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Improving implicit and explicit intergroup attitudes using imagined contact: An experimental intervention with elementary school children

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Abstract

The aim of this study was to test the effectiveness of imagined intergroup contact (Crisp & Turner, 2009) on elementary school children's explicit and implicit intergroup attitudes. Italian 5th-graders participated in a 3-week intervention involving imagining meeting an unknown immigrant peer in various situations. Approximately 1 week after the last session, they completed measures of self-disclosure and behavioral intentions toward immigrants. Furthermore, they were administered a measure of implicit prejudice. Results showed that those taking part in the intervention, compared to participants in a control condition, revealed more positive behavioral intentions and implicit attitudes toward immigrants. Moreover, self-disclosure mediated the effect of imagined contact on outgroup behavioral intentions. Theoretical and practical implications of findings are discussed.

Keywords

explicit and implicit prejudice, imagined intergroup contact, indirect contact, intergroup relations, self-disclosure

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There has been a great deal of research in the past 50 years demonstrating that intergroup contact is a useful tool for improving intergroup relations (Pettigrew & Tropp, 2006). However, interventions based on real contact are costly and can be difficult to put into practice. With the aim of enhancing the applicability of intergroup contact, recent research focused on indirect

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contact forms, which can be easily implemented in contexts where there is little opportunity for direct contact (Turner, Hewstone, Voci, Paolini, & Christ, 2007). In the present article, we examine the effectiveness of an experimental intervention with elementary school children based on imagined contact (Crisp, Husnu, Meleady, Stathi, & Turner, 2010; Crisp & Turner, 2009, 2010).

Imagined contact rests on the idea that simply imagining a positive contact experience with an outgroup member may be sufficient to ameliorate negative attitudes between groups. Research showed that imagined contact improves intergroup attitudes (Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011; Husnu & Crisp, 2010a; Turner & Crisp, 2010; Turner, Crisp, & Lambert, 2007; West, Holmes, & Hewstone, 2011) and behavioral intentions (Husnu & Crisp, 2010a, 2010b), increases perceptions of outgroup variability (Turner, Crisp, et al., 2007), enhances projection of positive traits to the outgroup (Stathi & Crisp, 2008), reduces self-stereotyping and stereotype threat (Abrams et al., 2008; Crisp & Abrams, 2008), and increases confidence about successful future intergroup interactions (Stathi, Crisp, & Hogg, 2011). In addition, there is evidence that imagined contact exerts its effects through reduced anxiety (Abrams et al., 2008; Husnu & Crisp, 2010a; Turner, Crisp, et al., 2007), increased vividness of the imagined scenario (Husnu & Crisp, 2010a), and improved intergroup attitudes (Harwood et al., 2011; Husnu & Crisp, 2010a).

In the present study, imagined contact was tested as a strategy to improve both explicit and implicit intergroup attitudes in an educational setting. We are aware of only one study testing imagined contact as a tool to improve intergroup attitudes with children. Cameron and colleagues (Cameron, Rutland, Turner, Holman-Nicolas, & Powell, 2011) asked non-disabled children aged 5–10 years to imagine a positive interaction with a disabled child. Results revealed that children in the experimental condition, compared with those in a control condition (who did not engage in any activity), had more positive attitudes, stereotypes of warmth and competence, and behavioral intentions toward disabled children. However, the effect on behavioral intentions was found only among younger children (5- to 6-years-old). In addition, dependent measures were assessed immediately after the imagination task, so it is not possible to evaluate the longevity of the imagined contact effect.

