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CONSEQUENCES AND ANTECEDENTS OF INTERGROUP CONTACT:
Field and experimental evidence

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INTRODUCTION

The aim of the present work is to study consequences and antecedents of intergroup contact. In the first part of this thesis, the consequences of direct and indirect contact were analyzed. According to social psychologists, intergroup contact represents a powerful tool in improving intergroup relations (Allport, 1954). An impressive number of studies over the past 50 years consistently showed that contact is effective in favoring harmonious intergroup relations (Pettigrew & Tropp, 2006). Furthermore, recent research has demonstrated that close cross-group interactions, specifically friendships, are especially powerful forms of intergroup contact (Davies et al., in press). However, one of the most important advancements in research on intergroup contact is the growing evidence of a number of indirect intergroup contact, notably extended contact (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), as means to improve relations between social groups (Dovidio, Eller, & Hewstone, 2011).

In the first study, cross-sectional, we examined the effect of direct and extended cross-group friendship on outgroup humanization. Additionally, we investigated the different mediation processes that improve the attribution of uniquely human traits to the outgroup. To our knowledge this is the first work that examines the effects of both direct and extended cross-group friendship on outgroup humanity perceptions.

The aim of the second study, experimental, was to investigate the conditions that make the indirect contact particularly effective. Despite the relevance of direct contact aforementioned, the role of moderators in this type of contact is still less investigated. To address this gap, in Study 2, the influence of group member's prototypicality was tested as moderator of the indirect contact. According to self-categorization theory (Turner, 1985; Turner, Hogg, Oakes,

Reicher, & Wetherell, 1987) group member will be especially influenced by individuals who are the most typical of the ingroup. We believe that the knowledge of a friendly interaction between a prototypical ingroup member and a prototypical outgroup member should led to more positive outgroup attitudes. Using a modified version of the Mininal Group Paradigm (see Tajfel, Billing, Bundy, & Flament, 1971) we manipulated the prototipicality of both ingroup and outgroup exemplar. The one-way experimental design was defined by four levels. The depended variables considered were intergroup emotions and stereotypes.

In the second part of this thesis the antecedents of intergroup contact were analyzed. While intergroup contact is typically a beneficial strategy for ameliorating intergroup relations, people do not necessarily choose to engage in it and often prefer to be involved in intragroup encounters (see e.g., Edmond & Killen, 2009). One of the interesting question in this area of research is: "What are the factors that assist people in deciding to engage in intergroup contact?" Research investigating the motivational bases for seeking intergroup contact is critically and surprisingly poor. Across three studies, we extended this analysis investigating the role of self-expansion — a motive expected to promote intragroup and intergroup contact (Aron, Aron, & Norman, 2001). We conducted a field study (Study 3) and measured self-expansion and its ability to predict intergroup and intragroup relations. Moreover we explored its involvement in self- deprovincializations (Pettigrew, 1997). We followed up Study 3 with two experiments to provide a more stringent test of the "intergroup self-expansion model" and its effects on self-deprovincialization. In study 4 we manipulated self-expansion and anxiety in an orthogonal manner in the context of interethnic relationships. We aimed to assess the unique and joint impact of the two motives on participants' decisions to engage in future contact with ethnically similar and dissimilar others. The aim of Study 5 was to extend the results obtained in Study

4. The same manipulation of self-expansion and anxiety was implemented; however, as depended variable we considered an implicit approach/avoidance task (Paladino & Castelli, 2008). We expected self-expansion to predict greater preference for, and a preferential behavioral orientation toward, ethnically dissimilar than similar others.

In the general discussion, the theoretical and practical implications of results are discussed.

CHAPTER 1

RECENT FORMS OF INTERGROUP CONTACT

1. The contact hypothesis and its development

Intergroup contact has long been considered one of psychology's most effective strategies to reduce prejudice. Although Allport (1954) is commonly credited with introducing the Contact Hypothesis in his classic book, *The Nature of Prejudice*, the idea that intergroup contact could reduce prejudice was already in the literature by the mid-1930s.

Zeligs and Hendrickson (1933) found that the most important factor related to social tolerance was the degree to which children claimed acquaintanceship toward several races but they added that the relationship was high for all races except toward Blacks. Horowitz (1936) compared the racial attitudes of White children in segregated and integrated schools, but did not detect any differences in their racial attitudes.

By the mid-1940s, however, more attention was being devoted to the nature and context of interracial contact. One of the worst race riots in U.S. history occurred in Detroit in 1943. But while Black and White mobs raged in the streets, Blacks and Whites who knew each other not only refrained from violence but often helped one another (Lee & Humphrey, 1968). Bramfield (1946), in his work on race relations in public schools concluded that 'where people of various cultures and races freely and genuinely associate, there tensions and difficulties,

prejudices and confusions, dissolve' (p. 245). Stouffer (1949) found that American soldiers with more frequent contact with German civilians rated Germans more favorably than soldiers with less social contact. Gray and Thompson (1953) examined White and Black students from Georgia and demonstrated that more intergroup friendships were associated with less social distance between groups. In his report, Williams (1947) presented the initial formulation of intergroup contact theory. He correctly stressed that many variables influence contact's effects on prejudice. By 1950, research tested the theory more rigorously. Robust evidence was provided by studies on public housing and, in particular, by the study of Deutsch and Collins (1951). They compared the effects of the assignments of apartments irrespective of race relative to a segregated project that assigned Whites and Blacks to separate buildings. The authors demonstrated that White residents in the integrated housing project had more frequent and positive interracial contact than those in segregated units, and they subsequently displayed more positive racial attitudes and showed less racial stereotyping. Moreover, in 1954, Sherif and his colleagues found that contact alone was not sufficient to improve intergroup relations between 11-year old boys arbitrarily divided in two groups during a summer camp. Instead, relations became more harmonious only after the introduction of superordinate goals.

Within this theoretical and empirical background, Allport (1954) introduced in his influential volume, *The Nature of Prejudice*, the statement of intergroup contact hypothesis that guided research on the subject for five decades. The basic idea is that contact can have beneficial effects on intergroup relations. Simple contact, however, might not be sufficient to improve intergroup attitudes. Typical examples are the history of anti-Semitism in Europe and of relations between White and Blacks in the United States. Thus, to be maximally effective, Allport proposed that contact should be characterized by four key

conditions: (1) equal status of the groups in the situation, (2) common goals, (3) intergroup cooperation, and (4) the support of authorities, law or custom (see Pettigrew, 1998).

Since Allport's (1954) formulation, the contact hypothesis has received extensive empirical attention in the intervening years.

Considerable research has been devoted to testing and amending the basic principles of the theory. What was originally a modest "contact hypothesis" has now developed into a full-blown theory of considerable complexity. And the number of research investigations on the topic has increased rapidly especially recently (see Figure 1). As a result, we now know a great deal about the conditions under which intergroup contact best reduces prejudice and how the positive effect of contact on attitudes towards individual group members can be generalised towards entire outgroups (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006).

Figure 1. Intergroup contact studies by decade
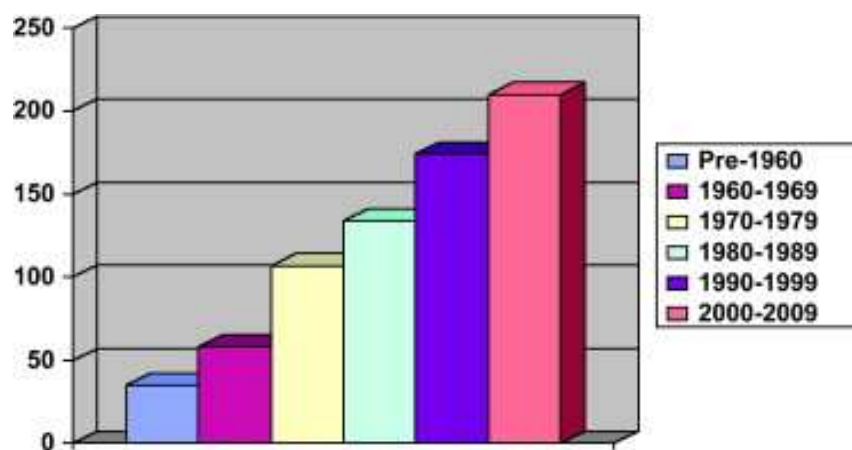
Note. From "Recent advances in intergroup contact theory," by Pettigrew, T. F., Tropp, L. R., Wagner, U., & Christ, O. (2011). *International Journal of Intercultural Relations* (Vol. 35, pp. 271–280). Elsevier Ltd.

There is impressive evidence supporting the basic idea that contact leads to more favorable intergroup relations, ranging across a large variety of situations cultural contexts and groups. Most notably, Pettigrew and Tropp's (2006) meta-analysis of 515 studies involving 713 independent samples and more than 250,000 participants from 38 nations, found substantial and strong evidence of the effectiveness of intergroup contact for reducing prejudice (mean effect size r = -.21), even after controlling for specific characteristics of both participants and studies, and across a variety of target groups and contexts. Pettigrew and Tropp concluded that Allport's optimal conditions facilitate and foster the positive effects of intergroup contact, but they are not essential: Contact *per se* can improve intergroup attitudes.

One of the most recent developments in intergroup contact theory is the idea that certain types of contact might be particularly effective at reducing prejudice.

Recent extension of the contact hypothesis that we will take into consideration is relative to direct cross-group friendship (Pettigrew, 1997), which refers to friendships that form between members of different groups who are in direct contact with one another.

Only recently researchers have begun to explore other forms of direct contact, namely extended contact (Wright, Aron, McLaughlin-Volpe, & Tropp, 1997), the positive effects of having friends with intergroup friendships on prejudice reduction.

Finally, it is worth noting a recent line of research which extended the contact hypothesis by studying the "mental simulation of a social interaction with a member or members of an outgroup category" (Crisp & Turner, 2009, p. 234).

We will consider this new approaches by presenting its most relevant studies.

2. Cross-group friendship

In his 1998 reformulation of the contact hypothesis, Pettigrew proposed that there needed to be a shift in the intergroup contact literature. Specifically, he argued that intergroup contact based on long-term close relationships rather than initial acquaintanceship — on which much contact research had previously been based—would be most successful at reducing prejudice. Accordingly, while Allport (1954) had proposed that, to be successful, intergroup contact should be characterised by equal status of those involved, cooperation to achieve common goals, and institutional support, Pettigrew suggested that a fifth condition be added: The intergroup contact situation should also provide the opportunity for friendship between members of different groups.

One might expect friendship to be a particularly effective form of contact for two reasons. First, the factors associated with optimal intergroup contact mirror those found to facilitate the formation of interpersonal friendship; cooperation, common goals, interdependence, and equal status have all been shown to lead to interpersonal attraction (Fehr, 1996). It follows that, in an intergroup context, friendship might lead to intergroup attraction. Second, previous research on intergroup contact has shown that higher-quality contact— contact that is comfortable and pleasant—is associated with more positive outgroup attitudes. For example, Islam and Hewstone (1993) undertook a study amongst 65 Hindu and 66 Muslim students from the University of Bangladesh to examine how different dimensions of contact (quantitative versus qualitative) relate to intergroup anxiety and outgroup attitudes. Both quantity contact and quality contact were significantly related to reduced intergroup anxiety and

attitudes towards the outgroup. High-quality contact, however predicted reduced prejudice and anxiety much better than did high-quantity contact.

As cross-group friendship implies contact of a high quality, it makes intuitive sense that friendship would be particularly effective at reducing prejudice. Pettigrew's (1998) reformulation is noteworthy because he was the first to propose explicitly that cross-group friendship should have a central place in the contact hypothesis. However, the potential role of cross-group friendship as a means of combating prejudice has been previously alluded to in the social psychology literature. This additional condition was meant by Allport (1954), who wrote about the positive effects of intimate contact, and by Cook (1962), who called it "acquaintance potential." The "friendship potential" proposed by Pettigrew is an essential condition for contact to obtain positive effects and generalize beyond the contact situation. Moreover, Allport's contact conditions are essential because they allow the development of intergroup friendship. Cook (1984) demonstrated the importance of intergroup friendship in a laboratory setting. After interracial friendship was established, White participants were more likely to choose race-relations policies that would benefit Black Americans. Moreover, Herek and Capitanio (1996) showed that close friendship with homosexuals produced generalization of positive attitudes to gay people in general.

In order to test his ideas regarding cross-group friendship, Pettigrew (1997) analyzed a sample of over 3,806 majority group participants from seven probability samples in France, Great Britain, the Netherlands, and West Germany. Target groups were different for each country. The primary independent variable was contact with outgroup friends. The dependent variables were: blatant and subtle prejudice (Pettigrew & Meertens, 1995), policy preferences concerning immigration, feelings toward a wide range of groups. In all samples, Europeans with outgroup friends scored significantly lower on five

measures of prejudice. The largest effect occurred for a measure of affective prejudice, whereby participants reported how often they had felt sympathy and admiration for the outgroup. Concerning generalization, people with intergroup friends accepted more readily immigration policies. Moreover, there was a strong negative relation between cross-group friendship and negative feelings toward outgroups not involved in contact. Although the data are cross-sectional, making it impossible to infer that friendship leads to reduced prejudice rather than the reverse, further analyses revealed that the path from intergroup friendship to prejudice was stronger than the reverse path from prejudice to cross-group friendship.

Further evidence for the role of intergroup friendship is provided by three longitudinal studies. The first was conducted by Levin, van Laar, and Sidanius (2003) in the college campus of UCLA University between 1996 and 2000. Participants were White, Asian American, Latino, African American and other ethnicity undergraduate students. Data were collected along five timepoints: the first before college entry, the subsequent during each spring quarter of the following academic years. Authors examined the effects of affective ingroup bias and intergroup anxiety at the end of participants' first academic year on friendships formed during the second and third year, and the influence of these friendships on ingroup bias and anxiety showed at the end of the fourth year, controlling for potentially influential variables, like pre-college ingroup and outgroup friendships. Hypotheses were that students with higher levels of bias and anxiety at the end of their first year at college would develop more ingroup and less outgroup friendships during the second and third college years. Furthermore, authors hypothesized that more outgroup friendships during the second and third year at college would predict less ingroup bias at the end of the fourth academic year, whereas an opposite relationship was expected for ingroup friendships (i.e., the more the ingroup friends, the higher the ingroup bias and the

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intergroup anxiety). Results were supportive of predictions. First, participants with higher levels of ingroup bias and intergroup anxiety toward other ethnic groups at the end of the first year of college developed more ingroup and less outgroup friends during their second and third academic years. Second, students with more outgroup friendships during the second and third years exhibited more positive attitudes at the end of the fourth college year.

The longitudinal nature of the study enabled the authors to establish the direction of causality: partially questioning results obtained in the correlational study by Pettigrew (1997), who found that the path from contact to prejudice was stronger than the opposite path, the path from contact to attitudes was as strong as the reverse path from attitudes to contact. Thus, the relationship between intergroup contact and improved relations is bi-directional and, once activated, will become stronger as it is going on.

The efficacy of this form of intergroup contact was finally confirmed by Pettigrew and Tropp's (2006) meta-analysis, which reported a significantly stronger negative mean relationship between intergroup contact and outgroup prejudice in the 154 tests that included cross-group friendships as the measure of contact (mean $r = -.25$) than in the 1,211 tests that din not (mean $r = -.21$). This significant difference in the effects of these two types of contact on prejudice may be largely attributed to the fact that cross-group friendship generally embody greater quality of contact than casual, intergroup contact experiences (e.g., Allport, 1954; Pettigrew, 1997, 1998).

2.1 The underling mechanisms of cross-group friendship

Pettigrew (1998) proposed four processes, which are interrelated and may mediate the contact-prejudice relationship.

The first process concerns learning about the outgroup. The initial formulation of the contact hypothesis proposed this process as the most important way for contact to improve intergroup relations: contact that provides new and disconfirming stereotype information about the outgroup has the potential to reduce prejudice. However, different mechanisms which limit the importance of stereotype disconfirmation have been proposed by cognitive research. For instance, Rothbart and John (1985) suggested that disconfirming information can change stereotypes only if the inconsistent behavior occurs often and in repeated situations and if outgroup members encountered are typical of their category. Recent research has focused more on knowing about intergroup differences, rather than on outgroup information per se (Wolsko, Park, Judd, & Wittenbrink, 2000).

The second hypothesized process is relative to the change of behavior. New expectations are often associated attitude change is likely because people resolve the dissonance between their new accommodating behavior and previous intergroup attitudes (Aronson & Patnoe, 1997; Festinger, 1957). Repeated and positive contact experiences might reinforce this process.

The third process hypothesized by Pettigrew concerns the role of emotions. Initial contact might increase anxiety (Islam & Hewstone, 1993; Stephan & Stephan, 1985). However, repeated positive contact with outgroup members can reduce anxiety and, in turn, ameliorate intergroup relations. Furthermore, contact has the potential to improve positive emotions, like empathy (see Batson et al., 1997); positive emotions, in turn, may mediate the effects of contact on intergroup attitudes. Intergroup friendship, in particular, is pivotal in the arousal of positive emotions (Pettigrew, 1997).

The last process proposed by Pettigrew which can mediate contact effects is ingroup reappraisal. Encounters with members of other groups help to reconsider not only the view of outgroups, but also the ideas about the ingroup.

Ingroup norms and customs appear to be not the only ones in the world, but just possible ways to manage social life. This sort of "deprovincialization" reshapes ingroup view and may result in more outgroup acceptance and solidarity. These four processes are supposed to be interdependent and reinforce one another in producing more positive intergroup relations.

Recently, scholars have devoted a growing attention to the possible mediators of intergroup contact. As shown by Pettigrew (1998), mediators are important because they are concerned about the *how* and *why* contact operates and tell us about the processes that shape contact effects. Several variables have been proposed, which can be classified in cognitive or affective mediators. A cognitive mediator that has received considerable attention concerns improving knowledge about the outgroup (see Alport, 1954). However, its effects proved to be very weak (Stephan & Stephan, 1984). As a result of the poor results obtained with cognitive mediators, the attention of researchers has shifted to the role that affective processes play in explaining contact effects (see Paolini, Hewstone, Voci, Harwood, & Cairns, 2006; Pettigrew & Tropp, 2008). As argued by Pettigrew, contact processes can be better understood by focusing on emotions rather than on cognitive factors. In Chapter 2 we will discuss evidence for these mediating mechanism.

3. Extended contact

The extended contact hypothesis, first proposed by Wright, Aron, McLaughlin-Volpe, and Ropp (1997), presented the idea that, for intergroup contact to reduce prejudice, a direct contact with outgroup members is not necessary .The idea behind extended contact is that the benefits associated with cross-group friendship might also stem from vicarious experiences of friendship—the knowledge that ingroup members have friends in the outgroup. If

an outgroup member is observed being friendly and positive to ingroup members, expectations about intergroup interactions may be more positive, while seeing an ingroup member showing tolerance toward the outgroup may have a positive influence on the attitudes of other ingroup members.

Extended contact may be especially useful in situations where there is less opportunity for contact, as it implies that an individual may not need to know personally an outgroup member in order to benefit from the positive effects of cross-group friendship.

Turner, Hewstone, Voci, Paolini and Christ (2007) proposed some parallelisms between the extended contact hypothesis and two broader psychological theories. First, extended contact is similar to social learning theory (Bandura, 1977), which proposes that much human behavior is learned through observing the behavior of others and then using this information as a guide for our own actions, a process known as observational learning. Observing others perform certain behaviors without adverse consequences was proposed to reduce fears and inhibitions about personally approaching intimidating situations, and to increase self-efficacy about performing the behavior. Extended cross-group friendship is a form of observational learning, whereby the appropriate behavior can be safely observed and learned before participants themselves engage in direct cross-group friendship.

Second, the logic behind extended cross-group friendship is closely related to balance theory. Heider (1958) believed in the importance of balanced states, whereby the relationships among related entities should fit together harmoniously. Imbalance will produce negative tension and arousal and lead to attempts to reinstate balance (Cartwright & Harary, 1956). In the context of extended cross-group friendship, an example of an imbalanced state would be where an individual who likes ingroup members but not outgroup members observes an ingroup member engaging in a close friendship with an outgroup

member. In this case, there is a positive relationship between the observer and an ingroup member, a positive relationship between the ingroup member and outgroup member, but a negative relationship between the observer and outgroup members, creating an imbalance.

According to Heider (1958) this type of situation could be resolved in various ways, including the observer reassessing their attitude towards outgroup members. By developing a positive attitude towards outgroup members, positive relationships will exist between the observer and the ingroup, the observer and the outgroup, and the ingroup and the outgroup, restoring the natural balance (see Figure 1). Thus, it appears that linking extended cross-group friendship to social learning and balance theories helps to elucidate the psychological bases for its effectiveness.

Wright et al. (1997) conducted four studies with distinct research methods to test the extended contact hypothesis. The first two studies utilized a within-subject-comparison survey approach to measure the impact of extended contact among Whithe, Latino/a, and African American students. Participants reported their attitudes toward several ethnic outgroups and their knowledge of intergroup members with friends in each outgroup. Their own cross-group friendships were also measured to control for direct contact when assessing extended contact effects. Results supported the extended contact hypothesis. In both studies, less prejudice towards a particular ouutgroup was predicted by (1) more ingroup members known to have friends in that outgroup; and (2) greater perceived closeness in the closest cross-grouup friendship. Importantly, these associations remained significant (whit about the same effect size) even after partialing out parallel measures of direct outgroup friendships.

In Study 3, Wright and colleagues introduced a paradigm inspired by Sheriff, Harvey, White, Hood, & Sherif's (1961) Robbers Cave studies. The authors tested the impact of introducing extended contact into an existing

competitive intergroup context both experimentally and longitudinally. Participant were randomly assigned to one of two 7-person groups and participated in a day-long (9-hour) experiment. The experiment involved five phases.

In Phase 1 (ingroup solidarity phase), participants were told that their assignment to a "Blue" or "Green" group was based on the similarity of their responses on pretest personality questionnaires (actually random). The groups were separated, given green or blue t-shirt "team T-shirts," engaged in "ice-breaker" games and cooperative problem-solving tasks, and designed a team logo and name; all intended to promote familiarity, ingroup solidarity, and linking.

During Phases 2 and 3, (intergroup rivalry phases), the groups engaged in a series of intergroup competitive activities. In Phase 2, teams competed on analytic and creative tasks. Following each task, opposing teams critically evaluated their opponent's work. These critiques were surreptitiously edited to leave only negative statements before being given to the target group.

Phase 3 involved physical problem solving games, after which "winners" (randomly determinate) were announced and prizes given. After each phases, participants completed measures of intergroup attitudes. During Phases 4, two cross-group friendships were formed. While the other group members completed individual personality questionnaire, two people of each group were randomly selected to "help an experimenter". These four participants were put into two cross-group pairs. Each pair completed a "closeness-generating procedure" consisting of a series of self-disclosure and relationship-building tasks (Aron, Melinat, Aron, Vallone, & Bator, 1997).

Groups then participated in Phase 5, intergroup competition was re-established whit other competitive task and participants completed a final measure of intergroup attitudes. The extended contact hypothesis predicted that among those participants not involved in a cross-group friendship, there would

be a decrease in negative intergroup attitudes after they became aware of the cross-group friendships.

Results clearly and strongly supported Wright's and colleagues hypothesis. The change on all three measures of intergroup attitudes from the end of the Phases 2 and 3 (before the intervention) to Phase 5 (after the intervention) were positive and large significant. Thus, as expected, ingroup favoritism in resource allocation and outgroup evaluation following the creation of interpersonal closeness between an ingroup and an outgroup member was reduced and perceptions of the intergroup relationship was improved.

In the final study, minimal groups were used (Tajfel et al., 1971). Participant were led to believe they had been divided into group based on their performance on an object-estimation task. Then, they observed an interaction between an ingroup and an outgroup member (both of them were confederates) through a one-way mirror. The interaction was manipulated by using verbal and nonverbal cues. Three experimental conditions were created: close friendship, neutral strangers, disliked acquaintances. The authors predicted more positive intergroup attitudes in the close friendship condition. The confederates' behavior was scripted that their pre-existing relationship was that of warm friends, unacquainted strangers, or disliked acquaintances. For example, in the friendly condition, upon meeting, they expressed delight at seeing an old friend, and hugged; in the neutral condition they showed no sign of previous acquaintance; and in the hostile condition they showed surprise and displeasure at being paired with this person, implying a long-standing hostile relationship.

As hypothesized, observing an ingroup member having a close friendship with an outgroup member eliminated the bias found in the other two conditions by improving outgroup evaluation. These last two studies provide experimental evidence for the predicted causal relationship from knowing of an ingroup member having outgroup friends to reduced prejudice.

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Increasing attention is devoted to the extended contact hypothesis (Wright et al., 1997). Subsequent studies have supported the extended contact hypothesis. Liebkind and McAlister (1999) showed that telling stories about cross-group friendship to Finnish adolescents led to more positive attitudes towards immigrants. More recently, Cameron, Rutland, Brown, and Douch (2006) had British children aged 5 to 11 years read friendship stories featuring an ingroup member and a refugee. They found that children in the intervention condition subsequently had a significantly more positive attitude towards refugees than children in a control condition. Finally, Cameron and Rutland (2006) had non-disabled children aged between 5 and 10 years take part in a 6-week intervention that involved them being read weekly stories featuring disabled and non-disabled children in friendship contexts. Participants were assigned to one of three conditions: an intergroup condition, in which the stories emphasized the group memberships of the characters and highlighted their typicality as group members; a depersonalized condition in which stories emphasized individual characteristics of the protagonists; and a neutral condition in which neither group membership or personal characteristics were highlighted. Attitudes towards the disabled became more positive after the intervention, but only in the intergroup extended contact condition.

3.1 The underlying mechanisms of extended contact

In their initial presentation of extended contact Wright et al. (1997) proposed three mechanisms which underlie the extended contact effect. These mechanisms fall under three primary processes: changing perceived ingroup norms, changing perceived outgroup norms, and transitory inclusion outgroup in the self.

✓ *Ingroup norms*

The first mechanism is based on the importance of an ingroup exemplar: observing an ingroup member that has a positive relationship with an outgroup member can provide information about how to behave and respond during an intergroup interaction (Turner et al., 1987). In these circumstances, other ingroup members are seen as an important source of information about the group's shared consensus on an issue (Haslam, McGarty, & Turner, 1996; Terry & Hogg, 1996). In other words, observing an ingroup member behaving positively towards the outgroup should therefore lead to the perception that there are positive ingroup norms regarding the outgroup. This, in turn, should have a strong positive influence on the observer's outgroup attitude (see also Pettigrew, Christ, Wagner, & Stellmacher, 2007).

✓ *Outgroup norms*

The second hypothesized mechanism is based on the idea that also positive outgroup exemplars serve an important function. Extended cross-group friendship should reduce prejudice by generating the perception that there are positive outgroup norms about the ingroup. Watching or knowing of an outgroup member behaving in a pleasant manner toward the ingroup may provide information about the attitudes and norms of the outgroup, showing the observer that the outgroup is interested in positive intergroup relations. Their friendly behavior might reduce negative stereotypes associated with the outgroup, especially when the outgroup category is salient and perceived as internally homogeneous (Brown et al., 1999).

