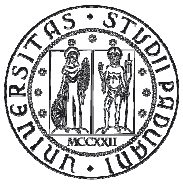

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DISENTANGLING THE ROLE OF DIFFERENT FORMS OF CONTACT: EFFECTS ON INTERGROUP EMOTIONS, PREJUDICE AND OUTGROUP HUMANIZATION

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Introduction

Intergroup contact is nowadays considered as one the most powerful strategies to reduce prejudice. The contact hypothesis (Allport, 1954) states that encounters with an outgroup member have the potential of reducing prejudice toward the whole outgroup, if they happen under optimal conditions. Research has widely demonstrated the beneficial effects of intergroup contact (Pettigrew & Tropp, 2006), as it influences many outcomes: it reduces both blatant and subtle prejudice, increases perceived outgroup variability, reduces infrahumanization, and ameliorates explicit and implicit outgroup attitudes (for a review, see Brown & Hewstone, 2005). Moreover, research has also investigated the mediators through which contact reduces prejudice; a recent meta-analysis by Pettigrew and Tropp (2008) evidenced that the two strongest mediators of the contact-reduced prejudice relationship are reduced intergroup anxiety and increased empathy. Besides these two mediators, other mechanisms have recently been proposed, such as trust toward the outgroup (e.g., Tam, Hewstone, Kenworthy, & Cairns, 2009).

Despite its effectiveness, direct contact is not always attainable and frequent; indeed, in segregated areas, cross-group encounters are very rare; even when intergroup contact is possible, people may prefer intragroup friendships. In these situations, indirect forms of contact can have important effects on prejudice reduction. The extended contact hypothesis (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), that proposed that the knowledge that one ingroup member or more ingroup members have one or more outgroup friends would reduce prejudice toward the outgroup, has received strong empirical support (see Turner, Hewstone, Voci, Paolini, & Christ, 2007). In addition to extended contact, also contact through mass media can influence prejudice, both in positive and in negative directions, depending on the content of the media (see Mutz & Goldman, 2010).

Recent meta-analyses and theorizations (e.g., Pettigrew, 2008; Pettigrew & Tropp, 2006) have underlined the scarcity of research on the negative episodes of contact, and thus on the potential negative effects of contact. Moreover, the few studies comparing the effects of positive and negative contact did not provide definitive evidence concerning which one is most strongly related to prejudice (Barlow et al., 2012; Pettigrew, 2008).

Starting from these theoretical premises, we conducted four studies, exploring the relations between different forms of contact and prejudice, considering the intergroup context of Italians and immigrants in Italy. The point of view of Italian respondents is considered. In the four studies, we evaluated the mediational role of intergroup anxiety, emotional empathy, and outgroup trust. We

also considered various forms of prejudice, namely explicit attitude toward immigrants, subtle prejudice, a measure of estimation of the percentage of crimes committed by immigrants, and humanity attributions to the outgroup.

In the first study, we analyzed the effects of direct contact with immigrants, expecting that meaningful direct contact with outgroup members would reduce prejudice through the affective mediators.

In the second study, we considered, besides direct contact, also forms of indirect contact, namely extended contact and contact through mass media, examining separately contact through television news and newspapers, and contact through movies, situation comedies, and series. We expected that direct contact would be the stronger predictor of prejudice reduction; also extended contact and contact through movies should reduce prejudice, while contact through TV news and newspapers could be related to negative outgroup attitudes.

In the third study, to respond to the call for research on negative episodes of contact, we considered positive and negative episodes of direct contact, extended contact, contact through television news and newspapers, and contact through movies. We aimed at investigating which of these contact measures has stronger effects on the various prejudice indexes. As regards direct contact, we attempted to investigate whether either positive or negative cross-group encounters have more powerful effects, to disentangle previous literature inconsistencies. Concerning the other forms of contact, we expected positive extended contact to be a strong predictor of prejudice reduction, and negative contact through television news and newspapers to have a reliable impact on increased prejudice.

Finally, in the fourth study, we aimed at replicating and extending results of Study 3 including also implicit attitudes as outcome measures.

Chapter 1
The contact hypothesis and its advancements

In the last decades, hundreds of research papers and book chapters have investigated the effects of intergroup contact; considering the wealth of research supporting its effectiveness, intergroup contact is nowadays considered by scholars as one of the most encouraging strategies to reduce prejudice.

The relationship between intergroup contact and prejudice was first studied in the United States, in the context of race relations. While some initial studies found negative effects of contact (e.g., Sims & Patrick, 1936), subsequent research showed that contact under optimal conditions favored prejudice reduction (e.g., Brophy, 1945; Smith, 1943). The first formulation of the intergroup contact hypothesis was provided by Williams (1947), who suggested that contact would reduce prejudice when it occurs between members of groups who share equal status, interests, and tasks, when stereotypes associated to group membership are disconfirmed, and when the encounters foster personal and intimate relations. Basing on the first ideas by Williams, field studies were conducted to test this hypothesis. Deutsch and Collins (1951) interviewed White housewives living in desegregated buildings in New York, where apartments were assigned irrespective of race, and White housewives who lived in segregated buildings in Newark, where Whites and Blacks were assigned to separate buildings. White women living in desegregated buildings had positive and frequent contact with Black neighbors, and less stereotyping and better interracial attitudes compared to those in the segregated buildings. Basing on these studies and early theorizations, Allport (1954) introduced the most influential statement of intergroup contact theory, namely that contact between minority and majority groups can reduce prejudice, if the contact situations occurs under optimal conditions. The optimal features proposed by Allport were: equal status within the contact situation; common goals and intergroup cooperation; institutional support by authorities, law, customs; intimacy and potential for friendship formation.

Allport's (1954) contact hypothesis has received great attention and inspired a great number of studies which tested its effectiveness and extended its basic principles (see Brown & Hewstone, 2005; Hewstone, 2009; Pettigrew, Tropp, Wagner, & Christ, 2011; Tausch & Hewstone, 2010, for reviews). The relationship between intergroup contact and reduced prejudice is now well established. Pettigrew and Tropp (2006) conducted a meta-analysis on 515 studies, including 713 independent samples, and a total of more than 250,000 participants; studies were selected by the authors if they involved direct contact and interactions between members of discrete groups,

intergroup contact acted as the independent variable and prejudice as the dependent variable, and prejudice was measured at the individual level. The meta-analysis demonstrated a significant negative correlation between contact and prejudice (r = -.21, p < .0001); moreover, in 94% of the studies analyzed by the authors the relationship between contact and prejudice was negative; the reliable negative correlation between contact and prejudice was not due to a publication bias: no significant difference emerged between published and unpublished studies. Anyway, heterogeneity in effect sizes emerged: the effects of contact were stronger in experimental studies than surveys, field studies, and quasi-experiments, and there were differences concerning the target group, with stronger prejudice reduction deriving from contact with homosexuals and physically disabled persons, and weaker effects of contact with mentally ills and elderly. Additionally, contact under Allport's optimal conditions had stronger effects in prejudice reduction than more unstructured or causal forms of contact; however, the fact that contact reduced prejudice even in absence of the optimal features indicated that these conditions are facilitating, but not essential for the effectiveness of contact.

Scholars of intergroup contact have widely investigated whether the beneficial effect of contact generalizes beyond immediate contact situation, and how intergroup encounters should be structured to favor generalization. Pettigrew (1998) distinguished three important types of *generalization*: (1) Generalization across situations; (2) Generalization from the outgrouper involved in the contact situation to the whole outgroup; (3) Generalization to uninvolved outgroups. The meta-analytic tests by Pettigrew and Tropp (2006) showed that the positive effects of contact with an outgroup member were generalized across situation, to the entire outgroup, and even to outgroups not involved in the contact situation (secondary transfer effect; see Pettigrew, 2009; Tausch et al., 2010).

From the 1980s, theoretical models were proposed aimed to extend contact hypothesis explaining *when* intergroup contact would be maximally effective in generalized prejudice reduction. These models draw upon social identity theory (Tajfel & Turner, 1979) and self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), but reached quite different conclusions about how a contact situation should be structured. The *decategorization model* (Brewer & Miller, 1984) suggested that social categories should not be salient during contact, so that group members would conceive themselves as separate individuals, and category boundaries would lose importance; individuals in an intergroup encounter would thus focus on interpersonal characteristics of the partner, and could develop cross-group friendships. However, Hewstone and Brown (1986) suggested that, in a completely decategorized contact situation, positive impressions

of an individual outgroup member would difficultly generalize to the whole outgroup. Starting from this critique, Hewstone and Brown proposed the *Mutual Intergroup Differentiation Model*, whereby a certain level of group salience during contact is necessary to enable generalization of positive attitudes from outgroup members involved in the contact situation to the entire outgroup. There is extensive evidence, both experimental (e.g., Van Oudenhoven, Groenwound, & Hewstone, 1996; Wilder, 1984) and correlational (e.g., Harwood, Hewstone, Paolini, & Voci, 2005; Voci & Hewstone, 2003), that the effects of intergroup contact are more likely to generalize from encountered outgroupers to the whole outgroup when category membership is salient during contact. In a refinement of the model, Brown and Hewstone (2005) proposed to abandon the distinction between interpersonal and intergroup behavior in favor of a two dimensional conception; thus, the optimal contact situation should be "high" on both the interpersonal and the intergroup dimensions. In this vein, Ensari and Miller (2002) experimentally manipulated self-disclosure, typicality of the outgroup member involved in a dyadic cooperative contact situation, and intergroup salience, finding that outgroup evaluation was ameliorated when the outgroup member disclosed personal information, and the outgroup member was typical of the belonging group or categories were salient during the interaction; thus, both interpersonal and intergroup features of the contact situation are necessary for attitude change.

An alternative approach is the recategorization perspective. The *Common Ingroup Identity Model* (Gaertner & Dovidio, 2000; Gaertner, Mann, Muller, Dovidio, 1989) proposed that contact situations should be structured so that ingroup and outgroup can be recategorized in a superordinate ingroup. The initial ingroup favoritism would thus be redirected to the new superordinate ingroup. Empirical research has widely demonstrated the effectiveness of recategorizaion in a superordinate category for reducing prejudice (for a review, see Gaertner & Dovidio, 2000). Anyway, abandoning category boundaries could be difficult. Thus, subsequent extensions of the Common Ingroup Identity Model suggested a *dual identity* approach: members of distinct groups may both maintain the original ingroup-outgroup distinction and identify with a superordinate category (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1996). Research showed that majority groups usually prefer common group representations, while minority groups tend to favor dual identity (e.g., Dovidio, Gaertner, & Saguy, 2009; Gonzalez & Brown, 2006).

Integrating the previously presented theoretical frameworks, Pettigrew (1998) proposed a three-stage longitudinal model of optimal contact: an initial decategorized contact should promote self-disclosure and reduce anxiety; once positive and deep contact is established, intergroup salience should be introduced, to allow generalization of the positive attitude towards the

encountered outgroup member to the whole outgroup; the final step would be recategorization into a common ingroup.

In his reformulation of Intergroup Contact Theory, Pettigrew (1998) stressed the importance of cross-group friendships for ameliorating intergroup relations. Indeed, cross-group friendships involve contact over time and across many situations, and lead to develop meaningful, close relationships, that encompass most of Allport's optimal conditions (see also Pettigrew, 1997). A meta-analysis by Davies, Tropp, Aron, Pettigrew, and Wright (2011) demonstrated that cross-group friendships are strong predictors of positive intergroup attitudes; the friendship measures most strongly related to attitudes were time spent together and self-disclosure, suggesting that behavioral engagement during friendships is crucial for outgroup attitudes improvement.

Recent research also showed that intergroup contact has different dynamics among majority and minority group members. A meta-analytic study by Tropp and Pettigrew (2005b) demonstrated that contact is more effective in prejudice reduction among members of majority status groups than members of minority status groups; moreover, the optimal contact conditions favor stronger prejudice reduction for majority, but not for minority group members.

