

### *Participants*

Two hundred and fifty-three White British children (116 boys, 137 girls) from 10 primary (elementary) schools were tested. The age of the children ranged from 5 years 0 months to 11 years 11 months. There were two age groups: 5–8 years ( $n = 135$ ) and 9–11 years ( $n = 133$ ). The mean age in the younger age group was 7 years 2 months ( $SD = 5.96$  months) and the mean age of the older age group was 10 years 6 months ( $SD = 7.12$  months). The children attended schools in mixed social class suburban or rural areas outside a large metropolitan city in the south-east region of England. The vast majority of children attending the schools in these areas were English and not refugee children. Approximately equal numbers of children in each age group were randomly assigned to each intervention condition: control ( $n = 54$ ), decategorization ( $n = 70$ ), common ingroup identity ( $n = 68$ ), and dual identity ( $n = 69$ ).

In order to create a truly random sample, rather than assigning conditions to whole school classes, children in each class were individually and randomly assigned to any of the four conditions.

### *Design*

The study used a between-participants design: a 4 (intervention condition: control, dual identity, decategorization, common ingroup identity, and dual identity)  $\times$  2 (age group: 5–8 and 9–11 years)  $\times$  2 (English identity: high vs. low).

### *Procedure*

Initially, in all conditions the term "refugee" was explained using educational materials. Children were shown photographs of refugees and a map of the world in which several countries were highlighted from which many refugees in Britain originate. The children also discussed reasons as to why people may leave their country and come to England.

There were three types of extended contact intervention, based on common ingroup identity, dual identity, and decategorization theories of intergroup contact. In the control condition the children did not experience any form of extended contact with the refugee group.

The extended contact interventions each entailed reading stories to the children, which involved ingroup members who had close friendships with outgroup members (i.e., refugees). These stories were based on pre-existing children's fiction books designed for use in elementary schools. Stories were chosen to match the reading ability of the two age groups. There were three stories for each of the age groups and each story was read over two sessions. The stories involved English and refugee children in friendship situations. The refugee and English characters were all presented in a positive light. Because of limitations in story availability, the ingroup characters were all boys, two thirds of the outgroup characters were boys, and a third of the outgroup characters were girls. Children each had their own book and read together the stories with the fourth author, who was female and of the same ethnicity as participants, in groups of two or three. These groups remained the same throughout the intervention. Text in the story was varied in each condition in line with each theory of intergroup contact. After each reading session, and still in their small groups, children took part in a group discussion of the story, which was led by the fourth author.

In each condition, the poststory discussion was varied according to the theories of intergroup contact. These intervention sessions (approximately 15–20 min) occurred once a week for 6 consecutive weeks. The text within the story emphasized individual characteristics of the story characters and also group memberships, depending on the extended contact condition. See Appendix for one example story outline.

*Decategorization intervention.* In these stories emphasis was placed on the individual preferences and qualities of the refugee characters (e.g., they are good at football, like animals, enjoy playing computer games). The children were asked to remember individual characteristics of the children within the stories. These were discussed further in the poststory discussions. Children were asked to examine the similarities and differences between the characters. The category membership was referred to only once at the beginning of the story and was not referred to during poststory discussion.

*Common ingroup identity intervention.* In this condition a common ingroup identity was made salient to which the ingroup and outgroup members in the story and the participant themselves could be members. This superordinate identity was the school attended by the participant, and the in- and outgroup characters were said to attend the participant's school. The text stressed the common ingroup identity (i.e., school) and the names of teachers and headteachers in the story were the same names as the child's own teacher and headteacher. The poststory discussion was used to emphasize the common ingroup identity shared by the story characters and the child. Additional similarities shared between story characters and the child were explored in the post-story discussion. Subcategory membership, English and refugee, was mentioned only once at the start of the story.