✓ *Inclusion of the Outgroup in the Self*

Finally, extended cross-group friendship should reduce prejudice by increasing the extent to which the outgroup is included in the self. This mechanism is based on Aron and colleagues' work about the inclusion of the other in the self (see Aron & Aron, 1996, for a review). As group membership is an important part of the social self (Tajfel, 1981), ingroup members too are

spontaneously included in the self (Aron, Aron, Tudor, & Nelson, 1991). To the extent that partners in close interactions are treated as a single cognitive unit (Sedikides, Olsen, & Reis, 1993), it is possible to hypothesize that outgroup members with close interactions with ingroup members are considered as a part of the self and are consequently accorded the privileges given to ingroup members (e.g., Aron et al., 1991).

A possible limitation of the three mechanisms is that ingroup or outgroup members can be subtyped and hence positive intergroup relationships are more difficult to develop.

✓ *Additional mechanism: anxiety reduction*

Wright and colleagues (1997) proposed that extended contact may "reduce fears and negative expectation in the observer, leading to a more positive impression of the outgroup and perhaps even to actual positive interaction with the outgroup that would permit direct contact effects to operate" (p. 75). Moreover, as extended cross-group friendship does not involve any actual interaction, participants can observe intergroup contact without the anxiety inherent in initial direct intergroup encounters (Stephan & Stephan, 1985). Thus, anxiety should be lower during extended cross-group friendship than during direct contact.

While in their initial research, as reported early, Wright and colleagues (1997) did not provide a direct test of this effect, Paolini, Hewstone, Cairns and Voci (2004) found that a measure of intergroup anxiety was a significant mediator of the relationship between extended contact and reduced prejudice. Relatedly, Pettigrew, Christ, Wagner and Stellmacher (2007) have found that reductions in perceived collective threat partially mediates the relationship between extended contact and lower prejudice.

We will consider the relevance of these mechanisms by presenting its most relevant studies in Chapter 2.

4. Imagined contact

Imagined intergroup contact is the mental simulation of a social interaction with a member or members of an outgroup category. The basic idea is that mentally simulating a positive contact experience activates concepts normally associated with successful interactions with members of other groups (Turner, Crisp, & Lambert, 2007). Imagined contact is indirect in the sense that no actual contact occurs, but it does involve an interaction that takes place between the self and the outgroup (i.e., it is the perceivers themselves who are engaging in the contact). In this sense, imagined contact is more similar to actual contact (which also involves the self engaging with the outgroup) than extended contact.

There is a growing evidence for the benefit of mental simulation and its importance to a range of psychological domains. In health psychology, mental imagery has been employed to foster the achievement of health-related goals (Greitemeyer & Wurz, 2005) and to improve motor learning in rehabilitation settings (Page, Levine, Sisto & Johnston, 2001). Clinicians have included mental simulation into cognitive behavioral therapies, especially in phobias to modify images to reduce an image's emotional power (Wolpe, 1958).

Moreover, there is evidence that the effects of mental simulation can decrease stereotyping and implicit prejudice. For example, Blair, Ma, and Lenton (2001) found that participants who were asked to spend a few minutes creating a mental image of a strong woman (counterstereotypic), then showed less implicit gender stereotyping than participants who had created a mental image of a vacation in the Caribbean.

Importantly, neuroimaging technologies have shown that mental imagery shares the same neurological basis as perception and employs similar neurological mechanisms as memory, emotion and motor control (Kosslyn, Ganis, & Thompson, 2001). Following from this logic, Turner et al. (2007) proposed to extend the mental simulation to the domain of intergroup contact. They argued that imagining intergroup contact can have beneficial effects on intergroup attitudes. Participants may, for example, actively think about what they would learn about the outgroup member, how they would feel during the interaction, and how this would influence their perceptions of that outgroup member and the outgroup more generally. In turn, this should lead to more positive evaluations of the outgroup, similar to the effects of face-to-face contact (e.g. Islam & Hewstone, 1993; Paolini et al., 2004; Voci & Hewstone, 2003).

Across three study Turner et al. (2007) investigated this idea. They investigated whether participants (themselves young and heterosexual) who were asked to imagine a positive interaction with an elderly person or a gay man subsequently expressed lower ingroup bias than participants who did not. They created two sets of instructions, designed to invoke either an imagined intergroup interaction with an outgroup member, or their imagination of something totally unrelated. Two studies showed that young participants who imagined a scenario in which they engaged in a short positive interaction with an elderly person showed less ingroup favoring bias in attitudinal evaluations. This was the case whether participants imagined contact compared to simply imagining an outdoor scene (Experiment 1), or compared to simply thinking about an elderly person (Experiment 2; i.e., an elderly prime, no simulated interaction). Experiment 3 provided further support for the benefits of imagined contact by using an alternative measure of bias (based on outgroup evaluations, and outgroup homogeneity) and investigated mediating processes (intergroup anxiety). Male heterosexual participants were asked to imagine contact with a gay man, and to

then think about some of the unexpected things they might learn about that person. Participants who spent a few minutes imagining intergroup contact subsequently had a more positive attitude towards gay people in general, and also perceived there to be greater variability among the outgroup, than participants in the control condition.

More recently, Crisp and colleagues (e.g., Crisp, Stathi, Turner, & Husnu, 2009) suggested that imagined contact can be a first step for facilitating future intergroup contact. Husnu and Crisp (2010) provided an initial test of this hypothesis. In their study participants were British non-Muslim undergraduate students. They were asked to imagine contact with a British Muslim (experimental condition), or imagine a scenario outdoor (control condition). In order to measure intentions to engage in future contact participants completed measure of behavioral intentions. As expected, results demonstrated that participants who imagined contact subsequently reported greater intentions to engage in future actual contact than did participants in the control condition.

These results was also confirmed by another study (Cameron, Rutland, Turner, Holman-Nicolas, & Powell, in press) in an educational context. Cameron and colleagues 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.

Additionally, Turner and Crisp (2010) provided 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.

Showing an impact on implicit attitudes is also important because while explicit attitudes are associated with deliberative behaviors, implicit measures are associated with more subtle,indirect and spontaneous non-verbal behaviours (e.g.,McConnell & Leibold,2001).

Finally, Vezzali, Capozza, Giovannini and Sthati (in press), tested the effectiveness of imagined intergroup contact on elementary school children's explicit and implicit intergroup attitudes. Italian fifth-graders participated in a three-week intervention involving imagining meeting an unknown immigrant peer in various situations. Children in the experimental condition were asked to imagine having a pleasant interaction with an unknown immigrant child who had just arrived from a foreign country. Approximately one week after the last session, they completed measures of behavioral intentions toward immigrants. Furthermore, they were administered a measure of implicit prejudice, 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. 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.

Although there are few empirical papers on the effects of imagined contact, previous work on imagined contact has identified two key elements necessary to achieve positive impact on intergroup relations (Crisp & Turner, 2009). First, participants must actively engage in mental simulation of the contact experience. Second, the imagined contact must be positive. Less fully delineated, however, are the mediating mechanisms.

Collectively, the findings from this research program support the idea that imagined contact can complement more direct forms of contact—providing a way of initially encouraging an interest in engaging positively with outgroups before introducing face-to-face encounters.

CHAPTER 2

OUTGROUP HUMANIZATION VIA DIRECT AND EXTENDED CROSS-GROUP FRIENDSHIP

1. General introduction

Most research on intergroup relations claims that ingroup bias is a pervasive phenomenon characterizing these relations (e.g., Hewstone, Rubin, & Willis, 2002). There is a trend in modern societies to express prejudice in socially acceptable ways (Dovidio & Gaertner, 2004). One special form of subtle bias is represented by infrahumanization (see Chapter 1, paragraph xx), namely, the tendency to consider the ingroup as more human than the outgroup (for reviews, see Haslam, Loughnan, Kashima, & Bain, 2008; Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007). For instance, there is evidence that people believe ingroup members experience more uniquely human (or secondary) emotions than outgroup members; in contrast, non-uniquely human (primary) emotions are equally ascribed to the ingroup and the outgroup (e.g., Demoulin et al., 2004). To the extent that people are usually unaware of their tendency to infrahumanize the outgroup (e.g., Boccato, Capozza, Falvo, & Durante, 2008; Viki et al., 2006), and that the denial of human characteristics to other groups has important negative consequences, it is of great importance to identify potential ways to curb infrahumanization. As regards consequences, it has been found that infrahumanization is linked to behaviors of outgroup rejection (Vaes, Paladino,

Castelli, Leyens, & Giovanazzi, 2003) and hinders helping intentions (Cuddy, Rock, & Norton, 2007). Moreover, infrahumanization, promotes aggression (Greitemeyer & McLatchie, 2011), limits intergroup forgiveness in post-conflict reconciliation (Tam et al., 2007), and is used to justify ingroup's past misdeeds (Castano & Giner-Sorolla, 2006), thus limiting support for reparation policies (Zebel, Zimmermann, Viki, & Doosje, 2008).

Different strategies can be used to contain the infrahumanization bias (Leyens et al., 2007). In this work, we test both direct and extended cross-group friendship (Pettigrew, 1997; Wright, Aron, McLaughlin-Volpe & Tropp, 1997) as predictor of reduced infrahumanization. Our aim is to shed light on the potential processes underlying the relationship between both direct and extended cross-group friendship and infrahumanization. The first hypothesized process deals with inclusion of outgroup in the self (Aron et al., 2004; Wright et al., 1997), perceived norms of ingroup members toward the outgroup and perceived outgroup norms toward the ingroup, as suggested by De Tezanos-Pinto, Bratt and Brown (2010), Gómez, Tropp, and Fernández (2011), Turner, Hewstone, Voci and Vonafakou (2008), Wright et al. (1997). The second process is related to intergroup emotions – especially, empathy, trust and reduced anxiety – as factors promoting more harmonious intergroup relations (see, e.g., Pettigrew & Tropp, 2008; Swart, Hewstone, Christ, & Voci, 2011; Vezzali, Capozza, Stathi, & Giovannini, 2012). We are not aware of other studies testing inclusion of the outgroup in the self (IOS), ingroup and outgroup norms, and intergroup emotions as mediating factors between cross-group friendship (direct and extended) and reduced outgroup infrahumanization. Our expectation is that direct and extended cross-group friendship are associated with increased IOS, perceived ingroup and outgroup norms toward enhanced intergroup acceptance. These variables, in turn, are expected to be related to decreased intergroup anxiety and increased empathy

and trust, thus resulting in greater outgroup humanization. In the following sections, we will outline the rationale for our hypotheses.

1.1 Intergroup contact to reduce infrahumanization

Although there is a large consensus on the effectiveness of intergroup contact also with respect to prejudice expressed in subtle and indirect ways (Aberson & Haag, 2007; Pettigrew, 1997; Turner, Hewstone, & Voci, 2007; Vezzali, Capozza, & Pasin, 2009), little research has addressed its potential in reducing outgroup infrahumanization. Brown and collaborators (Brown, Eller, Leeds, & Stace, 2007) examined attitudes of British state secondary school students toward students of a private school, located in the same town. Results showed that contact, over a period of approximately 14 weeks, longitudinally reduced outgroup infrahumanization and derogation, while it increased the desire for closeness to the outgroup. Interestingly, the reverse paths (i.e., from attitudes and infrahumanization at Time 1 to contact at Time 2) were nonsignificant, suggesting the existence of a causal relation between contact and infrahumanization. Tam and collaborators (2007) conducted two studies investigating the relationship between Catholics and Protestants in Northern Ireland. Outgroup infrahumanization was tested as a mediator between contact and forgiveness for past wrongdoings committed by ingroup members. Authors found that contact reduced outgroup infrahumanization; reduced infrahumanization, in turn, was positively related to intergroup forgiveness.

More recently, Capozza and collaborators (Capozza, Trifiletti, Vezzali, & Favara, 2012) tested the role of contact in reducing infrahumanization in the context of different intergroup relations: Italians versus immigrants (Study 1); Northern Italians versus Southern Italians (Study 2). In particular, they evaluated a double-mediation model, in which positive contact was associated with both

decreased salience of intergroup boundaries and the adoption of a common identity. These recategorizations, in turn, were related to lower levels of anxiety and higher levels of empathy, both emotions being proximal predictors of outgroup humanization.

In sum, results obtained by Brown et al. (2007), Tam et al. (2007) and by Capozza et al. (2012) support intergroup contact as a potential strategy to reduce outgroup infrahumanization. It should be noted, however, that these studies tested only one type of intergroup contact: direct contact.

Interestingly, no study to date has investigated extended contact as an effective strategy for reducing outgroup infraumanization. In our view, direct contact might not be the only type of intergroup contact to contain the infrahumanization bias. Recent reviews of the literature suggest that friendship can have a stronger positive impact on intergroup attitudes than more casual forms of contact (e.g., Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Pettigrew, 1997; Pettigrew & Tropp, 2006). It also been proposed that friendship contact may have the capacity not only to reduce prejudice, but also to move intergroup attitudes beyond tolerance and toward compassionate love (Brody, Wright, Aron, & McLaughlin-Volpe, 2009). In addition, cross-group friendships are more likely than casual form of contact to have a broader generalized impact, in terms both of improving the contact partner's attitudes toward other individuals and outgroups not involved in the contact. Using a large multinational European survey, Pettigrew (1997) found that cross-group friendships, more so than acquaintanceships, were associated with more positive attitudes toward multiple outgroups – even groups not involved in the cross-group interaction. However, one crucial point should be made: despite the clear benefits of direct contact and cross-group friendship, these two powerful strategies for prejudice reduction have one inevitable limitation: they can only be used when group members have the opportunity to make contact in the first place

(e.g., Phinney, Ferguson, & Tate, 1997; Turner, Hewstone, & Voci, 2007). In circumstances where there are few such opportunities, interventions that involve intergroup contact may be very difficult to establish. Moreover, even when direct contact is possible, the principles of contact theory involve changing intergroup relations one encounter at a time. This is even more important when considering especially derogatory forms of bias, such as outgroup infrahumanization. As it is extremely unlikely that individuals who infrahumanize the outgroup accept to enter in contact with its member, strategies based on direct contact would easily fail for such individuals. One solution is to use intergroup contact in an indirect manner. Research investigating the extended contact hypothesis (Wright, Aron, McLaughlin-Volpe, & Tropp, 1997), namely, the knowledge of ingroup members' being friends with outgroup members (see Chapter 1, paragraph xx), suggests that a cross-group friendship can improve attitudes of individuals not directly involved in the cross-group interaction (Wright, Aron, & Brody, 2008). According to Wright et al. (1997), the knowledge of a positive relationship between members of the ingroup and the outgroup should reduce negative expectations and intergroup anxiety about future interactions with the outgroup. As mentioned (see Chapter 1, paragraph 3.1), Wright et al. (1997) proposed three mechanisms that might mediate the impact of extended contact on intergroup attitude: perceived positive ingroup and outgroup norms and increase the extent to which the outgroup is included in the self.

Extended contact can promote tolerance toward foreigners (Pettigrew, Christ, Wagner, & Stellmacher, 2007), improve attitudes toward refugees (Cameron, Rutland, Brown, & Douch, 2006) and stigmatized groups (Cameron & Rutland, 2006; Cameron, Rutland, & Brown, 2007), even at an implicit level (Vezzali, Giovannini, & Capozza, in press), and reduce hostility between Catholics and Protestants in Northern Ireland (Paolini, Hewstone, Cairns, & Voci, 2004). In sum, substantial research supports the claim that close

relationships such as direct and extended cross-group friendships are especially effective for improving intergroup attitudes.

Our aim, in the current study is not only (a) to examine, for the first time, extended cross-group friendship as a potential strategy to reduce outgroup infrahumanization, but also (b) to examine the different processes through which direct and extended cross-group friendship promote this effect.

In the next two paragraphs we will review research relevant to the key constructs of our model.

1.2 Direct and Extended Contact

The prejudice-reducing impact of extended contact is now well established, but relatively little is currently known about how direct and extended contact works at the same time. Consistently, to build our hypotheses we reviewed the most important studies that have considered the effects of both direct and extend contact at the same time. In many studies, direct contact has been shown to have stronger effects on prejudice reduction than extended contact (see, e.g., Turner, Hewstone, & Voci, 2007). Moreover, Christ et al. (2010) investigated direct contact as a moderator of the extended contact effects they obtained that extended contact is most effective among those people who live in segregated areas having only few, or no, direct cross-group friendships. Hence, when people do not benefit from direct contact because of a segregated context, extended contact seems to have the strongest impact on attitudes. Additionally, there is evidence that extended contact improves attitudes only amongst children who reported less high quality direct contact (Cameron, Rutland, Hossain, & Petley, 2011). Similar results were obtained by Vezzali et al. (2012), investigating the competitive role of direct and extended contact on implicit prejudice. Using a large, probability survey of 1383 German adults, Pettigrew, Christ, Wagner and

Stellmacher (2007) explored the relationship between direct and extended contact. They found that both types of contact were highly interrelated, and both were negatively related to prejudices against foreigners and Muslims living in Germany. Direct and extended contact together enhance the prediction of prejudice.

These results suggest that both direct and extended contact are associated with reduced prejudice and improved attitude toward outgroup members, however, direct contact has been shown to have stronger effects. Moreover, Paolini, Hewstone, Carins and Voci (2004), conducted two surveys of cross-comunity relationships in Northern Ireland and found that both direct and extended cross-group friendships between Catholics and Protestants were associated with reduced prejudice toward the religious outgroup and increased perception of outgroup variability. Additionally, the authors investigated intergroup anxiety as a potential mediating variable between direct and extend contact and outgroup judgments. In both cases, the effects involved an anxiety-reduction mechanism: intergroup anxiety totally mediated the relationship between direct friendship and perceived outgroup variability, and between extended friendship and prejudice, and partially mediated the direct friendship-prejudice and extended friendship-variability links. In a recent study Tam, Hewstone, Kenworthy and Cairns (2009) tested a model (Study 2) in which direct and extended contact were predictors of outgroup trust and outgroup attitude, and positive and negative behavioral tendencies were considered as potential outcomes. This study revealed that respondents who had higher levels of direct and extended contact with the outgroup tended to trust the outgroup more and have more positive attitudes toward the outgroup. Furthermore, respondents who were more trusting of the outgroup intended to behave more positively and less negatively toward the outgroup.

Building upon the theorizing of Wright et al. (1997), Turner, Hewstone, Voci, and Vonafakou (2008), among two independent samples in the context of South Asian–White relations in the United Kingdom, examined both the effects of direct and extended cross-group friendship. Structural equation modeling analyses revealed that four processes mediated the relationships between extended contact and intergroup attitudes: anxiety reduction, inclusion of outgroup in the self, perceived ingroup and outgroup norms. As regard direct cross-group friendship, it was associated only with greater inclusion of outgroup in the self, which in turn was associated with more positive outgroup attitudes. As suggested by De Tezanos-Pinto, Bratt, and Brown (2010), direct cross-group friendship did not affect the perception of ingroup norms, probably because it provides limited information about the ingroup as a whole. Direct cross-group friendship did not affect also the perception of outgroup norms. This is consistent with the literature about the influence in social norms, in general (see, e.g., Smith & Louis, 2008; Terry & Hogg, 1996), and underlines the importance of social identification as a fundamental mechanism by which group norms produce changes on individuals' attitudes and behaviors. Yet, direct cross-group friendship also failed to have a significant effect on intergroup anxiety in these studies, and its effect was mediated only by the inclusion of the outgroup in the self. More recently, De Tezanos-Pinto et al. (2010), by using one-level structural equation modeling analysis including both direct and extended cross-group friendships as predictors, replicated the results obtained by Turner et al. (2008), showing that the effect of indirect cross-group friendship is mediated by ingroup norms about contact with the outgroup. In contrast, direct contact (or contact at the individual level in the case of multi-level structural equation modeling) improved attitudes only by reducing intergroup anxiety, and did not affect the perception of in-group norms. Moreover, Gómez, Tropp, and Fernández (2011) found that extended contact had an effect on both attitudes and intergroup

expectancies among both majority (Spanish) and minority (immigrant) samples, even when controlling for direct friendship. Results showed that intergroup anxiety, inclusion the outgroup in the self, ingroup norms and outgroup norms all partially mediated the effect of extended contact on positive intergroup attitudes, even when controlling for the effects of direct friendship. However, inclusion of the outgroup in the self did not significantly mediate the effect of extended contact on positive intergroup expectancies when controlling for direct friendship.

Importantly, these findings suggest not only the theoretical idea that direct and extended cross-group friendship affect the mediators differently but also that distinct processes come into play when people report their perceptions and attitudes toward outgroup members. The evidence also shows that the effect of direct and extended cross-group friendship on intergroup bias may be mediated by IOS, intergroup anxiety and social norms. In sum, according to the literature reviewed above, it is plausible to expect that direct cross-group friendship affect the inclusion of the outgroup in the self (see, De Tezanos-Pinto et al., 2010; Gòmez et al., 2011; Turner at al., 2008). Although we acknowledge the possibility that also perceived ingroup and outgroup norms can act as mediators the relation between direct cross-group friendship and IOS is more consistent across several studies. Moreover, it is also possible that IOS works as mediator for extended cross-group friendship (Turner et al., 2008); however, it is more plausible to expect that extended cross-group friendship affect ingroup and outgroup norms (De Tezanos-Pinto et al., 2010; Gòmez et al., 2011).

Additionally, as we shall note, intergroup anxiety can play an important mediating role in explaining the effects of direct and extended contact (see, e.g., Paolini et al., 2004; Turner et al., 2007) as well as intergroup trust (Tam et al., 2009). Following Wright et al. (1997), we believe that the knowledge of positive norms among members of the ingroup and the outgroup should reduce negative

expectations and intergroup anxiety about future interactions and increase trust and empathy toward outgroup members. Finally, IOS should reduce intergroup anxiety and increase positive emotions toward the outgroup. Given the cognitive overlap between the self and the outgroup, people should treat outgroup members like the self. Therefore, IOS should engender deep positive evaluations (e.g., Aron, Aron, Tudor, & Nelson, 1991), including feelings of empathy, trust for the outgroup and its members, and should reduce intergroup anxiety. Relatedly, we can consider the extent to which IOS, ingroup norms and outgroup norms might bear relevance to predicting intergroup emotions.

In the present study, we will test all the three mechanisms proposed by Wright et al (1997) as first level mediators and intergroup emotions as second level mediators between contact and humanity attributions.

1.3 Affective mediators

Recent research on intergroup contact has devoted a growing attention to affective factors as potential mechanisms underlying contact effects (see Pettigrew & Tropp, 2008). In this study, we tested intergroup anxiety, intergroup empathy and intergroup trust as proximal predictors of humanity attributions. Intergroup anxiety refers to feelings of uneasiness experienced by a person when expecting negative consequences for him/herself during a contact experience (Stephan & Stephan, 1985). Batson and colleagues (1997; see also Batson, 1991) defined empathy as "an other-oriented emotional response congruent with another's perceived welfare" (p. 105). Trust is associated with feelings of transparency and certainty and implies positive expectations and confidence about others' behaviors and intentions (Kramer & Carnevale, 2001; Rousseau, Sitkin, Burt, & Camerer, 1998; Tropp, 2008).

Evidence in support of the mediational role of intergroup anxiety is impressive (for reviews, see Brown & Hewstone, 2005; Pettigrew & Tropp, 2008).

Similarly, several studies show that intergroup contact improves intergroup relations partly because it increases the empathy felt for outgroup members (e.g., Vezzali, Giovannini, & Capozza, 2010). Notably, recent studies provided support for the role of anxiety (Binder et al., 2009; Swart, Hewstone, Christ, & Voci, 2011; Vezzali et al., 2010), empathy (Swart et al., 2011; Vezzali et al., 2010) and trust (Vezzali, Capozza, Stathi, & Giovannini, 2012) as longitudinal mediators of the effects of contact on reduced prejudice.

Despite their importance for the improvement of intergroup relations, only two studies examined intergroup anxiety, empathy (see Capozza et al., 2012) and trust (see Vezzali et al., 2012) as predictors of outgroup infrahumanization.

Consistent with the literature reviewed above, we predict that both decreased anxiety and increased empathy and trust, associated with inclusion of the outgroup in the self, ingroup and outgroup norms will be related to greater outgroup humanization. As demonstrated by Capozza et al. (2012), increased empathy may be associated with the discovery of uniquely human emotions and attributes in outgroup members. As to reduced anxiety, it may be related to the perception of the outgroup as less threatening (Stephan & Stephan, 1985) and, thus, to a lower use of dehumanization as a strategy to justify one's feelings of threat (Riek et al., 2010). It is also likely that trusting an outgroup member implies considering him/her on the same level of the self and, thus, attributing to him/her emotions and attributes that characterize human beings.

1.4 Overview of the present research

We conducted a study to test our hypotheses concerning the effects of direct and extended cross-group friendship on attributions of humanity. As a measure of perceived humanness, pretested uniquely human (e.g., rationality) and non-uniquely human (e.g., instinct) traits, matched for valence and familiarity, were used (see Capozza et al., 2012). In the pretest, participants evaluated a number of attributes on 9-point scales: the trait is a *uniquely animal* versus *uniquely human* attribute (*both human and animal* was the neutral point); the trait is *positive* versus *negative* (*neither positive nor negative* was the neutral point); the word expressing the attribute is *not at all/extremely familiar*. Eight traits were selected by Capozza et al., (2012): four were rated as uniquely human and four as non-uniquely human, namely shared by humans and animals. Both uniquely and non-uniquely human traits were evaluated as slightly positive. We preferred to operationalize infrahumanization using features other than emotions, since we wished to capture more components of the whole concept of humanness. In recent years, other investigators have chosen to use trait measures instead of emotions to assess infrahumanization (see, e.g., Bastian & Haslam, 2010; Capozza et al., 2012; Hodson & Costello, 2007; Vaes & Paladino, 2010).

As to the intergroup contexts, in this Study we decided to consider the relationship between two regional groups: Northern and Southerne Italians. This choice was due to the high relevance of this categorization in the Italian society. Northerners are superior from a socio economic point of view (Capozza, Voci, & Licciardello, 2000); only Northern participants were examined. Respondents were administered a questionnaire assessing: direct and extended cross-group friendship, IOS, ingroup norms, outgroup norms, intergroup emotions (anxiety, empathy, trust) and attributions of uniquely human and non-uniquely human traits to the ingroup and to the outgroup. In the studies by Gaunt (2009), it was

found an effect of decreased infrahumanization by increasing the attribution of secondary emotions to the outgroup; little change was observed for the ingroup. Therefore, we decided to use the attribution of uniquely human traits to the outgroup as the outcome variable in our model (see also Capozza et al., 2012; Costello & Hodson, 2010).

Consistently with the literature reviewed above, the hypotheses are the following:

Hypothesis 1. Direct cross-group friendship should have an indirect effect on outgroup infrahumanization via IOS and, in turn, anxiety, empathy and trust.

Hypothesis 2. Extended cross-group friendship should be associated with increased outgroup humanization via ingroup and outgroup norms and, in turn the emotions of anxiety, empathy and trust.

Hypotheses were tested by using structural equation modelling and bootstrapping procedures.

1.4.1 Northern and Southern Italians

In this study we considered the relationship between Northerners and Southerners. North and South of Italy have been exposed to different historical influences. Already before unification of Italy, South Italy appeared as an underdeveloped area: its economy was solely agricultural and society was semi-feudal, anchored to tribal-like family interests (Banfield, 1970). In contrast, North of Italy was affirming itself as a modern society, becoming more and more industrialized. This difference became a problem after the unification, raising a long-standing political issue known as the "Southern question." During 1970s and 1980s the situation became worse for Southerners: corruption, clientelism,

and organized crime increased; government investments were allocated for administrative or political reasons rather than economic development. During the last decades of the past century, in the North Italy resentment toward Southerners increased, indeed, they were perceived as unable to manage government funds and, thus, an obstacle to Italian economic development. In 1991, a political party was founded – Northern League – which endorsed movements of protest held by the Northern population advocating for a greater economic regional autonomy. Nowadays, even if Southern social and economic conditions have much improved, disparities between North and South of Italy continue to persist.