Other arguments frequently considered by scholars of intergroup contact regard individual differences in prejudice levels. Allport (1954) recognized that high levels of initial prejudice may curb the disposition to engage in intergroup contact, and thus prejudice reduction. Intergroup contact indeed can be very stressful and challenging for individuals with high levels of initial prejudice, and can even lead to impaired executive functions (Richeson & Shelton, 2003). Anyway, recent theorizations and empirical evidence suggested that, given the general effectiveness of positive intergroup contact, ideologically intolerant people, like individuals with high levels of social dominance orientation (Sidanius & Pratto, 1999) or high levels of right wing authoritarianism (Altemeyer, 1988), may exhibit even stronger prejudice reduction after intergroup contact than tolerant people (for a recent review, see Hodson, 2011).

As outlined by Pettigrew (1998), another issue that needs great attention concerns the causal sequence problem; indeed, although research has demonstrated that contact reduces prejudice, also the opposite causal sequence is plausible, namely that prejudiced people avoid contact with outgroups, while tolerant people seek it. To explore this issue, different methodologies have been used. First, in experimental studies, participants are randomly assigned to experimental conditions, and thus have no choice whether to engage or not in intergroup encounters; as shown by Pettigrew and Tropp (2006), the effects of intergroup contact on prejudice reduction are stronger in experimental studies compared to other methodologies. Second, studies and surveys were

conducted even when respondents had limited choice on having intergroup contacts or not; Pettigrew and Tropp (2006) again found a larger mean effect size for samples where participants had no choice compared to the other samples. Third, longitudinal studies have been carried to test the causal sequence. Longitudinal studies, generally, found empirical evidence for reciprocal relationships between intergroup contact and prejudice; while some studies found effects of equal strength for both causal directions (e.g., Binder et al., 2009; Levin, Van Laar, & Sidanius, 2003), others furnished stronger evidence for the path from contact to reduced prejudice (e.g., Brown, Eller, Leeds, & Stace, 2007; Swart, Hewstone, Christ, & Voci, 2011). Also correlational studies can provide evidence for the causal sequence from contact to prejudice reduction. Indeed, recent statistical analysis techniques, such as structural equation modeling, allow to compare whether models where contact predicts reduced prejudice or models where prejudice predicts reduced contact best describe the data. Additionally, in some correlational studies also opportunity for contact was measured (e.g., Turner, Hewstone, & Voci, 2007, Studies 2 and 3); opportunity for contact is an instrumental variable that usually results highly correlated with contact, but weakly with prejudice. For example, Tam and colleagues (2009, Study 2), analyzing the relationships between Catholics and Protestants in Northern Ireland, tested if intergroup contact predicted outgroup trust or vice-versa. The authors conducted a series of nonrecursive models, where opportunity for contact was the instrumental variable; both the paths from contact to trust and from trust to contact were estimated. Results showed that the path from contact to trust was significant, while the reverse path was not. To recap, although both causal sequences are plausible, there is more empirical evidence supporting the direction from contact to reduced prejudice than vice-versa.

Positive intergroup contact has been shown to reduce various forms of prejudice, and influence a wire array of outcomes: besides explicit outgroup attitudes (e.g., Voci & Hewstone, 2003), also subtle prejudice (e.g., Voci & Hewstone, 2003, Study 1), perceived outgroup variability (e.g., Wolsko, Park, Judd, Bachelor, 2003), attitude strength and accessibility of outgroup attitudes (Vonofakou, Hewstone, & Voci, 2007), implicit attitudes (e.g., Aberson, Shoemaker, & Tomolillo, 2004), trust and forgiveness (e.g., Cairns, Tam, Hewstone, & Niens, 2005), behavioral intentions (Tam et al., 2009), physiological reactions to outgroup members (e.g., Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001).

Mediating mechanisms of the relationship between contact and reduced prejudice

Recently, scholars have devoted attention to the processes through which contact leads to prejudice reduction, finding that a variety of cognitive and affective mechanisms mediate the contact-prejudice relationship. The first cognitive mediator was proposed by Allport (1954), who hypothesized that contact is effective by improving knowledge about the outgroup. *Increased knowledge* can reveal similarities between ingroup and outgroup and reduce uncertainty about future interactions (Stephan & Stephan, 1985). For example, Stephan and Stephan (1984) showed that White Americans' contact with Hispanics augmented knowledge about Hispanic culture, that was in turn associated with better outgroup attitudes. Intergroup contact can also reduce prejudice by setting positive norms for intergroup behavior.

The other cognitive mediators of the contact-prejudice relation concern *cognitive group representations*. Some studies examined whether the representations of ingroup and outgroup (Common Ingroup Identity Model; Gaertner & Dovidio, 2000), namely as one group, two groups, separate individuals, two subgroups within one group, mediated the relationship between positive contact and prejudice reduction. Gaertner and colleagues (1996) demonstrated that the contact-reduced prejudice relationship was mediated by the representation of a common ingroup for majority respondents, and by the dual identity representation for minority respondents.

Although cognitive variables have important effects, recent theorizations proposed that affective processes are more predictive of intergroup attitudes and behavior than cognitive processes (Tropp & Pettigrew, 2005a). Pettigrew and Tropp (2008) conducted a meta-analysis to test the mediational role of the most investigated mediators, namely enhanced knowledge about the outgroup, reduced intergroup anxiety, and increased empathy and perspective taking. The tests by Pettigrew and Tropp revealed mediational effects for the three mediators, but showed that the mediational value of the cognitive mediator, namely increased knowledge, was weaker than the mediational values of intergroup anxiety reduction and empathy.

Intergroup anxiety consists in the anticipation of negative psychological or behavioral consequences and fear of negative evaluations from ingroup or outgroup members deriving from intergroup interactions (Stephan & Stephan, 1985). According to the model by Stephan and Stephan (1985), these negative expectations derive from previous negative experiences with outgroup members, negative beliefs and stereotypes about outgroup members, large status differences, and history of intergroup conflicts; intergroup anxiety have negative affective (e.g., increased emotional responses during contact, negative evaluations after contact), cognitive (e.g., reduced ability to process information, increased reliance on stereotypes), and behavioral (e.g., hostility and contact

avoidance) consequences. Discussing antecedents and effects of intergroup anxiety, also Schlenker and Leary's (1982) definition of social anxiety is noteworthy. Social anxiety consists in responses reflecting uneasiness and concern about negative evaluations in social interactions and situations. People are likely to have negative expectancies if they believe they do not have the necessary abilities to make a good impression, or if they are afraid that their efforts to make a good impression could be misinterpreted by others. Schlenker and Leary (1982) also suggested that interracial interactions have the potential to elicit strong social anxiety, given that people may be concerned about appearing prejudiced or socially incompetent.

The first test of the mediational role of intergroup anxiety was carried out by Islam and Hewstone (1993). The authors considered the relationships between Muslims and Hindus in Bangladesh; although there were status differences between the two groups, with Muslims having more social and economic power than Hindus, the relationship was not characterized by excessive conflicts, compared to other nations like India. Muslims and Hindus participants completed a questionnaire containing measures of quantity and quality of contact with members of the other religious group, intergroup salience during contact, intergroup anxiety, outgroup attitudes, and perceived outgroup variability. Quantity and quality of contact were associated with better outgroup attitudes and increased perceived outgroup variability; these effects were partially mediated by reduced intergroup anxiety. Additionally, intergroup anxiety fully mediated the negative relationships between intergroup salience and outgroup attitudes and between intergroup salience and variability.

Other empirical evidence for the mediational role of intergroup anxiety was provided by Voci and Hewstone (2003). In two studies conducted in Italy, Italian respondents' frequent and positive contact with immigrants was related to better outgroup attitudes and lower prejudice through the mediation of reduced intergroup anxiety; moreover, the relationship between contact and intergroup anxiety was moderated by intergroup salience, with stronger effects of contact on anxiety when membership salience was high than when it was low. Research also proved that positive intergroup contact and cross-group friendships can reduce intergroup anxiety even in intergroup contexts characterized by strong segregations and history of violence, such as the Catholics-Protestants relationship in Northern Ireland (e.g., Paolini, Hewstone, Cairns, & Voci, 2004).

Plant and Devine (2003) deeply explored the relationship between intergroup contact and intergroup anxiety, considering expectancies about interracial interactions. In the first study, White Americans students completed a questionnaire containing measures of quantity and quality of

previous contact with Blacks, expectancies regarding the likelihood of responding with prejudice during interracial interactions, anxiety deriving from such interactions, avoidance and hostility toward Blacks. Quality of previous contact reduced anxiety through the mediation of reduced negative outcome expectancies; anxiety, in turn, was positively associated to avoidance and hostility. In the second study, White respondents, who had previously completed an intergroup anxiety scale, were invited to a laboratory, and told that they would have to interact with a White or a Black student; after completing a measure of anxiety about the interaction, they were told that the interaction could not take place immediately, and asked to return to complete the experiment. Results showed that intergroup anxiety was related to pre-interaction anxiety only for participants who were told that they would have met a Black student; moreover, participants with high levels of pre-interaction anxiety expecting to interact with a Black were less likely to return for the interaction than those less anxious; pre-interactions anxiety was instead unrelated to returning or not for participants who anticipated interacting with a White student.

More recent developments of the conceptualization of intergroup anxiety proposed to distinguish between self-anxiety and other-anxiety (Greenland, Xenias, & Maio, 2012). Self-anxiety is anxiety about thinking or doing something that is prejudiced, while other anxiety is anxiety that the other might do something to you. In a series of four studies, Greenland and colleagues demonstrated that self-anxiety and other-anxiety are distinct constructs, and have different correlates. Studies 1 to 3 considered as target group persons with a history of schizophrenia, while in Study 4 the target group was members of a street gang. In Study 2, both self-anxiety and other-anxiety were correlated to traditional measures of intergroup anxiety; the other correlations were different: self-anxiety was associated with higher social anxiety, and both internal and external motivation to control prejudice; other-anxiety instead wad related to more negative outgroup attitudes and affects, more prejudice, less contact with persons with schizophrenia, and less knowledge about schizophrenia. The third study was an experiment, where participants were told that they would have interacted with a person with schizophrenia (experimental condition) or with another person not described in detail (control condition); skin conductance and EMG were recorded. Other-anxiety was related to corrugator activity associated with negative affect for participants in the experimental condition but not for participants in the control condition. Self-anxiety instead was related to a skin conductance pattern that could be evidence of freezing (thinking to behave in an unprejudiced manner, but desiring to avoid the situation; Trawalter, Richeson, & Shelton, 2009) only for participants in the experimental condition. Study 4 analyzed correlations between self- and other-anxiety and approach and avoidance strategies and intentions.

Other-anxiety was associated with less approach and more avoidance, while self-anxiety was positively associated with both approach and avoidance; this last pattern for self-anxiety could again be paralleled to a freezing response. Thus, the four studies, taken together, demonstrated that other-anxiety is negatively related to negative outgroup attitudes and avoidance, while self-anxiety is related to social anxiety and freezing responses to intergroup interactions.