*Dual identity intervention.* This technique was identical to that used in the common ingroup identity intervention. However, as well as emphasizing the common ingroup identity (i.e., school), the characters' subgroup memberships (i.e., refugee and English) were also emphasized. The typicality of the refugee characters with regard to their own subgroup was also stressed throughout the stories and in the group discussions. Similarities and differences between subgroups were also discussed.

Children in all conditions were administered the dependent measures in an individual interview. The majority of these interviews were conducted by the first author, with a minority administered by other researchers, who were all blind to the condition

of each child. All researchers were of the same ethnicity as the participants. In the experimental conditions this interview took place approximately 1–2 weeks after the interventions.

### *Dependent Measures*

The interview took place in two sessions counterbalanced for order, each lasting approximately 15–20 min.

*Intergroup attitude.* This measure was used to derive separate indices of ingroup attitude and outgroup attitude. The children rated positive and negative traits to indicate how many ingroup, English people, and outgroup, refugees in England, were that way. Children were presented with seven positive and seven negative words. The positive words were clean, friendly, good, hardworking, kind, nice, and polite. The negative words were bad, not nice, dirty, unkind, rude, lazy, and unfriendly. These adjectives were taken from the Preschool Racial Attitude Measure-II (PRAM-II) Series A (Williams, Best, Boswell, Mattson, & Graves, 1975) or chosen after a small sample of 7- to 9-year-old children underwent an open-ended interview about their attitudes toward refugees.

First, the children were shown a collage made of people representing the "refugee" group. These people were all non-Caucasian and from a number of different ethnic minority groups. Children were told these people were refugees. Children were also shown a collage of faces, the majority of which were White, and told that these were English people. Next the researcher said: "Now, can you think about refugees, and can you also think about English people? I want to ask you some questions about refugees and English people." This preceding introduction was important as it helped create an intergroup comparative context for this task. The researcher then said: "Let's talk about refugees in England first/now [depending upon order of administration]. Can you point to the picture which shows how many refugees you think are . . . [trait]." The children had to choose from pictures representing different numbers of stick people (see Abrams, Rutland, & Cameron, 2003). The pictures were presented on a scale of 1–4 and under each picture of stick people there were the words: 1 = none, 2 = some, 3 = most, and 4 = all. The order in which the child judged English and refugee people was counterbalanced. Each trait was gone through in turn and the order randomized for each child.

Positive and negative ingroup and outgroup attitude scores were then calculated by summing the corresponding traits. These scores ranged from 7 to

28. Cronbach Alphas for English positive and negative traits were .87 and .85, respectively, and for refugee positive and negative traits were .88 and .85, respectively. The Cronbach's Alpha was also satisfactory for young and old children separately.

Ingroup attitude was then calculated by subtracting the negative score for the ingroup from the positive score for ingroup. The minimum ingroup bias score is  $-21$  and the maximum is  $+21$ , with a higher score indicating a more positive attitude toward the English ingroup. The same calculation was used to derive an outgroup attitude score.

*Intended behavior measure.* This is a measure of how the children intended to behave, in a hypothetical situation, toward other children who were English or refugees. Children were presented with two hypothetical scenarios, in randomized order, in which they were asked to imagine they were at the park and met a child they knew from school. The two scenarios were identical, but in one scenario the child in the story was English and in the other scenario the child was a refugee. For each scenario children were asked to indicate how much they would like to play with the target, how much they would like the target, how much they would like to have them over to their house for a meal and to stay overnight (taken from Lewis & Lewis, 1987). Participants responded on a 5-point Likert-type scale using smiley faces to indicate the extent to which they would like to engage in that behavior with the target where 1 = *not at all (big frown)* to 5 = *very much so (big smile)*.

For the four items, Cronbach's  $\alpha$  for English = .89 and for refugees = .90. Composite means were created, resulting in two measures of intended behavior for each child, ranging from 1 to 5.