2. Study 1

2.1 Method

Participants and Procedure

Participants were 251 students attending psychology courses at a large university in Northern Italy (Padova): There were 219 females, 31 males, 1 missing data. Mean age was 20.68 years ($SD = 2.87$). Participants were all Northerners, and had contact with Southerners. Data were collected during classes. Participants were informed that the questionnaire would be asking them about their social attitudes. At the conclusion of the study, all participants were thanked and debriefed.

2.2 Measures

Predictor variables

The *direct cross-group friendship* measure consisted of four items adapted from earlier intergroup friendship research (Turner at al., 2008), regarding participants' experience of friendship with Southerners within and outside

university. Participants were asked: "How many friends do you have at the university who are Southerners? (1 = *none*, 2 = *one*, 3 = *two to five*, 4 = *five to ten*, 5 = *over 10*); "How often do you spend time with Southern friends when you are at the university?" (1 = *never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *quite a lot*, 5 = *all the time*); "How many friends do you have outside university who are Southerners?" (1 = *none*, 2 = *one*, 3 = *two to five*, 4 = *five to ten*, 5 = *over ten*) ; "How often do you spend time with Southern friends outside university?" (1 = *never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *quite a lot*, 5 = *all the time*). In the introductory analyses, the four items ($\alpha = .71$) were averaged in a single measure of contact; higher scores indicated more cross-group friendships.

Extended cross-group friendship consisted of three items ($\alpha = .77$) adapted from Turner et. al (2008): "How many of your Northern friends have friends who are Southerners?" "How many of your *very best* Northern friends have friends who are Southerners?" and "How many members of your family (including parents, brothers and sisters, cousins, etc.) have friends who are Southerners?" (questions being answered on a scale where 1 = *none*, 2 = *one*, 3 = *two to five*, 4 = *five to ten*, 5 = *over ten*). Higher scores reflected more experience of extended contact.

First-level mediator variables

To measure *Inclusion of the outgroup in the self* two items were used: "My identity also includes the Southern group" (1 = *not at all*; *7 = a lot*) and a pictorial item, based on Aron et al.'s (1992) inclusion of other in the self scale and first applied to the relation of an individual to a group by Tropp and Wright (2001). This item consisted of seven pairs of overlapping circles. The greater the overlap between the circles, the greater the perceived inclusion of the outgroup in the self. Correlation between the two items was $r = .60$, $p < .01$. For the

descriptive analyses, items were averaged to form a single measure of Inclusion of the outgroup in the self.

Perceived ingroup norms were measured using three items, with participants responding on 7-point scales: "How friendly do you think your Northern friends are toward Southerners?" (1 = *not at all friendly*; 7 = *very friendly*), "Do you think your Northern friends would be happy to go out with/date someone who is from the South?" (1 = *not at all happy*; 7 = *very happy*), and "In general, how much do you think Northerners like Southerners?" (1 = *not at all*; 7 = *a lot*). The three items (α = .81) were combined (introductory analyses): higher scores reflect more positive ingroup norms toward the outgroup.

Perceived outgroup norms were measured using three items with 7-point scales: "In general, how much do you think Southerners like Northerners?" (1 = *not at all*; 7 = *a lot*), "How friendly do you think Southerners are toward Northern people?" (1 = *not at all friendly*; 7 = *very friendly*), and "In general, how happy do you think Southerners would be to spend time with/be friends with someone who is from the North?" (1 = *not at all happy*; 7 = *very happy*). All items were averaged to yield a reliable *outgroup norms* index (α = .87); higher scores indicate higher levels of positive outgroup norms toward the ingroup.

Second-level mediator variables

Participants were asked to rate anxiety felt toward the outgroup by using eight items (e.g., anxious, worried, relaxed, restless). Items were introduced by the following sentence: "When I think of Southerners, I feel." A 7-point scale was used, anchored by *not at all* (1) and *a lot* (7). The eight items (α = .91) were combined (introductory analyses): higher scores reflect greater intergroup anxiety. For empathy, four items were used. Participants were asked to rate on a 7-point scale (1 = *not at all*; 7 = *a lot*) to what extent, when thinking about

outgroup members, they "feel in tune with them," "feel they share their emotions," "understand their feelings," "share their joys and sorrows." For the introductory analyses, items ($\alpha = .91$) were averaged to form a single measure of empathy toward the outgroup. To measure trust, three items were used (e.g., "I trust Southerners," "I distrust Southerners"). A 7-point scale was used, anchored by *not at all* (1) and *a lot* (7). For the introductory analyses, items ($\alpha = .83$) were averaged to form a single measure of trust toward Southerners.

Criterion variable

To measure humanness attributions, four uniquely human (reasoning, rationality, morality, intellective abilities) and four non-uniquely human traits (instinct, drive, impulsiveness, impetus) were used. Participants rated first the outgroup (Southerners) and then the ingroup (Northerners) on these traits, responding on a 7-point scale, for instance: "Southerners (Northerners) are characterized by rationality" (1 = *definitely false*; 7 = *definitely true*; 4 = *neither false, nor true*). Concerning humanity attributions to Southerners, alpha was .77 for uniquely human traits and .90 for non-uniquely human traits; regarding humanity attributions to Northerners, alpha was .72 for uniquely human traits and .90 for non-uniquely human traits. Both for the ingroup and for the outgroup, scores were averaged (introductory analyses) to obtain a reliable measure of the uniquely and non-uniquely human dimensions.

Then, personal data were asked.

2.3 Results

Introductory analyses

Means and standard deviations of the measures contained in the questionnaire are presented in Table 1.

Table 1. Means and standard deviations *(Study 1, N = 251)*

		M	*SD*
Direct Cross-Group Friendship[a]		2.79*	0.90
Extended Cross-Group Friendship[a]		3.10	0.86
Inclusion of outgroup in the self		3.45*	1.41
Ingroup Norms		3.92	1.06
Outgroup Norms		4.50*	1.04
Intergroup Anxiety		2.55*	1.00
Intergroup Empathy		3.76*	1.28
Intergroup Trust		4.52*	1.22
Ingroup	Uniquely Human Traits	5.15*	0.84
	Non- Uniquely Human Traits	4.23*	1.00
Outgroup	Uniquely Human Traits	4.10	1.03
	Non- Uniquely Human Traits	5.38*	1.08

Notes. [a] denotes indices ranging from 1 to 5; all other indices range from 1 to 7. Asterisks indicate that means differ from the central point of the scale which is 3 for direct and extended cross-group friendship and 4 for all other indices.
*$p < .001$

Regarding the humanity attributions, a repeated measures ANOVA 2 (Target group: ingroup vs. outgroup) $\times$ 2 (Traits: uniquely human vs. non-uniquely human) was applied. It emerged a main effect of target group, $F(1, 250)$ = 12.93, $p < .001$, η_p^2 = .049, indicating that traits were assigned more to Southerners ($M = 4.74$, $SD = 0.79$) than to Northerners ($M = 4.69$, $SD = 0.69$).

A significant interaction Target group $\times$ Traits was also found, $F(1, 250) =$ 261.96, $p < .001$, $\eta_p^2 = .512$. (Figure 1). To decompose the interaction, simple main effects were computed.

These revealed that participants assigned the uniquely human traits more to the ingroup ($M = 5.15$, $SD = 0.84$) than to the outgroup ($M = 4.11$, $SD = 1.03$), while they assigned the non-uniquely human traits more to the outgroup ($M = 5.37$, $SD = 1.11$) than to the ingroup ($M = 4.26$, $SD = 1.00$), Fs$(1, 250) > 175.59$, ps $< .001$, η_p^2s $> .410$. Moreover, the ingroup was more characterized in uniquely human than non-uniquely human terms, while the outgroup was more characterized in non-uniquely human terms, Fs$(1, 250) > 202.41$, ps $< .001$, η_p^2s $> .440$. Thus, in this study, the outgroup was infrahumanized and perceived more in terms of features that humans share with animals rather than in uniquely human traits. This stronger attribution of non-uniquely human features to the outgroup has also been found in other studies (see Capozza et al., 2012; Leyens et al., 2001, Study 1).

Figure 1. The attribution of uniquely human traits and non-uniquely human traits to the ingroup and to the outgroup (*Study 1*)
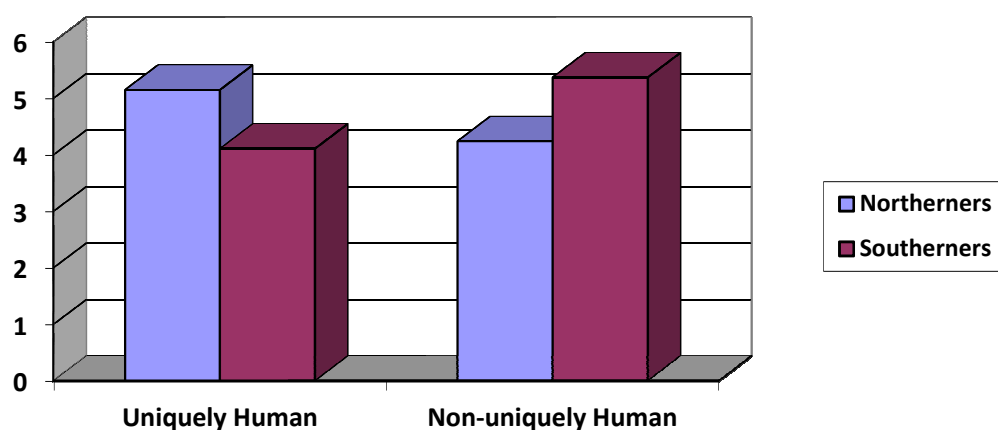
The structural equation model

Before testing the structural model, we checked whether there was conceptual overlap between the measures used. To this aim, confirmatory factor analysis (CFA) was applied (LISREL 8.7; Jöreskog & Sörbom, 2004). In the CFA model, IOS was measured by the two respective indicators, while for both direct and extended cross-group friendship, ingroup norms, outgroup norms, anxiety, empathy, trust and outgroup uniquely human traits, two indicators for each measure were created. The item-to-construct balance method by Little, Cunningham, Shahar, and Widaman (2002) was used. For each construct, we tested a measurement model, which allowed us to obtain the different item loadings. We, then, organized loadings in a decreasing order, and used the first two items to anchor the parcels. The two following items were included in the parcels in the inverted order. If a latent variable was measured by four items and loadings were in a decreasing order from 1 to 4, items 1 and 4 were included in the first parcel, and items 2 and 3 in the second one. Intercorrelations between indicators are shown in Appendix A. We used four goodness-of-fit indices: the chi-square test, the comparative fit index (CFI; Bentler, 1990), the root-mean-square error of approssimation (RMSEA) and the standardized root mean squared residual (SRMR; Bentler, 1995). A model fits the data well when χ^2 is nonsignificant. However, the chi-square statistic is sensitive to the sample size; for this reason, we used the three additional measures. CFI values equal to or above .95 are considered acceptable (Hu & Bentler, 1997, 1999). Concerning SRMR, Hu and Bentler (1999) suggested that the fit is satisfactory for values of .08 or below, and an RMSEA value of less than .06. All analyses were performed on covariance matrices (Cudeck, 1989). The nine-factor model fit the data well: $\chi^2(99) = 136.17$, $p = .008$; RMSEA = .033; SRMR = .039; CFI = .99 (Hu & Bentler, 1999); even if the chi-square was significant, the other goodness-of-fit

indexes were satisfactory. Importantly, loadings of indicators on the respective factor were all significant and higher than .66; moreover, latent variables were all distinct constructs. In fact, ϕ coefficients, ranging between -.57 (empathy and anxiety) and .74 (direct and extended cross-group friendship), were all lower than 1 (95% confidence interval).

In the structural equation model tested, we tested whether cross-group friendship (direct and extended) predicts the three mechanism, which, in turn, predict anxiety, empathy and trust; emotions are used as proximal predictors of perceived outgroup humanity. To investigate the mediational effects, also the direct paths from direct and extended cross-group friendship to emotions and outgroup humanity, and the direct paths from the three mechanism to outgroup humanity were estimated. This model fit the data well: $\chi^2(99) = 136.17$, $p = .008$; RMSEA = .033; SRMR = .039; CFI = .99 (see Figure 2, in which only significant parameters are reported).

As appears from Figure 2, direct cross-group friendship was associated with greater inclusion of the outgroup in the self ($\gamma = .30$, $p < .05$), while extended cross-group friendship was positively associated with more positive perceived ingroup norms ($\gamma = .53$, $p < .001$). Both ingroup norms and inclusion of the outgroup in the self predicted intergroup emotions: the inclusion of the outgroup in the self was related to reduced anxiety ($\beta = -.45$, $p <. 001$), and increased empathy ($\beta = .52$, $p <. 001$) and trust ($\beta = .60$, $p <. 001$), while the ingroup norms was associated with lower levels of anxiety ($\beta = -.21$, $p <. 01$) and higher levels of empathy ($\beta = .16$, $p <. 05$) and trust ($\beta = .25$, $p <. 01$) toward Southerner.

These three emotions, in turn, predicted the attribution of uniquely human traits to the outgroup, in particular: anxiety was marginally negatively associated with uniquely human traits ($\beta = -.18$, $p = .08$), while empathy ($\beta = .23$, $p < .05$) and trust ($\beta = .25$, $p < .05$) were positively associated with uniquely human traits.

As can be noted from Figure 2 extended cross-group friendship did not predict outgroup norms. This finding will be addressed in the Discussion.

To test our double mediation hypothesis – from direct and extended cross-group friendship to outgroup humanization via first and second level mediators – we used the bootstrapping method (Preacher & Hayes, 2008; for testing three-path mediated effects, see Taylor, McKinnon, & Tein, 2008). Compared to product-of-coefficients tests, such as Sobel test, this method has the main advantage of taking into account the skewed shape of mediated effects. We applied bootstrapping procedures using 2000 resamples. The point estimates and the confidence intervals for the indirect effects are reported in Table 2. The fact that the 95% confidence interval excludes zero indicates a significant mediation, $p < .05$ (Preacher & Hayes, 2004, 2008; Shrout & Bolger, 2002).

Our findings show the reliability of these indirect effects for both direct and extended cross-group friendship. As can be observed in Table 2 the indirect effects of direct cross-group friendship via IOS and each of the intergroup emotions are significant. So, our double mediation hypothesis was fully supported for the IOS-anxiety, IOS-empathy and IOS-trust paths. Similarly, the indirect effects of extended cross-group friendship on outgroup humanization via ingroup norms and, in turn, intergroup emotions, are significant (see Table 2). In all cases, we observed total mediation effects.

Figure 2. Structural equation model of the effects of contact on outgroup humanization via group representations and intergroup emotions, $N = 251$ (Study 1).
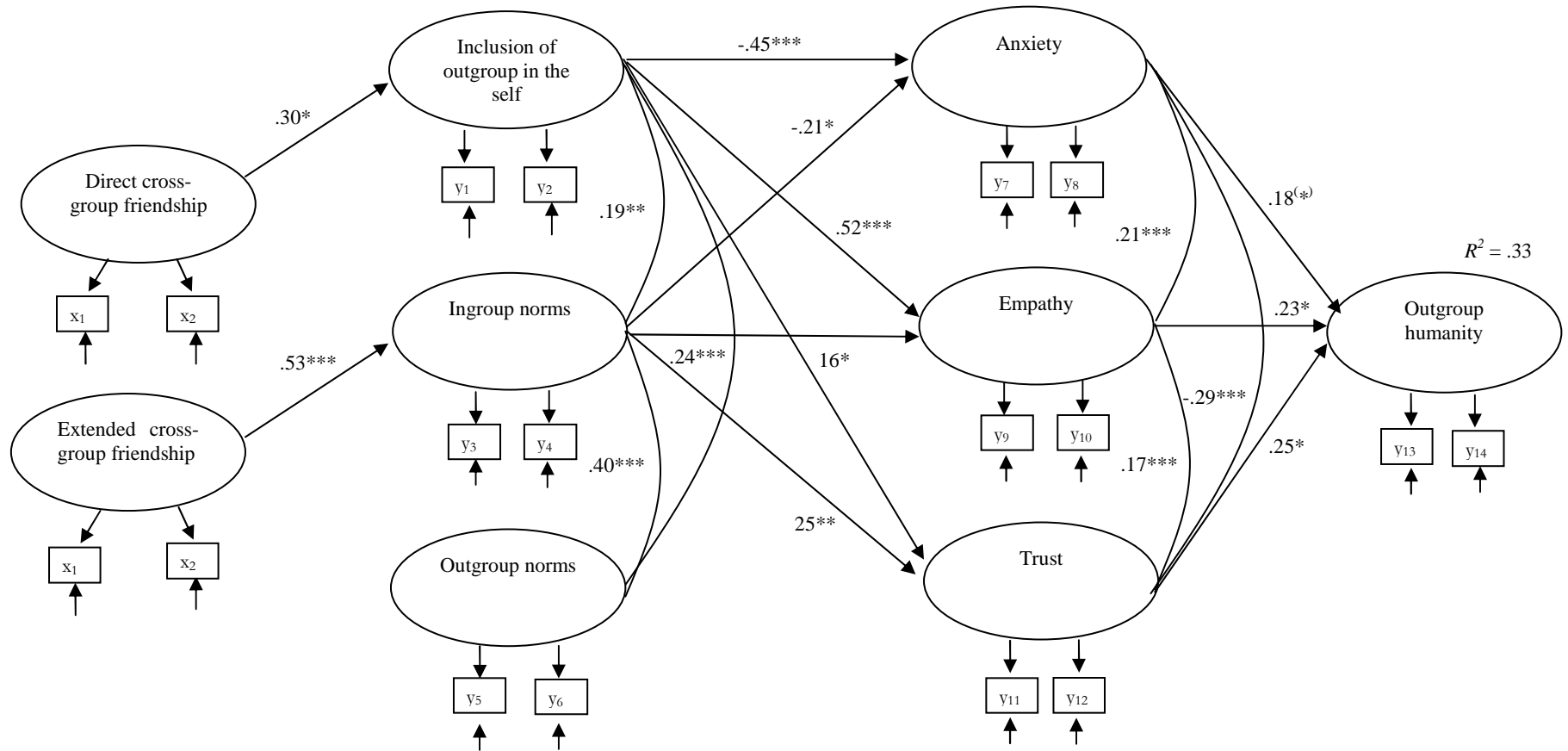
Only significant parameters are represented. Curved paths denote correlations between variables.
The goodness-of-fit indices for the model are: $\chi^2(99) = 136.17$, $p = .008$; RMSEA = .033; SRMR = .039; CFI = .99
$^{(*)} p = .08$. $*p < .05$. $** p < .01$. $***$

Table 2. Indirect effects of direct and extended cross-group friendship, IOS, ingroup norms, anxiety, empathy and trust on outgroup humanization

Predictor	Indirect process	Criterion variable	Bootstrap point estimate	95% Bias corrected confidence interval
				Model Figure 2
Direct cross-group friendship	IOS - Anxiety	Outgroup Humanization	.029	[.005; .242]
Direct cross-group friendship	IOS - Empathy	Outgroup Humanization	.013	[.004; .073]
Direct cross-group friendship	IOS - Trust	Outgroup Humanization	.093	[.033; .858]
Extended cross-group friendship	Ingroup Norms - Anxiety	Outgroup Humanization	.028	[.006; .205]
Extended cross-group friendship	Ingroup Norms - Empathy	Outgroup Humanization	.029	[.007; .173]
Extended cross-group friendship	Ingroup Norms - Trust	Outgroup Humanization	.073	[.028; .390]

Note. Bootstrap point estimates are based on 2000 bootstrap samples; 95% bias corrected confidence interval are reported in parentheses.

2.4 Discussion

Previous studies (Brown et al., 2007; Tam et al., 2007) did not consider extended cross-group friendship as a potential strategy to reduce outgroup infrahumanization, and, except for one study (Capozza et al., 2012), did not consider what variables may intervene in the relation between contact and humanity attributions to the outgroup. These are important flaws, as outgroup infrahumanization is one among the less acceptable types of bias with deeper detrimental consequences (Leyens et al., 2007). It is thus of primary importance to examine strategies for limiting this pervasive bias. In the present research, we tested, for the first time, extended, as well as, direct cross-group friendship, as simultaneous predictors of outgroup humanization. Moreover, we examined two types of mediators: the three mechanism proposed by Wright et al. (1997) and intergroup emotions. Specifically, we proposed two different double mediation models for direct and extended cross-group friendship where, respectively, direct cross-group friendship is associated with the inclusion of the outgroup in the self and extended cross-group friendship is associated with ingroup and outgroup norms. In turn, the greater inclusion of the outgroup in the self, ingroup and outgroup norms are related to lower levels of anxiety and higher levels of empathy and trust, these emotions being proximal predictors of humanity attributions. Results generally supported the models proposed. Findings showed that both direct and extended cross-group friendship are associated with greater outgroup humanization. This is the first empirical evidence showing that also extended contact can be effective in combating infrahumanization. Confirming our first mediation hypothesis, the effect, for direct cross-group friendship, is mediated by inclusion of outgroup in the self. In turn, IOS was associated with lower anxiety, and higher empathy and trust, that mediate, the relation with outgroup humanization. Thus, this study adds to previous evidence which

demonstrate the mediating processes driving reduced outgroup infrahumanization following direct (but not cross-group friendship) contact (Capozza et al., 2012). Moreover, the indirect effect of extended cross-group friendship was mediated by ingroup norms and by the emotions of anxiety, empathy and trust. The double mediation hypothesis is thus supported.

These findings, thus, not only demonstrate an effect of extended contact on outgroup humanization; they also clarify the key underlying processes. However, an ambiguity remains regarding the relationships between extended cross-group friendship and outgroup norms. In our model, in fact, extended cross-group friendship did not affect outgroup norms. One reason could be that for Northern participants outgroup norms bear less relevance than ingroup norms. This results could be consistent with the literature about social norms (see, e.g., Smith & Louis, 2008; Terry & Hogg, 1996), and underline the importance of social identification as a fundamental mechanism by which group norms produce changes on individuals' attitudes and behaviors. Also, probably, participants focused their attention on ingroup's friends and not on outgroup members; thus, it is not surprising that, as attention was not focused on outgroup members, extended contact did not provide indications on otgroup's norms.

The current findings support and extend the literature on intergroup norms, IOS and intergroup emotions, demonstrating that these factors may be at the heart of humanness attributions to outgroup members. Our results highlight the crucial role of inclusion of the outgroup in the self, ingroup norms and intergroup emotions, especially of anxiety, empathy and trust for ameliorating intergroup relations (Pettigrew & Tropp, 2008; Swart, Hewstone, Christ, & Voci, 2011). Interestingly, these three emotions were reliable mediators in both types of cross-group friendship (i.e., direct and extended).

CHAPTER 3

THE INDIRECT CONTACT EFFECT: THE INFLUENCE OF GROUP MEMBER'S PROTOTYPICALITY

1. General introduction

In the first study (see previous Chapter), we provided further support for the effectiveness of direct and indirect cross-group friendship (Davies, Tropp, Aron, Pettgrew, & Wright, 2011; Pettigrew, 1997; Wright, Aron, McLaughlin-Volpe, & Tropp, 1997) by showing that both forms of friendship improve outgroup humanization. Moreover, evidence was found for the mediational role of inclusion of the outgroup in the self, positive ingroup norms and intergroup emotions. Specifically, we proposed two different processes explaining *how* direct and extended cross-group friendship affect outgroup humanization.

In this second study our aim is to extend these results by testing *when* extended contact effects take place. The practical implications that derive from the effectiveness of so-called indirect forms of contact are very important. Precisely, because indirect contact can make a unique contribution to the reduction of prejudice, above and beyond the impact of direct contact, an important theoretical contribution would be to discover moderators of the impact

of indirect contact on attitudes, so as to establish the boundary conditions that limit its beneficial effects. Researchers have only recently started to investigate the possible moderators of the indirect contact effect. This includes studies on individual differences (see Dhont & Van Hiel, 2009, 2011; Hodson, Harry, & Mitchell, 2009), cognitive versus affective bases of attitudes (Paolini, Hewstone, & Cairns, 2007), and level of direct contact (see Christ et al., 2010; Vezzali, Giovannini, & Capozza, in press).

In this study, we propose that indirect contact can have an effect on attitudes as a result of "perceived group member prototypicality", a concept which is central to self-categorization theory (Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; also see Hogg, 2003).

According to self-categorization theory (Turner, 1985, 1991; Turner et al., 1987), group members vary in the extent to which they are perceived as prototypical of their group, that is, representative of what the group members have in common and what differentiates the group from other outgroup. Specifically, it predicts that group members will be especially influenced by individuals who are the most typical of the ingroup. Prototypical group members are more likely to be group leaders (Hains, Hogg, & Duck, 1997), successful in eliciting attitude change in others (van Knippenberg, Lossie, & Wilke, 1994), and they are more likely to define the group's norms and act in accordance with those norms (Oakes, Haslam, & Turner, 1998). Non-prototypical members are not considered to be good members of the group, and are seen as less related to the group. Hence, they are evaluated less favorably than their prototypical counterparts (Schmitt & Branscombe, 2001).

Let us consider the importance of prototypical members more closely, because Wright et al. (1997) proposed that the effects of extended contact in reducing prejudice is, in part, explained by the perception of an ingroup member behaving positively toward an outgroup member. In this manner, group members

infer norms from the behavior of others, who are informational influence (Hogg & Turner, 1987; Turner, 1982). Consequently, for the indirect contact effect to occur, it is important to ensure the prototypicality of both ingroup and outgroup members, especially ingroup member. Indeed, as we showed in our first study, extended contact affect intergroup attitudes primarely by changing the perception of ingroups norms. Thus, it is crucial to make these ingroup norms especially salient, so as to empower the effects of extended contact. Our proposal is that this can be accomplished by enhancing the prototypicality of ingroup members that have contact with outgroup friends, so as to make more evident that engaging in intergroup contact is an accepted behavior (i.e., a norm), acted by those who are the most central to the group (prototypical ingroup members). It is also possible that in our previous study outgroup norms did not mediate the extended contact effects because outgroup members who had contact with ingroup friends were considered as exceptions to the rule, namely marginal outgroup members (Brown & Hewstone, 2005). It is likely that, to the extent they also are seen as typical members, they will be perceived as good examplars of the norms endorsed by the outgroup, so contributing to improve intergroup attitudes. However, the effects of outgroup member typicality should be present only if also the ingroup member is seen as prototypical: there is no reason to value the positive contact behavior of a typical outgroup member if the ingroup member is not perceived as prototypical. Finally, Hewstone and Brown's (1986) model says that the generalization from a specific intergroup interaction to outgroup attitudes overall is moderated by group typicality. That is, the more the outgroup character is perceived as representative of his or her group, the more likely the positive intergroup contact will translate into positive intergroup attitudes. The Hewstone and Brown's effect is consistent with our theoretical perspective, and is confirmed by several experimental (e.g., Brown, Vivian, & Hewstone, 1999), correlational (e.g., Voci & Hewstone, 2003), and longitudinal (e.g., Binder et al., 2009) studies.