Besides intergroup anxiety, additional negative mediators of the contact-reduced prejudice relation have been proposed. Indeed, threat perceptions have been considered. Integrated Threat Theory proposed that threat perceptions (Stephan & Stephan, 2000) are strong precursors of prejudice. The original version of Integrated Threat Theory distinguished four types of threat: realistic, symbolic, intergroup anxiety, and negative stereotypes. Anyway, the basic types of threat were subsequently reduced to two, namely realistic and symbolic threats (Stephan, Ybarra, & Morrison, 2009). *Realistic threats* are threats to the welfare of the ingroup; this concept includes threats to ingroup's political or economic power, and threats to physical wellbeing. *Symbolic threats* are threats to the worldview of the ingroup, namely to ingroup's morals, values, beliefs, and attitudes. In two studies conducted in Northern Ireland, Tausch, Tam, Hewstone, Kenworthy, and Cairns (2007) found that quality of contact significantly reduced both types of threat and intergroup anxiety; symbolic threat and intergroup anxiety were in turn negatively associated with outgroup attitudes (Study 1) and with outgroup trust (Study 2); the positive effects of quantity of contact on outgroup attitudes (Study1) and on outgroup trust (Study 2) were instead direct and not mediated by threat perceptions. Gonzales, Sirlopù, and Kessler (2010) examined the mediational roles of perceived realistic threat and of intergroup anxiety in the context of the relationship between native Chileans and Peruvian immigrants. For both the Chilean and the Peruvian sample, lower perceptions of realistic threat and lower intergroup anxiety partially mediated the effects of contact on reduced prejudice.

Besides negative mediators, also positive emotions play a central role in prejudice reduction. As mentioned above, *empathy* and *perspective taking* have strong mediational effects. Batson and colleagues (1997) defined empathy as "an other-oriented emotional response congruent with another's perceived welfare." Scholars agree that there are two basic types of empathy: cognitive and emotional (e.g., Davis, 1994; Duan & Hill, 1996). *Cognitive empathy*, or perspective taking, is assuming the perspective of another person. *Emotional empathy* instead is the emotional response to another person. Emotional empathy can be further distinguished in parallel empathy and reactive empathy (Stephan & Finlay, 1999). *Parallel empathy* refers to emotional experiences similar to emotions by the other person, while *reactive empathy* consists of reactions to emotions by another

person. As suggested by Stephan and Finlay (1999), cognitive empathy may ameliorate intergroup attitudes because it may reduce dissimilarity and threat perceptions, lead to acquire knowledge about the outgroup, and change stereotypes. Reactive empathy can lead to positive and negative emotional responses; positive emotions consist in compassion-related emotions evoked by concern for the other's sufferings (empathic concern), while negative emotions are distress feelings, like anxiety and revulsion, arising from the other's sufferings (personal distress). Empathic concern should ameliorate outgroup attitudes, while personal distress should not. Also parallel empathy leads to attitude change by augmenting injustice feelings; it may elicit both positive and negative feelings, depending on the emotions expressed by outgroup members. Thus, in a given situation, reactive and parallel empathic emotions may have the same valence, or they may differ in valence; mixed emotions could be confusing and not ameliorate outgroup attitudes (Stephan & Finlay, 1999).

Batson and colleagues (1997) proposed a three step model explaining how empathy can improve intergroup attitudes: (1) Taking the perspective of a person in need who is a member of a stigmatized outgroup arouses empathic feelings toward this person; (2) These empathic feelings increase the value of the welfare of this person; (3) Interest for the welfare of this person generalizes to the entire outgroup, if group membership is a cause of this person's sufferings. Batson et al. (1997) conducted three experimental studies to test this model. In the first study, participants were invited to imagine life difficulties from the point of view of a young woman with AIDS (imagine-other condition) vs. to take an objective perspective toward a young woman with AIDS (objective condition). Also responsibility of the victim about AIDS contraction was manipulated. Participants in the imagine-other condition reported more empathic concern toward the woman with AIDS and more positive attitudes toward people with AIDS in general than participants in the objective condition; moreover, these effects were not affected by the responsibility manipulation. The second study replicated findings of the first study considering a different target person and group, namely a homeless man and homeless people. The third study concerned inducing empathy toward a member of a highly stigmatized group, namely convicted murderers, and examined whether the effects of empathy could last over time or not. Results provided weak evidence of attitudes improvement right after the manipulation, but strong evidence for attitudes improvement 1-2 weeks later. Several other studies provided empirical evidence of the positive effects of empathy on intergroup attitudes (e.g., Finlay & Stephan, 2000; Vescio, Sechrist, & Paolucci, 2003; for reviews, see Batson & Ahmad, 2009; Galinsky & Moskovitz, 2000).

Harwood and colleagues (2005, Study 2) first demonstrated the mediational role of perspective taking in the relationship between British University students' quality of contact with a grandparent and attitudes toward older adults. Empathy has also been found to be a mediator of the relationship between contact and intergroup forgiveness in the intergroup context of Catholics and Protestants in Northern Ireland (Tam et al., 2008). In two studies, Voci and Hewstone (2007) considered simultaneously empathy and intergroup anxiety as mediators of the relationship between contact and prejudice. Specifically, participants of the first study were Italian respondents who reported their contact with immigrants, empathy toward immigrants (on a scale containing items referred to both emotional empathy and perspective taking), intergroup anxiety, and various forms of prejudice toward immigrants, namely explicit attitudes, subtle prejudice, perceived outgroup variability, and an indirect measure of prejudice, namely the percentage of crimes attributed to immigrants. Results showed that frequent and positive contact ameliorated outgroup attitudes, increased outgroup variability, and reduced subtle prejudice and crimes estimate through the mediation of reduced intergroup anxiety and increased empathy; the effects of empathy were stronger than the effects of intergroup anxiety. In the second study, the distinct effects of parallel empathy, reactive empathy, and cognitive empathy were considered. Italian participants completed measures of contact with immigrants, the three above mentioned types of empathy, intergroup anxiety, and the same prejudice indexes of Study 1. Parallel empathy was the strongest mediator, influencing outgroup attitudes, subtle prejudice, and crimes estimate; reactive empathy influenced only outgroup attitudes, while cognitive empathy had no significant effect on the outcome measures; as in Study 1, intergroup anxiety affected outgroup attitudes, subtle prejudice, and crimes estimate.

Given that intergroup anxiety and empathy are the well-established mediators of the contact-reduced prejudice relationship, Pettigrew and Tropp (2008) suggested that also the causal sequence between intergroup anxiety and empathy should be investigated, proposing that it is possible that intergroup anxiety should be reduced by positive contact before the development of empathy. Anyway, research studying the relationship between intergroup anxiety and empathy did not provide final evidence whether they operate at the same level or whether one variable affects the other one. Aberson and Haag (2007) analyzed in a cross-sectional study perspective taking and intergroup anxiety as mediators of the relationship between contact and intergroup attitudes. Participants were White American students, reporting contact and attitudes toward Black Americans. In the model proposed by the authors, contact quantity and quality decreased intergroup anxiety through the mediation of increased perspective taking; intergroup anxiety instead was a

significant mediator of the relationship between perspective taking and positive outgroup attitudes and reduced endorsement of stereotypes. Moreover, the authors found that the proposed model, where perspective taking preceded intergroup anxiety, described the data better than a model where intergroup anxiety preceded perspective taking, and than a model where the two mediators operated at the same level. Swart and colleagues (2011) considered in a three-wave longitudinal study the effects of cross-group friendships on outgroup attitudes, perceived outgroup variability, and negative action tendencies through the mediation of intergroup anxiety and affective empathy. Participants were coloured high-school students in South Africa, asked about their views on the white majority group. Results supported a bidirectional relationship between contact, mediators, and prejudice; anyway, full longitudinal mediation was found only from Time 1 contact to Time 3 prejudice via Time 2 mediators. As regards the relationship between intergroup anxiety and empathy, the authors found a negative indirect causal relationship between Time 1 intergroup anxiety to Time 3 empathy via Time 2 cross-group friendships. Thus, the relationship between intergroup anxiety and empathy may not be fixed, but may depend upon characteristics of the intergroup context.

Recently, also *outgroup trust* has been considered as an affective mediator of the effects of contact. Initially researchers defined trust as expressions of confidence in others' intentions (e.g., Deutsch, 1958; Mellinger, 1956); subsequently focus of scholars shifted on behavior, defining trust as one party's optimistic expectation of the behavior of the other party (Hosmer, 1995; Lewicki, McAllister, & Bies, 1998), or as the expectation that the other party's action will be not detrimental, or even beneficial, to one's interests (Kramer, 1999). Thus, trust implies a certain degree of vulnerability, and the expectation that the other party will not exploit this vulnerability (Kramer & Carnevale, 2001). Trust building is a difficult process, given that many positive encounters and trustworthy behaviors are required to consider someone trustworthy, while one only untrustworthy event can disrupt trust (Rothbar & Park, 1986; Worchel, Cooper, & Goethals, 1991).

At intergroup level, trust can be based on group membership. People generally trust more ingroup than outgroup members (Tanis & Postmes, 2005) and perceive the ingroup as more trustworthy than the outgroup (Dovidio, Gaertner, Kawakami, & Hodson, 2002). Group-based trust is essential for the development of cooperative and altruistic behaviors between groups (Kramer & Carnevale, 2001). Recently, research has demonstrated that high quality intergroup contact is associated with trust development, even in highly conflict intergroup contexts. Čehajić, Brown, and Castano (2008) asked Bosnian Muslim University students about their contact with and their views of Bosnian Serbs. Frequent and positive contact with Bosnian Serbs was positively associated with

forgiveness through the mediation of increased empathy and trust toward the outgroup, and of perceived outgroup heterogeneity. Concerning relationships between Catholics and Protestants in Northern Ireland, Tam and colleagues (2009) found that trust mediated the positive relationship between frequent and high-quality contact and positive behavioral tendencies, and the negative relationship between contact and negative behavioral tendencies.

Besides the above mentioned mediators at intergroup level, also mediators at an individual level have important effects on prejudice reduction (Pettigrew, 1997). *Self-disclosure* consists in the voluntary presentation of intimate and relevant information to another person (Miller, 2002; Omarzo, 2000); it is usually reciprocal: when a person self-discloses personal information to us, we are likely to disclose in return; this leads to mutual attraction (Berg & Wright-Buckley, 1988). Self-disclosure is thus a crucial component of friendship development (Reis & Shaver, 1988). Turner, Hewstone, and Voci (2007) conducted a series of four studies investigating the mediators of cross-group friendships of British White students with Asians. The first three studies showed that cross-group friendships ameliorated outgroup attitudes through the mediation of self-disclosure (positively) and intergroup anxiety (negatively). The fourth study deeper explored the processes through which self-disclosure ameliorated outgroup attitudes; the authors demonstrated that self-disclosure was associated with more positive outgroup attitudes because it increased the importance attributed to contact with the outgroup, and it enhanced trust and empathy toward the outgroup. Self-disclosure has also been studied in the context of intergenerational contact; Harwood and colleagues (2005, Study 2) found that British students' self-disclosure with a grand-parent mediated the relationship between contact and perceived outgroup variability; Tam, Hewstone, Harwood, Voci, and Kenworthy (2006) showed that quantity and quality of contact increased empathy toward grandparents and decreased anxiety with grandparents through the mediation of increased self-disclosure; empathy was, in turn, positively associated to better outgroup attitudes, while anxiety was negatively related to outgroup attitudes.

Positive and negative intergroup contact

Recently, research and theorizations on intergroup contact have underlined the lack of research on negative episodes of contact (Pettigrew & Tropp, 2006; Pettigrew, 2008). Indeed, Pettigrew and Tropp (2006), in their meta-analysis of 713 samples in contact studies, found only 34 studies with positive relationships between intergroup contact and prejudice.

Williams (1947) and Allport (1954), in their early formulations of the contact hypothesis, did not state that intergroup contact is usually positive and reduces prejudice, but that the contact

situation should be structured in a positive way to reduce prejudice. Allport indeed proposed that contact would reduce prejudice when the four optimal conditions were met. Superficial contact instead could strengthen prejudice.