*Subgroup (national) identity measure.* The children's English identity was measured using four questions (Verkuyten, 2001): "Do you consider yourself to be really English?" "Do you like being English?" "Are you proud to be English?" "How important is it to you that you are English?" Children responded by pointing to a scale of 1 (*not at all*) to 5 (*very much so*). These options were illustrated pictorially with five boxes that increased in size from *not at all* to *very much so*. A composite English identity score was obtained for each child by collapsing the four ratings (Cronbach's  $\alpha = .77$ ). A median split was performed on the identity scores to create two groups, high and low identifiers.

*Inclusion of IOS.* This measure was included as a potential mediator of extended contact. It included two questions that evaluated how closely the children perceived their "self" and "collective self" to

refugees. First, children were asked to imagine they met a refugee child. Then the children were presented with pairs of circles with a stick figure in each to represent themselves (i.e., their self) and the refugee child. There were three versions of pairs with different degrees of overlap between the circles: no overlap (0), which indicated low IOS; partial overlap (1), which indicated intermediate IOS; complete overlap (2), which indicated high IOS. Children were asked to point to the pair of circles that best represented their closeness to the refugee child. Second, children were asked to imagine another English child. The stick figure was then changed within one circle in the pairs to represent an English child instead of the child themselves. Next the children were presented with a similar set of circles in pairs, and asked to point to the pair of circles that best represented the English child's closeness to the refugee child. These two items were significantly correlated ( $r = .41, p < .001$ ) and therefore they were combined to produce a composite measure of IOS.

Additional potential mediator variables identified by Wright et al. (1997) were also measured. These included the children's personal norms regarding exclusion of outgroup members in a friendship context and typicality of the story characters. However, none of these variables showed a significant relationship with condition and therefore could not function as mediators of extended contact.

## Results

Analysis was first conducted with school and then gender as independent variables. Given the nonsignificant findings, only the analysis conducted with the main independent variables will be reported.

### *Outgroup Attitude*

For the sake of simplicity and ease of presentation, the data were initially analyzed using analysis of variance (ANOVA). The children's outgroup attitude scores were submitted to a 4 (condition: control, dual identity, common ingroup identity, decategorization)  $\times$  2 (age: 6–8 years and 9–11 years)  $\times$  2 (English identity: median split, high and low, median = 4.49) between-participants ANOVA. There was a significant main effect of age,  $F(1,224) = 29.9, p < .001$ ,  $MSE = 49.3$ . Younger children's ( $M = 9.24, SD = 7.78$ ) outgroup attitudes were significantly more positive than older children's outgroup attitude ( $M = 4.13, SD = 6.43$ ). A main effect of condition was also found,  $F(3,224) = 5.6, p < .01$ ,  $MSE = 49.3$  (see Table 1). To test Hypotheses 1 and 2, two orthogonal contrasts were constructed. The first (C1) tested

Table 1

Means and Standard Deviations for Measures of Outgroup Attitude, Ingroup Attitude, Outgroup Intended Behavior, and Ingroup Intended Behavior as a Function of Condition

Measure	Condition			
	Dual identity	Decategorization	Common ingroup	Control
Outgroup attitude	9.62 (6.24) <sub>a,c</sub>	6.26 (7.63) <sub>a,d</sub>	6.29 (6.32) <sub>a,d</sub>	4.34 (9.4) <sub>b</sub>
Ingroup attitude	8.37 (5.38)	6.99 (7.36)	7.55 (6.3)	6.88 (6.5)
Outgroup intended behavior	3.93 (1.06)	3.73 (1.22)	3.76 (1.19)	3.83 (1.14)
Ingroup intended behavior	4.30 (0.82)	3.80 (1.1)	4.17 (0.97)	4.27 (0.95)

Note. Out- and ingroup attitude scores range from  $-21$  to  $+21$ . Out- and ingroup intended behavior scores range from 1 to 5. For both measures, the higher the score, the more positive toward the group in question. Means within the same row with subscripts a and b are significantly different from one another in contrast 1 ( $p < .05$ ). Means within the same row with subscripts c and d are significantly different from one another in contrast 2 ( $p < .05$ ).