On the basis of the considerations reported above, we believe that the knowledge of a friendly cross-group interaction between a prototypical ingroup member and a prototypical outgroup member should result in more positive outgroup attitudes compared to the knowledge of the friendly cross-group interactions between a non-prototypical ingroup and a prototypical/non-prototypical outgroup member.

Our aim in the current research was to test, for the first time, the effect of indirect contact on attitudes as a result of perceived ingroup and outgroup members prototypicality.

1.1 Overview of the present research

To investigate the role of perceived prototypicality of group members as moderator of the indirect contact effect we carried out an experiment.

We *manipulated the* prototypicality of an ingroup and outgroup member, and analyzed the impact of this manipulation on intergroup emotions: anxiety, empathy and trust (Pettigrew & Tropp, 2008; Swart, Hewstone, Christ, & Voci, 2011; Vezzali, Capozza, Stathi, & Giovannini, 2012), and intergroup perceptions: outgroup's competence, warmth and morality (see Fiske, Cuddy, & Glick, 2007; Leach, Ellemers, & Barreto, 2007).

The experimental one-way design was defined by four levels:
a = both ingroup and outgroup exemplars are perceived as prototypical of the respective group
b = ingroup's exemplars is prototypical, but outgroup's exemplar is not
c = outgroup's exemplar is prototypical, but ingroup's exemplar is not
d = the two exemplars are not prototypical.

Hypothesis 1. Emotions toward the outgroup and its stereotypes should be more positive when both ingroup and outgroup members, involved in the interaction, are perceived as prototypical of the respective group than when only one or none is perceived as prototypical.

Hypothesis 2. Emotions toward the outgroup and its stereotypes should be more positive also when the ingroup member is perceived as prototypical of his/her group.

Hypothesis 3. Prototypicality of outgroup exemplars is not sufficient, in itself, to improve emotions toward the outgroup and its stereotype.

2. Study 2

2.1 Method

Participants and Design

Participants were 40 undergraduate university students (39 females, 1 male; $M_{age} = 23.10$ years, $SD = 8.83$) who took part in the study for partial course credit.

Using a modified version of the Minimal Group Paradigm (Tajfel et al; 1971), we manipulated the prototypicality of both the ingroup and the outgroup exemplar.

Participants were randomly allocated to one of the four levels of the one-way design. There were 10 participants in each cell.

Manipulations

After arriving at the laboratory, participants were seated in front of a computer, which was used to provide instructions as well as to register the answers. The experiment was introduced as a study on group productivity in

brainstorming. Participants were told that the brainstorming assignment required the creation of two four-person groups. One group was referred to as the blue group and the other as the red group. Group assignment occurred on an ostensibly random basis (however, each participant was assigned to the blue group). Moreover, each participant received a personal identification number, which was always eight. Each group was represented by a symbol displayed at the top of the computer screens.

Brainstorming assignment was then introduced. Participants had to generate the most possible uses of a pen. It was stressed that the quantity and quality of the ideas were important. All the ideas generated by the members of a group would have contributed to the group's total, also overlapping ideas. Each participant was provided with five minutes to produce ideas, which were entered into the computer. Participants were told that the ideas were stored in a special file created for each group on the laboratory server.

After completion of this task, participants were informed that a member would be chosen for each group.

To check the manipulation, participants were asked to report, on a pencil-and-paper questionnaire, their identification number and in which group they had been assigned. For the latter question, the possible answers were "blue", "red" or "I don't know", for the first participants had to sign a number ranged between 1 and 8 or select "I don't know."

Furthermore, to probe for suspicions, participants responded to five statements on what was the purpose of the research (e. g., investigating the effects of group work; investigating the creativity of each participant; investigating the competition between groups), the answers being true or false. After completing these questions, from instructions presented on the computer screen participants learnt that the researcher had finished processing their responses. Participants allocated to the prototypical ingroup member and

prototypical outgroup member condition were informed that the ingroup member selected was the participant with the identification number 3, who had performed the task in the most similar way to participant and the other group members. The same information was given for the prototypical member of the outgroup. Participants allocated to the non-prototypical ingroup member were informed that the ingroup member selected was the participant who had performed the task in a similar way to some members of the ingroup, and differently from other members. The same instructions were given for the non-prototypical outgroup member. The other two conditions (*b* and *c*) were mixed conditions: in *b*, the ingroup's exemplar was prototypical, but not the outgroup's exemplar; in *c*, the prototypical exemplar was that of the outgroup.

Finally, participants were asked to imagine a positive, relaxed and cooperative interaction between the two group members selected (for a recent review relative to imagined contact, see Crisp et. al., 2010; see also Chapter 1, paragraph 4). They were told that during the interaction, the two exemplars had the impression they could became friends. The encounter was also simulated the computer screen by showing the interaction between two stylized person wearing, respectively, a red and blue shirt to represent group memberships. In all conditions, participants had five minutes to imagine the scene. To reinforce the instructions, we asked participants to write several sentences describing the scenario they had imagined. Finally, participants were asked to complete the depended measures.

2.2 Measures

Manipulation check

To check whether participants correctly identified the prototipicality of both ingroup and outgroup exemplars, two items were used: "Is exemplar of the

red group typical of the red group?"and "Is the exemplar of the blue group typical of your group?" A 7-point scale (1 = *not at all*; 7 = *very much*) was used for both items.

Dependent measures

We surveyed respondents' emotions and stereotypes toward both the ingroup (blue group) and the outgroup (red group), scales.

Participants were asked to rate anxiety felt toward the ingroup or the outgroup by using eight items (e.g., anxious, worried, relaxed, restless). Items were introduced by the following sentence: "When I think of blue/red group members, I feel." A 7-point scale was used, anchored by *not at all* (1) and *very much* (7). We computed a reliable composite score (ingroup α = .94; outgroup α = .95). Higher scores reflect greater anxiety toward the ingroup or the outgroup.

To measure empathy four items were used. Participants were asked to rate on a 7-point scale (1 = *not at all*; 7 = *very much*) to what extent, when they think about blue/red group members, they "feel in tune with them," "feel they share their emotions," "understand their feelings," "share their joys and sorrows." Items (ingroup α = .89; outgroup α = .95) were averaged to form measures of empathy toward the ingroup and the outgroup.

To measure trust, three items were used (e.g., "I trust the blue/red group"). A 7-point scale was used, anchored by *not at all* (1) and *very much* (7). Items (ingroup α = .90; outgroup α = .89) were averaged to form measures of trust toward the ingroup and the outgroup.

With regards to the perceptions of competence, warmth, and morality toward ingroup and outgroup members, three traits were used for each dimension (see Table 1). Participants rated first the outgroup, and then the ingroup, on these traits, by using a 7-step scale, anchored by *not at all* (1) and *very much* (7). For

each dimension, ratings were averaged to form three reliable aggregate scores: competence (outgroup α = .88; ingroup α = .91), warmth (outgroup α = .85; ingroup α = .93) and morality (outgroup α = .81; ingroup α = .93).

Participants were finally debriefed, thanked, and dismissed.

Table1. Traits of competence, warmth and morality

Competence	Warmth	Morality
Competent	Warm	Trustworthy
Capable	Polite	Well intentioned
Efficient	Friendly	Sincere

2.3 Results

Efficacy of the experimental manipulation

All participants correctly identified their group (blue) and the identification number (member 8) they had been given during the experiment. Moreover, they did not report suspicion about the aims of the research.

Finally, contrast analyses on perceptions of exemplars' prototipycality showed that participants in the conditions of outgroup member's prototypicality (*a* and *c*) perceived the exemplar as more typical of its group (*M* = 6.20) than in the conditions (*b* and *d*) of low prototipycality (*M* = 5.30), $t(36) = 2.02$, $p < .05$. When ingroup member's prototypicality was considered, contrast analysis showed no difference between conditions of ingroup typicality (*M* = 5.30) and those of ingroup's non-typicality (*M* = 4.60), $t < 1$. Thus, on the whole, our manipulation was effective in influencing, in the predicted direction, the perception of outgroup prototypicality. Findings relative to the ingroup were non significant, but in the expected direction.

Testing the moderating role of group member prototypicality

Means and standard deviations of the dependent variables as a function of target group and ingroup/outgroup member prototipicality are reported in Table 2.

To test our hypotheses, we chose to use the contrast analysis strategy because it is recommended over more exploratory approaches when testing specific hypotheses (Judd & McClelland, 1989), as it allows a more powerful test of their validity (see Rosenthal, Rosnow, & Rubin, 2000). We also used orthogonal contrasts. The order for all analyses was: *a* condition vs *b*, *c*, *d* (A); *b* condition vs *d* (B); *c* condtion vs *d* (C). Contrast A was +3, -1,-1,-1, and tested whether there were differences between the condition in which both ingroup and outgroup member were prototypical compared to all other conditions. Contrast B was 0, +1, 0, -1 and tested the effect of ingroup's typicality. Contrast C was 0, 0, +1, -1 and tested the effect of outgroup's typicality. The pattern of significance for these three contrasts may offer support for our hypotheses that participants' stereotypes and emotions toward the outgroup should ameliorate when both ingroup and outgroup members are perceived as prototypical of the respective group and also even when only the ingroup member is perceived as prototypical.

Because we have unidirectional hypothesis, we will use one-tailed value.

With regard to feelings of anxiety toward the outgroup, the results confirmed our first hypotheses. Contrast A was significant, $t(36) = -2.33$, $p < .02$, Contrast B was not significant, $t < 1$, Contrast C was not significant, $t < 1$.

With regard to empathy toward the outgroup, no contrast turned out to be significant, $ts < 1$.

With regard to trust toward the outgroup, Contrast A was significant, $t(36) = 1.70$, $p < .05$, confirming our fist hypothesis, while Contrasts B and C were not significant, $ts <$

Table 2. Ratings of anxiety, empathy, trust, perceptions of competence, warmth, and morality, as a function of the target group and of experimental conditions

		Experimental condition							
		Ingroup prototypical and outgroup prototypical (a)		Ingroup prototypical and outgroup non prototypical (b)		Ingroup non prototypical and outgroup prototypical (c)		Ingroup non prototypical and. outgroup non prototypical (d)	
	Target group	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Anxiety	Ingroup	1.98***	1.05	2.71*	1.29	2.19	1.12	1.83***	0.82
	Outgroup	1.81***	1.14	3.29	1.36	2.65**	1.12	2.71*	1.38
Empathy	Ingroup	4.67	1.89	5.00**	0.80	5.27**	1.09	4.30	1.82
	Outgroup	3.73	1.94	3.67	1.30	4.07	1.41	3.23	1.32
Trust	Ingroup	5.13*	1.57	5.20**	1.07	5.53**	0.97	5.53**	1.04
	Outgroup	4.90	1.58	4.17	1.34	4.10	1.33	3.80	1.39
Competence	Ingroup	4.13	2.00	4.83**	0.71	5.53***	0.91	5.73**	1.16
	Outgroup	5.30*	1.35	5.10**	0.72	5.13**	1.09	4.73*	0.83
Warmth	Ingroup	4.40	1.67	4.67*	0.73	5.10**	1.01	5.47**	0.95
	Outgroup	4.70	1.08	4.60*	0.62	4.43	1.10	4.30	0.69
Morality	Ingroup	4.63	1.65	4.87**	0.67	5.33**	1.03	5.47**	1.01
	Outgroup	5.23**	0.93	4.77**	0.70	4.33	1.54	4.10	1.08

Note. Asterisks indicate that means differ from the mid-point of the scale which is 4 for all cases.

With regard to outgroup perceptions of competence and warmth, no contrast was significant, $ts < 1$. Instead, when outgroup perceptions of morality were considered, the results confirmed our hypotheses. Contrast A was significant, $t(36) = 2.06$, $p < .03$, Contrast B was marginally significant, $t(36) = 1.34$, $p = .095$, Contrast C was not significant, $t < 1$.

To obtain a more stringent test of our hypotheses, we also computed a comparative index for each dependent variable, by subtracting the composite score relative to the outgroup from the score relative to the ingroup.

With regard to the comparative index of intergroup anxiety, the results once again confirmed our first hypothesis. Contrast A was significant, $t(36) = 2.10$, $p < .03$, Contrast B was not significant, $t < 1$, Contrast C was not significant, $t < 1$. In the conditions b, c, d, participants felt more anxiety for the outgroup than the ingroup; instead, in the a condition more anxiety was felt for the ingroup.

For the comparative index of empathy, no contrast resulted significant, $ts(36) < .54$, $ps > .30$.

With regard to the comparative index of trust, Contrast A was significant, $t(36) = -1.84$, $p < .04$, while Contrasts B and C were not significant, $ts < 1$. In all conditions, trust was higher for the ingroup than the outgroup, but bias was lower in condition a than in the other conditions.

With regard to the comparative index relative to the perceptions of competence, Contrast A resulted significant, $t(36) = -2.78$, $p < .006$, Contrast B was also significant, $t(36) = -1.86$, $p < .04$, Contrast C was not significant, $t < 1$. Ingroup bias was not present in the conditions of prototipicality of ingroup's exemplar.

Similarly, when the comparative index of the perceptions of warmth was considered, both Contrast A ($t(36) = -2.08$, $p < .03$) and Contrast B ($t(36) = -2.00$, $p = .03$) were significant, whereas Contrast C was not significant ($t < 1$).

Also for morality, both Contrast A $t(36) = -2.63$, $p < .008$) and Contrast B $t(36) = -1.91$, $p < .04$) were significant, whereas Contrast C was not significant $t < 1$). Ingroup bias was only present in the conditions in which ingroup's exemplars were perceived as non-prototypical.

2.4 Discussion

This study makes a new contribution to the burgeoning literature on indirect contact by showing that the influence of indirect contact on emotions and attitudes was moderated by the prototypicality of both the ingroup and the outgroup member. Specifically, our findings showed that indirect contact was negatively associated with anxiety felt for the outgroup and positively associated with trust and morality when both ingroup and outgroup member were perceived as prototypical of their group. Moreover, using comparative indices, we found the same moderating effect on traits of competence and warmth toward the outgroup.

The moderating effect of ingroup member prototypicality was also found, when only the ingroup member was perceived as group prototypical. In particular, indirect contact was positively associated with outgroup competence, warmth and morality. Thus, we obtained good support for our hypotheses. The fact that our hypotheses were supported more strongly when comparative indices were used is particularly striking. Indeed, when considering intergroup relations, it is fundamental to take into account the comparative context in which judgments are made; considering ingroup and outgroup separately may provide a distorted picture on how people see the dynamic nature of ingroup and outgroup relations.

Overall, these results point to the importance for indirect contact effects of group members prototypicality. It is important to note that we have provided the first experimental evidence that group member prototypicality can moderate the impact of indirect contact on outgroup attitudes and emotions.

CHAPTER 4

APPROACH AND AVOIDANCE OF INTERGROUP CONTACT: DEPROVINCIALIZATION OF THE SELF THROUGH SELF-EXPANSION

1. General introduction

As mentioned in the first Chapter, Allport's (1954) contact hypothesis has inspired desegregation policies all over the world. Expansive reviews and meta-analyses of over 60 years of empirical research since its official formulation (e.g., Brown & Hewstone, 2005; Pettigrew & Tropp, 2006) now confirm that face-to-face interactions between members of opposing groups typically diminish prejudiced attitudes, especially if certain 'optimal' conditions are met: equal status, cooperation, common goals, institutional support. While the size of these intergroup contact effects is not large, they are encouragingly invariant across a range of intergroup settings and participant populations (e.g., Hewstone et al., 2005). Moreover the studies presented in the previous chapters provide support for the effectiveness of intergroup contact, by showing that both direct and indirect contact improve attitudes toward outgroup members. Despite its promise as a desirable avenue for improving intergroup relations, research suggests that intergroup contact is rarely a spontaneous choice. In many contemporary societies, different groups exist side by side, yet they continue to try to eschew opportunities for contact. Growing evidence from adult and child samples

(Alexander & Tredoux, 2010; Castelli, De Amicis, & Sherman, 2007; Dixon & Durrheim, 2003) indicates that, outside structured social interventions, most individuals tend to avoid intergroup contact, and instead engage in informal types of intergroup segregation ("a de facto system for regulating interaction between groups, a system based not on official policies of racial separation but on a panoply of "unofficial" practices that collectively operate to reproduce racial barriers" Dixon and Durrheim, 2003, p. 2) thus preferring intragroup over intergroup relations.

Past research seeking to overcome this intractable intergroup impasse has focused on factors and processes that hinder people's willingness to engage in intergroup contact (Plant & Butz, 2006; Shelton, Richeson, & Salvatore, 2005; Stephan & Stephan, 1985), by promoting interventions that possibly foster the formation of cross-group friendships (Paolini, Hewstone, Cairns, & Voci, 2004). Yet work that isolates factors motivating people to seek out and engage in intergroup contact is limited. With the present research, we set to provide a first systematic investigation of a promising approach motive for intergroup contact, based on Aron, Wright, and colleagues' need for self-expansion (Aron, Aron, & Norman, 2001; Wright, Aron, & Tropp, 2002). In a first correlational study, we attempted to provide initial evidence for this 'intergroup self-expansion model' by examining self-expansion's ability to predict both intragroup and intergroup relations, and we assessed associations with outgroup prejudice and ingroup liking. In two subsequent experiments, we then ascertained whether self-expansion leads to people's deliberate (Study 4) and implicit (Study 5) preferences for intergroup relations over intragroup relations. In so doing, the present research not only moves away from an exclusive focus on contact avoidance; it also advances a more complete analysis of relationship formation that incorporates the dynamic interplay between intergroup and intragroup

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relationship choices. In the following pages, we clarify how this expansive approach is in line with Pettigrew's (1997) idea of deprovincialization of the self.

1.2 Approach and Avoidance of Intergroup Relations

Even in contexts where social norms and structural factors offer plenty of opportunities for intergroup exchanges and the development of meaningful intergroup relations, people's willingness to exploit those opportunities remains a crucial prerequisite (Pettigrew, 1997; add Wagner's ref; Tropp & Molina, in press). The balance drawn from ecological analyses of everyday intergroup interactions however is not encouraging: It indicates that individuals often display a relative preference for intragroup over intergroup contact, leading to widespread patterns of informal segregation (Alexander, 2007; Clack, Dixon, & Tredoux, 2005; Dixon & Durrheim, 2003; Schrieff, Tredoux, Dixon, & Finchilescu, 2005), and that this relative preference develops quite early in age (Castelli, De Amicis, & Sherman, 2007; Vezzali, Giovannini, & Capozza, in press). The desire and willingness to engage in intergroup contact are therefore as scarce in people's relationship landscapes, as they are crucial for positive intergroup contact effects to unfold. The implication is that as a society we ultimately miss out on the full benefits and potentials of intergroup contact for social integration (Pettigrew & Tropp, 2006).

Yet, research investigating the motivational bases for *seeking* intergroup contact is surprisingly scant. Existing research is predominantly focused on what *prevents* or limits intergroup contact from taking place (Shelton et al., 2005; Stephan & Stephan, 1985). Ample field and experimental evidence now demonstrates that anxiety acts as a powerful deterrent against intergroup contact (e.g., Capozza, Vezzali, Trifiletti, Falvo, & Favara, 2010; Levin, van Laar & Sidanius, 2003; Plant & Butz, 2006; for a review, Paolini, Hewstone, Voci,

Harwood, & Cairns, 2006). The prospect of an intergroup exchange is strongly associated with negative emotions (Stephan & Stephan, 1985), debilitating cognitions (Plant & Devine, 2003), and adverse outcome expectancies (Trawalter, Richeson, & Shelton, 2000). Well-known structural variables that are likely to compound these negative dynamics include limited past contact (Pettigrew & Tropp, 2006) and a higher prevalence of ingroup (vs. outgroup) members, all of which contribute to exacerbate anxiety levels, possibly by detracting from the perceived efficacy people experience or anticipate during daily intergroup interactions.

While there is no doubt that anxiety causes contact avoidance and, over time, compromises the development of positive and rich networks of intergroup relationships (Levin, van Laar & Sidanius, 2003), the exact mechanisms for these deleterious effects are less clear (Paolini et al., 2006). Together with a growing number of intergroup researchers (see e.g., Wright, Aron, & Tropp, 2002; Brewer, 2008), we propose that high anxiety (and the often related need for uncertainty reduction; see Hogg, 2007) causes people to avoid opportunities for intergroup contact, whereas a diminished interest in otherness (Wright, Aron, & Tropp, 2002) and an increased appeal of the safety and comfort of relationships with similar others (Cohen, Sherrod, & Clark, 1986) propel them towards intragroup contact.

Although most scholars would agree on an inverse relationship between approach and avoidance motives for intergroup contact, comparatively little is known about the motivational factors that impel people to actively seek out rather than eschew intergroup encounters (Brody, Wright, Aron, & McLaughlin-Volpe, 2009; Plant & Devine, 2008). A promising model that, in our view, begins to address this critical oversight is the one by Aron, Wright, and colleagues on the self-expansion model (Aron, Aron, & Norman, 2001; Aron et al., 2004; Wright, Aron, Tropp, 2002). From this perspective, the desire to

expand the self is a central human motive such that "people seek to enhance their potential [general] efficacy by expanding the self to include material and social resources, perspectives, and identities that will facilitate achievement of goals" (Wright, Aron, Tropp, 2002, p. 344). Thus, Bandura's (1977) self-efficacy *expectancy,* rather than goal achievement per se, is an end in its own right (Aron et al., 2001).

Based on self-expansion model, one fundamental way to seek out self-expansion is through new and intimate social relationships. Developing a new relationship involves including the perspectives of a close other in the self, experiencing the world from the other's point of view, and ultimately having a richer or expanded sense of self. Providing empirical support for these premises, Aron, Paris, and Aron (1995) assessed changes in the self-schemata of American students over a 10-week period and found that those who reported falling in love during that time displayed a significantly greater increase in the diversity of self-content domains compared to those who had not fallen in love.

Aron, Wright and colleagues' model was advanced to explain various facets of, and phenomena related to, interpersonal relationships with close and similar others (for an overview, see Aron et al., 2001, 2004). However, the basic tenets of the self-expansion model are easily extended to the domain of intergroup relations and contact with dissimilar others. Wright and colleagues (2002) contend that although self-expansion can foster the willingness to engage in both intragroup *and* intergroup contact, it is a better predictor of the latter than of the former, because dissimilar others provide us with particularly divergent viewpoints, resources, identities, and so forth (see also Brody, et al., 2009; Mattingly, McIntyre, & Lewandoski, 2011). Hence, while self-expansion should predict both intragroup *and* intergroup contact, based on 'intergroup self-expansion model', self-expansion should be a comparatively better predictor of intergroup relations. As Wright and colleagues put it (2002), "others who share

most of our present perspectives and identities provide only limited potential for self-expansion, while those with divergent perspectives and identities provide the greatest opportunity for self-expansion. Thus, at least initially, we should be drawn to others who are highly divergent from ourselves" (p. 11). Put more formally, we predict that, when faced with a forced choice between establishing a new intragroup or a new intergroup relation, other things being equal, self-expansion should lead to a relative preference for intergroup contact. We are aware that both similar and dissimilar others can also be represented by ingroup members. Similarly, they can also both belong to the outgroup. However, as group membership is one of the most important aspects of the self that directs people's attitudes, emotions and behaviors, especially when relevant social categories (such as race) are taken into account (Tajfel, 1981), in the present work we will refer to ingroup members as similar others and to outgroup members as dissimilar others.

1.3 Self-Expansion and the Deprovincialization of the Self

This re-orienting of relationship preferences from intragroup to intergroup through increased self-expansion should ultimately lead to a progressive deprovincialization of the self and to improved intergroup relations. That is, self-expansion should not only predict greater and more gratifying networks of intergroup relations; it should also be pivotal to a broader repositioning of the self relative to the ingroup and the outgroup and to more tolerant intergroup attitudes.

In his influential analysis of intergroup friendship data from the 1988 Euro-Barometer survey, Pettigrew (1997) speculated that those with an extensive history of meaningful contact with outgroups display reduced outgroup prejudice because of a re-appraisal of their relationship with the ingroup and outgroup.

That is, through extensive and possibly intimate relationships with dissimilar others, people would discover that the 'ingroup's way' is not the only way and, and that "this new perspective not only individualizes and "humanizes" outgroup members but serves to distance you from your in-group" (Pettigrew, 1997, p. 174). Consistent with this reasoning, Verkuyten, Thijs, and Bekhuis (2010) recently found that the more contact Dutch individuals reported having with outgroups, the stronger they endorsed multiculturalism and the more they distanced themselves from the ingroup.

With the present work, we aimed to contribute to this very new literature on deprovincialization by testing precursors of intergroup re-appraisals. To this end, we propose that this repositioning of the self relative to ingroup and outgroup reflects the unique influence of people's need for self-expansion. This work contributes to the literature reviewed above, not only by proposing a new predictor of willingness to engage in intergroup vs. intragroup contact, but also by individuating the process through which self-expansion favors the development of better intergroup relations.

1.4 Overview of the present research

To investigate self-expansion as a key motivational underpinning of people's desire to engage in (or resist) relationships with different (vs. similar) others and explore involvement in self- deprovincializations, we conducted three studies. In Study 3, we conducted a field study and *measured* self-expansion and assessed its ability to predict self-deprovincializations in terms of *natural* relationship choices. In Studies 4 and 5, we *manipulated* self-expansion experimentally and studied its impact behaviorly on a deliberate measure of relationship choice (Study 4) and on an implicit measure (Study 5).

We tested three key hypotheses:

(1)   self-expansion would predict (a) more satisfying intragroup relations and (b) intergroup relations, (c) reduced outgroup prejudice, and (d) reduced ingroup liking;

(2)   self-expansion would be a strong*er* predictor of willingness to engage in intergroup, rather than intragroup, relations, and

(3)   self-expansion would predict a relative *preference* for new intergroup vs. intragroup relations, when forced to choose between these two available relationship options.

Besides allowing a first test of self-expansion pivotal role in self-deprovincializations, these three hypotheses also allowed us a broad and first systematic test of Wright and colleagues' (2002, 2005) intergroup self-expansion model. Hypotheses 1 offers a test of the basic premises of the self-expansion model (Aron et al., 2001, 2004), its applicability to intergroup psychology (Wright et al., 2002), and its ability to predict self-deprovincializations (Pettigrew, 1997). Testing hypotheses 2 and 3 will provide a more stringent test of the intergroup self-expansion model (Wright et al., 2005).

While our focus in all these tests was on the unique contribution of self-expansion, we controlled for anxiety in all our designs, so that our novel results could be benchmarked against more established effects. In Study 3, we used a correlational design for an initial field test of Hypotheses 1 and 2. We recruited first-year students with a city or rural background, at a large regional Australian university, and surveyed their experience and attitudes toward ingroup and outgroup members as they started their new life at university. As part of the study's objectives, we sought to validate an adaptation of Lewandoski and Aron's (2002) self-expansion scale encompassing social relations in general with several conceptually related constructs.