Moreover, intergroup contact in natural settings can be either positive or negative. For example, Dijker (1987) examined contact and emotions of Dutch respondents toward Surinamers and immigrant workers from Turkey and Morocco. More personal forms of contact with Surinamers, for example doing things together and visiting, were associated in an increase in positive mood, and a decrease in anxiety, irritation, and concern; for Turks and Moroccans, instead, only negative aspects emerged from personal contact. The author explained the different results considering the differences between the two outgroups: Surinamers are considered quite similar to Dutch, while Turks and Moroccans were culturally more dissimilar from the Dutch respondents.

Anyway, in most of the studies on intergroup contact, measures of contact concerned quantity and quality of contact, pushing respondents to average between different episodes of contact, which may be positive or negative. Exceptions to this measurement of contact were furnished by studies investigating cross-group friendship, the most intimate form of positive contact (e.g., Pettigrew, 1997; Vonofakou et al., 2007), and by experimental studies that created in laboratories cooperative interactions (e.g., Scarberry, Ratcliff, Lord, Lanicek, & Desforges, 1997; Van Oudenhoven et al., 1996). These studies examined the effects of positive forms of contact such as cross-group friendships or cooperative interactions, but did not compare positive and negative episodes of contact.

An exception was the experimental study by Wilder (1984, Study 1). Participants were female undergraduate students from two female Colleges (Douglass and Rutgers); students from these two colleges were very dissimilar in terms of political orientation, importance attributed to good grades, appearance, and having fun. Participants engaged in cooperative tasks over a 2-day period with a confederate, allegedly a student from the rival college; the confederate acted as a typical or atypical member of her college, and behaved in a positive or in a negative manner; there was also a control condition, with participants having no contact with members of the other college. The rival college was evaluated more positively by students who had a positive interaction with a typical member of the rival college than participants in the other conditions; there was no significant difference on the rival college evaluations between participants in the other experimental conditions (pleasant contact-atypical; unpleasant contact-typical; unpleasant contact-atypical; control). Anyway, pleasant contact with a typical outgroup member ameliorated the evaluation of the college, but did not affect stereotypical beliefs about the outgroup. Study 2 by Wilder showed

that the typicality manipulation is effective in ameliorating attitudes toward the college only if the interaction partner did not exhibit negative evaluations of the ingroup, and Study 3 demonstrated that typicality of the outgroup member was the key component of the generalization effects because the behavior of a typical outgroup member was considered predictive of the behavior of the whole outgroup.

Negative contact has been considered by Integrated Threat Theory (Stephan & Stephan, 2000) as an antecedent of threat perceptions. Initially, Integrated Threat Theory distinguished between four types of threat: intergroup anxiety, realistic threat, symbolic threat, and negative stereotypes. Subsequent research and theorizations redefined negative stereotypes as an antecedent of threat, and identified other antecedents of threat: negative contact, ingroup identification, intergroup conflict, and status differences (Stephan et al., 2002). Considering the intergroup relation between Whites and Blacks in the United States, negative contact was a significant predictor of intergroup anxiety, realistic threat, symbolic threat, and negative racial attitudes; these effects were found both for the majority group (Whites) reporting contact, threat perceptions, and racial attitudes toward the minority group (Blacks), both considering African-Americans' attitudes toward Whites (Stephan et al., 2002). A recent study by Aberson and Gaffney (2008), applying Integrated Threat Theory to the prediction of attitudes of Whites toward Blacks in the US, considered both negative contact and positive contact, besides negative stereotypes, ingroup identification, and status differences, as antecedents of threat perceptions and intergroup anxiety. The authors found that positive contact reduced intergroup anxiety, realistic threat, and symbolic threat, while negative contact promoted threats; threat perceptions and intergroup anxiety were, in turn, negatively related to both explicit and implicit outgroup attitudes. Thus, the study by Aberson and Gaffney suggested that positive and negative contact are two different constructs, and that their effects are independent.

Pettigrew (2008), in his paper containing suggestions for future research on intergroup contact, underlined that a greater focus on negative contact is required. The author reported data concerning positive and negative contact of German respondents with foreigners residing in Germany (data were collected as part of a survey on prejudice; see Heitmeyer, 2004). Positive and negative contact episodes had different dynamics and were not polar-opposite phenomena; indeed, the two measures were negatively correlated but the correlation was not high. Positive contact occurred more often than negative contact, and was perceived as non-superficial, voluntary, and of equal status; negative contact instead was usually related to involuntary encounters. Importantly, positive contact was more predictive of anti-Muslim prejudice than negative contact. The author also considered the role of individual differences as antecedents of positive and negative contact:

authoritarianism and political conservatism inhibited positive contact, but had no significant relation with negative contact (no effect of social dominance orientation was found).

Paolini, Harwood, and Rubin (2010) proposed that negative contact causes higher intergroup salience than positive contact; considering that intergroup salience leads to generalization of the effects, negative episodes of contact could have great negative impact on intergroup relations. Paolini and colleagues (2010) based on previous published articles demonstrating a negative relationship between contact valence and category salience (e.g., Eller & Abrams, 2003, 2006; Islam & Hewstone, 1993); previous explanations of this relation suggested that higher category salience causes negative or anxious contact (salience-valence effect; e.g., Islam & Hewstone, 1993). Anyway, a longitudinal study by Greenland and Brown (1999), analyzing Japanese students' category salience and intergroup anxiety during contact with British students, at the beginning (Time 1) and at the end (Time 2) of their 12 months period in the UK, suggested that category salience, measured at Time 1, did not predict anxious contact, measured at Time 2, while Time 1 anxious contact predicted higher Time 2 category salience (valence-salience effect). Moreover, according to Paolini et al. (2010), a valence-salience effect, rather than a salience-valence effect, was the explanation more consistent with self-categorization theory (Turner et al., 1987): indeed, negative intergroup contact should lead to higher category salience, because it is more in line with people's expectations about outgroups, especially about negatively perceived outgroups (Oakes, Haslam, & Turner, 1994). The authors conducted two experimental studies to further test the valence-salience effect. In the first study, participants were Anglo-Saxon students from an Australian university, randomly assigned to one of three conditions: positive contact, neutral contact, or negative contact with an ethnical minority student. When participants had to describe their contact partner, participants in the negative contact condition referred earlier and more frequently to ethnicity than participants in the other two conditions. The second study was a longitudinal experiment on intergenerational contact, where US university students had to recall a positive or a negative contact experience with an older person, and responded to various measures of contact valence and age salience, both immediately after the manipulation (Time 1) and also 10 weeks later (Time 2). Negative intergenerational contact led to higher episodic age salience and, to a lesser extent, to chronic age salience. Given the longitudinal nature or the study, the authors were able to test the valence-salience effect as well as the salience-valence effect; both the effects received empirical support; anyway, evidences for salience-valence effect were weaker than evidences for valence-salience effects. Thus, the two experimental studies confirmed that negative

contact causes higher intergroup salience, and thus could be very harmful for intergroup relations, given that intergroup salience favors generalization of the contact effects to the whole outgroup.

In two subsequent studies, Barlow and colleagues (2012) tested whether the effects of negative contact were stronger than the effects of positive contact (positive – negative asymmetry effect). The authors hypothesized stronger effects of negative contact, basing on their previous findings about the valence-salience effect (Paolini et al., 2010) and on evidence that people typically weight negative information more heavily than positive information (Baumeister, Bratslavsky, Finkenauer, & Vohls, 2001). In the first study, the authors reanalyzed data of previous studies concerning White Australian respondents' quantity of contact and contact valence with Black Australians, Muslims, and asylum seekers, and prejudice toward these outgroups. The authors found that the effects of contact quantity on prejudice were moderated by contact valence: the relationship between quantity of contact and prejudice was stronger when contact was negative than when contact was positive (positive – negative contact asymmetry). When contact with outgroup members was perceived as negative, more contact was related to more prejudice, and this effect occurred for the three outgroups. Quantity of contact perceived as positive with asylum seekers, instead, reduced prejudice of White Australian respondents toward asylum seekers, while positively valenced contact with Muslims was not significantly associated with reduced prejudice toward Muslims; surprisingly, quantity of positive valenced contact with Black Australians lead to a slight increase in racism.

In the second study, the authors directly measured the frequency of positive contact and the frequency of negative contact of White Americans with Black Americans; as prejudice indexes, old-fashioned and modern racism, avoidance of outgroup members, and scepticism about Barack Obama's birthplace were assessed. Results showed that positive contact occurred more frequently than negative contact, and that the two measures were negatively correlated. Negative contact was related to an increase in all the prejudice indexed, while positive contact was related to a decrease in the prejudice measures, except for the suspicion about Obama's nationality; moreover, comparing magnitude of effects, the authors showed that the effects of negative contact were more predictive of prejudice than the effects of positive contact. Results of the two studies confirmed that negative contact had stronger effects than positive contact; although positive intergroup encounters occurred more often, the beneficial effects of numerous positive contacts could be counterbalanced by relatively infrequent but powerful effects of negative encounters; this interpretation was furnished by Barlow and colleagues to explain why in some multicultural areas, with many opportunities for intergroup contact, prejudice does not decrease.

Anyway, research on the effects of negative contact on outgroup attitudes and intergroup behaviour did not provide final evidence. For example, Harwood, Paolini, Joyce, Rubin, and Arroyo (2011) conducted a study using the imagined contact paradigm (Crisp & Turner, 2009); participants were US students, assigned to one of three conditions: they had to imagine a positive interaction with an illegal immigrant, a negative interaction with an illegal immigrant, or an outdoor scene (control condition); finally, they rated illegal immigrants on a feeling thermometer. Participants in the positive imagined contact condition reported better attitude toward illegal immigrants compared to participants in the negative imagined contact condition, and to participants in the control condition (marginally significant effect); anyway, there was no significant difference between attitudes reported by participants in the negative imagined contact condition and participants in the control condition. Thus, results suggested that a positive imagined interaction can ameliorate outgroup attitudes, but that a negative imagined interaction could not be harmful for intergroup relations, and, indirectly, that effects of a positive imagined interaction are stronger than effects of a negative imagined interaction.

In sum, research comparing the effects of positive contact and of negative contact confirmed that positive and negative contact are two separate phenomenon, and that positive encounters usually occur more often than negative encounters, but did not provide definitive conclusions about which one has stronger effects: Pettigrew (2008; see also Pettigrew & Tropp, 2011) found that the effects of positive contact were stronger than the effects of negative contact, while Barlow and colleagues (2012) found the opposite pattern. It is thus crucial to further explore the independent effects of positive and negative contact.

Chapter 2
Indirect forms of contact

Although direct cooperative contact has been shown to be very powerful in ameliorating intergroup relations and reducing prejudice (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006), this strategy could be considered difficult to promote and to implement, especially in segregated areas. Scholars criticizing contact research argued that most of the studies on the topic were detached from practice, leading to a long list of optimal contact conditions that could hardly be implemented in segregated settings (Dixon, Durrheim, & Tredoux, 2005). Indeed, where opportunities for contact are very rare, it is difficult to create positive intergroup encounters. Moreover, even in multicultural societies where contact is possible, people may not form cross-group friendships (e.g., Hallinan & Williams, 1989; Stearns, Buchmann, & Bonneau, 2009); in some contexts, indeed, the social norm is segregation, instead of intergroup contact (Clack, Dixon, & Tredoux, 2005; Dixon & Durrheim, 2003).

In line with the idea that interventions aimed at improving intergroup relations based on direct contact are difficult to carry out, Paluck and Green (2009) found that only 10% of the experimental field studies which investigated prejudice reduction were centered on direct contact.

With the purpose of enhancing the applicability of intergroup contact, research in the last fifteen years has focused on indirect forms of contact, that could be implemented even when direct contact is not attainable. In the paper introducing the special issue of *Group Processes and Intergroup Relations* on indirect contact, Dovidio, Eller, and Hewstone (2011) pointed out that indirect contact includes: (1) *extended contact*: learning that an ingroup member has an outgroup friend (Wright et al., 1997); (2) *vicarious contact*: observing an interaction between an ingrouper and an outgrouper (e.g., Mazziotta, Mummendey, & Wright, 2011); (3) *imagined contact*: imagining a contact experience with a member of the outgroup (Crisp & Turner, 2009).