control against the three extended contact conditions (weights  $-3, +1, +1, +1$ ). The second (C2) tested the dual identity condition against the other two extended contact conditions (weights:  $0, -2, +1, +1$ ). In support of Hypothesis 1, C1 revealed that the outgroup attitude in the extended contact conditions was significantly higher than in control,  $t = 2.89$ ,  $p < .01$ . In addition, and in support of Hypothesis 2, C2 revealed that outgroup attitudes in the dual identity condition were more positive than in the common ingroup identity and decategorization conditions,  $t = 2.9$ ,  $P < .01$ .

### Ingroup Attitude

The children's ingroup attitude scores were submitted to the same  $4$  (condition)  $\times$   $2$  (age group)  $\times$   $2$  (English identity) between-participants ANOVA. There was no main effect of condition. As before, there was a main effect of age,  $F(1, 225) = 24.03$ ,  $p < .001$ ,  $MSE = 36.91$ . Younger children ( $M = 9.56$ ,  $SD = 7.21$ ) were significantly more positive toward the ingroup compared with older children ( $M = 5.32$ ,  $SD = 4.71$ ). Finally there was a main effect of identity,  $F(1, 225) = 8.22$ ,  $p < .01$ ,  $MSE = 36.8$ . Children with low English identity ( $M = 5.85$ ,  $SD = 5.59$ ) were significantly less positive toward the ingroup than those with high English identity ( $M = 8.8$ ,  $SD = 6.84$ ).

### Outgroup Intended Behavior

Composite outgroup intended behavior scores were submitted to a  $4$  (condition)  $\times$   $2$  (age group)  $\times$   $2$  (English identity) between-participants ANOVA. There was a significant main effect of age,  $F(1, 233) = 7.09$ ,  $p < .01$ ,  $MSE = 1.22$ . Outgroup intended behavior scores were significantly higher in younger children ( $M = 4.05$ ,  $SD = 1.22$ ) compared with older

children ( $M = 3.55$ ,  $SD = 1.03$ ). There was no main effect of condition or identity. However, there was a significant Age  $\times$  Identity interaction,  $F(1, 233) = 4.56$ ,  $p < .05$ ,  $MSE = 1.22$ . The simple effect of identity was examined within each age group. In the younger age group there was a significant effect of identity,  $F(1, 128) = 6.69$ ,  $p < .05$ ,  $MSE = 1.43$ . High identifiers showed significantly less positive outgroup intended behavior scores ( $M = 3.69$ ,  $SD = 1.4$ ) compared with low identifiers ( $M = 4.25$ ,  $SD = 1.06$ ). There was no simple main effect of identity in older children ( $M = 3.57$ ,  $SD = 0.91$  and  $M = 3.58$ ,  $SD = 1.11$ , respectively).

There was also a significant Identity  $\times$  Condition interaction,  $F(3, 233) = 4.15$ ,  $p < .01$ ,  $MSE = 1.22$  (see Table 2). Simple main effects of condition were examined in the low and high identity groups. In low identifiers there was a significant main effect of condition,  $F(3, 104) = 2.75$ ,  $p < .05$ ,  $MSE = 1.26$ . Planned contrasts revealed that control did not differ from the three extended contact variables (C1:

Table 2

Means and Standard Deviations for Measures of Outgroup Intended Behavior as a Function of Condition and English Identity

Level of identification	Condition			
	Dual identity	Decategorization	Common ingroup identity	Control
Low	3.96 <sub>a</sub> (0.78)	3.59 <sub>b</sub> (1.19)	3.18 <sub>b</sub> (1.21)	3.91 (1.25)
High	3.92 (1.22)	3.86 (1.27)	4.25 (0.97)	3.80 (1.08)

Note. Outgroup intended behavior scores range from 1 to 5. The higher the score, the more positive toward the outgroup. Means within the same row with a different subscript are significantly different from one another in contrast 2 ( $p < .05$ ).