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We followed up this field study with two experiments to provide a more stringent test of the intergroup self-expansion model and its effects on self-deprovincialization (Hypothesis 3). We manipulated self-expansion and anxiety in an orthogonal manner in the context of interethnic relationships between white and ethnic Australians to assess the two motives' unique and joint impact on (i) participants' *deliberate* decisions to engage in future contact with ethnically similar and dissimilar others, and (ii) their *implicit* behavioral tendencies to approach and avoid white and ethnic-relevant stimuli (Paladino & Castelli, 2008). Critically, the dependent variables in both studies required a forced choice between intragroup and intergroup stimuli. We expected self-expansion to predict greater preference for, and a preferential behavioral orientation toward, ethnically dissimilar rather than similar others. We regard these patterns of relationship choices toward the outgroup and away from the ingroup as the psychological foundation of self-deprovincializations.

2. Study 3

Our aim in Study 3 was to test Hypotheses 1 and 2. To this aim, we examined self-expansion's ability to predict self-deprovincialization in terms of size and quality of respondents' networks of intragroup and intergroup relations, as well as in terms of ingroup reappraisals (i.e,. repositioning of the self in terms of ingroup vs. outgroup *attitudes*, and ingroup *identification*; Hypotheses 1). In addition, we tested the more stringent premise that self-expansion would be a stronger predictor of more positive intergroup rather than intragroup relations (Hypotheses 2). In order to do so, we adapted Lewandowski and Aron's (2002) Self-Expansion Questionnaire (SEQ), originally tailored to assess self-expansion in the context of romantic relationships, to focus on relationships with others *in general*. In describing their tool, Lewandowski, Aron, Bassis, and Kunak (2006)

argued that: "this measure draws directly from several of the key components of the self-expansion model. Specifically, the 14 items assess the extent to which a person experiences increased knowledge, increased skill, increased abilities, increased mate value, enhanced life experiences, and the extent to which the partner is a source of new experiences. In sum, it provides an assessment of the amount of self-expansion a relationship provides" (p. 320). In line with the original scale, we expected our adapted scale to map closely onto contemporary conceptualizations of self-expansion and provide an overall assessment of the amount of self-expansion relationships.

Still, we performed fresh validity checks by including conceptually related scales in Study 3 questionnaire. We expected three of the Big-5 personality facets (Goldberg, 1992)—extraversion, agreeableness, and openness-to-experiences—to be related to people's need for self-expansion (Asendorpf & Wilpers, 1998; Gurtman, 1995; Watson & Clark, 1997). That is, we expected that the more respondents reported a motive to self-expand through social relations the more they would report a tendency to be socially oriented, outgoing, gregarious (extraversion; Watson & Clark, 1997), cooperative and empathic in their relationships (agreeableness; Graziano & Tobin, 2009), intellectually curious, and open to new experiences (openness to experiences; Flynn 2005). We also expected self-expansion to be positively related to Cross Bacon, and Morris' (2000) relational-interdependent self-construal, so that the higher the self-expansion the more respondents would report a tendency to think of and define themselves in terms of relationships with close others. While our focus in all these tests was on the unique and novel contribution of self-expansion, we controlled for anxiety in this and all of our designs, so that our novel results could be benchmarked against more established effects in the intergroup contact literature. Here, we included an adaptation of Stephan and Stephan's (1985) anxiety scale, which allowed us to (1) test the oppositional relationship we

anticipated between anxiety and self-expansion, (2) isolate self-expansion unique (vs. shared) contribution to predicting intergroup relations and attitudes, and (3) initiate an investigation onto the possible interactive effects between our key approach (self-expansion) and avoidance (anxiety) motives for intergroup contact. To our knowledge, this is the first integrated effort of such kind in the literature to date.

Critically, Study 3 tests Hypotheses 1 and 2 and with them self-expansion ability to predict the size and the quality of intragroup and intergroup relations, as well as respondents' attitudes toward the ingroup and the outgroup. We carried out these key tests in the context of city-rural relationships among first-year students at a large regional Australian university. We chose this intergroup setting because this distinction is very salient in the Australian context, including when young people enter university, shaping most government policies and public debates in the country (e.g., welfare provision, taxation and economic policies).

2.1 Method

Participants

Participants were 443 first-year psychology students from a large regional Australian university on the East Coast (108 males, 335 females; age, *M* = 22.76 years, *SD* = 7.87), who took part in the study for partial course credit. The majority of respondents identified themselves as having a city background (*n* = 267, 60.3%), and a minority as having a rural background (*n* = 176, 39.7%).

Procedure and Questionnaire

Data collection took place during students' first semester of their first year at university. Participants were told that the research investigated University

students' lifestyle and personality. They were asked to complete an on-line questionnaire in their own time and in a place of their choosing (See Appendices A and B for details of tools). In that context, they completed scales assessing our key predictors (self-expansion and anxiety), and outcome variables (experience and attitudes toward rural and city people), as well as variables instrumental to assess the construct validity of the new self-expansion scale (Big-Five personality facets, and interdependent self-construct).

2.2 Measures

Approach and avoidance predictors

To measure people's need for self-expansion through social relationships, Lewandowski and Aron's (2002) Self-Expansion Questionnaire (SEQ) was adapted so that instructions and items focused on people's relationships with others in general. We called this adapted scale the Self-Expansion Questionnaire: Broad Social Relations Version (or SEQ-BSRV). Examples of modified items are: "social relationships are important because they expose me to people with different interests", "I gain knowledge through my relationships with others" (1 = *strongly disagree*, 7 = *strongly agree*; see the full item list and instructions in Appendix B). In line with the factor structure of the original scale, a principal components analysis with Oblimin rotation extracted a single factor explaining 41.80% of the total variance. Twelve of the 14 items loaded highly on the factor (loadings.92-.24; see Appendix B); after reversing negatively-worded items they were averaged into a reliable *self-expansion* index (α = .88), such that higher values indicate an increased need for self-expansion through social relations.,

To measure our key avoidance motive, we included an adaptation of Stephan and Stephan's (1985) anxiety scale. Participants expressed the anxiety

they generally felt toward people of different city-rural background by indicating the extent to which they felt anxious, defensive, relaxed (r), self-conscious, worried about saying the wrong thing, worried about what people of their background might think, and worried about what people of the other background might think on a 7-point scale (1 = *not at all,* 7 = *extremely*). The seven items formed a reliable *anxiety* index (α = .87); higher scores reflect greater anxiety.[1]

Deprovincialization and re-appraisal outcome variables

We surveyed respondents' experience and attitudes toward both people of similar (intragroup relations) and different background (intergroup relations), by using slight variations of the same scales; the intragroup and intergroup variables were grouped together in two distinct and clearly labeled questionnair sections. We assessed *willingness to engage* in intragroup and in intergroup relations and *willingness to avoid* these relationships separately using two single items (approach: "If you were free to choose, would you like to have more contact with rural/city people?" avoidance: "to what extent do you feel you try to avoid contact with rural/city people?" 1 = *not at all,* 7 = *very much*); higher scores on these items indicate stronger willingness to approach vs. avoid social relationships. We assessed perceived *opportunities* for intragroup and intergroup relationships using two items ("how many opportunities do you have to interact with rural/city people?" "how often do you see people with a rural/city background at the University and in the area where you live as a student?" 1 =

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[1] When reviewing research on anxiety and intergroup relations (Paolini et al., 2006), we argued that modern adaptations of Stephan and Stephan's (1985) intergroup anxiety scale, like the one used here, capture a combination of general, social (i.e., interpersonal), and intergroup anxiety. In line with this reasoning, we found sizeable correlations between this scale adaptation and the Big-5 emotion stability facet ($r = -.31$, $p < .001$; including three general anxiety items; $r = .32$, $p < 001$) and Mattick and Clarke's (1998) social interaction anxiety scale (SIAS; $r = .34$, $p < .001$).

not at all, 7 = *very much*). As the two items were highly correlated (intragroup, *r* = .85; intergroup, *r* = .86, both *ps* < .01), we averaged them in aggregate indices with higher scores indicating more perceived opportunities.

We assessed the perceived quantity and quality of each relationship type with items taken from the intergroup contact research (Islam & Hewstone, 1993; Paolini et al., 2004). Three items measured perceived *quantity* ("overall, how much contact do you have with rural/city people?" "how much time do you spend with rural/city people?"; both items, 1 = *not at all*, 7 = *very much*; "how many interactions with rural/city people would you have on average in a month?"; 1= *0*, 2 = *1 to 2*, 2 = *3 to 4*, 4 = *5 to 10*, 5= *11 to 30*, 6 = *31 to 50*, 7 = *51 to 100*, 8 = *more than 100*); they were standardized to equate their metric prior to averaging them into reliable indices (intragroup, α = .91; intergroup, α = .92). Higher scores on these indices indicate more relationship quantity. To express the perceived *quality* of these relationships, respondents indicated how cooperative, enjoyable, unpleasant (r), informal (r), unnatural (r), they regarded these relationships (1 = *not at all*, 7 = *very much*). After reverse scoring appropriate items, these were averaged into reliable *perceived quality* indices (intragroup, α = .76; intergroup, α = .74). Higher scores indicate more satisfying relationships.

To assess the breadth of intimate relationship types, we adapted measures from earlier intergroup friendship research (Paolini et al., 2004) to assess respondents' direct and vicarious close contact with people of similar and different background. Two items assessed *direct friendship* ("at the University and where you live as a student, how many rural/city people do you know pretty well?" "How many rural/city people are you friends with?" both items, 1 = *0*, 2 = *1*, 3 = *2 to 3*, 4 = *4 to 6*, 5 = *7 to 10*, 6 = *11 to 15*, 7 = *16 to 20*, 8 = *21 to 30*, 9 = *More than 30*). The two items were highly correlated (intragroup, *r* = .75; intergroup, *r* = .83; both *ps* < .01) and were averaged; higher scores indicate

more friendships. To measure *indirect friendship*, respondents were asked to indicate the number of friends of their own background who had close friends with people of their own/other background (same response scale as for direct friendship).

Attitudes toward both ingroup and outgroup were assessed by using Wright at al.,'s (1997) General Evaluation Scale. Respondents indicated their overall feelings towards people of rural/city background on six bipolar scales (e.g., warm/cold, friendly/hostile). We computed a reliable *ingroup attitudes* (α = .89) and *outgroup prejudice* indices (α = .88), so that higher scores indicate greater liking of the ingroup and more prejudice toward the outgroup. We adapted two items from Leach et al. (2008) to assess respondents' *ingroup identification* (e.g., "I identify with other people with the same background as me"; 1 = *not at all*, 7 = *very much*) and averaged them together (*r* = .46, *p* < .01) into a composite score. Higher values indicated stronger ingroup identification.

Validity checks

The Big-5 personality factors were assessed with Goldberg's (1992) International Personality Item Pool (IPIP). This 50-item inventory includes 10 items for each of the personality facets; respondents were asked to indicate the extent to which each item is descriptive of themselves (1 = *very inaccurate*, 5 = *very accurate*). Examples of items for each of the five facets are: "I talk to a lot of different people at parties" (Extraversion); "I am full of ideas" (Openness to Experiences); "I am interested in people" (Agreeableness); "I am relaxed most of the time" (Emotional Stability); "I am always prepared" (Conscientiousness). We reverse scored appropriate items and created reliable aggregate index (alphas ranging between .80 and .88). Higher scores indicate greater extraversion, openness to experience, agreeableness, emotional stability, and consciousness,

respectively. Respondents completed also 11 items from Cross, Bacon, and Morris' (2000) Relational Interdependent Self-Construal (RISC) scale (e.g., "my close relationships are an important reflection of who I am"; 1 = *strongly disagree*; 7 = *strongly agree*). All items were averaged to yield a reliable *interdependent self-construal* index (α = .87); higher scores indicate higher levels of interdependent (or collectivistic) self-construal. Maximum likelihood (ML) imputation procedures were used to replace scattered missing responses across variables (0.4% of the total responses; Sharfer & Graham, 2002).

2.3 Results and Discussion

Checking the Construct Validity of the New Self-Expansion Scale (SEQ-BSRV)

Descriptive statistics and zero-order correlations between the self-expansion index and the validity checks are reported in Table 1.

The three personality facets of the Big-5 personality inventory expected to be most closely related to our conceptualization of self-expansion displayed the predicted pattern of positive and significant associations with self-expansion. Hence, the more respondents reported a stronger motive to self-expand through social relations the more they reported being extrovert, socially agreeable, and open-to-experiences. The other two personality facets, consciousness and emotional stability, were also positively correlated with self-expansion, but to a lesser extent.

Table 1. Descriptives and Zero-order Correlations between Self-expansion and the Validity Check Variables *(Study 3, N = 443)*

Predictors and Validity Checks	M	SD	r
Self-expansion	5.59	.83	--
Anxiety	2.76	1.11	-.38***
Extraversion [a]	3.28	.75	.46***
Agreeableness [a]	4.07	.55	.49***
Openness to experiences [a]	3.80	.56	.22***
Emotional Stability [a]	2.95	.78	.19***
Consciousness [a]	3.23	.65	.11*
Interdependent Self-Construal	2.79	.83	.35**

Notes. [a] denotes indices ranging from 1 to 5; all other indices range from 1 to 7. *$p < .05$; **$p < .01$; ***$p < .001$.

As predicted, self-expansion was also positively related with the relational-interdependent self-construal index (Cross et al., 2000). Hence, the more respondents reported a tendency to self-expand through social relationships the more they reported a tendency to think of and define themselves in terms of relationships with close others. Further, we checked the correlations between self-expansion and the willingness to approach and avoid relationships proxies (coefficients in Table 2).

Table 2. Descriptives and Zero-order Correlations between Self-expansion and All Variables *(Study 3, N = 443)*

Intragroup Relationships	M	SD	R
Opportunities	5.55	1.47	.25***
Willingness to engage	4.81	1.29	.15**
Willingness to avoid	1.79	1.25	.07
Quantity	.378	.806	.28***
Quality	5.18	.942	.34***
Direct friendship[b]	6.23	2.17	.25***
Indirect friendship[b]	6.69	2.18	.27**
Ingroup Identification	4.26	1.34	.14**
Ingroup attitudes	2.73	.97	-.32***
Intergroup Relationships	M	SD	R
Opportunities	4.52	1.61	.13**
Willingness to engage	4.53	1.30	.21***
Willingness to avoid	1.73	1.24	.03
Quantity	-.46	.88	.07
Quality	5.01	.89	.32***
Direct friendships[b]	4.23	2.17	.08
Indirect friendships[b]	4.95	2.25	.14**
Outgroup prejudice	2.87	1.01	-.32**

Notes. [b] denotes indices ranging from 1 to 9; all other indices range from 1 to 7.
$*p < .05$; $**p < .01$; $***p < .001$.

We found that self-expansion was significantly and positively associated with respondents' willingness to engage in intragroup and in intergroup relations (see Table 2). However, no significant association was found between self-expansion and willingness to avoid these two types of social relationships.

Overall, these preliminary validity checks indicate satisfactory convergence of our new self-expansion scale with conceptually related constructs and our adapted items general suitability for assessing the self-expansion motive in the context of broad intergroup relations. The results confirm our premises that self-expansion taps into a motive to actively approach others rather than a lack of avoidance (Brent, Mattingly & Lewandowsky, 2011).

Testing Self-Expansion's Ability to Predict Intragroup and Intergroup Relationships

To formally test Hypotheses 1 and 2, we first examined the correlations between self-expansion and variables measuring respondents' prior experiences of intragroup and intergroup relationships. As expected, we found that self-expansion was positively associated with greater and more satisfying generic and intimate relationships with similar others (see Table 2), as indicated by the positive significant correlations with opportunities, quantity and quality of intragroup relationship indices, and the direct and indirect intragroup friendship. Importantly, self-expansion was also related to greater and more satisfying relationships with dissimilar others, as indicated by the positive significant correlations with opportunity for intergroup relationships, quality of the intergroup relationships, and indirect intergroup friendship. However, contrary to what an intergroup extension of the self-expansion model may predict (Hypothesis 2), the correlations with the intergroup coefficients were not larger - if anything were somewhat slimmer - than those with the intragroup coefficients, suggesting that, at least in this social setting, respondents preferentially expanded their sense of self through similar than dissimilar others. This result may also be explained by referring to the limited number of intergroup vs. intragroup contacts (see Table 2). Indeed, as individuals motivated to self-expansion are prone to

make acquaintance with other people, they can find more easily ingroup members, who are more numerous than outgroup members. In other words, this result may simply reflect the different opportunities for intragroup vs. intergroup contact. Indirectly supporting this explanation, it should be noted that the scale used to assess contact quantity ranged from o to several dozens of acquaintances: it is much less likely to have so many outgroup vs. ingroup friends.

Regarding the attitudinal variables, we found that self-expansion was positively related to ingroup identification and negatively related to both ingroup attitudes and outgroup prejudice. Hence, respondents' need for self-expansion through social relations, while still predictive of positive ties with people of similar background, was associated with reduced liking for similar others and increased liking for dissimilar others. This pattern of associations maps well onto Pettigrew's (1997) deprovincialization of the self and ingroup reappraisal and confirms that self-expansion is involved in the repositioning of the self relative to the ingroup and outgroup, and in improved intergroup relations.

The fact that self-expansion was associated with more intragroup contacts is not inconsistent with the finding that it was also associated to reduced liking for similar others and increased liking for dissimilar others. Indeed, attention should be placed on the comparative nature of our findings: self-expansion motivates more positive relationships with both ingroup and outgroup members; however, evidently, it does so more with respect to the outgroup than to the ingroup.

Exploring the Unique Role of Self-Expansion and Its Interplay with Anxiety

In line with our expectations, we found that self-expansion entertained a moderate inverse relationship with anxiety ($r = -.38$, $p < .001$); hence, the higher

the anxiety respondents experienced during interactions with dissimilar others, the lower the need for self-expansion through social interactions. In light of this significant overlap, we checked whether the initial associations detected between self-expansion and the intragroup and intergroup outcome variables reflected unique and novel effects of self-expansion, rather than an artifact of its relationship with anxiety, and we explored the interaction between these two opposing motives in predicting intragroup and intergroup relations. For this, we carried out a series of two-step hierarchical regression analyses with self-expansion and anxiety entered in the first step to ascertain whether the effects of self-expansion on intragroup and intergroup variables remained significant when controlling for anxiety. In the second step, we entered a vector representing the interaction between the two predictors (a centered multiplicative term; Cohen & Cohen, 1983). Key results of these analyses are in Tables 3 and 4.

Results revealed that all the significant relationships detected between self-expansion and the intragroup and intergroup relations variables remained substantially unchanged in size and fully significant when controlling for anxiety (e.g., indirect intragroup friendships, zero-order $r = .27$ vs. partial $\beta = .24$; indirect intergroup friendships, zero-order $r = .14$ vs. partial $\beta = .16$). These findings confirm the unique effects of self-expansion as an approach motive, over and above its relationship with the avoidance motive of anxiety. More importantly, both self-expansion ($\beta = -.21$, $p < .001$) and anxiety ($\beta = .30$, $p < .001$) had unique effects on outgroup prejudice.

Significant interactions between self-expansion and anxiety were observed when predicting intragroup variables (quantity, quality, direct friendships, indirect friendships and ingroup attitudes), but not when predicting intergroup variables (cf. Step 2 results in Tables 3 and 4). Consequently, we performed simple slope analyses (Aiken & West, 1991), separately for low and high anxiety participants, as based on the sample median value ($Mdn = 2.71$; Table 3). Self-

expansion was a more robust predictor of intragroup relations among respondents who reported high anxiety, than among those who reported low anxiety. Thus, at least in this social setting, respondents' anxiety acted as an important boundary condition to the influence of our approach motive, propelling respondents to self-expand through similar (rather than dissimilar) others. This makes perfectly sense: as individuals are highly anxious about interacting with outgroup members, they "refuge" themselves in relations with more similar and more familiar ingroup members. Overall, these findings suggest that our ability to predict intergroup attitudes is significantly improved by considering approach and avoidance motives independently and together.

Table 3. Results of Multiple Hierarchical Regression Analysis with Self-Expansion and Anxiety Predicting Intragroup Relations *(Study 3, N = 443)*

Predictors	Opportunities	Willingness to engage	Willingness to avoid	Quantity	Quality	Direct friendships	Indirect friendships	Ingroup Identification	Ingroup attitudes
				Intragroup Relationship Variables					
Step 1									
Self-expans.	.220***	.165**	.080	.302***	.316***	.231***	.244***	.221***	-.288***
Anxiety	-.073	.031	.023	.050	-.068	-.059	-.077	.205***	.080
R^2	.066	.024	.006	.082	.121	.063	.080	.057	.107
F	15.519***	5.502**	1.238	19.743***	30.242***	15.912***	19.089***	13.191***	26.329***
df	(2,440)	(2,440)	(2,440)	(2,440)	(2,440)	(2,440)	(2,440)	(2,440)	(2,440)
Step 2									
Self-expans. x Anxiety	.064	.067	.011	.077†	.104*	.117*	.128**	.051	.156***
R^2	.070	.029	.006	.088	.131	.074	.096	.059	.130
F	10.983***	4.328**	.842	14.119***	22.10***	12.831***	15.47***	9.186***	21.914***
df	(3,439)	(3,439)	(3,439)	(3,439)	(3,439)	(3,439)	(3,439)	(3,439)	(3,439)
F change	1.852	1.956	.056	2.717†	5.233*	6.287*	7.662**	1.165	11.793***
df	(1,439)	(1,439)	(1,439)	(1,439)	(1,439)	(1,439)	(1,439)	(1,439)	(1,439)
Median split				LA = .184** HA = .361***	LA = .191** HA = .400***	LA = .078 HA = .390***	LA = .080 HA = .381***		LA = -.123* HA = -402***

Note. Values are standardized regression coefficients. Self-expans. = self-expansion. LA = Low anxiety; HA = High anxiety.
†p = .10; *p < .05; **p < .01; ***p < .001.

Table 4. Results of Multiple Hierarchical Regression Analysis with Self-Expansion and Anxiety Predicting Intergroup Relations *(Study 3, N = 443)*

	Intergroup Relationship Variables							
Predictors	Opportunities	Willingness to engage	Willingness to avoid	Quantity	Quality	Direct friendships	Indirect friendships	Outgroup prejudice
Step 1								
Self-expans.	.141**	.194***	.057	.060	.192***	.103*	.151**	-.205***
Anxiety	.018	-.037	.071	-.034	-.330***	.069	.024	.304***
R^2	.018	.045	.005	.006	.194	.010	.021	.182
F	4.084*	10.262***	1.168	1.386	53.016***	2.238	4.637**	48.819***
df	(2,40)	(2,40)	(2,40)	(2,40)	(2,40)	(2,40)	(2,40)	(2,40)
Step 2								
Self-expans. x Anxiety	.067	-.026	-.023	-.037	.015	-.038	.036	-.022
R^2	.023	.045	.006	.008	.194	.011	.022	.000
F	3.383*	6.931***	.855	1.121	35.313***	1.697	3.273*	32.571***
df	(3, 439)	(3, 439)	(3, 439)	(3, 439)	(3, 439)	(3, 439)	(3, 439)	(3, 439)
F change	1.962	.300	.234	.593	.118	.621	.555	.244
df	(1, 439)	(1, 439)	(1, 439)	(1, 439)	(1, 439)	(1, 439)	(1, 439)	(1, 439)

Note. Values are standardized regression coefficients. Self-expans. = self-expansion. LA = Low anxiety; HA = High anxiety.
*p < .05; **p < .01; ***p < .001.

3. Study 4

While still preliminary, the results of Study 3 are encouraging for the development of a self-expansion model adapted to intergroup relations. First, they demonstrate that people's need to self-expand through broad social relationships overlaps in a meaningful way with the interest expressed in approaching similar and dissimilar others, with a proclivity to seek cooperative social relationships, to define oneself in terms of their close relationships, to be curious and open to new experiences. More importantly, while the correlations between self-expansion and intragroup and intergroup experiences and attitudes were not large, they provide first evidence that self-expansion is a unique predictor of people's networks of intragroup *and* intergroup relations, as well as a significant correlate of a deprovincialized sense of self and of ingroup reappraisals.

The findings of Study 3 however remain sub-optimal for firm conclusions about the agentic role of self-expansion in establishing new intergroup relations and in shaping people's daily transactions between intragroup and intergroup relationship choices. First, at the broadest level, being correlational, they provide no firm ground to conclude whether approach/avoidance motives cause or are the result of these social relations. Second, they allow only partial control over natural co-variations between self-expansion and anxiety, as well as over a host of structural and dynamic factors that are likely to impact on their dynamic interplay. This second shortcoming is particularly problematic for a stringent tests of an intergroup self-expansion model – at least as formulated in our Hypothesis 2. Yet, it offers a fertile ground for interesting considerations about dynamic interactions between approach and avoidance motives, as well as a convenient explanation for some unexpected results we detected in Study 3.

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Contrary to Hypothesis 2, in Study 3 we found that, among our first year university students in their first semester at university, self-expansion was a better predictor of intragroup than intergroup relationships, especially among those high in anxiety. That is, while different others should be *typically* most conducive to fast and satisfying self-expansions (Brody et al., 2009; Mattingly et al., 2011; Wright et al., 2002, 2005), our respondents displayed a preference for self-expansion through intragroup relations. We believe that this pattern of results reflects a particularly severe testing ground for an intergroup self-expansion model. In natural settings, while free to choose among various relationship options, not all types of relationships are equally available at all times. Due to widespread informal group segregation (Alexander & Tredoux, 2010; Castelli et al., 2007; Dixon & Durrheim, 2003), and a variety of structural obstacles (e.g., segregation in housing), even when willing to engage in relationships with different others, people might just be objectively unable to do so. This means that our fresher students in their first steps at university may have just found it easier to gain access to new relationships with similar than different others. Some dynamic factors might also have temporarily skew the balance between avoidance and approach motives. For example, the unfamiliarity and the high uncertainty of novel settings (e.g., university for our fresher students) may have given avoidance motives a temporary advantage over approach motives. Research by Aaarty and colleagues for example demonstrates that transition to university threatens people's sense of self-continuity exactly because it injects too rapidly new identities into the individual's sense of self, while causing the loss of other meaningful past identities. Hence, the uncertainty and anxiety-provoking nature of the setting of Study 3 for our respondents, together with higher opportunities for intragroup vs. intergroup contact, may explain both why self-expansion followed a bit more strongly an intragroup, rather than an intergroup, route and why these behaviors were particularly acute among highly

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anxious respondents (who, as noted above, as they are more worried about intergroup encounters, are more likely to engage in contact with ingroup mates).

It is evident that a fairer, neater, and more conclusive test of the interplay between approach and avoidance motives requires a controlled setting where self-expansion and anxiety are orthogonally manipulated and intragroup and intergroup interactions are equally available as new relationship options. Moreover, a test of the most stringent intergroup variants of the self-expansion model and of self-expansion contribution to a progressive deprovincialization of the self as set in Hypothesis 3 requires participants to be placed in front of a forced choice between a new intragroup *or* a new intergroup relation (vs. free to choose both). With Study 4 (and Study 5), we strived to incorporate all these key considerations in our research paradigm.

We manipulated self-expansion and anxiety orthogonally in a first individual laboratory session and assessed white and ethnic Australian participants' willingness to engage in new intragroup vs. intergroup relationships as part of a second laboratory session with other research partners. For this, we placed them in front of a forced choice between different relationship options, some of which were intragroup and some of which were intergroup in nature. Notwithstanding the existence of structural and dynamic barriers to different relationship types in most natural contexts, given the safe and facilitating nature of our laboratory environment and no explicit norm for group segregation or group integration, we expected our participants to feel free of choosing any new relationship type. We anticipated, however, these choices to be shaped by our self-expansion and anxiety manipulations. Specifically, based on the intergroup self-expansion model and our extension to self-deprovincializations, we expected self-expansion to encourage intergroup relations over new intragroup relations and, based on earlier anxiety data (e.g., Levin, van Laar & Sidanius, 2003), we expected anxiety to encourage the exact opposite. Indeed, when placed in front of

a choice between two equally available options, individuals more oriented to self-expansion should find relationships with unknown dissimilar others as more appealing and self-satisfying that relationships with unknown similar others.