Extended contact

Wright and colleagues (1997) proposed that extended contact, namely the knowledge that one ingroup member or more ingroup members have one or more outgroup friends, would ameliorate attitudes toward the whole outgroup.

The extended contact hypothesis has been developed considering three fundamental advancements deriving from intergroup contact research (see Wright et al., 1997): (1) the *importance of group membership salience*, that leads to the generalization of the positive attitude

toward the outgrouper involved in a contact situation to the whole outgroup (see Brown & Hewstone, 2005); (2) the necessity to *reduce anxiety* and discomfort deriving from interactions with outgroup members, that could lead to contact avoidance (e.g., Plant & Devine, 2003); (3) the *importance of cross-group friendship*, that is a very positive form of contact, and entails the optimal contact conditions suggested by Allport (see Davies et al., 2011). Wright and colleagues (1997) proposed that group membership is more likely to be salient for external observers than for the persons involved in a cross-group interaction, who may be acquainted with the individual characteristics of the outgrouper; moreover, anxiety elicited by extended contact should be lower compared to anxiety deriving from direct contact, considering that the observer is not directly involved in a cross-group interaction. One of the most important advantages of extended contact regards its applicability: indeed, it can be implemented on a larger scale than direct contact, because the friendship between an ingroup and an outgroup member may be observed by many persons, so it is not necessary for each member of the two groups to engage in direct contact with members of the other groups; this may be particularly important in segregated settings, where there are not many opportunities for direct intergroup contact and cross-group friendships (see Turner, Hewstone, & Voci, et al., 2007).

The extended contact hypothesis shares common theoretical frameworks with important psychological theories. First, a parallel can be drawn with *social cognitive theory* (Bandura, 1986). According to Bandura, humans have the capacity to learn from observation: individuals learn through observation the cognitive, affective, and behavioral responses to events they do not experience personally. Observing a friendship between an ingroup and an outgroup member is a vicarious learning event: positive intergroup behavior can be safely observed and learned before engaging in actual intergroup contact (see also Turner, Hewstone, Voci, et al., 2007). The extended contact hypothesis can also be explained considering *balance theory* (Heider, 1958); according to this theory, imbalance produces negative tension, and individuals try to reinstate balance. An imbalance may occur when an individual who likes ingroupers and dislikes outgroupers observes a friendly interaction between an ingroup and an outgroup member; in this situation, there is a positive relationship between the self and the ingroup member, a positive relationship between the ingrouper and the outgrouper, and a negative relationship between the self and the outgrouper; a way to reduce imbalance would be improving attitudes toward the outgroup (see also Turner, Hewstone, Voci, et al., 2007, Vezzali & Giovannini, in press; Voci & Pagotto, 2010). A similar explanation could be derived from the *theory of vicarious dissonance* (Cooper & Hogg, 2007; Norton, Monin, Cooper, & Hogg, 2003), an extension of dissonance theory (Festinger, 1957).

Observing an ingroup member engaging in a positive interaction with a member of a disliked outgroup may be in contrast with a personal negative attitude toward that outgroup; this inconsistency can be solved by ameliorating attitudes toward that outgroup. A parallel can also be drawn with the *model of vicarious self-perception* (Goldstein & Cialdini, 2007), based on self-perception theory (Bem, 1972); according to Goldstein and Cialdini, people may infer their attitudes not only from their behavior, but also from vicarious experiences, especially if they feel a sense of merged identity with the observed person; thus, individuals observing a cross-group friendship may infer positive outgroup attitudes of the ingrouper involved in a friendly interaction, and thus infer that they too own a positive outgroup attitude (for an extensive explanation of theoretical approaches supporting extended contact hypothesis, see Vezzali, Capozza, Hewstone, & Giovanni, 2012).

In the first paper on the extended contact effects, Wright and colleagues (1997) reported four studies supporting their hypothesis. The first two studies were correlational, and provided evidence that there is a negative relation between the number of ingroup members having outgroup friends and affective prejudice toward the outgroup; moreover, these effects remained significant by controlling for direct outgroup friendships, and occurred both for majority group participants (Whites in the US) reporting direct and extended friendships with minority outgroups (Asians, African Americans, and Latinos; Study 1), and for minority groups respondents reporting direct and extended friendships with the majority outgroup (Study 2). In the third and the fourth studies extended contact was manipulated, to investigate causality from extended contact to prejudice reduction. Study 3 was a constructed group conflict study, inspired by the Robbers cave studies (Sherif, Harvey, White, Hood, & Sherif, 1961); participants were undergraduate students; in each session, participants were divided into two groups of six to seven members. The authors first created ingroup solidarity, familiarity, and liking (Phase 1); then, they induced intergroup rivalry, with a series of competitive tasks (Phases 2 and 3). The following phase was friendship formation (Phase 4): two participants, one from each of the two groups, were randomly selected to take part to the closeness building task (Aron, Melinat, Aron, Vallone, & Bator, 1997), a procedure used to create interpersonal closeness and friendship in dyads of strangers. After the closeness-building task, the two participants returned to their original group, and described their interaction with the member of the other group; finally, there was a last competitive task (Phase 5). Participants completed the dependent measures (outgroup evaluations, perceived quality of intergroup relation, and resource allocation) after the competition sessions (Phases 2, 3, and 5). Participants who heard about the positive experience the member of their group had with a member of the outgroup

displayed less ingroup bias on all the dependent measures after Phase 5, compared to the evaluations assessed before the cross-group friendship manipulation (after Phases 2 and 3). The fourth study was a full experiment, using a modified minimal group paradigm (Tajfel, Billig, Bundy, & Flament,1971) Participants had to observe, through a one-way mirror, an interaction between a member of the ingroup and a member of the outgroup; the ingrouper and the outgrouper were confederates, and acted as close friends, strangers, or disliked acquaintances. Participants who had observed an interaction between supposed close friends displayed less ingroup bias than participants who watched a neutral or a negative intergroup encounter.

Since the first formulation of the extended contact hypothesis, research has widely demonstrated the effectiveness of extended contact in reducing prejudice. Most of the studies were correlational; anyway, also experimental studies, besides Study 3 and Study 4 by Wright and colleagues (1997), were conducted, supporting the extended contact hypothesis, and providing a deeper investigation of the phenomenon (e.g., Cernat, 2011; Kiu, Wright, & Teows, 2007; Wright, Aron, & Brody, 2008). Also longitudinal studies supported the extended contact hypothesis, finding for instance that extended contact enhanced attitude certainty and positive behavioral intentions, measured more than one year later, among Catholics and Protestants in Northern Ireland (Christ et al., 2010, Study 2). Anyway, other studies did not find longitudinal effects of extended contact (Feddes, Noack, & Rutland, 2009). Extended contact has been shown to improve attitudes toward racial groups (e.g., Dhont, Roets, & Van Hiel, 2011, Sharp, Voci, & Hewstone, 2011), national groups (e.g., Eller, Abrams, & Zimmermann, 2011), and other stigmatized groups, like homosexuals (e.g., Hodson, Harry, & Mitchell, 2009), disabled (e.g., Cameron & Rutland, 2006), and overweight people (e.g., Paluck, 2011; for a recent review, see Vezzali, Capozza, Hewstone, et al., 2012). Moreover, extended contact is effective even in segregated areas and intergroup contexts characterized by recent conflicts, like Catholics and Protestants in Northern Ireland (e.g., Christ et al., 2010, Study 2; Paolini et al., 2004; Paolini, Hewstone, & Cairns, 2007), Serbians and Albanians in Kosovo (Andrighetto, Mari, Volpato, & Behluli, 2012), Israeli and Palestinian people (Cole et al., 2003).

Additionally, extended contact has been shown to influence many outcomes, for example: outgroup attitudes (e.g., Turner, Hewstone, Voci, & Vonofakou, 2008); attitude strength (Christ et al., 2010; Study 2); perceived outgroup variability (Paolini et al., 2004); subtle prejudice (Dhont et al., 2011); implicit prejudice (Vezzali, Giovannini, & Capozza, 2012); resources allocation (Wright et al., 1997, Study 3); outgroup humanization (Favara, 2012, Study 1) and infrahumanization (Andrighetto et al., 2012); positive and negative behavioral intentions (e.g., Tam et al., 2009, Study

2); competitive victimhood, namely the belief that one's own group has suffered more than the outgroup (Andrighetto et al., 2012); pluralistic ignorance (avoiding contact because of fear of being rejected due to the group membership, and attributing outgroup's avoidance of contact to lack of interest, Shelton & Richeson, 2005, Study 7).

Mediators of extended contact

Initially, Wright et al. (1997) suggested four mechanisms through which extended contact could reduce prejudice: reduced intergroup anxiety, inclusion of the outgroup in the self, ingroup norms, and outgroup norms. Further studies proposed other additional mediators through which extended contact exerts its effects.

Intergroup anxiety. As suggested by Wright et al. (1997), intergroup anxiety should be lower when watching an intergroup encounter, compared to personally taking part in it. Observing an intergroup friendship should thus diminish negative expectations about future interactions with outgroup members. Paolini and colleagues (2004) first demonstrated that reduced intergroup anxiety is a mediator of the extended contact effects, finding that intergroup anxiety mediated the relationship between extended contact and outgroup attitudes and between extended contact and perceived outgroup variability in the intergroup relation between Catholics and Protestants in Northern Ireland.

Inclusion of the outgroup in the self. When group membership is salient, ingroup members are included in the self (Smith & Henry, 1996). Moreover, people in a close relationship are perceived as a single cognitive unit (Sedikides, Olsen, & Reis, 1993). When an individual observes a friendship between an ingroup and an outgroup member, the ingroup member will be included in the self, as part of the ingroup; since the ingrouper and the outgrouper in a close relationship can be viewed as a single unit, also the outgrouper will be included in the self. Given that the outgrouper represents his whole group, the whole outgroup could become part of the observer's self (Aron, Aron, Tudor, & Nelson, 1991).

Ingroup norms. As suggested by Wright and colleagues (1997), intergroup salience should be higher for an external observer of a cross-group friendship, than for a person directly involved. In these circumstances, self-categorization as members of one's own group occurs (Tajfel & Turner, 1979) and ingroup norms receive greater attention and are more likely to influence behaviors (Jetten, Spears, & Manstead, 1996). Since other members of the ingroup are seen as an important source of information about ingroup norms (Terry & Hogg, 1996), observing a friendly interaction

between an ingroup and an outgroup member may lead to the perception that the ingroup has positive norms about contact with the outgroup.

Outgroup norms. Observing a cross-group friendship should also lead to the perception that the outgroup has positive norms about the ingroup, and is interested in positive intergroup relationships. Considering that group memberships should be salient during an extended cross-group friendship, when the outgroup member is perceived typical and representative of his/her group, the observer should perceive that his/her positive attitude toward the ingroup reflects the positive attitude of the whole outgroup (see Brown & Hewstone, 2005; Turner et al., 1987). Moreover, according with the reciprocity principle (Dittes & Kelley, 1956), if ingroup members perceive that outgroup members are interested in positive intergroup relations, they will return their interest in positive relations with the outgroup.

The first empirical evidence considering simultaneously the four mechanisms proposed by Wright and colleagues comes from two studies by Turner and colleagues (2008). In two independent samples in UK, composed by White undergraduate students (Study 1) and White high school students (Study 2), extended contact with Asians predicted outgroup attitudes through the mediation of reduced intergroup anxiety, increased IOS, more positive ingroup and outgroup norms; moreover, by testing a series of alternative models, the authors demonstrated that the four mechanisms operated concurrently, rather than predicting one another. Another simultaneous test of the four mediating mechanisms has been conducted in the study by Gomez, Tropp, and Fernandez (2011), who found evidence for the mediational role of the four mechanisms on the relationship between extended contact and intergroup attitudes and between extended contact and intergroup expectancies (although IOS did not mediate this last relationship); these effects occurred both among majority (Spaniards) and minority (immigrants) respondents.