$t = 1.07, ns$ ), but dual identity was, as before, significantly higher than the other two extended contact conditions (C2:  $t = 2.67, p < .01$ ). For high identifiers, there was no effect of condition,  $F(3, 137) = 0.96$ . Thus, for high identifiers the intervention had no effect on outgroup intended behavior scores.

*Ingroup Intended Behavior*

Composite ingroup intended behavior scores were submitted to a 4 (condition)  $\times$  2 (age group)  $\times$  2 (English identity) between-participants ANOVA. There was a significant main effect of identity,  $F(1, 232) = 9.06, p < .005, MSE = 0.88$ . Low identifiers had significantly less positive ingroup intended behavior scores ( $M = 3.86, SD = 1.04$ ) compared with high identifiers ( $M = 4.33, SD = 0.91$ ). There was also a main effect of age,  $F(1, 232) = 2.98, p < .05, MSE = 0.88$ . Young children ( $M = 4.31, SD = 1.08$ ) had significantly more positive ingroup intended behavior scores compared with older children ( $M = 3.92, SD = 0.86$ ). Analyses also showed a main effect of condition,  $F(3, 232) = 2.98, p < .05, MSE = 0.88$ . However, this was qualified by a significant Age  $\times$  Condition interaction,  $F(3, 232) = 2.81, p < .05, MSE = 0.88$  (see Table 3). Simple main effects of condition were examined within low and high age groups. In younger children there was a significant effect of condition on ingroup intended behavior,  $F(3, 126) = 4.84, p < .01, MSE = 1.06$ . Post hoc pairwise comparisons (Tukey honestly significant different tests) revealed that intended behavior scores in the decategorization condition were significantly lower than the dual condition ( $p < .005$ ), the common ingroup identity condition ( $p < .05$ ), and control ( $p < .05$ ). There was no effect of condition in older children,  $F(3, 121) = 1.52, p = .212, MSE = 0.72$ .

Analyses were also conducted using multiple regression, producing similar results. As with the

ANOVA analyses, to test Hypotheses 1 and 2, two orthogonal contrasts were constructed. Regression analysis was conducted using these two dummy-coded dichotomous variables, English identity and age, with the latter two being continuous variables and various interaction terms. We centered all independent variables and regressed them onto the four main dependent variables, out- and ingroup attitude and out- and ingroup intended behavior. For outgroup attitude, age in months,  $\beta = -.32, t = -5.09, p < .001, C1, \beta = .15, t = 2.3, p < .05$ , and C2,  $\beta = .17, t = 2.6, p < .02$  were significant predictors,  $R^2 = .15, F(4, 211) = 9.53, p < .001$ . There were no other significant main or interaction effects. A similar analysis was also conducted on ingroup attitude. Age,  $\beta = -.24, t = -3.73, p < .001$ , and English identity,  $\beta = .22, t = 3.36, p < .005$ , were significant predictors,  $R^2 = .12, F(4, 212) = 6.95, p < .001$ . There were no other significant main or interaction effects. For outgroup intended behavior, age,  $\beta = -.18, t = -2.7, p < .01$ , and identity,  $\beta = .18, t = 2.75, p < .05$ , were significant predictors,  $R^2 = .07, F(4, 217) = 3.89, p < .01$ . In addition there was significant interaction between identity and C2,  $\beta = -.18, t = -2.71, p < .01$ , and between age and identity,  $\beta = -.19, t = -2.91, p < .01, R^2 = .15, F(9, 212) = 4.21, p < .001$ . Finally, age,  $\beta = -.15, t = -2.35, p < .05$ , and identity,  $\beta = .33, t = 5.14, p < .01$ , were significant predictors of ingroup intended behavior,  $R^2 = .14, F(4, 216) = 9.08, p < .001$ . In addition there was a significant interaction between identity and age,  $\beta = -.15, t = -2.34, p < .05, R^2 = .18, F(9, 211) = 5.09, p < .001$ .