We carried out an experimental intervention with Italian 5th-graders, by testing the effectiveness of imagined contact on behavioral intentions and implicit prejudice toward immigrants. The examination of implicit prejudice is interesting for at least two reasons. First, explicit attitudes have been associated with more controlled behaviors, whereas implicit attitudes predict a wide range of subtle and non-verbal behaviors (Greenwald, Poehlman, Uhlmann, & Banaji 2009) and influence how others perceive us (Dovidio, Kawakami, & Gaertner, 2002). Thus, holding negative attitudes at an implicit level may have detrimental effects on intergroup relations and prevent the formation and the duration of new cross-group friendships (see Towles-Schwen & Fazio, 2006). This appears particularly important in educational contexts, where children start to socialize with outgroup peers. Second, demonstrating the effectiveness of imagined contact also for implicit prejudice would provide strong evidence that its effects do not depend on demand characteristics. Indeed, in contrast to explicit attitudes, which are conscious and can be easily controlled, implicit attitudes are largely unintentional, impervious to conscious control, and, as a consequence, less influenced by social desirability concerns (Gawronski & Bodehnausen, 2006).

There is growing evidence showing that children display implicit ingroup bias at least by age 6 (A. S. Baron & Banaji, 2006; Dunham, Baron, & Banaji, 2006; Rutland, Cameron, Milne, & McGeorge, 2005; Sinclair, Dunn, & Lowery, 2005; Turner, Hewstone, & Voci, 2007; but see Degner & Wentura, 2010). Furthermore, whereas explicit prejudice appears in 3- to 4-year-old children and starts to decline at 7–8 years of age (Aboud, 2008; Bigler & Liben, 2007), implicit prejudice is relatively stable across children's development (A. S. Baron & Banaji, 2006; Dunham

et al., 2006). Therefore, examining the factors that can counter the implicit negativity toward outgroups in children is crucial for a better understanding of how to improve intergroup relations. In our study, we used a child version of the Implicit Association Test (IAT; Greenwald, Nosek, & Banaji, 2003), the Child IAT (see A. S. Baron & Banaji, 2006). Not only is research on children's implicit intergroup attitudes scarce generally, but also this is the first time that the effect of imagined contact on children's implicit attitudes has been measured.

Recent research has demonstrated that, consistent with dual-process models (e.g., Gawronski & Bodenhausen, 2006), contact ameliorates explicit attitudes through conscious, deliberative processes, but, critically, it changes implicit attitudes largely via evaluative conditioning processes. In other words, implicit attitudes are shaped by repeated exposure to positive outgroup exemplars (Aberson & Haag, 2007; Vezzali, Capozza, & Pasin, 2009; Vezzali & Giovannini, 2011). It is likely that, similar to direct contact, imagined contact affects implicit attitudes through exposure to positive outgroup exemplars. In this case, however, exposure to outgroup targets is indirect, that is, positive outgroup exemplars are just imagined and not actually encountered.

Turner and Crisp (2010) provided initial evidence that imagined contact can reduce implicit prejudice in adults, assessed with an IAT (Greenwald et al., 2003). In two studies, they showed that undergraduates imagining an interaction with an elderly stranger or with an unknown Muslim, relative to a control condition, endorsed more positive implicit attitudes toward the elderly or Muslims, respectively.

As a measure of explicit attitudes, we focused on intergroup behavioral intentions. Crisp and colleagues (e.g., Crisp, Stathi, Turner, & Husnu, 2009) suggested that imagined contact can be a first step for facilitating future intergroup contact. Thus, we aimed at providing support for this claim, by showing that children exposed to imagined contact would reveal greater interest for contact with outgroup peers (see also Stathi, Cameron, & Bradford, 2011). To further advance the indirect contact research, we examined a new mediator of imagined contact: Self-disclosure. Self-disclosure can be defined as the voluntary presentation of intimate and personal information to another person (Miller, 2002). An important aspect of self-disclosure is that it is generally reciprocated and leads to mutual attraction (Berg & Wright-Buckley, 1988). By favoring an increase in the number and intimacy of the information disclosed, self-disclosure is also a crucial component of friendships (Reis & Shaver, 1988). Thus, fostering self-disclosure toward outgroup members can facilitate the initiation of new friendships across group boundaries. Turner, Hewstone, and Voci (2007) demonstrated that self-disclosure mediates the effects of direct and extended contact (namely, the knowledge that an ingroup friend has outgroup friends; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997) on improved intergroup attitudes. Imagining positive contact with an outgroup member can improve explicit attitudes by raising conscious processes parallel to those activated by real contact (Crisp & Turner, 2009); in the case of our experiment, we hypothesize that imagined contact will enhance the intention to disclose personal information to immigrant children, leading in turn to more favorable intended behaviors toward them. We believe that, given the importance of self-disclosure for the formation of new friendships, demonstrating that imagined contact fosters self-disclosure and, in turn, positive outgroup behavioral intentions, would provide critical evidence for the role of imagined contact as a preparatory strategy for subsequent contact.