3.1 Method

Participants and Design

Participants were 104 undergraduate students and staff at a large regional Australian university on the East Coast. Sixty-three were White and 41 of ethnic background (35 males; 69 females; M_{age} = 26.1 years, SD = 9.36). Participants were reimbursed AU$25 for their time and travel expenses. They were randomly allocated to one of the four conditions of a 2 (self-expansion low/high) x 2 (anxiety low/high) between-subjects design. There were between 21 and 31 participants per condition.

Procedure

Participants were recruited around the campus for a study allegedly investigating 'personality and perception', which participants expected to involve two research sessions; the first consisting of individual tasks and the second of interactions with other students.

Manipulations

Upon arriving at the laboratory, participants were given 10 minutes to complete a bogus apperception task, which required them to write down the thoughts and emotions evoked by an abstract painting. The two experimental manipulations were implemented in the context of this task. Participants

allocated to the *low self-expansion* condition were told that, in Session 2, they would be meeting with same-sex postgraduate fine arts students to discuss the artistic movement and era in which the painting was created. Participants allocated to the *high self-expansion* condition were told that they would be meeting with same-sex postgraduate clinical psychology students who would develop a personality assessment based on their written responses to the apperception task. Hence, while all participants were given an opportunity to self-expand, only high self-expansion participants had an immediate opportunity to expand their knowledge of the self; Aron and colleagues (2001) argue that among available resources for self-expansion (e.g., status, wealth, strength), knowledge is the primary one.

Orthogonally to this manipulation, we manipulated anxiety. *Low anxiety* participants were told that, in Session 2, they would be interacting with the postgraduate students online via a chat room and would not be able to see each other in person. *High anxiety* participants were told that they would be meeting the postgraduate students face-to-face. Based on extensive evidence that high identifiability inhibits self-disclosure and is anxiety provoking (Joinson, 2001), we expected the anticipation of a face-to-face (vs. computer-mediated) encounter to generate higher anxiety.

3.2 Measure

Dependent measures: De-provincialization variables

After some filler tasks[2], an elaborated cover story was used to introduce the key dependent variables. Participants were led to believe that they would be

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[2]Among fillers, participants completed a self-expansion item ("Social relationships offer opportunities for exciting experiences") and an anxiety item ("How much would you feel tense?"; both items 1 = not at all, 7 = very much). These two single self-reported items displayed no responsiveness to the experimental manipulations.

arranging a suitable time to participate in Session 2 as well as choose who they would participate in the discussion with. They were told that the postgraduate students volunteered to participate in the study as part of their final year projects and had indicated their general availability for the next three weeks to the researchers. Thereafter participants were asked to indicate their time availability for their second laboratory session on a bogus timetable (some time slots were crossed out for increased realism). At this point, they were presented with a folder containing five sheets of paper for each of five relationship alternatives (each on a separate sheet; counterbalanced order), asked to rank the five relationship alternatives in order of preference (values ranging between 1 and 5) and rate how much they liked each alternative (1 = *not at all*, 7 = *very much*). These consisted of neutral faces (used with permission from www.faceresearch.org) of individuals of similar age and same sex as the participants and included alternatives for (1) a single white face, (2) a single ethnic face, (3) a group option of four white faces, (4) a group option of four ethnic faces, and (5) a group of mixed white and ethnic faces (two white and two ethnic). Both *relationship preference* and *liking* variables were scored so that higher scores denoted higher intention to engage in that relationship alternative. Next, participants completed demographic variables (age, gender and cultural background) and were questioned about their awareness of the aims of the research. They were finally debriefed, thanked, and dismissed.

3.3 Results

Testing the Effects of Self-Expansion and Anxiety on Relationship Intentions

If self-expansion drives de-provincializations, we would expect the manipulations of self-expansion and anxiety to affect participants' preferences

for whom they would like to meet in the second laboratory session. We performed a 2 (participant's ethnicity: white/ethnic) x 2 (self-expansion: low/high) x 2 anxiety (low/high) between-subject ANOVAs for each of the relationship preference and liking variables and found a significant participant's ethnicity by self-expansion interaction on preference for an ethnic group, $F (1, 96) = 12.29$, $p = .001$, $\eta^2 = .11$. This interaction is reported in Figure 1. Inspection of the means and analysis of simple effects revealed that this interaction reflected white individuals expressing significantly greater interest in this new intergroup relation when they were high in self-expansion ($M = 3.79$, $SD = 0.20$) rather than when they were low in self-expansion ($M = 2.97$, $SD = 0.21$), $F (1, 61) = 8.45$, $p = .005$, $\eta^2 = .12$. Ethnic participants instead displayed exactly the opposite pattern. They expressed significantly more interest in what was for them a new intragroup relation when they were in the low self-expansion ($M = 4.17$, $SD = 0.28$), than when they were in the high self-expansion condition ($M = 3.22$, $SD = 0.24$), $F (1, 39) = 5.87$, $p = .020$, $\eta^2 = .13$. On this relationship preference index, we also detected a trend for an interaction between participant's ethnicity and anxiety, $F (1, 96) = 2.84$, $p = .09$, $\eta^2 = .028$. This mirrored in a meaningful way the interaction involving self-expansion described above. It reflected a tendency for ethnic participants to prefer this intragroup exchange more when they were in the high anxiety ($M = 3.91$, $SD = 0.25$) than in the low anxiety condition ($M = 3.23$, $SD = 0.30$), $F (1, 39) 2.78$, $p = .104$, $\eta^2 = .07$, and a reverse but not significant pattern among white participants, $F < 1$, low anxiety ($M = 3.48$, $SD = 0.23$) high anxiety ($M = 3.32$, $SD = 0.21$).

Figure 1. Preference for interactions with ethnic group as a function of participant's ethnicity and self-expansion (*Study 4*, *N* = 104; values ranging 1-5).
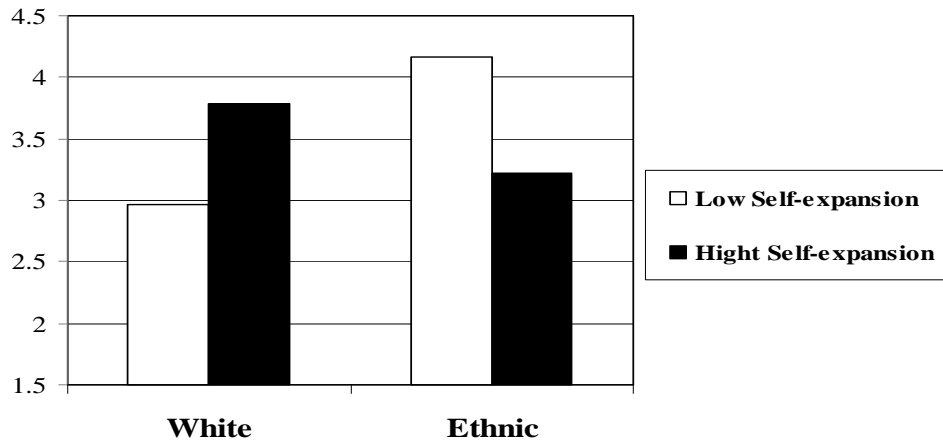
A significant participants' ethnicity by self-expansion interaction was also detected on the liking measure for an exchange with a white group, F (1, 96) = 5.23, p = .024, $\eta2$ = .05 (see Fig. 2). White participants tended to express greater liking for this intragroup relationship alternative when they were in the low self-expansion (*M* = 5.60, *SD* = 0.28) than in the high self-expansion condition (*M* = 5.00, *SD* = 0.27), F (1, 61) = 2.20, p = .14, $\eta2$ = 04. In contrast, ethnic participants displayed exactly the opposite pattern: They tended to rate more positively what was for them a new intergroup relationship alternative when they were high in self-expansion (*M* = 5.00, *SD* = 0.32) than when they were low in self-expansion (*M* = 4.14, *SD* = 0.37), F (1, 3 9) = 3.24, p = .08, $\eta2$ = 08. On this variable, there was also a significant main effect of participants' ethnicity, F(1, 96) = 4.68, p =.033, $\eta2$ =.046, with white participants preferring this (intragroup) interaction option (*M* = 5.29, *SD* = 1.62) more than ethnic participants (*M* = 4.63, *SD* = 1.51). All other effects were non significant, all ps > .13.

Figure 2. Liking for interactions with white group as a function of participant's ethnicity and self-expansion (*Study 4, N* = 104; values ranging 1-7).
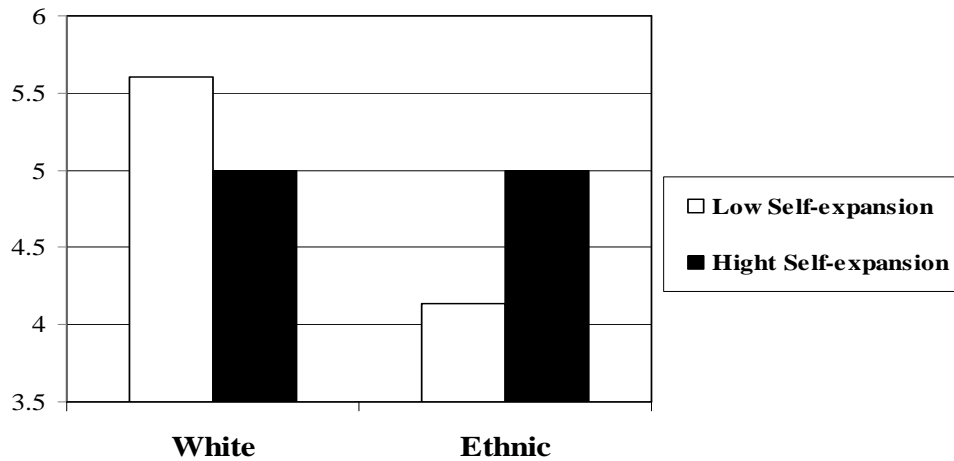
Overall, Study 4 demonstrates that, when white and ethnic Australians were placed in a safe social environment and given the opportunity to establish new relationships with ethnically similar or dissimilar others, self-expansion and ☐ to a lesser extent anxiety ☐ had some meaningful and oppositional effects. Consistent with Hypothesis 3 and the predicted involvement of self-expansion in self-deprovincializations, self-expansion encouraged the establishment of new intergroup relations and discouraged the establishment of new intragroup interactions; anxiety seemed to do the exact opposite. In sum, this study provides initial causal evidence that self-expansion can motivate a greater engagement with the outgroup and, at the same time, a partial disengagement from the ingroup.

Interestingly, within this controlled laboratory setting, we found no evidence of interaction between the approach and the avoidance motives. Instead, when orthogonally manipulated in a context that *a priori* did not advantage one motive over the other, self-expansion and anxiety displayed independent effects,

at least on a measure asking participants to openly express their preferences for new social relationships. Arguably, this lack of interaction may be due to other factors. It could reflect the controlled and deliberate nature of Study 4 dependent variable, making it insufficiently sensitive for subtler effects to emerge, or even just limited power. It may also reflect the operazionalization of anxiety. Indeed, while in Study 3 we measured intergroup anxiety, in Study 4 we manipulated a more general social anxiety, relative to interactions with general others. It is obviously possible that intergroup anxiety and general social anxiety interact in a different way with self-expansion in prediction relationship choices. Study 5 tackled each of these alternative explanations for the null interaction between self-expansion and anxiety in the context of a second controlled test of Hypothesis 3.

4. Study 5

The results of Studies 3 and 4 supported the idea that self-expansion is an important factor in promoting the explicit interest for cross-group friendships and new intergroup relationship. However, research showed that also implicit attitudes should be taken into account to provide a more complete picture of the story. Whereas explicit attitudes are primarily associated to deliberate behaviours, implicit attitudes underlay people's nonverbal responses (see Greenwald et al., 2009), which are often the most important dimensions that individuals consider to evaluate outgroup members (Dovidio, Kawakami, & Gaertner, 2002). We believe that self-expansion, a fundamental human motive, should motivate both explicit and implicit responses toward relationship choices.

Our aim in Study 5 was to further test Hypothesis 3 but this time using an implicit measure as dependent variable. For this, we carried out a substantial

replication of Study 4 with increased power. More importantly, we replaced the dependent measures of Study 4 asking participants to *deliberate* over their preferences for various relationship alternatives with a potentially more sensitive implicit task also tapping on people's approach-avoidance tendencies. As an implicit measure, we used Paladino and Castelli's (2008) recently developed and validated speeded approach-avoidance task. Hence, this time, after implementing our manipulations of self-expansion and anxiety, we placed white Australian participants in front of a computer and asked them to categorize white and ethnic faces between a 'white' and an 'ethnic' category as fast and as accurately as possible using a modified keyboard requiring them to either 'approach' or 'avoid' ethnically similar and dissimilar stimuli appearing on the screen. Paladino and Castelli found that, under default conditions, people display a relative tendency to approach ingroup stimuli and to avoid outgroup stimuli (i.e., a pro-ingroup behavioral bias). We expected anxiety to encourage this default pattern, but self-expansion to possibly reverse it in favor of a tendency to approach outgroup stimuli and avoid ingroup stimuli (i.e., a pro-outgroup behavioral bias). Also, as many have speculated, self-expansion and anxiety might operate in concert to shape people's relationship choices (see e.g., Aron et al., 2002; Brody et al., 2009), so that we expect these two variables to interact and display a joint effect on participants' relationship preferences.

4.1 Method

Participants and Design

To achieve sufficient power, participants were recruited exclusively from the white Anglosaxon majority group. Participants were first-year psychology students and university staff at a large regional Australian university ($N = 80$; 30

males and 50 females; age $M = 23.7$ years, $SD = 8.63$), who received either partial course credit or AU$25 for their time and travel expenses. Upon entering the laboratory for their first individual testing session, participants were randomly allocated to one of the four conditions of a 2 (self-expansion low/high) x 2 (anxiety low/high) between-subjects design. There were 20 participants per condition.

4.2 Measure

Procedure and Dependent Measure

This cover story and procedure were a substantial replication of those used in Study 4. We refined, however, the wording of our manipulations to better tease apart anxiety from self-expansion and align our operationalization of anxiety to evaluation anxiety central to discussions of intergroup contact between black and white individuals (see e.g., Migacheva & Tropp, under review; Mendes et al, REF). For this, we removed any reference to 'assessment' from the wording of the self-expansion manipulation (in Study 4, the clinical postgraduate students were said "to carry out a personality *assessment*"), and instead injected this element in the anxiety manipulation. As a result, participants in the high anxiety condition were now told that in the second laboratory session the postgraduate (fine arts/clinical psychology) students would "finalize their assessment" of the participant's responses to the apperception task (no explicit mention of assessment was made in the low anxiety condition). After implementation of the self-expansion and anxiety manipulations and the completion of the bogus apperception task[3] to check the validity of our manipulation, participants were

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[3] In this study, we opted against potentially reactive and insensitive self-reported manipulation checks and instead carried out lexicographic analysis of participants' open-ended responses to the apperception task with Spad-t software and Vospec procedure (Lebart, Morineau, Becue, & Haeusler, 1989). These analyses found that the words 'people', 'mystery/mysterious', 'dream',

this time introduced to an adaptation of Paladino and Castelli's (2008) speeded categorization task with modified keyboard. To limit their suspicions about the centrality of ethnicity to the study, participants were told that the computer would randomly choose one task among many we used in the study; in fact only one version of the task was used. The task was an adapted version of Paladino and Castelli's implicit measure of approach or avoidance tendencies. For this, participants were seated approximately 50cm from the computer screen and asked to categorize individual white and ethnic faces as fast and accurately as possible using a keyboard that had been modified to have only three keys (two response and one rest keys; keys Q, P, 5 of an Italian keyboard). The modified keyboard was placed perpendicular to the computer screen (exact orientation depended on the participants' dominant hand; see Paladino & Castelli, 2008), so that participants had to provide their categorization responses on the forward and backward keys by moving their arm either toward (approach-like movement) or away from (avoidance-like movement) the stimulus presented on the screen.

Inquisit 1.29 computer software randomly presented individual faces at the center of the computer screen (inter-trial interval ranging between 1,000 and 5,000 msec) until a 'white' or 'ethnic' response was provided. The stimulus material consisted of faces of 10 white and 10 ethnic individuals (Asian and Black) with neutral expression and frontal orientation that had been developed through a face image developing software (FaceGen 3D) and pretested with students at that University to be rated as prototypical and to be correctly categorized as representative of their respective social group. The task consisted of two blocks of 40 trials (order counterbalanced). One block required

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'unfamiliar', 'dream' and 'good' were significantly more represented in the high self-expansion/high anxiety condition than in all other conditions together, $ps < .055$. As discussed later in the article, this is the condition that drove our higher-order effects on the implicit measure.

participants to press the forward key to assign the target stimulus to the white category and to press the backward key to assign the target stimulus to the ethnic category; the other block required a reversal of the response keys (i.e., forward-ethnic; backward-white). Each block started with eight practice trials and presented all stimuli twice in a random order for the test trials.

4.3 Results

Testing the Effects of Self-Expansion and Anxiety on Implicit Behavioral Responses

We followed Paladino and Castelli's (2008) validation data procedure and used the speed of correct categorization responses to the speeded categorization task with modified keyboard as an index of the association between each social category (white vs. ethnic) and implicit approach and avoidance behavioral responses. Approach and avoidance response latencies to white and ethnic stimuli were log-transformed for normalization prior to be subjected to a 2 self-expansion (low vs. high) x 2 anxiety (low vs. high) x 2 behavioral tendencies (approach vs. avoidance) $\times$ 2 target group (white vs. ethnic) mixed model ANOVA with behavioral tendencies and target group as repeated measure factors. These analyses detected a significant main effect of behavioral tendencies, $F(1, 76) = 24.49$, $p <.001$, $\eta^2 =.244$, reflecting faster avoidance ($M = 2.95$, $SD = 0.07$) than approach responses ($M = 2.97$, $SD = 0.06$) and a main effect of target group, $F(1, 76) = 8.19$, $p =.005$, $\eta^2 =.097$, reflecting faster responses to white ($M = 2.96$, $SD = 0.06$) than to ethnic stimuli ($M = 2.97$, $SD = 0.07$). We also detected a set of significant interactions, anxiety by behavioral tendencies, $F (1, 76) = 3.97$, $p = .05$, $\eta^2 =.05$; anxiety by target group by behavioral, $F (1, 76) = 5.33$, $p = .024$, $\eta^2 =.07$; anxiety by self-expansion by

target group, $F(1, 76) = 8.41$, $p = .005$, $\eta^2 = .10$; self-expansion by target group, $F(1, 76) = 7.21$, $p = .009$, $\eta^2 = .087$.

Importantly, these effects were all qualified by a significant 4-way interaction, $F(1, 76) = 4.48$, $p = .038$, $\eta^2 = .056$. This complex effect is displayed in Figure 3. An inspection of the means revealed that a very similar pattern of implicit behavioral responses was displayed by three of our four between-subject conditions (low self-expansion/low anxiety, low self-expansion/high anxiety, high self-expansion/low anxiety), but a markedly different pattern emerged in the high self-expansion/high anxiety condition. Follow-up analyses confirmed that these two distinct patterns reflected two -- very different -- behavioral tendencies x target group interactions, $F(1, 60) = 3.72$, $p = .058$, $\eta^2 = .06$, $F(1, 20) = 7.87$, $p = .011$, $\eta^2 = .28$, respectively. In the low self-expansion/low anxiety, low-self-expansion/high anxiety, and high self-expansion/low anxiety conditions, participants were significantly faster at approaching white faces ($M = 2.95$, $SD = 0.06$) than ethnic faces ($M = 2.99$, $SD = 0.07$), $F(1,60) = 18.28$, $p < .001$, $\eta^2 = .234$; whereas they were significantly faster at avoiding ($M = 2.96$, $SD = 0.08$) than approaching ethnic faces ($M = 2.99$, $SD = 0.07$), $F(1, 60) = 11.55$, $p < .001$, $\eta^2 = .162$; all other effects, $ps > .07$. Interestingly, as this effect is very similar to the default effect that Paladino and Castelli found in their validation studies when no experimental manipulation was used, it suggests that the implicit behavioral responses we found under low self-expansion and under conditions of high self-expansion, but low anxiety map onto a basic and default intergroup behavioral bias that, overall, makes people prone to approach ingroupers and avoid outgroupers.

Participants in the high self-expansion/high anxiety condition behaved in ways markedly different from all the other participants (see Figure 3). They were significantly faster at approaching ethnic ($M = 2.95$, $SD = 0.05$) than white faces ($M = 3.00$, $SD = 0.06$), $F(1, 20) = 21.54$, $p = .000$, $\eta^2 = .519$, and they were

significantly faster at avoiding ($M =2.93$, $SD = 0.04$) than approaching ($M =3.00$, $SD = 0.06$) white faces, $F (1,20) = 28.147$, $p = .000$, $\eta^2 = .585$; all other effects, ps $> .35$. This pattern suggests that when participants were encouraged to see others as a means to enrich their self and were placed under a condition of high arousal, they were switching from an implicit pro-ingroup behavioral bias to an implicit pro-outgroup bias. We expect this speeded behavioral effect to translate, over a repeated period of time, into a greater proclivity to engage in intergroup, rather than intragroup contact, in the shape displayed on the deliberate relationship choice measure used in Study 4. We elaborate on the likely dynamic interplay between episodic and chronic effects more extensively in the General Discussion.

Figure 3. Speeded approach and avoidance responses to white and ethnic faces as a function of self-expansion and anxiety (*Study 5*, White participants, $N = 80$).
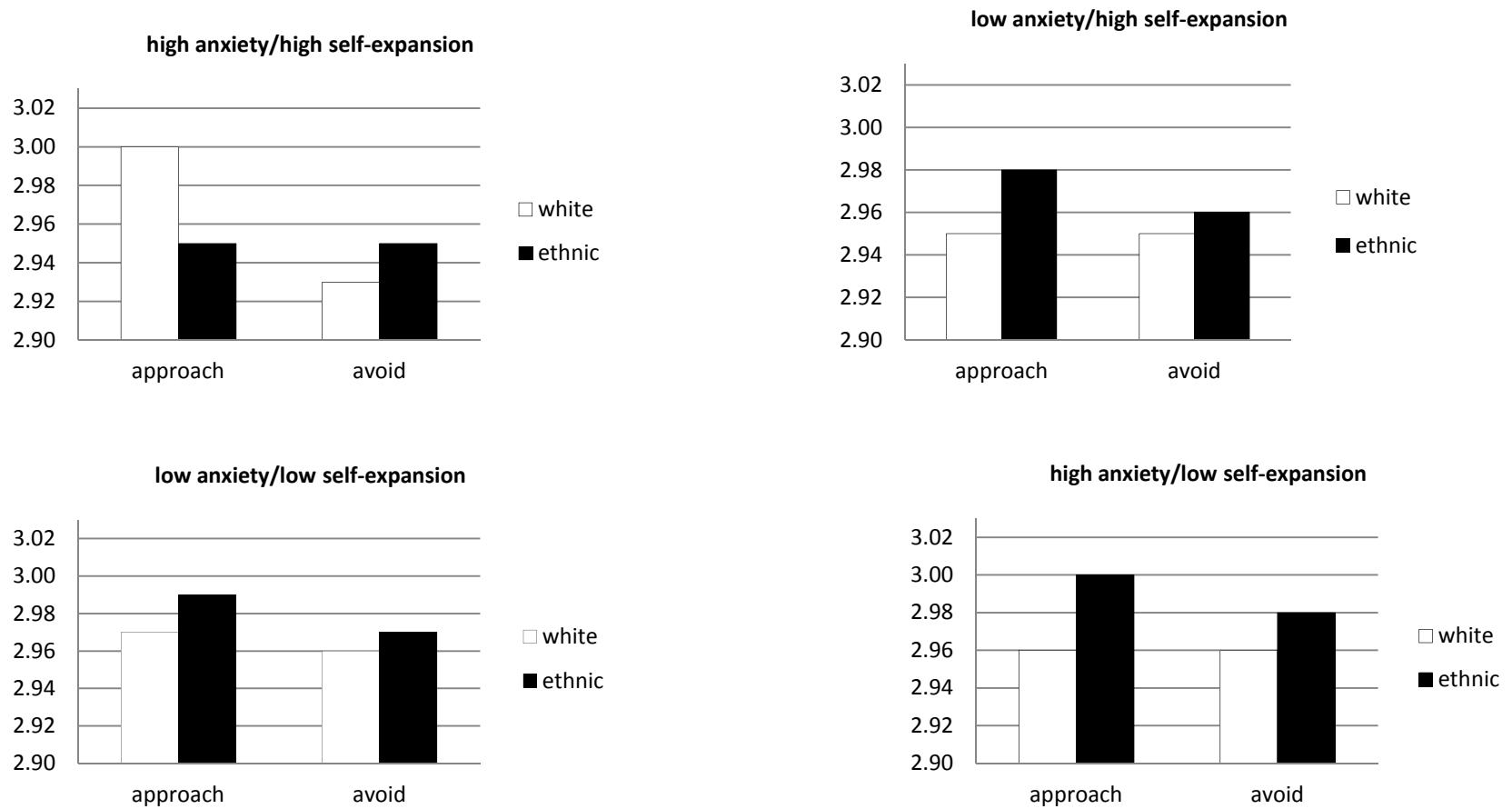
5. General Discussion

We started this research endeavor noting a sharp disconnect between what is beneficial for society on the one hand, and what seems to be most desirable for individuals on the other. While extensive data indicate that intergroup contact is typically beneficial for positive intergroup attitudes in most societies and among several participant populations (Pettigrew & Tropp, 2006), individuals do not necessarily choose to engage in intergroup exchanges and instead often opt for relationships with similar others. To overcome this obvious practical impasse for broad social integration, past research has focused on avoidance motives hindering willingness for intergroup contact (Plant & Devine, 2008). We extended this analysis to self-expansion—a motive expected to promote an approach orientation to social relationships (Aron et al., 2001; Wright et al., 2002). We expected self-expansion to play a pivotal role in self-deprovincializations—away from the ingroup and towards the outgroup, as most evident among those with an extended history of intergroup contact (for theoretical considerations, see Brewer, 2008; Pettigrew, 1997; for some initial data, see Verkuyten et al., 2010).

In line with Aron, Wright, and colleagues' self-expansion model, we found that self-expansion uniquely predicted students' satisfaction and breadth of social relationships with others of similar and dissimilar background (Study 3). Moreover, consistent with intergroup extensions of the model (Brody et al., 2009; Wright et al., 2005) and our explicit take on deprovincialization, we found that self-expansion uniquely predicted reduced ingroup liking and reduced outgroup prejudice, while still encouraging psychological ties with the ingroup (Study 3). Critically, when experimentally manipulated, self-expansion encouraged white and ethnic Australians to openly express a preference for establishing a new relationship with ethnically dissimilar vs. similar others

(Study 4), and to display an implicit behavioral tendency to approach the outgroup and avoid the ingroup (among those under high arousal; Study 5). Below, we discuss the broader implications of these results for theory and policy and highlight some desirable venues for future research.