*IOS*

The composite measure of IOS was submitted to the same 4 (condition)  $\times$  2 (age group)  $\times$  2 (English identity) between-participants ANOVA. This revealed a main effect of age,  $F(1, 234) = 14.54, p < .001$ , with younger participants' scores ( $M = 0.88$ ) higher than older participants ( $M = 0.59$ ). In addition, there was a main effect of condition,  $F(3, 234) = 9.31, p < .001, MSE = 0.31$ . Contrast C1 showed that the scores in the extended contact conditions (dual identity,  $M = 0.89, SD = 0.60$ ; decategorization,  $M = 0.71, SD = 0.54$ ; common ingroup,  $M = 0.99, SD = 0.61$ ) were significantly higher than control,  $M = 0.48, SD = 0.58, t = 4.14, p < .0001$ . However, contrast C2 was nonsignificant,  $t = .7, ns$ .

*IOS as a Mediator*

Given the significant effects of condition on IOS and outgroup attitude, we went on to test our mediational hypothesis of IOS. Two mediational

Table 3  
Means and Standard Deviations for Measures of Ingroup Intended Behavior as a Function of Condition and Age

Age group	Condition			
	Dual identity	Decategorization	Common ingroup identity	Control
Young	4.67 <sub>b</sub> (.54)	3.75 <sub>a</sub> (1.37)	4.49 <sub>b</sub> (1.00)	4.28 <sub>b</sub> (1.11)
Old	3.90 (.90)	3.84 (0.88)	3.83 (0.83)	4.26 (0.74)

Note. Ingroup intended behavior scores range from 1 to 5. The higher the score, the more positive toward the ingroup. Means within the same row with a different subscript are significantly different from one another ( $p < .05$ ).

Table 4  
*Interrelationships of Variables*

Measure	1.	2.	3.	4.	5.	6.
1. Outgroup attitude		.46**	.13	.31**	.21**	.06
2. Ingroup attitude			.19**	.09	.10	.25**
3. Ingroup intended behavior				.33**	-.01	.3**
4. Outgroup intended behavior					.17**	.15*
5. IOS						-.09
6. English identity						

Note. Numbers are Pearson's correlations ( $r$ ). IOS = include other in the self.

\* $p < .05$ , \*\* $p < .001$ .

analyses were run: to examine whether the effects of extended contact per se (C1) on outgroup attitude could be accounted for by IOS; and to assess whether the differential effects of extended contact (C2) could be so explained. Multiple-regression analyses were employed with the condition variable dummy coded in line with the two previously defined contrasts C1 and C2. As expected, the C1 dummy variable had a significant effect on outgroup attitude ( $\beta = .18$ ,  $p < .01$ ), which was reduced to nonsignificance when IOS was included in the model ( $\beta = .11$ ,  $p < .09$ ). According to the Sobel test, as specified in Baron and Kenny (1986; see also MacKinnon, Warsi, & Dwyer, 1995), this reduction was significant,  $Z = 2.6$ ,  $p < .01$ . Finally, satisfying the criteria for mediation, IOS was significantly related to condition ( $\beta = -2.5$ ,  $p < .001$ ) and outgroup attitude ( $\beta = .18$ ,  $p < .01$ ). For the C2 dummy variable one of the mediation criteria was not met as IOS was unrelated to condition ( $\beta = .03$ ,  $p = .62$ ). Correlations among continuous variables are shown for information in Table 4.

### Discussion

The present research demonstrated the effectiveness of extended contact as an intervention to reduce children's negative outgroup attitudes toward refugees. This finding concurs with the limited research on extended contact in the adult literature (see Brown & Hewstone, 2005; Paolini et al., 2004; Wright et al., 1997). The study also demonstrated that within the extended contact interventions, the dual identity condition was superior in improving children's outgroup attitudes toward refugees. These results are both important and novel, and show that the processes underlying extended contact and identity apply to children. There was less evidence that extended contact changed the children's outgroup *intended behavior*. Nonetheless, among low identifiers

and within the extended contact conditions, children showed the most positive outgroup intended behavior under the dual identity intervention. These findings add to the literature on intergroup contact and children's interethnic attitudes in a number of ways.