We also expected to obtain an unmediated effect of the experimental condition on implicit attitudes: The mental simulation of positive intergroup interactions should automatically activate abstract concepts typically associated with successful contact experiences, thus strengthening the associations between outgroup targets and positive concepts and directly reducing implicit prejudice (Crisp & Turner, 2009; Turner & Crisp, 2010).

Method

Participants and procedure

The sample consisted of 44 Italian 5th-graders (24 males, 20 females). Mean age was 10 years 5 months. Participants were randomly allocated to the experimental or to the control condition. Children in the experimental condition took part in three intervention sessions, each lasting about 30 minutes. The interventions took place in small groups (5–6 children) and were implemented once a week for 3 consecutive weeks in the presence of a research assistant. Participants were asked to imagine having a pleasant interaction with an unknown immigrant child who had just arrived from a foreign country. In order to avoid the subtyping of the imagined contact partner, and to enhance generalizability, we varied the context in which the children imagined the contact scenario such that every week the imagined interaction took place in a different setting, with a different child: At school (1st session), in the neighborhood (2nd session), at the park (3rd session). In each session, the participants were given 15 minutes to write down a detailed description of the imagined encounter, focusing on the immigrant's characteristics, on the activities/games they experienced together, and on the things that both the participant and the outgroup child said in order to become friends. This enhanced elaboration has been shown to be beneficial for empowering the effects of imagined contact (Harwood et al., 2011; Husnu & Crisp, 2010a). Participants also engaged in a brief discussion of about 10 minutes with the research assistant, centered on what they had just imagined. Approximately 1 week after the last session, participants were administered a questionnaire containing the dependent measures. Furthermore, they completed individually, in a separate session, a Child IAT (A. S. Baron & Banaji, 2006). Children in the control condition were just asked to complete the questionnaire and the Child IAT and did not engage in any imagined contact intervention session.

Measures

Explicit attitudes (questionnaire) For all measures, a 5-step scale was used, ranging from 1 (definitely not) to 5 (definitely).

Self-disclosure Two items, adapted by Turner, Hewstone, and Voci (2007) were used: "Would you disclose a big problem you had to an immigrant child?"; "Would you tell a secret to an immigrant child?". Ratings were aggregated in a reliable index (alpha = .74): The higher the score, the stronger the intention to self-disclose to an immigrant child.[1]

Ingroup and outgroup behavioral intentions We adapted three items by Cameron and Rutland (2006; see also Vezzali, Stathi, & Giovannini, in press). Participants were asked to think about meeting either an unknown Italian (ingroup) or immigrant (outgroup) child and indicate 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 behavior toward each of the target-group, were aggregated for the ingroup (alpha = .74) and the outgroup (alpha = .85).

Implicit attitudes (Child IAT) The Child IAT (A. S. Baron & Banaji, 2006) was run using the Inquisit software package (Version 2.0, 2006) and was administered by means of a computer located in the computer room of the school. The task required participants to categorize items belonging to different categories of stimuli as quickly as possible by using one of two response keys on the keyboard. Items were presented one at a time in the center of the computer screen. Four categories of stimuli were used: Ingroup and outgroup were exemplified by four pictures of Italian and four of immigrant children's faces; for the attribute dimension, four positive (e.g., good) and four negative (e.g., bad) words were presented auditorally (through speakers). The choice to use faces to evaluate the Italian and immigrant categories, instead of typical names as

in the standard IAT, was based on A. S. Baron and Banaji's (2006) recommendations, so as to eliminate possible confounds related to children's differential reading ability. For the same reason, printed words concerning the attribute dimension were substituted by voice recording of positive and negative words. Instructions were read by children and repeated by the experimenter (for more details, see A. S. Baron & Banaji, 2006). In the first critical block, Italian faces and positive words shared the same response key; immigrant faces and negative words shared a different response key (compatible block). In the second critical block, the associations were reversed: Italian faces and negative words shared a response key, immigrant faces and positive words shared an other response key (incompatible block). Each critical block was preceded by a practice block. The order of the compatible and incompatible blocks was counterbalanced across participants.