Beyond Contact Avoidance: Self-Expansion as an Approach Motive

Past intergroup contact research has been tampered by a prevention focus (Plant & Devine; 2008; Plant, Devine, & Peruche, 2010; add refs to Higgins); that is, a disproportionate attention to what prevents or limits people's willingness to engage in intergroup contact (for a similar point, see also Plant & Devine, 2008). This research aimed to reverse this established research trend with a new focus on appetitive or promotion motives (see also Migatcheva & Tropp, in press). We kept anxiety in the background of all our designs, so that we could benchmark self-expansion new effects against more established avoidance ones. As such, our work offers first evidence that people's desire to expand their sense of self through not necessarily close or intimate relationships *uniquely* predicts their openness to intergroup relations (our Hypothesis 1), and a preference for these relationship types over intragroup relations (our Hypothesis 3). The most obvious implication of these findings for intergroup psychology is that our ability to predict the establishment of intergroup relationships is ultimately enhanced in absolute terms by combining a focus on approach (self-expansion) and avoidance tendencies (anxiety) in relationship choices.

More broadly, these results also contribute to contemporary analysis of self-regulatory processes. Our field data show that self-expansion and anxiety, while inversely related, are not empirically interchangeable. Rather, as flagged by the dissociation on the approach-willingness and avoid-willingness measures in Study 3, self-expansion taps active approach (see also Brent, Mattingly and

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Lewandowsky, 2011). Also, we now know that people's push towards an expanded sense of self often goes together with higher extraversion, agreeableness, a relational interdependent self, and openness to experiences. Future intergroup research may benefit from looking at the way self-expansion maps onto other features of approach processes. For example, many see trust as an approach-oriented emotion that is pivotal to a greater openness to new intergroup relations (Tam et al., 2009). Future work might ascertain the extent to which trust and possibly also secure attachment styles go together with people's motive to self-expand.

Beyond Outgroup Prejudice: Self-Expansion as a Determinant of Deprovincialization

Part of the success of prominent integrative social psychological theories (Hogg, 2007; Tajfel et al., 1971; Turner, 1991) is that they articulate people's intergroup behavior in the context of a broader and dynamic net of intragroup (or interpersonal) *and* intergroup relations. That is, their merit is in their analysis of people's response to outgroups against their allegiances with *ingroups*. Yet, traditionally, intergroup contact research has maintained a focus on contact with the outgroup and investigated its effects for attitudes towards the outgroup only (Pettigrew & Tropp, 2006). We explicitly drew from emerging theorizing on deprovincializations of the self to shortcut this research tradition (see also Verkuyten et al., 2010) and assessed self-expansion's effects for both intergroup *and* intragroup relations. Prominent scholars have recently argued that standard intergroup contact effects may reflect a broader move of the self away from the ingroup and towards the outgroup that is most evident among individuals with an extended history of intergroup contact (Brewer, 2008; Pettigrew, 1997; Tropp & Molina) or a protract exposure to cross-cutting social categories (Brewer, 2008). This research responded to this theorizing with some data.

Our three studies captured different sides to deprovincializations; but at the broadest level they all confirmed that self-expansion is critically involved in people's repositioning of the self relative to ingroup and outgroup. In a first experiment (Study 4), we showed that when forced to choose a new relationship on a task allowing for extensive deliberation, self-expansion encouraged the establishment of new intergroup, rather than intragroup, relations. On a task that allowed for limited deliberation (Study 5), those induced to be in a high self-expansion mode switched from a default and implicit pro-ingroup behavioral orientation to an implicit pro-outgroup behavior, however only when also high in anxiety. At this point, we did not test for the dynamic interplay between implicit and deliberate relationship choices; however, we would expect implicit behavioral tendencies to progressively and over time feed into deliberate relationship choices and repeated intergroup contact experiences to be instrumental to this process of progressive consolidation over time (for a similar outlook on implicit-episodic and explicit-chronic effects, see Paolini, Harwood, & Rubin, 2010). Another important dynamic interplay is also worth of further investigation. Our work to date has focused on individual differences in chronic motive to self-expand (Study 3) *or* in situated variations in the motive to self-expand (Studies 4 and 5). The next natural step in the research agenda is an integrated person x situation x time approach whereby chronic and situated variations in self-expansion are studies as they interact together (see Paolini, Harwood, & Rubin, 2010) and are possibly shaped by a variety of dynamic structural factors (for a discussion of some of these factors, see Brody et al., 2009; Tropp & Molina, in press).

CONCLUSIONS

A large and growing body of literature has demonstrated that contact hypothesis (Allport, 1954) is an effective approach reducing prejudice, negative stereotyping, and discrimination (Pettigrew & Tropp, 2006). Recently, research in social psychology has investigated more intimate forms of contact (e.g., cross-group friendship; Davies, Tropp, Aron, Pettgrew, & Wright, 2011; Pettigrew, 1997, 1998) and alternative forms of contact (e.g., extended contact; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). Although nowadays there is a general agreement among scholars about the effectiveness of direct and extended contact, some issues needed to be further investigated. The work presented here intended to further corroborate it, providing also some new original contributions.

Five studies were performed. In the first two, using several dependent variables, we provided further support the idea that favorable direct and indirect contact has the potential to ameliorate attitudes toward outgroup members. Whereas, across Studies 3, 4 and 5 we provided a first systematic investigation of a promising approach motive for intergroup contact: Aron, Wright, and colleagues' concept of need for self-expansion (Aron, Aron, & Norman, 2001; Wright, Aron, & Tropp, 2002).

In Study 1 (cross-sectional) we examined both direct and extended cross-group friendship as predictors of greater outgroup humanization. The relationship between Northern and Southern Italians was considered. Our aim, in this study, was to shed light on the potential processes underlying the relationship between both direct and extended cross-group friendship and attributions of humanity. We hypothesized different processes through which direct and extended cross-group friendship should promote humanity attributions. We tested the three

mechanisms proposed by Wright et al (1997) as first level mediators (inclusion of the outgroup in the self, ingroup norms and outgroup norms) and intergroup emotions as second level mediators (anxiety, empathy and trust) between contact and humanity attributions. Results supported the model proposed. We found that two different processes explained *how* direct and extended cross-group friendship affect outgroup humanization confirming our double mediation hypotheses. Direct cross-group friendship improved humanity perceptions through the effect of the inclusion of the outgroup in the self that, in turn, influenced negatively anxiety and positively empathy and trust with positive effects on outgroup humanity. Conversely, indirect contact improved outgroup humanity through the effect of ingroup norms that, in turn, influenced negatively anxiety and positively empathy and trust with positive effects on outgroup humanity.

To our knowledge, this is the first empirical evidence showing that also extended contact can be effective in combating infrahumanization. Moreover, our research extends the literature in several ways. First, it shows different mechanisms underlying the relationship between direct and extended cross-group friendship and outgroup humanization. Second, it provides evidence for the mediational role of anxiety, empathy and trust by showing their importance also with respect to a new type of subtle prejudice. Third, it shows that the relationship between contact and humanization involves both cognitive and affective factors. However, it is important to note that, in this study, the relationship of contact with outgroup humanity is explained by the hypothesized mediators, except for outgroup norms.

Although our mediators explained as predicted the hypothesized effects of direct and extended contact, it is still possible that other mediators are at work. For instance, social identity complexity (e.g., Roccas & Brewer, 2002) might play a role as first-level mediators in our model. Additionally, these findings are based on the analysis of cross-sectional data, thus making it difficult to draw

definitive conclusions about causality. Regarding contact, research has shown that contact has cross-lagged effects on outgroup infrahumanization (Brown et al., 2007). Moreover, evidence for the causal link between contact and positive intergroup outcomes has been provided by experimental (Page-Gould, Mendoza-Denton, & Tropp, 2008) and longitudinal studies (e.g., Binder et al., 2009). Nevertheless, in future studies, it will be useful to test the proposed models using experimental or longitudinal designs.

In Study 2 we tested, for the first time, the effect of indirect contact as a results of perceived ingroup and outgroup members' prototypicality. Using a modified version of the Minimal Group Paradigm (Tajfel et al., 1971), the prototypicality of both the ingroup and the outgroup member was manipulated. Four experimental conditions were created. We hypothesized that participants' emotions and stereotypes should be better in the condition in which both ingroup and outgroup exemplars were perceived as prototypical of their respective group, and also in the condition when only the ingroup member was perceived as prototypical of his/her group. Intergroup emotions (anxiety, empathy and trust) and stereotypes (competence, warmth and morality) were used as depended variables. Findings were consistent with our hypotheses. Indirect contact reduced anxiety and increased trust and morality perceptions when both the ingroup and the outgroup member were perceived as prototypical of their group. Moreover, we found the same moderating effect on traits of competence and warmth when using comparative indices, namely, the score of the ingroup minus the score of the outgroup. In addition, the moderating effect prototypicality was also found when only the ingroup member was perceived as group prototypical. These results make an important new contribution to the literature on indirect contact. We have provided the first experimental evidence that group member's prototypicality can moderate the impact of indirect contact on intergroup emotions and stereotypes. Additionally, findings are consistent with previous

research on the nature of generalization following contact. Theoretically, in fact, findings are fully in line with the Mutual Intergroup Differentiation Model (see, e.g., Hewstone & Brown, 1986) which suggests that identity salience and group member typicality are crucial components for generalization of the positive effects of contact.

In sum, studies 1 and 2 not only provided new original contributions but also gave important support for the effectiveness of intergroup contact, by showing that direct cross-group friendship and indirect contact are desirable avenues for improving intergroup relations.

Research suggests that intergroup contact is rarely a spontaneous choice. In Study 3, we started to investigate what promotes intergroup contact. Studies 3, 4 and 5 aimed to reverse this established research trend with a new focus on promotion motives (see Migacheva & Tropp, 2012). We extended this analysis to self-expansion — a motive expected to promote an approach orientation to social relationships (Aron et al., 2001; Wright et al., 2002). We expected self-expansion to play a pivotal role in self-deprovincializations—away from the ingroup and toward the outgroup as most evident among those with an extended history of intergroup contact (see Brewer, 2008; Pettigrew, 1997; Verkuyten, Thijs, & Bekhuis, 2010). To investigate self-expansion as a key motivational underpinning of people's desire to engage in relationships with different (vs. similar) others and explore involvement in self-deprovincializations (Pettigrew, 1997), we conducted three studies. In Study 3, we assessed self-expansion ability to predict more positive intergroup rather than intragroup relations and its ability to predict self-deprovincializations and intergroup relations. In Studies 4 and 5, we manipulated self-expansion experimentally and studied its impact on a measure of relationship choice (Study 4) and on an implicit measure (Study 5). Moreover, we controlled for anxiety in all our designs, so that our novel results on the role of self-expansion could be benchmarked against more established

effects. Additionally, in Study 3, as part of the study's objectives, we validated an adaptation of Lewandoski and Aron's (2002) self-expansion scale encompassing social relations in general with several conceptually related constructs.

Findings showed that self-expansion was positively associated with greater and more satisfying relationships with similar others. Importantly, self-expansion was also related to greater and more satisfying relationships with dissimilar others. However, the correlations between self-expansion and intergroup measures were not larger than those with intragroup measures, suggesting that respondents preferentially expanded their sense of self through similar than dissimilar others. As we argued in the discussion of Study 3, this result may also be explained by referring to the limited number of intergroup vs. intragroup contacts. Indeed, as individuals motivated to self-expansion are prone to make acquaintance with other people, they can find more easily ingroup members, who are more numerous than outgroup members. This result may reflect the different opportunities for intragroup vs. intergroup contact.

Regarding the attitudinal variables, we found that self-expansion was positively related to ingroup identification and negatively related to both ingroup attitudes and outgroup prejudice. This pattern of associations maps well onto Pettigrew's (1997) deprovincialization of the self and ingroup reappraisal and confirms that self-expansion is involved in the repositioning of the self relative to the ingroup and the outgroup, and in improved intergroup relations. Moreover, in Study 3, results showed that self-expansion had an inverse relationship with anxiety; hence, the higher the anxiety experienced during interactions with dissimilar others, the lower the need for self-expansion through social interactions. Additionally, results revealed that all the significant relationships found between self-expansion and the intragroup and intergroup relations variables remained unchanged when controlling for anxiety. These findings

confirmed the unique effects of self-expansion as an approach motive, over and above its relationship with the avoidance motive of anxiety. Interestingly, significant interactions between self-expansion and anxiety were found when predicting intragroup variables but not when predicting intergroup variables. Self-expansion was a more robust predictor of intragroup relations among respondents who reported high anxiety, than among those who reported low anxiety. This makes perfectly sense: as individuals are highly anxious about interacting with outgroup members, they "refuge" themselves in relations with ingroup members.

We followed up this field study with two experiments to provide a more stringent test of the intergroup self-expansion model and its effects on self-deprovincialization. In study 4 we manipulated self-expansion and anxiety in an orthogonal manner in the context of interethnic relationships between white and ethnic Australians to assess the two motives' unique and joint impact on participants' deliberate decisions to engage in future contact with ethnically similar and dissimilar others, and in Study 5 their implicit behavioral tendencies to approach and avoid white and ethnic-relevant stimuli (Paladino & Castelli, 2008). Critically, the dependent variables in both studies required a forced choice between intragroup and intergroup stimuli. In Study 4 we found that, when white and ethnic Australians were placed in a safe social environment and given the opportunity to establish new relationships with ethnically similar or dissimilar others, self-expansion encouraged the establishment of new intergroup relations and discouraged the establishment of new intragroup interactions; anxiety seemed to do the exact opposite. Interestingly, within this controlled laboratory setting, we found no evidence of interaction between self-expansion and anxiety. This lack of interaction may be due to other factors. It could reflect the controlled and deliberate nature of Study 4 dependent variable, making it insufficiently sensitive for subtler effects to emerge, or even just limited power. As we argued

in the discussion of Study 4, it may also reflect the operazionalization of anxiety. In sum, Study 4 provided initial causal evidence that self-expansion can motivate a greater engagement with the outgroup and, at the same time, a partial disengagement from the ingroup. We regard these patterns of relationship choices toward the outgroup and away from the ingroup as the psychological foundation of self-deprovincializations.

Study 5 was a substantial replication of Study 4 with increased power through an implicit measure of speeded approach-avoidance. Participants were all white Australians. Results of Study 5 demonstrated that in the low self-expansion/low anxiety, low-self-expansion/high anxiety, and high self-expansion/low anxiety conditions, participants were faster at approaching white faces and avoiding ethnic faces. These results are in line to the default effect that Paladino and Castelli (2008) found in their studies when no experimental manipulation was used. As mentioned in Chapter 4, it suggests that the implicit behavioral responses we found under low self-expansion and under conditions of high self-expansion, but low anxiety map onto a basic intergroup behavioral bias that makes people prone to approach ingroup member and avoid outgroup members. Finally, in the high self-expansion/high anxiety condition was found that participants were faster at approaching ethnic than white faces and they were faster at avoiding than approaching white faces. These results demonstrate that, when participants were encouraged to see others as a means to enrich their self and were placed under a condition of high arousal, they switched from an implicit pro-ingroup behavioral bias to an implicit pro-outgroup bias. The implication of these findings for intergroup psychology is that our ability to predict the establishment of intergroup relationships is ultimately enhanced in absolute terms by combining a focus on approach (self-expansion) and avoidance tendencies (anxiety) in relationship choices. More in general, these results also contribute to contemporary analysis of self-regulatory processes.

Future intergroup research may benefit from looking at the way self-expansion maps onto other features of approach processes. Since Pettigrew's first explicit call to reconsider intergroup contact and outgroup prejudice in terms of people's broader and dynamic negotiations of alternative ingroup and outgroup allegiances (see also Brewer, 2008), others have further speculated on the cognitive and motivational underpinnings of such deprovincializations. Some have invoked multiple cross-cutting categories (Brewer, 2008), others the inclusion of others in the self (Brody et al., 2009), or increased self-identity complexity (Roccas & Brewer, 2002). With differences in nuances, all these recent contributions convene that engaging in meaningful relationships with different others may improve intergroup relations—broadly—by progressively leading to an increased awareness of otherness as alternative bases for social categorization and positive distinctiveness and a reduced distinctiveness and importance of the ingroup for the individual. Our empirical work captured this psychological repositioning of the self relative to the outgroup and ingroup and isolated experimentally and in the field people's motive to expand their sense of self through social relationships as a key determinant of this process. Showing, as we did, that self-expansion causes the deprovincialization of the self is both pragmatically and theoretically poignant. At the practical level, we believe we opened a suitable venue to resolve the evident disconnect between individual and society. Through this process, it seems now possible to achieve individual's greater openness to intergroup contact, as well as propel society toward greater social integration. Theoretically, this novel process overcomes altogether some of the most intractable pitfalls of other social psychological intervention options. In particular, recategorization (Dovidio et al., 1997) and decategorization (Brewer, 2008) strategies have been criticized for requiring people to relinquish important psychological ties with ingroups. Study 3 field data demonstrate that increased outgroup liking and decreased ingroup liking through self-expansion can be

achieved with increased ingroup identification. This means that intergroup tolerance and openness to otherness does not necessarily require the redrawing of existing group boundaries, rather the active recruitment of individuals' self-directed behavior toward their broader social network.

REFERENCES

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

Aiken, L. S., & West, S. G. (1991). Multiple Regression: Testing and interpreting interactions. Newbury Park, CA: Sage.

Alexander, L. (2007). Invading pure space: Disrupting black and white racially homogenized spaces. *South African Journal of Psychology, 37,* 738-754.

Alexander, L., & Tredoux, C. (2010). The spaces between us: A spatial analysis of informal segregation at a South African university. *Journal of Social Issues*, *66,* 367–386.

Allport, G. W. (1954). *The nature of prejudice*. New York: Addison-Wesley.

Aron, A., & Aron, E. N. (1996). Self and self-expansion in relationships. In G. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 325- 344). Hillsdale, NJ: Erlbaum.

Aron, A., Aron, E. N., & Allen, J. (1998). Motivation for unrequired love. *Personality and Socila psychology Bulletin, 24,* 787-796.

Aron, A., Aron, E. N., & Norman, C. (2001). The self expansion model of motivation and cognition in close relationships and beyond. In M. Clark & G. Fletcher (Eds.), Blackwell handbook in social psychology: Vol. 2. Interpersonal processes. (pp. 478-501). Oxford: Blackwell.

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63,* 596–612.

Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, *63*, 596-612.

Aron, A., McLaughlin-Volpe, T., Mahek, D., Lewandowski, G., Wright, S.C., & Aron, E. N. (2004). Inclusions of others in the self. In M. Hewstone & W Stroebe (Eds.), European Review of Social Psychology. Vol 15. (pp. 101-132). x, 349 pp. Hove, England: Psychology Press.

Aron, A., Melinat, E., Aron, E. N., Vallone, R., & Bator, R. (1997). The experimental generation of interpersonal closeness: A procedure and some preliminary findings. *Personality and Social Psychology Bulletin*, *23*, 363-377.

Aron, A., Paris, M., & Aron, E. N. (1995). Falling in love: Prospective studies of self-concept change. *Journal of Personality and Social Psychology, 69,* 1102-1112.

Aronson, E., & Patnoe, S. (1997). *The jigsaw classroom*. New York: Longman.

Asendorpf, J. B. & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality & Social Psychology,74,* 1531-1544.

Bandura, A. (1977). Self-efficacy: Towards a unifying theory of behavioural change. *Psychological Review*, *84*, 191 – 215.

Banfield, C. E. (1970). *The moral basis of a backward society.* New York: The Free Press.

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.

Bastian, B., & Haslam, N. (2010). Excluded from humanity: Ostracism and dehumanization. *Journal of Experimental Social Psychology*, 46, 107-113.

Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.

Batson, C. D., Polycarpu, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., et al. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology*, *72*, 105-118.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238-246.

Bentler, P. M. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software.

Binder, J., Zagefka, H., Brown, R., Funke, F., Kessler, T., & Mummendey, A. (2009). Does contact reduce prejudice or does prejudice reduce contact? A longitudinal test of the contact hypothesis among majority and minority groups in three European countries. *Journal of Personality and Social Psychology*, *96*, 843-856.

Blair, I. V., Ma, J., & Lenton, A. P. (2001). Imagining stereotypes away: The moderation of automatic stereotypes through mental imagery. *Journal of Personality and Social Psychology*, *81*, 828–841.

Boccato, G., Capozza, D., Falvo, R., & Durante, F. (2008). The missing link: Ingroup, outgroup and the human species. *Social Cognition*, *26*, 224-234.

Bramfield, T. (1946). *Minority problems in the public schools*. New York: Harper & Brothers.

Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 155-185). Orlando, FL: Academic Press.

Brewer, M. (2008). Deprovincialization: Social identity complexity and outgroup acceptance. In U. Wagner, L. R. Tropp, G. Finchilescu, & C. Tredoux (Eds), *Improving intergroup relations: Building on the legacy of Thomas F. Pettigrew* (pp. 160-176).

Brody, S. Wright, S. C., Aron, A., & McLaughlin-Volpe, T. (2009). Compassionate love for individuals in other social groups. In B. Fehr, S. Sprecher, & L. Underwood (Eds.), *The science of compassionate love* (pp. 283-308). Malden, MA: Wiley.

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, *37*, 255-343.

Brown, R., Eller, A., Leeds, S., & Stace, K. (2007). Intergroup contact and intergroup attitudes: A longitudinal study. *European Journal of Social Psychology*, *37*, 692-703.

Brown, R., Vivian, J., & Hewstone, M. (1999). Changing attitudes through intergroup contact: The effects of group membership salience. *European Journal of Social Psychology*, *29*, 741-764.

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., & Brown, R. (2007). Promoting children's positive intergroup attitudes towards stigmatized groups: Extended contact and multiple classification skills training. *International Journal of Behavioral Development*, *31,* 454–466.

Cameron, L., Rutland, A., Brown, R., & Douch, R. (2006). Changing children's intergroup attitudes towards refugees: Testing different models of extended contact. *Child Development*, *77*, 1208 – 1219.

Cameron, L., Rutland, A., Hossain, R. & Petley, R. (2011). When and why does extended contact work? The role of high quality direct contact and group norms in the development of positive ethnic intergroup attitudes amongst children. *Group Processes and Intergroup Relations, 14*, 193-207.

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

Capozza, D., Trifiletti, E., Vezzali, L., & Favara, I. (in press). Can contact improbe humanity attributions? *International Journal of Psychology*.

Capozza, D., Voci, A., & Licciardello, O. (2000). Individualism, collectivism, and social identity theory. In D. Capozza & R. Brown (Eds.), *Social*

identity processes: Trends in theory and research (pp. 62-80). London: Sage.

Cartwright, D., & Harary, F. (1956). Structural balance: A generalisation of Heider's theory. *Psychological Review*, *63*, 277 – 293.

Cartwright, D., & Harary, F. (1956). Structural balance: A generalisation of Heider's theory. Psychological Review, 63, 277 – 293.

Castano, E., & Giner-Sorolla, R. (2006). Not quite human: Infrahumanization in response to collective responsibility for intergroup killing. *Journal of Personality and Social Psychology*, *90*, 804-818.

Castelli, L., De Amicis, L., & Sherman, S. J. (2007). The loyal member effect: On the preference for ingroup members who engage in exclusive relations with the ingroup. *Developmental Psychology, 43*(6), 1347-1359.

Christ, O., Hewstone, M., Tausch, N., Wagner, U., Voci, A.,Hughes, J., & Cairns, E. (2010). Direct contact as a moderator of extended contact effects: Cross-sectional and longitudinal impact on outgroup attitudes, behavioral intentions, and attitude certainty. *Personality and Social Psychology Bulletin.*

Clack, B., Dixon, J., & Tredoux, C. (2005). Eating together apart: patterns of segregation in a multi-ethnic cafeteria. *Journal of Community & Applied Social Psychology, 15,* 1 – 16.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, S., Sherrod, D. R., & Clark, M. S. (1986). Social skills and the stress-protective role of social support. *Journal of Personality and Social Psychology*, *50*, 963–973.

Cook, S. W. (1962). The systematic analysis of socially significant events: A strategy for social research. *Journal of Social Issues, 18*, 66-84.

Cook, S. W. (1984). Cooperative interaction in multiethnic contexts. In N. Miller & M. B.

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

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.

Cross, S. E., Bacon, P. L., & Morris, M. L. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology*, 78(4), 791-808.

Cuddy, A., Rock, M., & Norton, M. (2007). Aid in the aftermath of hurricane Katrina: Inferences of secondary emotions and intergroup helping. *Group Processes and Intergroup Relations*, *10*, 107-118.

Cudek, R. (1989). Analysis of correlation matrices using covariance structure models. *Psychological Bullettin*, *105*, 317-327.

Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross-group friendships and intergroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *15* (4) 332–351.

De Tezanos-Pinto, P. D., Bratt, C., & Brown, R. (2010). What will the others think? In-group norms as a mediator of the effects of intergroup contact. *British Journal of Social Psychology*, *49*, 507–523.

Demoulin, S., Leyens, J. Ph., Paladino, M. P., Rodriguez, R. T., Rodriguez, A. P., & Dovidio, J. F. (2004). Dimensions of "uniquely" and "non-uniquely" human emotions. *Cognition and Emotion*, *18*, 71-96.

Deutsch, M., & Collins, M. E. (1951). *Interracial housing: A psychology evaluation of a social experiment*. Minneapolis, MN: University of Minnesota Press.

Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and Individual Differences*, *46*, 172–177.

Dixon, J. A., & Durrheim, K. (2003). Contact and the ecology of racial division: Some varieties of informal segregation. *British Journal of Social Psychology, 42,* 1–23.

Dovidio, J. F., & Gaertner, S. L. (2004). Aversive racism. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 36, pp. 1-51). San Diego, CA: Academic Press.

Fehr, B. (1996). *Friendship processes*. Thousand Oaks, CA: Sage Publications.

Fiske, S. T., Cuddy, A. J. C., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences*, *11*, 77–83.

Flynn, F. J. (2005). Having an open mind: The impact of openness to experience on interracial attitudes and impression formation. *Journal of Personality and Social Psychology*, *88*, 816-826.

Gaunt, R. (2009). Superordinate categorization as a moderator of mutual infrahumanization. *Group Processes and Intergroup Relations*, *12*, 731-746.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4,* 26-42.

Gómez, A., Tropp, L. R., & Fernández, S. (2011). When extended contact opensthe door to future contact:Testing the effects of extended contact on attitudes and intergroup expectancies in majority and minority groups. *Group Processes & Intergroup Relations, 14* (2) 161–173.

Gray, J. S., & Thompson, A. H. (1953). The ethnic prejudice of White and Negro college students. *Journal of Abnormal and Social Psychology*, *48*, 311-313.

Graziano, W.G. & Tobin, R.M. (2009). Agreeableness In M.R. Leary & R.H. Hoyle (Eds.) *Handbook of individual differences in Social Behavior*. (pp. 46-61). New York: Guilford.

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.

Greitemeyer, T., & McLatchie, N. (2011). Denying humanness to others: A newly discovered mechanism by which violent video games increase aggressive behavior. *Psychological Science*, *22*, 659-665.

Greitemeyer, T., & Wurz, D. (2005). Mental simulation and the achievement of health goals: The effect of goal difficulty. *Cognition, Imagination, and Personality*, *25*, 239–251.