Outgroup trust. There is empirical evidence for the role of outgroup trust as a mediator of the effects of extended contact, even in conflictual intergroup contexts. Tam and colleagues (2009; Study 2) analyzed the effects of direct and extended contact between Catholics and Protestants in Northern Ireland. Both direct and extended contact increased positive behavioral tendencies and reduced negative behavioral tendencies, via outgroup trust and outgroup attitudes; notably, the effects through outgroup trust were stronger than the effects through outgroup attitudes (marginally significant mediated effects of outgroup attitudes). Andrighetto et al. (2012) analyzed the antecedents of competitive victimhood, trying to propose ways to reduce it, in a highly segregated and conflictual society, namely Kosovo, where there is a history of severe violence between Serbians and Albanians. Extended contact of Kosovar Albanian students with Serbians and

identification with a common ingroup reduced competitive victimhood; these effects were mediated by increased trust and perspective taking toward the outgroup, and by reduced outgroup infrahumanization.

Self-disclosure. In line with social learning theory (Bandura, 1977), observing self-disclosure in a cross-group friendship, and realizing that it does not have negative consequences, should favor the likelihood that the observer will disclose personal information to outgroup members. Turner, Hewstone, and Voci (2007, Studies 2 and 3) found that intentions regarding self-disclosure mediated the relationship between extended contact and outgroup attitudes, in the intergroup context of Whites and Asians in England.

Perspective taking. Perspective taking is the cognitive component of empathy, and consists in imagining the point of view of another person or another group. Andrighetto and colleagues (2012), as previously described, found that extended contact decreased competitive victimhood also through the mediation of increased perspective taking. Moreover, testing extended contact via reading fantasy books, Vezzali, Stathi, Giovannini, Capozza, and Trifiletti (2012, Study 2) found that reading novels of Harry Potter, a wizard having contact with various fantastic stigmatized groups, lead to prejudice reduction toward refugees among British undergraduate students; this effect was mediated by perspective taking.

Intergroup threat. Research has demonstrated that extended contact can improve outgroup attitudes also through the reduction of threat perceptions. Pettigrew, Christ, Wagner, and Stellmacher (2007) found that extended contact of German respondents with foreigners living in Germany reduced prejudice toward foreigners through the mediation of reduced collective threat (the collective threat measure included items referred to both realistic and symbolic components).

Outgroup knowledge. The acquisition of information about the outgroup was the mechanism proposed by Allport (1954), through which contact should reduce prejudice. Anyway, the meta-analysis by Pettigrew and Tropp (2008) demonstrated that this cognitive process was a less strong mediator of the effects of direct contact compared to affective mechanisms (anxiety and empathy). Anyway, since extended contact is a mainly cognitive experience (Paolini et al., 2007), knowledge of new information about the outgroup may play a strong mediational role for the extended contact effects. However, by our knowledge, only one study showed evidence of the role of outgroup knowledge as mediator of the extended contact effects (Eller et al., 2011).

Vicarious contact

The increasing interest in indirect forms of contact led scholars to develop studies where participants observed a positive interaction between an ingroup and an outgroup member (vicarious contact). Mazziotta and colleagues (2011) proposed that the difference between extended contact and vicarious contact is that extended contact refers to observation or awareness of a cross-group friendship, while vicarious contact may also refer to more casual contact. Positive intergroup encounters could be observed also through television or other mass media. Vicarious contact effects could be explained in the theoretical framework of Bandura's social cognitive theory (1986). Observing ingroup members who engage successfully in interactions with outgroup members can be conceptualized as a vicarious learning event (Bandura, 1965): an ingroup role-model shows that intergroup contact is possible and how an intergroup encounter should be structured. Thus, it leads to acquisition of behavioral knowledge (learning cross-group behavior) and self-efficacy expectancies, because people rely on previous own mastery experience and on vicarious experience to judge their capabilities to master the observed behavior. Investigating the effects of vicarious contact, Mazziotta and colleagues (2011) asked German students to watch a video depicting a successful interaction between a German student and a Chinese student (vicarious contact condition) or a successful interaction between two German students (intragroup interaction - control condition). Observing an intergroup (vs. an intragroup) interaction increased outgroup affect and willingness for direct contact with the outgroup, through the mediation of increased self-efficacy expectancy, and reduction of perceived intergroup uncertainty (double level mediation). The authors replicated this finding in a second experiment, where they included a third condition (mere exposure to a positive outgroup member); as in Study 1, the observation of the intergroup interaction led to more positive intergroup attitudes and willingness for contact compared to the intragroup interaction condition and to the positive outgroup member condition. This second experiment was carried out to control that the results of the first studies did not depend on mere exposure to a positive outgroup member (Zajonc, 1968) or social desirability.

Contact through mass media

As outlined by Mutz and Goldman (2010), several studies considered the impact of mass media on prejudice; most of these studies were conducted in the United States. Although the initial research on the topic, dating back to the 1940s, found little or no effects of mass-media exposure (e.g., Cooper & Jahoda, 1947), subsequent studies found shifts in prejudice levels due to media exposure, both in positive and in negative directions. For example, three meta-analysis found

positive correlations between media exposure and endorsement of stereotypical beliefs about women (Herrett-Skjellum & Allen, 1995; Mares & Woodard, 2005; Oppliger, 2007). As regards race, positive correlations were found between recalled TV viewing and prejudice toward Blacks (Gross, 1984); concerning sexual orientation, one survey found a positive correlation between recalled TV viewing and anti gay prejudice (Gross, 1984), while another study found a negative correlation between watching *Will and Grace* and anti gay prejudice (Schiappa, Gregg, Hewes, 2006); finally, exposure to TV programs about the homeless was related to lower levels of prejudice toward the homeless (Lee, Farrell, & Link, 2004).

Mutz and Goldman (2010) pointed out that most of research on the topic was correlational, examining the relationship between self-reported media exposure and prejudice; most of these studies did not consider other factors related to both media exposure and prejudice, and did not consider the reverse causal pattern, namely that people watch TV programs whose content is congruent with their prejudicial beliefs. Anyway, to a lower extent, also longitudinal and experimental designs have been employed. For example, a longitudinal study by Morgan (1982) showed that television viewing was positively associated with sexist attitudes, measured six months to one year later, among adolescents.

An experimental study by Riggle, Ellis, and Crawford (1996) showed that watching a sympathetic documentary on Harvey Milk reduced prejudice toward gays; in a similar vein, exposure to a talk-show including tolerant content about gays lead to stronger pro-gay attitudes among German adolescents (Rossler & Brosius, 2001). In an experimental study by Ford (1997), White participants were exposed to a comedy skit portraying Blacks as defined by negative stereotypes or neutrally; they then read a vignette describing a White or a Black student, who was accused of physically assaulting another student. Results showed that participants exposed to a stereotypical portrayal of Blacks were more likely to think that the Black student was guilty compared to participants exposed to the neutral portrayal of Blacks; there was no difference for the guilt perception of the White student in the two experimental conditions. A study by Power, Murphy, and Coover (1996) showed that participants exposed to autobiographical essays by a stereotypic Black student (vs. by a counterstereotypic Black student) endorsed more anti-Black stereotypes, and generalized these stereotypes to unrelated Black people. Results of the experimental studies, thus, confirmed that media exposure, even to a single outgroup member, can reduce or increase prejudice toward various social groups; outgroup attitudes may be ameliorated or worsened, depending on the content of the media.

The role of media exposure on prejudice and stereotypes has been studied from various theoretical perspectives, strongly interconnected (Mutz & Goldman, 2010). Basing on the idea that people process media experiences similarly to how they process direct experiences, and thus react to characters of television programs as they would react to real people (Kanazawa, 2002), Schiappa, Gregg, and Hewes (2005) proposed the *parasocial contact hypothesis*; specifically, the authors suggested that parasocial contact could reduce prejudice, mainly among majority group members who have few opportunities for actual contact with minority group members. In three experiments, Schiappa and colleagues (2005) found that viewing television programs that portrayed positive contact of straight people with gay man (Experiments 1 and 2) and with transvestites (Experiment 3) was associated with reduced prejudice toward the respective target groups. Starting from a different theoretical perspective, Ortiz and Harwood (2007) found in a correlational study that exposure to positive straight-gay and white-black interactions in television (in *Will and Grace* for the gay-straight interactions, and in *Real World: Austin* for the white-black interactions) led to better attitudes toward the respective outgroup; the authors also found some evidence that higher identification with the straight character involved in the straight-gay interaction (Grace in *Will and Grace*) led to reduced intergroup anxiety and better outgroup attitude, and that those who perceived Will as typical of gay men had lower levels of prejudice against gay. The authors explained these results considering *social cognitive theory* (Bandura, 1986, 1997): the shows provided models for intergroup interaction, in which the behavior of the ingroup character was as important as the behavior of the outgroup character; the more a viewer identifies with a character, the more the viewer will model that character's behaviors.

Finally, it is noteworthy the recent series of studies by Weisbuch, Pauker, and Ambady (2009), who showed that race biases can be subtly transmitted through television nonverbal behavior. Specifically, in the first study, White judges, watching videoclips without audio from 11 television shows, rated that White characters elicited more favorable nonverbal responses than status-matched Black characters. The second study demonstrated that, among White viewers, more exposure to nonverbal bias in television shows was associated with higher implicit ingroup bias, measured through an Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). Studies 3a, 3b, and 4 were experiments, to assess the causal influence of exposure to nonverbal race bias. In studies 3a and 3b, White participants were exposed to a set of videoclips depicting Whites receiving positive nonverbal behavior and Blacks eliciting negative nonverbal behavior (pro-white exposure) or Blacks eliciting positive and Whites eliciting negative nonverbal behavior (pro-black exposure); participants then completed a race-IAT. Participants in the pro-white exposure condition

exhibited more implicit ingroup bias that participants in the pro-black exposure condition. In the fourth study, a control condition was added, which depicted equally positive and negative nonverbal behavior toward Blacks and Whites; to assess implicit attitudes, an affective priming measure (Fazio, Jackson, Dunton, & Williams, 1995) was used. Results showed that, in the priming task, White faces sped responses to positive (vs. negative) images in the pro-white exposure condition compared to the other two conditions, while Black faces facilitated the categorization of positive images in the pro-black condition compared to the other two conditions. It is important to note that participants in these studies reported that they were not aware of being exposed to nonverbal race biases. Thus, Americans are daily exposed to nonverbal race bias through television, even if they are not aware of it; this exposure can influence viewers' race associations.

Imagined contact

An alternative approach to improve intergroup relationships when direct contact is not attainable may consist in imagined intergroup contact, that is "*the mental simulation of a social interaction with a member or members of an outgroup category*" (Crisp & Turner, 2009, p. 234). Imagined intergroup contact is based on the idea that mental imagery elicits motivational and emotional responses similar to real experiences (Dadds, Bovbjerg, Redd, & Cutmore, 1997); mental imagery has also been used to improve performance in various domains, ranging from academics to sport (Taylor, Pham, Rivkin, & Armor, 1998), and in health psychology, for example to improve motor learning in rehabilitation (Page, Levine, Sisto, & Johnston, 2001). Thus, "mental simulation represents one of the essential elements of human experience-a critical cognition that precedes and precipitates the full spectrum of human behavior" (Crisp, Birtel, & Meleady, 2011, p. 263).