Table 1. Effects of imagined contact on dependent variables (standard deviations are reported in parentheses)

	Condition		
Measure	Imagined contact	Control	*t-test*
Self-disclosure	3.86 (0.74)	3.00 (0.77)	3.78***
Ingroup behavioral intentions	4.08 (0.59)	4.21 (0.62)	0.75
Outgroup behavioral intentions	4.15 (0.52)	3.61 (0.89)	2.47*
Implicit ingroup bias	0.00 (0.32)	0.22 (0.33)	2.22*

Note: The scale ranges from 1 to 5 for the measures of self-disclosure and ingroup and outgroup behavioral intentions. For the measure of implicit ingroup bias, scores above 0 reflect a more positive evaluation of the ingroup than of the outgroup.
*$p < .05$; **$p < .01$; ***$p < .001$.

Results

Main analyses

The IAT score (D-measure) was computed by following Greenwald et al.'s (2003) recommendations, calculating the averaged standardized differences between latencies in the incompatible and compatible blocks. Scores above 0 reflect a more positive implicit evaluation of Italians than immigrants and, thus, stronger implicit prejudice.

Means and standard deviations of measures are reported in Table 1. Correlations among variables can be found in Table 2. To test hypotheses, planned independent sample *t*-tests were conducted. Consistent with expectations, as shown in Table 1, self-disclosure was higher in the imagined contact ($M = 3.86$) than in the control condition ($M = 3.00$), $t(42) = 3.78$, $p < .001$, Cohen's $d = 1.14$. It is worth noting that self-disclosure was above the midpoint of the scale in the imagined contact condition, $t(21) = 5.45$, $p < .001$, but not in the control condition, $t(21) < 1$.

Similarly, participants who engaged in the intervention had more positive behavioral intentions toward the outgroup ($M = 4.15$), compared to those in the control condition ($M = 3.61$), $t(42) = 2.47$, $p < .05$, $d = .74$. Not surprisingly, there was no difference as a function of experimental condition on ingroup behavioral intentions, $t(42) < 1$, $d = .22$. Furthermore, on the measure of behavioral intentions, participants expressed ingroup bias (i.e., more positive intentions toward the ingroup than toward the outgroup) in the control condition, $t(21) = 3.20$, $p < .01$, but not in the imagined contact condition, $t(21) < 1$ (Table 1) .

Finally, implicit bias was stronger in the control ($M = 0.22$) than in the imagined contact condition ($M = 0.00$), $t(42) = 2.22$, $p < .05$, $d = .67$. Notably, the implicit bias score differed from 0 only in the control condition, $t(21) = 3.18$, $p < .01$, whereas this difference was not significant in the imagined contact condition, $t(21) < 1$ (Table 1). Thus, the intervention was successful in reducing implicit prejudice.

Mediation analyses

To investigate the emergence of mediation effects, multiple regression was applied, by following the procedure outlined by R. M. Baron and Kenny

Table 2. Correlations among variables.

	1	2	3	4	5
1. Experimental condition	–				
2. Self-disclosure	.50***	–			
3. Ingroup behavioral intentions	−.11	.36*	–		
4. Outgroup behavioral intentions	.36*	.60***	.40**	–	
5. Implicit ingroup bias	−.32*	−.37*	−.02	−.11	–

Note: Experimental condition is a dummy-coded variable (1 = imagined contact; 0 = control).
*p < .05; **p < .01; ***p < .001.