Gurtman, M. B. (1995). Personality structure and interpersonal problems: A theoretically-guided item analysis of the Inventory of Interpersonal Problems. *Assessment*, *2*, 343–361.

Hains, S. C., Hogg, M. A., & Duck, J. M. (1997). Self-categorization and leadership: Effects of group prototypicality and leader stereotypicality. *Personality and Social Psychology Bulletin, 23*, 1087-1099.

Haslam, N., Loughnan, S., Kashima, Y., & Bain, P. (2008). Attributing and denying humanness to others. *European Review of Social Psychology*, *19*, 55-85.

Haslam, S. A., McGarty, C., & Turner, J. C. (1996). Salient group membership and persuasion: The role of social identity in the validation of beliefs. In J. L. Nye & A. M. Brown (Eds.), *What is social about social cognition? Research on socially shared cognition in small groups* (pp. 29 – 56). Thousand Oaks, CA: Sage.

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Herek, G. M., & Capitanio, J. P. (1996). "Some of my best friends": Intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, *22*, 412-424.

Hewstone, M., Cairns, E., Voci, A., Paolini, S., McLernon, F., Crisp, R., Niens, U., & Craig, J. (2005). Intergroup contact in a divided society: Challenging segregation in Northern Ireland. In D. Abrams, M. A. Hogg, & J. M. Marques (Eds.), *The social psychology of inclusion and exclusion* (pp. 265-293). New York, NY: Psychology Press.

Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology*, *53*, 575-604.

Hodson, G., & Costello, K. (2007). Interpersonal disgust, ideological orientations, and dehumanization as predictors of intergroup attitudes. *Psychological Science*, *18*, 691-698.

Hodson, G., Harry, H., & Mitchell, A. (2009). Independent benefits of contact and friendship on attitudes toward homosexuals among authoritarians and highly identified heterosexuals. *European Journal of Social Psychology*, *39*, 509–525.

Hogg, M. A. (2003). Social identity. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 462-479). New York: Guilford.

Hogg, M. A. (2007). Uncertainty-identity theory. In M. P. Zanna (Ed.). *Advances in experimental social psychology* (Vol. 39, pp. 69–126). San Diego, CA: Academic Press.

Hogg, M. A., & Turner, J. C. (1987). Social identityand conformity: A theory of referent information influence. In W. Doise & S. Moscovici (Eds.), *Current issues in European social psychology (*Vol. 2, pp. 139–182). Cambridge, UK: Cambridge University Press.

Horowitz, E. L. (1936). The development of attitudes toward the Negro. *Archives of Psychology*,*194*.

Hu, L., & Bentler, P. M. (1997). *Selecting cutoff criteria for fit indexes for model evaluation: Conventional versus new alternatives* (Tech. Rep.). Santa Cruz: University of California.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55.

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

Inquisit 1.29 [Computer software]. (2002). Seattle, WA: Millisecond Software.

Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, *19*, 700-710.

Joinson, A. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology, 31,* 177-192.

Jöreskog, K. G., & Sörbom, D. (2004). *LISREL 8.7 for Windows [Computer Software]*. Lincolnwood, IL: Scientific Software International, Inc.

Judd, C. M., & McClelland, G. H. (1989). *Data analysis: A modelcomparison approach*. San Diego, CA: Harcourt Brace Jovanovich.

Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2001). Neural foundations of imagery. *Nature Reviews Neuroscience*, *2*, 635–642.

Kramer, R. M., & Carnevale, P. J. (2001). Trust and intergroup negotiation. In R. Brown & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology: Intergroup processes* (pp. 431–450). Oxford, UK: Blackwell.

Leach, C. W., Ellemers, N., & Barreto, M. (2007). Group virtue: The importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *Journal of Personality and Social Psychology*, *93*, 234–249.

Lebart L., Morineau A., Becue M., Haeusler L. (1993): *Spad-t version 1.5. sistème portable pour l'analyse des donnés textuelles*, Manual de l'utilisateur, CISIA.

Lee, A. M., & Humphrey, N. D. (1968). *Race riot, Detroit 1943*. New York: Octagon Books., 1968 [c1943].

Levin, S., van Laar, C., & Sidanius, J. (2003). The effects of ingroup and outgroup friendships on ethnic attitudes in college: A longitudinal study. *Group Processes and Intergroup Relations*, *6*, 76-92.

Lewandowski, G. W., Jr., & Aron, A. (2002, February).*The Self-Expansion Scale: Construction and validation.* Paper presented at the annual meeting of the Society of Personality and Social Psychology, Savannah, GA.

Lewandowski, G. W., Jr., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships*, 13(3), 317-331.

Leyens, J. Ph., Demoulin, S., Vaes, J., Gaunt, R., & Paladino, M. P. (2007). Infra-humanization: The wall of group differences. *Social Issues and Policy Review*, *1*, 139-172.

Leyens, J-Ph., Rodriguez, A. P., Rodriguez, R. T., Gaunt, R., Paladino, M. P., Vaes, J., et al. (2001). Psychological essentialism and the differential attribution of uniquely human emotions to ingroups and outgroups. *European Journal of Social Psychology*, *31*, 395-411.

Liebkind, K., & McAlister, A. L. (1999). Extended contact through peer modelling to promote tolerance in Finland. *European Journal of Social Psychology*, *29*, 765 – 780.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9*, 151-173.

Mattick, R. P. & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy 36*, 455-470.

Mattingly, B. A., Mcintryre, K. P., & Lewandowski, G. W. (2011). Approach motivation and the expansion of self in close relationships. *Personal Relationships*, *18*, 1-15.

McConnell, A. R., & Leibold, J. M. (2001). Relations among the implicit association test, discriminatory behaviour, and explicit measures of racial attitude. Journal of Experimental Social Psychology, 37, 435–442.

Migacheva, K., & Tropp, L. R. (under review). The effects of learning and performance goals on psychological and behavioral responses to intergroup contact. *Journal of Experimental Social Psychology*.

Oakes, P., Haslam, A., & Turner, J. C. (1998). The role of prototypicality in group influence and cohesion: Contextual variation in the graded structure of social categories. In S. Worchel, J. F. Morales, D. Páez, & J.-C. Deschamps (Eds.), *Social identity: International perspectives* (pp. 75-92). London: Sage.

Page, S. J., Levine, P., Sisto, S., & Johnston, M. (2001). A randomized, efficacy and feasibility study of imagery in acute stroke. *Clinical Rehabilitation*, *15*, 233–402.

Paladino, P., & Castelli, L. (2008). On the immediate consequences of intergroup categorization: Activation of approach and avoidance motor behavior toward ingroup and outgroup members. *Personality and Social Psychology Bulletin*, 34, 755-768.

Paolini, S., Hewstone, M., & Cairns, E. (2007). Direct and indirect intergroup friendship effects: Testing the moderating role of the affective-cognitive bases of prejudice. *Personality and Social Psychology Bulletin*, *33*, 1406–1420.

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

Paolini, S., Hewstone, M., Voci, A., Harwood, J., & Cairns, E. (2006). Intergroup contact and the promotion of intergroup harmony: The influence of intergroup emotions. In R. Brown & D. Capozza (Eds.), *Social identities: Motivational, emotional and cultural influences* (pp. 209-238). Hove, UK: Psychology Press.

Pettigrew, T. F. (1997). Generalized intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin*, 30, 770-786.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, *49*, 65-85.

Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in western Europe. *European Journal of Social Psychology*, *25*, 57-75.

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

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, *38*, 922-934.

Pettigrew, T. F., Christ, O., Wagner, U., & Stellmacher, J. (2007). Direct and indirect intergroup contact effects on prejudice: A normative interpretation. *International Journal of Intercultural Relations*, *31*, 411–425.

Pettigrew, T. F., Tropp, L. R., Wagner, U., & Christ, O. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations, 35*, 271–280.

Phinney, J. S., Ferguson, D. L., & Tate, J. D. (1997). Intergroup attitudes among ethnic minority adolescents: A causal model. *Child Development, 68,* 955–969.

Plant, E. A., & Butz, D. A. (2006). The causes and consequences of an avoidance-focus for interracial interactions. *Journal of Personality and Social Psychology, 30,* 1458-1471.

Plant, E. A., & Devine, P. G., (2003). Antecedents and implications of interracial anxiety. *Personality and Social Psychology Bulletin*, *29*, 790-801.

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.

Reissman, C., Aron, A. Bergen, M. R. (1993). Shared activities and marital satisfaction: Causal direction and self-expansion versus boredom. *Journal of Social and Relationships, 10,* 243-254.

Riek, B. M., Mania, E. W., Gaertner, S. L., McDonald, S. A., & Lamoreaux, M. J. (2010). Does a common identity reduce intergroup threat? *Group Processes and Intergroup Relations*, *13*, 403-423.

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review, 6,* 88-106.

Rosenthal, R., Rosnow, R. L., & Rubin, D. B. (2000). *Contrasts and effect sizes in behavioral research: A correlational approach*. New York: Cambridge University Press.

Rothbart, M., & John, O. P. (1985). Social categorization and behavioral episodes: A cognitive analysis of the effects of intergroup contact. *Journal of Social Issues*, *41*, 81-104.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, *23*, 393-404.

Schmitt, M. T., & Branscombe, N. R. (2001). The good, the bad, and the manly: Threats to one's prototypicality and evaluations of fellow in-group members. *Journal of Experimental Social Psychology, 37*, 510-517.

Schrieff, L., Tredoux, C., Dixon, J., & Finchilescu, G. (2005). Patterns of racial segregation in university residence dining-halls. *South African Journal of Psychology, 35,* 433 – 443.

Sedikides, C., Olsen, N., & Reis, H. T. (1993). Relationships as natural categories. *Journal of Personality and Social Psychology*, *64*, 71 – 82.

Shafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7, 147-177.

Shelton, J. N., Richeson, J. A., & Salvatore, J. (2005). Expecting to be the target of prejudice: Implications for interethnic interactions. *Personality and Social Psychology Bulletin, 31,* 1189-1202.

Sherif, M., Harvey, O. J., White, B. J., Hood, W. R., & Sherif, C. W. (1961). *Intergroup conflict and cooperation. The Robbers Cave experiment.* Norman, OK: University of Oklahoma Book Exchange.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non experimental studies: New procedures and recommendations. Psychological Methods, 7, 422–445.

Smith, J. R., & Louis, W. R. (2008). Do as we say and as we do: The interplay of descriptive and injunctive group norms in the attitude–behaviour relationship. *British Journal of Social Psychology*, *47*(4), 647–666.

Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues*, *41*, 157-175.

Stouffer, S. A. (1949), *The American Soldier*, Princeton, NJ: Princeton University Press.

Swart, H., Hewstone, M., Christ, O., & Voci, A. (2011). Affective mediators of intergroup contact: A three-wave longitudinal study in South Africa. *Journal of Personality and Social Psychology*. Advance online publication.

Tajfel, H. (1981). *Human groups and social categories*. Cambridge, UK: Cambridge University Press.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology*, *1*, 149-178.

Tam, T., Hewstone, M., Cairns, E., Tausch, N., Maio, G., & Kenworthy, J. (2007). The impact of intergroup emotions on forgiveness in Northern Ireland. *Group Processes and Intergroup relations*, *10*, 119-135.

Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2009). Intergroup trust in Northern Ireland. *Personality and Social Psychology Bulletin*, *1*, 45–59.

Taylor, A. B., MacKinnon, D. P., & Tein, J. -Y. (2008). Tests of the three-path mediated effect. *Organizational Research Methods*, *11*, 241-269.

Terry, D. J., & Hogg, M. A. (1996). Group norms and the attitude – behaviour relationship: A role for group identification. *Personality and Social Psychology Bulletin*, *22*, 776 – 793.

Trawalter, S., Richeson, J. A., & Shelton, J. N. (2000). Predicting behavior during interracial interactions: A stress and coping approach. *Personality and Social Psychology Review, 13,* 243-268.

Tropp, L. R. (2008). The role of trust in intergroup contact: Its significance and implications for improving relations between groups. In U. Wagner, L. R. Tropp, G. Finchilescu, & C. Tredoux (Eds.), *Improving intergroup relations: Building on the legacy of Thomas F. Pettigrew* (pp. 91–106). Malden, MA: Wiley-Blackwell.

Tropp, L. R., & Molina, L. (in press). Intergroup processes: From prejudice to positive relations between groups. To appear in M. Snyder & K. Deaux (Eds.), *Handbook of Personality and Social Psychology*. Oxford: Oxford University Press.

Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin, 27,* 585–600.

Turner, J. C. (1991). *Social influence*. Milton Keynes: Open University Press.

Turner, J. C., Hogg, M. A., Oakes, P. J. Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A Self-Categorization Theory*. Oxford & New York, NY: Blackwell.

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., & Vonofakou, C.(2008). A test of the extended intergroup contact hypothesis: The mediating role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology*, *95*, 843–860.

Turner, R. N., Hewstone, M., Voci, A., Paolini, S., & Christ, O. (2007). Reducing prejudice via direct and extended cross-group friendship. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 18, pp. 212–255). Hove: Psychology Press.

Vaes, J., & Paladino, M. P., (2010). The uniquely human content of stereotypes. *Group Processes & Intergroup Relations*, *13*, 23-39.

Vaes, J., Paladino, M. P., Castelli, L., Leyens, J. Ph., & Giovanazzi, A. (2003). On the behavioral consequences of infrahumanization: The implicit role of uniquely human emotions in intergroup relations. *Journal of Personality and Social Psychology*, *85*, 1016-1034.

van Knippenberg, D., Lossie, N., & Wilke, H. (1994). In-group prototypicality and persuasion: Determinants of heuristic and systematic message processing. *British Journal of Social Psychology, 33*, 289-300.

Verkuyten, M., Thijs, J., & Bekhuis, H. (2010). Intergroup contact and ingroup reappraisal: Examining the deprovincialization thesis. *Social Psychology Quarterly, 73*, 398-416.

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*, *133*, 143-160.

Vezzali, L., Capozza, D., Stathi, S., & Giovannini, D. (2012). Increasing outgroup trust, reducing infrahumanization, and enhancing future contact intentions via imagined intergroup contact. *Journal of Experimental Social Psychology*, *48*, 437-440.

Vezzali, L., Giovannini, D., & Capozza, D. (2010). Longitudinal effects of contact on intergroup relations: The role of majority and minority group membership and intergroup emotions. *Journal of Community and Applied Social Psychology*, *20*, 462-479.

Vezzali, L., Giovannini, D., & Capozza, D. (in press). Social antecedents of children's implicit prejudice: Direct contact, extended contact, explicit and

implicit teachers' prejudice. *European Journal of Developmental Psychology*.

Viki, G. T., Winchester, L., Titshall, L., Chisango, T., Pina, A., & Russell, R. (2006). Beyond secondary emotions: The infrahumanization of outgroups using human-related and animal-related words. *Social Cognition*, *24*, 753-775.

Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice towards immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, *6*, 37–52.

Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (p. 767-793). San Diego, CA: Academic Press.

Watson, D., & Clark, LA (1997). Extraversion and its positive emotional core. , *Handbook of personality psychology* (pp. 767-793).

Williams, R. M. Jr. (1947). *The reduction of intergroup tensions* (Vol. 57). New York: Social Science Research Council.

Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford, CA: Stanford University Press.

Wolsko, C., Park, B., Judd, C., & Wittenbrink, B. (2000). Framing interethnic ideology: Effects of multicultural and color-blind perspectives on judgments of groups and individuals. *Journal of Personality and Social Psychology*, *78*, 635-654.

Wright, S. C., Aron, A., & Brody, S. M. (2008). Extended contact and including others in the self: Building on the Allport/Pettigrew legacy. In U. Wagner, L. R. Tropp, G. Finchilescu, & C. Tredoux (Eds.), *Improving intergroup relations: Building on the legacy of Thomas F. Pettigrew* (pp. 143–159). Malden, MA: Blackwell Publishing.

Wright, S. C., Aron, A., & Tropp, L. R. (2002). Including others (and groups) in the self: Self-expansion and intergroup relations. In J. P. Forgas & K. D. Williams (Eds.), *The social self: Cognitive, interpersonal and intergroup perspectives* (pp. 343-363). Philadelphia: Psychology Press.

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.

Wright, S. C., Brody, S. A., & Aron, A. (2005). Intergroup contact: Still our best hope for reducing prejudice. In C. S. Crandall & M. Schaller (Eds.), *The social psychology of prejudice: Historical perspectives*. (pp.115-142). Seattle: Lewinian Press.

Zebel, S., Zimmermann, A., Viki, G. T., & Doosje, B. (2008). Dehumanization and guilt as distinct but related predictors of support for reparation policies. *Political Psychology*, *29*, 193-219.

Zeligs, R., & Hendrickson, G. (1933). Racial attitudes of 200 sixth grade children. *Sociology & Social research*, *18*, 26-36.

Zero-order correlations among indicators of latent variables ($N = 251$), Study 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Direct contact 1	-																	
2. Direct contact 2	.610**	-																
3. Indirect contact 1	.527**	.380**	-															
4. Indirect contact 2	.543**	.407**	.656**	-														
5. IOS 1	.158*	.178**	.188**	.153*	-													
6. IOS 2	.320**	.387**	.318**	.294**	.596**	-												
7. Ingroup norms 1	.162*	.199**	.225**	.252**	.163**	.225**	-											
8. Ingroup norms 2	.187**	.285**	.324**	.358**	.203**	.303**	.695**	-										
9. Outgroup norms 1	.252**	.266**	.178**	.268**	.213**	.348**	.414**	.452**	-									
10. Outgroup norms 2	.218**	.227**	.111	.187**	.215**	.286**	.388**	.337**	.779**	-								
11. Anxiety 1	-.146*	-.293**	-.162*	-.182**	-.343**	-.449**	-.301**	-.304**	-.357**	-.250**	-							
12. Anxiety 2	-.131*	-.279**	-.165**	-.162**	-.364**	-.459**	-.319**	-.310**	-.324**	-.224**	.936**	-						
13. Empathy 1	.166**	.265**	.228**	.246**	.418**	.497**	.265**	.338**	.327**	.226**	-.534**	-.533**	-					
14. Empathy 2	.246**	.348**	.268**	.257**	.444**	.525**	.274**	.345**	.341**	.226**	-.510**	-.531**	.880**	-				
15. Trust 1	.194**	.278**	.253**	.283**	.396**	.570**	.375**	.402**	.343**	.248**	-.571**	-.627**	.490**	.512**	-			
16. Trust 2	.212**	.325**	.288**	.309**	.422**	.556**	.383**	.368**	.354**	.224**	-.588**	-.617**	.564**	.589**	.768**	-		
17. Outgroup humanity 1	.015	.185**	.061	.026	.240**	.283**	.187**	.108	.179**	.122	-.399**	-.439**	.396**	.390**	.387**	.411**	-	
18. Outgroup humanity 2	.132*	.126*	.047	.044	.195**	.158*	.092	.012	.103	.060	-.282**	-.291**	.273**	.272**	.275**	.287**	.597**	-

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

APPENDIX B:

Task Instructions, Items, Factor Loadings, and Response Keys of the Self-Expansion Questionnaire: Broad Social Relations Version (or SEQ-BSRV) used in Study 3

How you See People and Social Relationships. Below, you will find a series of statements about social relationships. Please read one statement at a time, and indicate to what extent you *agree or disagree* with each statement *in general*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which best describes how you *generally feel*.	1 = *strongly disagree* 7 = *strongly agree*
	Factor Loadings
1. Having social relationships makes me learn new things	.92
2. Engaging socially with other people results in me having new experiences	.90
3. I gain knowledge through my relationships with others	.85
4. Social relationships offer opportunities for exciting experiences	.84
5. Having social relationships gives me a chance to meet new people	.84
6. Social relationships are important because they expose me to people with different interests	.80
7. Social interactions allow me to explore the ideas of other people	.80
8. Through my social relationships with others, I can become a better person	.70
9. Having social relationships allows me to make new friends	.51
10. My social relationships do not help me in accomplishing new things (r)	.50
11. I would go to a party even if I did not know many of the people that would be there	.38
12. I dislike being part of a group of people I don't know (r)	.24
13. The strengths of people I socially engage with can make up for some of my own weaknesses as a person *	.14
14. Social interaction with other people does not affect my perspective of things *	.08

Note. (r) indicates items to be reverse coded. * identifies items that were excluded from the aggregate self-expansion index based on a .20 cut-off point.

APPENDIX C:

Predictors, Outcome Variables, and Validity Checks used in Study 3

Anxiety (adapted from Stephan & Stephan, 1985) Your feelings when interacting with people of another city/rural background. How much you feel anxious, defensive, relaxed (r), self-conscious, worried about saying the wrong thing, worried about what people of my own background might think, worried about what people of another background might think.	1 = *not at all* 7 = *extremely*
Willingness to Engage in Contact If you were free to choose, would you like to have more contact with rural/city people?	1 = not at all 7 = very much
Willingness to Avoid Contact To what extent do you feel you try to avoid contact with rural/city people?	1 = not at all 7 = very much
Opportunities for Contact How many opportunities do you have to interact with rural/city people? How often do you see people with a rural/city background at the University and in the area where you live as a student?	1 = not at all 7 = very much
Quantity of Contact * (adapted from Islam & Hewstone, 1993) Overall, how much contact do you have with rural/city people? how much time do you spend with rural/city people? How many interactions with rural/city people would you have on average in a month?	1 = not at all 7 = very much
Quality of Contact (adapted from Islam & Hewstone, 1993) When you meet Rural people, in general do you find the experience... cooperative, enjoyable, unpleasant (r), informal (r), and unnatural (r)	1 = not at all 7 = very much
Direct Friendship (adapted from Paolini et al., 2004) At the University and where you live as a student, how many rural/city people do you know pretty well? How many rural/city people are you friends with?	'0'/'more than 30'(9-point)

Indirect Friendship (adapted from Paolini et al., 2004) Please indicate the number of friends of their own background who had close friends with people of their own/other background	'0'/'more than 30' (9-point)
Outgroup Prejudice (Wright at al.'s, 1997 General Evaluation Scale) Now we would like to get your general feelings about city/rural people. Please describe how you feel about city/rural people by making a rating on the following scales... warm/cold, negative/positive (r), friendly/hostile, suspecious/trusting (r), respect/contempt, admiration/disgust	(7-point)
Ingroup Attitudes (Wright at al.'s, 1997 General Evaluation Scale) Now we would like to get your general feelings about city/rural people. Please describe how you feel about city/rural people by making a rating on the following scales... warm/cold (r), negative/positive, friendly/hostile (r), suspecious/trusting, respect/contempt (r), admiration/disgust (r)	(7-point)
Ingroup Identification (adapted from Leach et al., 2008) I identify with other people with the same background as me. Being a person with a city/rural background is an important part of how I see myself.	1 = not at all 7 = very much
Big-5 (Goldberg's, 1992, IPIP, International Personality Item Pool) Extraversion: e.g., I talk to a lot of different people at parties Openness to Experiences: e.g., I am full of ideas Agreeableness: e.g., I am interested in people Emotional Stability: e.g., I am relaxed most of the time Conscientiousness: e.g., I am always prepared	1 = very inaccurate, 5 = very accurate
Relational Interdependent Self-Construal (Cross, et al. 2000 RISC) e.g., my close relationships are an important reflection of who I am	1 = strongly disagree; 7 = strongly agree

Note. (r) indicates items to be reverse coded to indicate more positive contact and more category salience. * identifies indices that were standardized to equate items' metric.
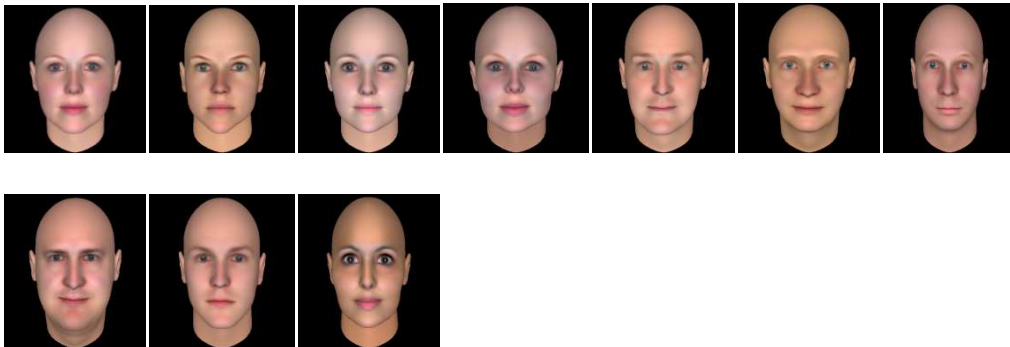
APPENDIX C:

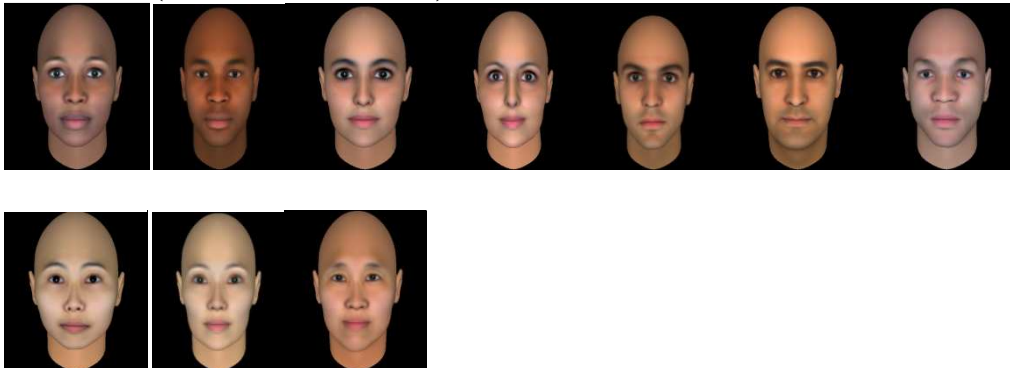Implicit Approach/Avoidance Task (Paladino & Castelli, 2008)

Chapter 4 - Study 5

Stimuli:

- **Ten white faces**

- **Ten ethnic (7 Black and 3 Asian) faces**

Task:

Participants were presented on the computer screen with pictures of white and ethnic faces, and they were required to press a forward key (i.e., approach) on a modified computer keyboard every time they saw a picture of one target group, and to press a backward key (i.e., avoidance) when they saw a picture of the other target group.

Every participant performed two blocks of trials: in one block participants were required to approach one target group and avoid the other; whereas in the other block the key assignment was reversed. The order of the two blocks was counterbalanced across participants.

CONTINUED APPENDIX D
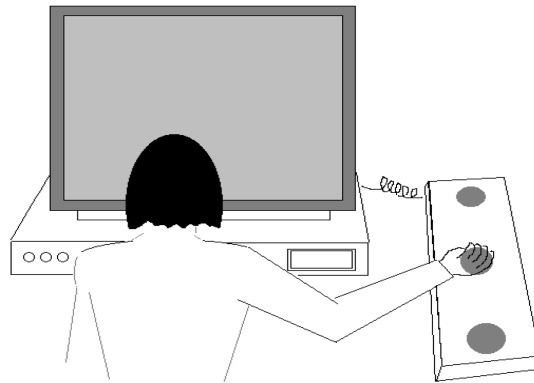
Example of the task (picture from Paladino & Castelli, 2008)

For each participant we calculated four indices based on response latencies (high values indicated a slow movement).

The four variables were: 1) approach white

    2) approach ethnic
    3) avoid white
    4) avoid ethnic