Firstly, this is the first time it has been demonstrated that extended contact per se leads to prejudice reduction in young children under 13 years of age (Liebkind & McAlister, 1999). Nonetheless, contrary to our developmental prediction, the dual identity and common ingroup identity extended contact interventions were equally effective among younger and older age groups. Therefore the present research shows that extended contact can be an effective prejudice-reduction tool in children as young as 5 years and this has important applied implications, as we discuss presently. Importantly, the research showed that children's positive attitudes toward their ingroup were not significantly affected by the extended contact intervention. Thus, as intended, the intervention had quite specific effects on *outgroup* attitudes.

Secondly, the research contributes to our knowledge of extended contact effects by showing that they can be moderated by the degree of subgroup salience (Wright et al., 1997). Children who received the "dual identity" story intervention showed more favorable attitudes toward refugees than either of those in the common ingroup or decategorized conditions, presumably because they were more able to generalize from the protagonists in the stories to refugees in general. As Brown and Hewstone (2005) have argued, this is one of the key potential advantages of an intergroup contact model over the alternative models of Brewer and Miller (1984) and Gaertner and Dovidio (2000). Until now, the evidence for such beneficial effects of group salience has been obtained only in direct contact settings; our findings suggest that similar effects obtain in extended contact situations.

Thirdly, this study also provided evidence for IOS as a possible mechanism that underlies extended contact effects (Wright et al., 1997). The present study found evidence that IOS may be a mediator of extended contact in young children: the intervention led to more "inclusion of other in the self," which led in turn to a more positive outgroup attitude.

The effects of extended contact on outgroup attitude, outgroup intended behavior, and ingroup attitude were not moderated by age as the intervention was equally effective with both younger and older children. This holds considerable promise for educational interventions in primary schools as it suggests that they can be implemented very early on in

the child's educational career and do not depend on a certain level of cognitive sophistication to be effective. However, age did moderate the effect of condition on ingroup intended behavior. This might be because young children's ingroup affiliations are more embryonic and therefore more likely to be breached under a decategorization intervention. Indeed in the adult literature, decategorization contact interventions have been associated with reduced perceived attractiveness towards former ingroup members (Gaertner et al., 1989). Future research should investigate further why this effect seems to be more prominent in younger children.

Overall, the effectiveness of extended contact in changing children's outgroup *intended behavior* was more limited than it was for attitudes. This finding is in line with previous research which suggests that outgroup attitudes and behavior are distinctive phenomena (Aboud et al., 2003). In fact, level of identification moderated the effect of extended contact on outgroup intended behavior. The effect of the three different extended contact interventions was confined to the "low" identifiers, with those in the dual condition once again showing the most favorable attitudes toward refugees. For the "high" identifiers, the differences between the three extended contact conditions were not reliable, perhaps because for them the level of (national) group salience was already relatively high. Therefore, this suggests that "high" identifiers may have been operating in a dual identity mode in all extended contact conditions.

Intergroup contact interventions are often criticized for being too brief (Brown & Hewstone, 2005). Typically, interventions are one-off events and time limited, and research indicates that the most successful interventions occur over a long period of time (e.g., Aboud & Fenwick, 1999). The interventions in the present research were conducted once a week for 6 weeks, which is longer than typical intervention studies. Nonetheless, an even longer intervention may have been more successful at changing outgroup intended behavior. Furthermore, the most successful model of extended contact was the "dual identity" intervention. This finding suggests that extended contact school interventions should focus on encouraging a more inclusive common ingroup identity while simultaneously emphasizing the subgroup identities.