(1986). First, dummy-coded experimental condition (1 = imagined contact; 0 = control) was reliably associated with both outgroup behavioral intentions and implicit ingroup bias, βs = .36 and -.32, ps < .05, respectively. As expected, no relation emerged between experimental condition and ingroup behavioral intentions, β = -.11, *ns*. Second, there was a signification association of experimental condition with the hypothesized mediator (i.e., self-disclosure), β = .50, p < .001. Finally, when both experimental condition and self-disclosure were included in the regression equation, the path from self-disclosure to outgroup behavioral intentions was significant, β = .57, p < .001, whereas the direct path from experimental condition to outgroup behavioral intentions became non-significant, β = .07, *ns*. To test if the mediation effect was significant, bootstrapping analyses were conducted by using the SPSS macros provided by Preacher and Hayes (2008). With bootstrapping procedures, a 95% confidence interval is computed around the path from the predictor to the criterion variable through the mediator. Since 0 was excluded from the 95% confidence interval (ranging from .23 to .77), the indirect effect was significant, p < .05.

To the extent that the intention to self-disclose to an outgroup member could be considered as an indicator of intended behavior,[2] we also tested the alternative causal sequence. In other words, we regressed self-disclosure on experimental condition and outgroup behavioral intentions. The results showed that the path from outgroup behavioral intentions to self-disclosure was significant, β = .49, p < .001, whereas the direct path from experimental condition to self-disclosure was reduced, β = .33, p = .01. The indirect effect was significant (bootstrap confidence interval ranging from .12 to .55), p < .05. Thus, imagined contact indirectly affects self-disclosure via more positive behavioral intentions. However, self-disclosure appears to be a stronger mediator than outgroup behavioral intentions. Indeed, the direct effect of experimental condition on outgroup behavioral intentions became non-significant when including self-disclosure in the regression equation. In contrast, the direct effect of experimental condition on self-disclosure was still significant when including outgroup behavioral intentions in the regression equation.

In line with expectations, when controlling for experimental condition, self-disclosure was not associated with implicit ingroup bias, β = -.28, *ns*, indicating that self-disclosure is not a mediator of the imagined contact-implicit attitudes path.

Discussion

We conducted an experimental intervention to examine whether imagined contact is an effective strategy to improve elementary school children's explicit and implicit attitudes toward immigrants. We found that participants who engaged in the mental simulation of positive contact experiences with immigrant peers, compared to those in a control condition, expressed more positive outgroup behavioral intentions and revealed less implicit prejudice. In addition, the effect of the experimental intervention on outgroup behavioral intentions was mediated by self-disclosure.

On a theoretical level, our findings are in line with previous research showing the benefits of

imagined contact for improving intergroup relations (Crisp et al., 2010; Crisp & Turner, 2009). Based on the premise that imagined contact can prepare people for more successful intergroup interactions, it is important to investigate its effects on intended behavior. There are preliminary findings that point to this direction (e.g., Husnu & Crisp, 2010a & 2010b). Our results extend these findings by showing that imagined contact can be important as a first step for facilitating future intergroup encounters among children in a naturalistic setting (for a similar result, see Cameron et al., 2011). Evidence was also obtained for a new mediator of imagined contact: Self-disclosure. Since self-disclosure is an important component of friendships and tends to be reciprocated (Berg & Wright-Buckley, 1988; Reis & Shaver, 1988), the development of intentions to self-disclose to an outgroup member can favor the formation of future cross-group friendships. There is evidence that children tend to choose their friends more within the ingroup than within the outgroup (Edmonds & Killen, 2009). The identification of strategies that limit this tendency and foster the formation of new cross-group friendships can be of great importance for capitalizing on the opportunity for contact.

The fact that we also found evidence for reverse mediation, that is, mediation by outgroup behavioral intentions on self-disclosure, does not undermine the validity of our results. Indeed, it is likely that, since intentions to self-disclose to an outgroup member can be interpreted as a form of intended behavior, other types of behavioral intentions mediate the effect of imagined contact on self-disclosure. It should be noted, however, that mediation by self-disclosure on outgroup behavioral intentions was somewhat stronger than mediation by outgroup behavioral intentions on self-disclosure. Future experimental research should better clarify the causal chain between self-disclosure and outgroup behavioral intentions.