There is a wealth or research demonstrating the effectiveness of imagined contact, as it can influence many outcomes, for example: explicit (e.g., Turner, Crisp, & Lambert, 2007; West, Holmes, & Hewstone, 2011) and implicit (Turner & Crisp, 2010) outgroup attitudes, perceived outgroup variability (Turner, Crisp, et al., 2007, Study 3), projection of positive self-traits to outgroup (Stathi & Crisp, 2008), enhanced future contact intentions (Crisp & Husnu, 2011; Husnu & Crisp, 2010a, 2010b), more positive nonverbal behavior (Turner & West, 2012), cooperation with the outgroup (Pagotto, Visintin, De Iorio, & Voci, 2012), outgroup infrahumanization (Vezzali, Capozza, Stathi, & Giovannini, 2012), social self-efficacy (Stathi, Crisp, & Hogg, 2011), and warmth and competence stereotypes (Brambilla, Ravenna, & Hewstone, 2012). Moreover, in line with contact literature, imagined contact effects are mediated by intergroup emotions such as anxiety (Turner, Crisp, et al., 2007; Husnu & Crisp, 2010a) and trust (e.g., Pagotto et al., 2012;

Turner, West, and Christie, in press). Additionally, imagined intergroup contact has been shown to improve attitudes toward a wide range of outgroups (for a recent review, see Crisp & Turner, 2012), and is effective even in context characterized by high levels of segregation and history of intergroup conflicts, like Turkish Cypriots and Greek Cypriots (Husnu & Crisp, 2010b). Although most of research on imagined intergroup contact involved university students, recent studies confirmed the effectiveness of this technique also with samples composed by adults (Pagotto et al., 2012) and children (Vezzali, Capozza, Giovannini, & Stathi, 2012; Vezzali, Capozza, Stathi, et al., 2012).

Virtual contact

As outlined by Amichai-Hamburger and McKenna (2006), also *communications through internet* may be effective in ameliorating intergroup relationships, because they can be structured to meet most of the optimal contact situation conditions. Indeed, intergroup contact through internet may be cooperative: people can cooperate through Internet, and tasks performed by virtual teams may be performed equally well as tasks by face-to-face work teams. Online interactions also have the advantage that there are no subtle cues that could be indicative of status differences among members of different groups; equal status increases the likelihood of perceived similarities between the groups, and thus enhances the likelihood of ameliorating intergroup relations. Additionally, the degree of individual versus group salience can easily be manipulated in on-line interactions. Internet contact may be perceived less risky than face-to-face contact; thus, there should be lower levels of anxiety during online interactions compared to face-to-face interactions; indeed, McKenna and Seidman (2005) demonstrated that individuals with high levels of social anxiety reported high levels of shyness and discomfort after a face-to-face interaction, compared to individuals low in social anxiety, but not after an Internet chat room interaction. Moreover, interacting in a private, rather than public setting, may inhibit the activation of stereotypes, especially racial stereotypes, that are more likely to be activated in public settings (e. g., Lambert et al., 2003).

Computer-mediated interactions can be employed even by people who could not meet personally members of other groups because of economic or work issues; thus, contact through internet could be very practical, when there is no opportunity for face-to-face contact.

By now, research has not widely investigated the relationship between intergroup interactions via internet and prejudice reductions. An exception is the project by Yablon and Katz (2001), aimed at promoting understanding, tolerance, and peace among Jewish and Beduin Arab high schools students in Israel. Internet based chat-room and e-mail communications among students of two classes of a Jewish school and two classes of a Beduin school ameliorated outgroup

attitudes among Jewish students; Beduin students' attitudes toward Jewish remained positive throughout the duration of the project.

Chapter 3
Humanity perceptions in intergroup relations

In the last decades, scientists have devoted great attention to a very subtle form of prejudice, namely dehumanization, or the denial of humanness to outgroups (for reviews, see Haslam, Loughnan, Kashima, & Bain, 2008; Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007; Vaes, Leyens, Paladino, & Pires Miranda, 2012). This phenomenon is evident considering the use of metaphors. For example, Jahoda (1999) reported that early navigators around African coasts described local inhabitants as animals full of lust and evilness. Moreover, in intergroup conflicts, enemies were often labelled as animals: Nazis described Jews as "rats" before and during the Second World War, and, in Rwanda, Hutus called the Tutsis "cockroach" before and during Rwandan Genocide. Additionally, Goff, Eberhardt, Williams, and Jackson (2008) recently conducted a series of studies demonstrating that in the American society the association between Blacks and apes still exists, at least at an implicit and unconscious level.

Early definitions of dehumanization

Most of the early conceptualizations of dehumanization derived from observations and investigations in conflictual intergroup relationships. For example, Bar-Tal (1989) proposed that outgroups could be perceived as subhuman creatures, such as animals, or as superhuman creatures, such as demons or monsters. These definitions advanced that perceiving outgroups as non-human is a strategy to delegitimize them (Bar-Tal, 1989), and to exclude them from the moral community (Opotow, 1990). In this vein, Bandura (1999) suggested that dehumanization is an antecedent of moral disengagement processes: members of a dehumanized outgroup are no longer perceived as persons, and thus it is easier to perpetrate violent actions toward them. Thus, according to these early definitions, dehumanization usually implies violent acts perpetrated by the dehumanizing group toward the dehumanized group.

Another interesting theoretical approach considered the role of basic values in dehumanization. Schwartz and Struch (1989) argued that, in a given society, beliefs about hierarchy of values represent the "distinctive humanity" of that society; values hierarchies of the outgroup may be perceived different or opposite to those of the ingroup. When the values hierarchy of the outgroup is opposite to the values hierarchy of the ingroup, that outgroup may be perceived as lacking in humanity.

Infrahumanization theory and its developments

Basing on previous conceptualizations of dehumanization (Bandura, 1999; Bar-Tal, 1989; Opotow, 1990), Leyens and colleagues (Leyens et al., 2000, 2001, 2003, 2007) proposed a different view on humanity attributions to ingroup and outgroup: according to Leyens and colleagues, intergroup conflict is not indeed a necessary condition for differential humanity perceptions; thus, perceiving the outgroup as less human and more animal-like than the ingroup (i.e. infrahumanization) is a phenomenon very common in everyday life. They proposed the term infrahumanization to distinguish this everyday phenomenon from the complete denial of humanness (dehumanization), that may be associated with extreme violence.

Infrahumanization theory derives from two social constructs: ethnocentrism (see, e.g., Sumner, 1906) and essentialist beliefs (see, e.g., Haslam, Rothschild, & Ernst, 2002; Rothbart & Taylor, 1992). Ethnocentrism is the belief that the ingroup is superior than the outgroup on various characteristics; it involves both ingroup favoritism (e.g., Diehl, 1990) and outgroup derogation (e.g., Fein & Spencer, 1997). The "psychological essentialism" (Medin, 1989) is the belief that any specific entity (such as a group of people) has defining properties, that are necessary to its identity and function; thus, they are what they are by nature and not by contingencies. Leyens and colleagues (2007) proposed that infrahumanization arises when people view their ingroup and outgroup as "essentially" different, and accordingly reserve the "human essence" more to the ingroup than to the outgroup. Moreover, according to Leyens et al. (2007), infrahumanization involves both ingroup favoritism and outgroup derogation.

Infrahumanization theory has been verified considering the distinction between primary (i.e. non uniquely human) and secondary (uniquely human) emotions. The first empirical evidence of infrahumanization was provided by Leyens and colleagues (2001, Study 1), who asked Spanish and Canarian participants to select, among a list of primary emotions, secondary emotion, and fillers, which were more typical of the ingroup or of the outgroup. Both the Spanish respondents and the Canarian respondents attributed more secondary emotions to their ingroup than to the outgroup; no difference was found for primary emotions. Interestingly, the infrahumanization effect emerged both for majority (Spanish) and minority (Canarian) status group participants. Subsequent studies (Leyens et al., 2001, Study 2) replicated these findings considering both positive and negative secondary emotions: participants attributed more secondary emotions to the ingroup, irrespective of valence. Research has also considered whether the association between ingroup and secondary emotions occurred at an automatic and implicit level. Paladino and colleagues (2002) conducted a series of four studies using the IAT (Greenwald et al., 1998), analyzing different intergroup context.

Results of the four studies confirmed that participants were faster in the IAT block when they had to categorize ingroup names and secondary emotions with the same response key and outgroup names and primary emotions with another response key, compared to the block when they had to categorize ingroup names and primary emotions with a response key and outgroup names and secondary emotions with another response key. Thus, secondary emotions were more associated to the ingroup than to the outgroup also at an implicit level.

To further explore this relationship, Boccato, Cortes, Demoulin, and Leyens (2007) used sequential priming techniques. In the first study, Belgian participants had to complete a Lexical Decision Task (Wittenbrink, Judd, & Park, 1997), namely they had to distinguish between words and non-words with two different response keys. Words were primary and secondary emotions (both positive and negative); words and nonwords were preceded by the primes, namely the word "BELGE" representing the ingroup or the word "ARABE" for the outgroup. Participants categorized faster secondary emotions when preceded by the ingroup prime than when preceded by the outgroup prime; the prime instead did not affect reaction times to the categorization of primary emotions. Results were replicated in a second study using a different sequential priming technique (Person Categorization Task, Kawakami & Dovidio, 2001) and a different intergroup context (Whites and Blacks). Thus, these studies provided evidence that uniquely human emotions are associated more to the ingroup than to the outgroup, using both explicit and implicit techniques. Moreover, it is interesting to note that research has demonstrated that the greater attribution of secondary emotions to the ingroup was not due to more familiarity with ingroup members and more opportunities to detect secondary emotions expressed by ingroup members (Cortes, Demoulin, Rodriguez, Rodriguez, and Leyens, 2005).

Despite the vast empirical evidence supporting the infrahumanization model, scholars have recently proposed to measure humanity attributions considering also other characteristics related to the concept of humanity, and not only secondary emotions. Viki and colleagues (2006) conducted three studies considering the association of ingroup and outgroup names with humanity concepts and animality concepts; different intergroup contexts were analyzed. The researchers demonstrated that participants perceived the ingroup as more associated to humanity concepts than the outgroup, both at an implicit (Study 1) and at an explicit (Study 3) level. To assess whether people perceive the ingroup more prototypical of humanity than the outgroup, Boccato, Capozza, Falvo, and Durante (2008) conducted two studies, considering the intergroup context of Northern and Southern Italians. In the first study, Northern Italian participants were primed with typical Northern or

Southern names; after each prime, a monkey or a human image appeared on the screen, and participants had to discriminate between apes and humans with two different response keys (Person Categorization Task). Participants categorized more quickly human images when preceded by an ingroup name than when preceded by an outgroup name; primes did not affect categorization speed of ape images. In the second study, participants had to complete a Lexical Decision Task; subliminal primes were a human or an ape, and stimuli were Northern names, Southern names or non-words; participants had to discriminate words from non-words. Northern names were categorized faster than Southern names when preceded by the human image, while no difference emerged when the prime was an ape. Thus, the two studied demonstrated a bidirectional association between ingroup and humanity.

As mentioned above, Goff et al. (2008) investigated the nowadays persistence of the implicit Blacks/ape association among Americans. The authors showed that both White and non-White respondents categorized more quickly ape images if preceded by Black male faces than if preceded by White male faces (Study 1); at the same extent, priming the concept of apes produced an attentional bias toward Black faces (Studies 2 and 3); thus, the association between Blacks and apes was bidirectional; interestingly, participants' Black/ape association was not determined by implicit prejudice toward Blacks, and appeared independently from participants' explicit knowledge about this association (Study 4). Goff and colleagues further demonstrated that priming ape images lead to justify violence against Black criminal suspects (Study 5), and that news articles about Blacks convicted of capital crimes contained more ape-language than articles about White convicts (Study 6).