*Limitations.* The intervention effects found in the present study may have been the result of mere exposure to members of the refugee outgroup. However, this explanation is unlikely given that IOS

mediated the effect of extended contact on outgroup attitude, and there is little reason to believe that mere exposure to members of the outgroup would lead to greater IOS. However, in order to rule out this explanation future research should include an additional mere exposure condition that consists of in- and outgroup members who are not friends.

Wright et al. (1997) suggest that modeling positive ingroup peers might also be one of the underlying mechanisms for successful extended contact. Thus, the extended contact effects in the present study may be explained in part by presenting a role model to be emulated or by changing perceived ingroup norms for intergroup relations. In the present study we found that children's personal norms regarding exclusion of outgroup members did not mediate the effect of condition on outgroup attitude. However, to fully test the mediating role of positive ingroup peers and perceived ingroup norms, future studies should also specifically measure *ingroup* norms regarding the acceptability of *cross-group friendships*.

The underlying cause of the superior effect of the dual identity intervention is difficult to ascertain as the study had no direct test of whether superordinate identity is necessary to change children's intergroup attitudes. The success of the dual identity extended contact intervention may have been due to only the increased salience of subgroups. Nonetheless, previous research (e.g., Gaertner & Dovidio, 2000; Gonzalez & Brown, 2003) has pointed to the importance of maintaining superordinate identities in order to change intergroup attitudes. In order to address this issue, future research should compare a dual identity extended contact intervention with another intervention in which only subgroup identities are made salient.

The composition of the story-reading groups remained the same throughout the interventions because of the need to match children on reading ability. This was not ideal because certain children may have had undue influence on their peers in group discussions. However, the discussions were led by the researcher, who ensured that the content of poststory discussions was similar across groups within each intervention condition. In addition, the researcher deliberately focused the discussion on certain characteristics of the story (e.g., common ingroup membership).

Although the attitude measures had high internal reliability across the age range, and for young and old age groups separately, it is possible that the traits obtained from the PRAM-II were valued less by the older participants. Indeed, these traits have mainly been used in research with children under aged 9

years of age (e.g., Aboud, 2003; Doyle & Aboud, 1995). However, a number of researchers have used traits from the PRAM-II with children aged between 9 and 11 years (e.g., Bigler, Brown, & Markell, 2001; Rutland, Cameron, Milne, & McGeorge, 2005). It would be useful to examine the generalizability of these findings using target groups to whom children may initially feel more negative.

Another measurement issue is the index of IOS as it differed from that used in previous studies (Aron et al., 1992; Aron & Aron, 1996) by giving children a choice of just three levels of overlap. This was done in order to simplify the measure for young children. However, a more sensitive measure of IOS may have picked up more subtle differences in IOS.

In line with Liebkind and McAlister (1999) and Wright et al. (1997), our findings demonstrate the success of extended contact even when the participant has a less intimate personal relationship with the ingroup member. This approach to extended contact gives the experimenter greater control of the extended contact situation by allowing more precise manipulation of the salience of group membership (cf. Maras & Brown, 2000). In addition this type of extended contact can be administered in the absence of any known ingroup members who have outgroup members as friends. However, our findings suggest IOS is important for successful extended contact. Therefore, extended contact may be more effective if the ingroup member is a friend of the participant as they are more likely to include a friend, and one of *their* friends (the outgroup member) in the self.

Overall, the present research demonstrated that a theoretically derived intervention could be introduced successfully into an educational setting and act as an effective prejudice-reduction intervention tool. The adaptation of a more collaborative approach to prejudice reduction among children linking education, developmental and social psychology, could lead to the development of many more effective school-based interventions.

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## Appendix

### Example Story Outline

One story was about 4 friends, 3 of whom were English and one a refugee with musical talent, who decided to enter into a music competition. In the course of the story the refugee, Nicky, shows great bravery and loyalty by sticking up for one of his friends, and also saves the band when his partners froze on stage. The band was a huge success and went on to win the competition. (This story was adapted from Wilson, 1996. Scripts of the stories are available upon request from the authors.)