Consistent with findings by Turner and Crisp (2010), we found that imagined contact improved implicit attitudes. As expected, the effect of experimental condition on implicit bias was unmediated. This is consistent with recent dual-process theories, suggesting that explicit and implicit attitudes are distinct, albeit related, processes (Gawronski & Bodenhausen, 2006). Possibly, imagining and then discussing an imagined intergroup interaction has strengthened mental associations between positive attributes and the outgroup category, that are precisely what the IAT measures (Greenwald et al., 2003), thus reducing implicit prejudice.

The present study supports the imagined contact theory and increases the external validity of previous findings, by a) showing its effectiveness also outside the laboratory and b) testing it in a new social context. Importantly, previous studies assessed the effects of imagined contact immediately after the mental simulation task, which has raised discussion over the long-term effectiveness of the technique (but see Husnu & Crisp, 2010b, who demonstrated that, among Turkish Cypriots, imagined contact improved intentions to interact with Greek Cypriots, measured 1 week after the imagined contact session). In this study, we measured the criterion variables approximately 1 week after the last intervention session. Thus, our findings offer an important demonstration of the longevity of the imagined contact effects. This suggests that imagined contact may have more powerful effects than previously thought. Future studies might examine longer periods between intervention sessions and data collection and vary the number of sessions, so as to provide more information on how long the effects of imagined contact can last. It would also be interesting to include behavioral measures, so as to assess whether imagined contact influences the formation of *real* new cross-group friendships.

It is worth noting that we deviated from the standard imagined contact procedure, by repeating the intervention three times in group sessions. These changes are consistent with the suggestion by Crisp and collaborators (2010), claiming that "imagined contact will need to be incorporated into longer-term interventions: It is certainly not a 'one shot' solution" (p. 215). Also the fact that

only children in the experimental condition engaged in a brief discussion with the experimenter goes in the direction to adjust the imagined contact procedure to real world interventions and is consistent with many experimental prejudice-reduction studies conducted in the field (see Paluck & Green, 2009). However, future experimental interventions should fruitfully isolate the effects of mere imagined contact from those of the discussion on what participants have imagined.

Although interventions based on real contact have a powerful impact on intergroup relations, they can be difficult to implement. The impressive review by Paluck and Green (2009) indicates that only 10% of the reviewed experimental studies conducted in the field were based on contact, and none of them used implicit attitude measures. Imagined contact is a flexible, low-cost strategy, which does not require lengthy procedures and major changes in the school curriculum. By promoting outgroup self-disclosure and intended behavior, imagined contact can encourage children to approach outgroup members and form new cross-group friendships. In addition, since implicit prejudice can aggravate subtle intergroup behaviors (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Gawronski & Bodenhausen, 2007) and lead to negative evaluations by interaction partners (Dovidio et al., 2002), it is of great importance to identify methods for reducing it, especially when it is in embryonic stages like in the case of children's attitudes. Our research provides evidence that imagined contact can reduce not only explicit, but also implicit prejudice in children.

One limitation of our study is that only children in the experimental group engaged in imagined contact sessions and subsequent discussions, thus posing the danger of experimenter effects. However, previous studies ruled out the possibility that the effects of imagined contact depend on demand characteristics, as participants generally report no awareness of experimental aims (e.g., Turner, Crisp, et al., 2007; West et al., 2011; see also Stathi et al., 2009). Moreover, it is highly unlikely that children could monitor their responses on the Child IAT. Thus, the results obtained for implicit attitudes also help to rule out alternative explanations of imagined contact effects based on demand characteristics. A similar conclusion was drawn by Turner and Crisp (2010; see also Crisp et al., 2010), who also showed that the effects of imagined contact on implicit attitudes were not due to the simple act of imagery (Study 1) or to mere exposure to the outgroup category (Study 2). However, future interventions should include alternative implicit attitude measures to extend the generalizability of the present findings. The inclusion of measures assessing subtle intergroup behaviors can further enhance confidence that results are not due to demand characteristics or to mere expusure to the outgroup category, and provide additional support for the imagined contact theory.

In conclusion, the present study demonstrates that imagined contact is a useful tool to improve intergroup relations in educational contexts, and can be successfully employed as a first step in the route toward more positive intergroup relations.

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Notes

1 Intended rather than actual self-disclosure was measured, since the amount of contact reported by participants, assessed in a separate pilot session of the study, was very low, thus limiting their opportunity to actually self-disclose to outgroup members.

2 We thank an anonymous reviewer for noting this possibility.

References

Aberson, C. L., & Haag, S. C. (2007). Contact, perspective taking, and anxiety as predictors of stereotype endorsement, explicit atitudes, and implicit attitudes. *Group Processes and Intergroup Relations*, *10*, 179–201.

Aboud, F. E. (2008). A social-cognitive developmental theory of prejudice. In S. E. Quintana & C. McKnown (Eds.), *Handbook of race, racism, and the developing child* (pp. 55–71). Hoboken, NJ: Wiley.

Abrams, D., Crisp, R. J., Marques, S., Fagg, E., Bedford, L., & Provias, D. (2008). Threat inoculation: Experienced and imagined intergenerational contact prevents stereotype threat effects on older people's math performance. *Psychology and Aging*, *23*, 934–939.

Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes: Evidence of race evaluations from ages 6 and 10 and adulthood. *Psychological Science*, *17*, 53–58.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Berg, J., & Wright-Buckley, C. (1988). Effects of racial similarity and interviewer intimacy in a peer counseling analogue. *Journal of Counseling Psychology*, *35*, 377–384.

Bigler, R. S., & Liben, L. S. (2007). Developmental intergroup theory. *Current Directions in Psychological Science*, *16*, 162–166.

Cameron, L., & Rutland, A. (2006). Extended contact through story reading in school: Reducing children's prejudice toward the disabled. *Journal of Social Issues*, *62*, 469–488.

Cameron, L., Rutland, A., Turner, R. N., Holman-Nicolas, R., & Powell, C. (2011). "Changing attitudes with a little imagination": Imagined contact effects on young children's intergroup bias. *Anales de Psicologia*, *27*, 708–717.

Crisp, R. J., & Abrams, D. (2008). Improving intergroup attitudes and reducing stereotype threat: An integrated contact model. *European review of Social Psychology*, *19*, 242–284.

Crisp, R. J., Husnu, S., Meleady, R., Stathi, S., & Turner, R. N. (2010). From imagery to intention: A dual-route model of imagined contact effects. *European Review of Social Psychology*, *21*, 188–236.

Crisp. R. J., Stathi, S., Turner, R. N., & Husnu, S. (2009). Imagined contact: Theory, paradigm and practice. *Social and Personality Psychology Compass*, *3*, 1–18.

Crisp, R. J., & Turner, R. N. (2009). Can imagined contact interactions produce positive perceptions? Reducing prejudice through simulated social contact. *American Psychologist*, *64*, 231–240.

Crisp, R. J., & Turner, R. N. (2010). Have confidence in contact. *American Psychologist*, *65*, 133–135.

Degner, J., & Wentura, D. (2010). Automatic prejudice in childhood and early adolescence. *Journal of Personality and Social Psychology*, *98*, 356–374.

Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*, *82*, 62–68.

Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology*, *33*, 510–540.

Dunham, Y., Baron, A. S., & Banaji, M. R. (2006). From American city to Japanese village: The omnipresence of implicit race attitudes. *Child Development*, *77*, 1268–1281.

Edmonds, C., & Killen, M. (2009). Do adolescents' perceptions of parental racial attitudes relate to their intergroup contact and cross-race relationships? *Group Processes and Intergroup Relations*, *12*, 5–21.

Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, *132*, 692–731.

Gawronski, B., & Bodenhausen, G. V. (2007). Unraveling the processes underlying evaluation: Attitudes from the perspective of the APE model. *Social Cognition*, *25*, 687–717.

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*, 197–216.

Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the implicit association test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, *97*, 17–41.

Harwood, J., Paolini, S., Joyce, N., Rubin, M., & Arroyo, A. (2011). Secondary transfer effects from imagined contact: Group similarity affects the generalization gradient. *British Journal of Social Psychology*, *50*, 180–189.

Husnu, S., & Crisp, R. J. (2010a). Elaboration enhances the imagined contact effect. *Journal of Experimental Social Psychology*, *46*, 943–950.

Husnu, S., & Crisp, R. J. (2010b). Imagined intergroup contact: A new technique for encouraging greater inter-ethnic contact in Cyprus. *Peace and Conflict: Journal of Peace Psychology*, *16,* 97–108.

Miller, N. (2002). Personalization and the promise of contact theory. *Journal of Social Issues*, *58*, 387–410.

Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A critical look at evidence from the field and the laboratory. *Annual Review of Psychology*, *60*, 339–367.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*, 751–783.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–881.

Reis, H. T., & Shaver, P. (1988). Intimacy as an interpersonal process. In S. Duck (Ed.), *Handbook of personal relationships* (pp. 367–389). Chichester: Wiley.

Rutland, A., Cameron, L., Milne, A., & McGeorge, P. (2005). Social norms and self-presentation: Children's implicit and explicit intergroup attitudes. *Child Development*, *76*, 451–466.

Sinclair, L., Dunn, E., & Lowery, B. S. (2005). The relationship between parental racial attitudes and children's implicit prejudice. *Journal of Experimental Social Psychology*, *41*, 283–289.

Stathi, S., Cameron, L., & Bradford, S. (2011). *Developing and evaluating imagined contact as a prejudice-reduction intervention for schools*. Under review.

Stathi, S., & Crisp, R. J. (2008). Imagining intergroup contact promotes projection to outgroups. *Journal of Experimental Social Psychology*, *44*, 943–957.

Stathi, S., Crisp, R. J., & Hogg, M. A. (2011). Imagining intergroup contact enables member-to-group generalization. *Group Dynamics, 15,* 275–284.

Towles-Schwen, T., & Fazio, R. H. (2006). Automatically activated racial attitudes as predictors of the success of interracial roommate relationships. *Journal of Experimental Social Psychology*, *42*, 698–705.

Turner, R. N., & Crisp, R. J. (2010). Imagining intergroup contact reduces implicit prejudice. *British Journal of Social Psychology*, *49*, 129–142.

Turner, R. N., Crisp, R. J., & Lambert, E. (2007). Imagining intergroup contact can improve intergroup attitudes. *Group Processes and Intergroup Relations*, *10*, 427–441.

Turner, R. N., Hewstone, M., & Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of Personality and Social Psychology*, *93*, 369–388.

Turner, R. N., Hewstone, M., Voci, A., Paolini, S., & Christ, O. (2007). Reducing prejudice via direct and extended cross-group friendship. *European Review of Social Psychology*, *18*, 212–255.

Vezzali, L., Capozza, D., & Pasin, A. (2009). Effetti del contatto tra normodotati e disabili in contesti di lavoro [Effects of contact between non-disabled and disabled in working contexts]. *Rivista Sperimentale di Freniatria, 3*, 143–160.

Vezzali, L., & Giovannini, D. (2011). Intergroup contact and reduction of explicit and implicit prejudice towards immigrants: A study with Italian businessmen owning small and medium enterprises. *Quality and Quantity*, *45*, 213–222.

Vezzali, L., Stathi, S., & Giovannini, D. (in press). Improving adolescents' attitudes and behavioral intentions toward immigrants. *Psychology in the Schools*.

West, K., Holmes, E., & Hewstone, M. (2011). Enhancing imagined contact to reduce prejudice against people with schizophrenia. *Group Processes and Intergroup Relations*, *14*, 407–428.

Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology*, *73*, 73–90.