Two senses of humanness

A different model of dehumanization has been proposed by Haslam (2006; see also Haslam et al., 2008). Haslam suggested the existence of two distinct senses of humanness, namely uniquely human traits, that define boundaries between humans and animals, and human nature traits, that are typically or essentially human, and thus represent the core of human nature, but cannot be considered a criterion to distinguish humans from other creatures. Examples of uniquely human traits are morality, secondary emotions, and civility, while examples of human nature traits are curiosity and warmth. Human nature traits are perceived as universal and related to emotionality, and appear early in development, while uniquely human traits appear later in development and may vary across cultures, and are not related to emotionality (Haslam, Bain, Douge, Lee, & Bastian, 2005).

According to Haslam's model (2006), the denial of these two kinds of traits origins two different forms of dehumanization. Individuals who are perceived as lacking of uniquely human traits are considered as coarse, immoral, unintelligent, and uncultured; given that they are considered as lacking characteristics that distinguish humans from other species, they should be seen, at an explicit or implicit level, as animal-like; this form of dehumanization has thus been called animalistic dehumanization. Infrahumanization (Leyens et al., 2001, 2003, 2007) could be considered a form of animalistic dehumanization, that concerns a specific feature of human uniqueness, i.e. secondary emotions. The denial of human nature traits, instead, leads to the perception of others as cold, inert, and superficial. Haslam (2006) called this phenomenon mechanistic dehumanization. Although mechanistic dehumanization is mainly non comparative, others could be seen as similar to objects or automata.

Loughnan and Haslam (2007) conducted a study to demonstrate the validity of this model. The authors examined undergraduate students' implicit associations of two groups, namely artists and businesspeople, with uniquely human and human nature traits, and with animal and automaton concepts. Implicit associations were measured through a Go/No-go Association Task (Nosek & Banaji, 2001). Artists were more associated with human nature traits than with uniquely human traits, while businesspeople were more associated with uniquely human than with human nature traits. Moreover, automata were more associated with businesspeople than with artists, while animals were more associated with artists that with businesspeople. Finally, automata were more strongly associated with uniquely human than with human nature traits, while animals were more strongly associated with human nature than with uniquely human traits. Thus, results of this study supported the existence of two distinct forms of humanness and two distinct kinds of dehumanization, and that these forms of dehumanization can occur even in absence of negative evaluations.

Antecedents and consequences of infrahumanization and dehumanization

Leyens and colleagues (2007), in their review of infrahumanization theory, discussed antecedents of infrahumanization, and proposed strategies to reduce it. Ingroup identification is a necessary condition for outgroup infrahumanization to occur, and recent studies showed that this phenomenon is more likely when ingroup identification is high (Demoulin et al., 2009); anyway, identification per se is not sufficient to create infrahumanization. As regards the target groups that are infrahumanized, a crucial dimension is the relevance of the outgroup: it is more likely that outgroups that are relevant, and with whom there is a certain degree of interdependence, will be

infrahumanized (Cortes et al., 2005). Also status of the groups may influence the occurrence of infrahumanization, but not on all the humanity dimensions. Studies by Leyens and colleagues (2001) showed that the greater attribution of secondary emotions to ingroup members than to outgroup members is not moderated by status differences; as regards the implicit associations of ingroup and outgroup with humanity and animality concepts, only high status group members have a stronger implicit association between humanity and ingroup than between humanity and outgroup (Capozza, Andrighetto, Di Bernardo, & Falvo, 2012). Concerning warmth and competence stereotypes of outgroups (Stereotype Content Model; Fiske, Cuddy, Glick, & Xu, 2002), Vaes and Paladino (2010) found that outgroups lacking both warmth and competence were strongly infrahumanized, while outgroups perceived as high in competence and low in warmth were considered as most uniquely human. Moreover, a neuroscience study by Harris and Fiske (2006) demonstrated that participants observing images of outgroup members perceived as neither competent nor warm (e.g., a homeless, a drug addict) had no activation in the Medial Prefrontal Cortex, that is the brain region most reliably involved in social cognition; there was instead an exaggerated activation of amygdala and insula, consistent with disgust emotions. Thus, these outgroups were dehumanized, activating the same brain areas of disgusting objects, and not of persons.

Leyens and collaborators (2007) also proposed that there is a reciprocal relationship between media and infrahumanization: people may process media information in an infrahuamanizing way, and media may portray information in a way that strengthens infrahumanization. Considering the first relationship, a relevant study was conducted by Gaunt, Sindic, and Leyens (2005). Belgian students were interviewed about the intensity of emotions in response to an important Belgium-Turkey football match, that they would have seen live or on television. Participants had to forecast the intensity of primary and secondary emotions experienced by Belgian fans (ingroup) and Turkish fans (outgroup) in response to a win or a loss immediately after the match and three days later. The outcome of the match (win or loss) did not affect intensity of emotions; Belgian fans and Turkish fans were expected to have the same intensity of primary and secondary emotions immediately after the match; primary emotions were expected to strongly drop three days after the match; also levels of predicted secondary emotions were lower three days later, but they were expected to diminish much more for Turks than for Belgians. As regards the role of media in portraying outgroups in an infrahumanizing way, it is noteworthy the above mentioned study by Goff and colleagues (2008, Study 6), which showed that Black convicts were described with ape-metaphors in newspapers more frequently than White convicts. Moreover, as suggested by Leyens et al. (2007), ingroup's

sufferings are portrayed by media in a more intense way than outgroup's sufferings, and more time on TV news is dedicated to ingroup's problems.

Additionally, research has also investigated relationships between individual ideologies and dehuamanization. Some studies showed a positive correlation between social dominance orientation (Sidanius & Pratto, 1999), namely the support for hierarchies within any social system, and dehumanizaion (Hodson & Costello, 2007; Leidner, Castano, Zeiser, & Giner-Sorolla, 2010); as regards right wing-authoritarianism (RWA; Altemeyer, 1988), that is a personality variable consisting in submission to authority that is considered legitimate, adherence to societal norms conventions, and hostility toward those who do not adhere to them, results are mixed: Leidner and colleagues (2010) found a positive effect of RWA on outgroup dehumanization, while Hodson and Costello (2007) found no reliable relationship between these variables. Viki and Calitri (2008) examined British students' infrahumanization of Americans, and found that it was positively related to nationalism, but negatively to patriotism.

Leyens and colleagues (2007) also considered strategies that could reduce infrahumanization and dehumanization. Essentialist tendencies should be reduced, through the use of different language and discourse construction by politicians and media; indeed, politicians and media should stop convincing people that own country problems are more important than other countries problems. Also promotion of egalitarian values could help limiting infrahumanization. Redefining intergroup boundaries is another important issue. Gaunt (2009) conducted two studies considering common ingroup identification and attributions of primary and secondary emotions in the relationship between Jewish (high-status group) and Arab Israelis (low-status group). In Study 1, Jewish students' perception that the outgroup identified with the Israeli superordinate category was related to greater attribution of secondary emotions to the outgroup. In Study 2, the more Arab students identified with the Israeli superordinate category, the more they attributed secondary emotions to Jewish.

Research has further studied positive intergroup contact as a strategy to inhibit infrahumanization. Brown and colleagues (2007) conducted a longitudinal study analyzing the effects of contact of British students attending a state high school with students attending a private high school. Quantity of contacts with students from the private school, measured at Time 1, reduced outgroup infrahumanization, measured about 14 weeks later; Time 2 infrahumanization, instead, did not predict Time 1 contact, supporting the causal relationship from contact to reduced infrahumanization. Also studies considering the relationship between Catholics and Protestants in Northern Ireland demonstrated that frequent and high quality contact was related to lower

infrahumanization, and that infrahumanization was, in turn, negatively related to intergroup forgiveness (Tam et al., 2007, 2008). Two recent studies by Capozza, Trifiletti, Vezzali, and Favara (2012) analyzed the mediators of the relationship between intergroup contact and outgroup humanization. Two studies were conducted; in the first study the relationship between Northern and Southern Italians was considered, while Study 2 analyzed Italians' contact with and views on immigrants. Cognitive group representations (Common Ingroup Identity Model) and emotions toward the outgroup were evaluated as potential mediators. The first study demonstrated that Northern respondents' positive contact with Southerners increased the attribution of uniquely human traits to Southerners, through the mediation of increased representation of Northerners and Southerners as a common ingroup and through reduced intergroup anxiety (double level mediation). In the second study, contact of Italians with immigrants decreased the representation of Italians and immigrants as two separate groups, that was in turn positively related to anxiety, and increased the common ingroup representation, that was positively related to empathy toward the outgroup; finally, anxiety was negatively associated and empathy was positively associated to outgroup humanization. Thus, across the two studies, the relationship between positive contact and outgroup humanization was mediated both by cognitive and emotional factors.

Moreover, also indirect forms of contact can reduce infrahumanization. Andrighetto and colleagues (2012) found that reduced infrahumanization was a mediator of the relationship between Kosovar Albanian students' extended contact with Serbs and reduced competitive victimhood. Also imagining positive interactions with outgroup members can reduce infrahumanization: Vezzali, Capozza, Stathi, et al. (2012) conducted an intervention consisting in three separate sessions where Italian children were asked to imagine positive interactions with an immigrant child; children who participated to this experimental intervention reported more trust toward immigrants, that was in turn associated with more uniquely human emotions attributed to immigrants, compared to children in the control condition, who completed the attitudes questionnaire without engaging in imagined encounters with the outgroup.

Besides demonstrating the infrahumanization phenomenon, and studying its antecedents, research has also investigated its consequences. Vaes, Paladino, Castelli, Leyens, & Giovanazzi (2003, Study 1) conducted an experiment using an adapted version of the lost e-mail paradigm. E-mails were sent to a large number of scholars of Belgian Universities; the sender requested help concerning a grant that he did not receive. The sender was an ingroup member (a University researcher) or an outgroup member (a private sector researcher); in the e-mail, the sender used a

secondary (indignation) or a primary (rage) emotion to describe his situation. No differences between the experimental conditions were found concerning the number of responses. As regards the use of informal pronouns, that is considered a solidarity rate, respondents were more sympathetic when they received an e-mail from an ingroup member using secondary emotions than with outgroup members using secondary emotions; no difference between solidarity with ingroup or outgroup members emerged when the sender described his situation using primary emotions. In another study, Vaes and colleagues (2003, Study 4) demonstrated that an ingroup member describing his past week in terms of secondary emotions elicited more approach responses than an outgroup member using secondary emotions to describe his past week; no difference was found in approach tendencies toward ingroup or outgroup members using primary emotions in the description. Thus, studies by Vaes and colleagues suggested that outgroup members expressing secondary emotions are rejected. To examine the effects of infrahumanization on helping intentions, Cuddy, Rock, and Norton (2007) asked Whites and non-Whites participants to infer the emotional states of an individualized White or Black victim of the Hurricane Katrina, and to report their helping intentions toward Hurricane victims. Participants thought that an outgroup victim experienced fewer secondary emotions than an ingroup victim; moreover, assigning less secondary emotions to the outgroup was linked to lower helping intentions. Infrahumanization could also be used to justify ingroup's past misdeeds. To test this hypothesis, Castano and Giner-Sorolla (2006, Study 2) conducted an experiment with British students; for half of participants, responsibilities of the English for the extermination of Australian Aborigens were made salient (high impact condition), while for the other half responsibilities of the English were minimized (low impact condition). Participants infrahumanized Australian Aborigens more in the high impact than in the low impact condition; thus, perceiving the outgroup as less human than the ingroup served to justify ingroup's past violent behaviors (see Bar-Tal, 1989). Scholars have identified other negative consequences of infrahumanization, such as promoting aggression, discrimination, and violence (Di Bernardo, 2013; Greitemeyer & McLatchie, 2011; Waytz, & Epley, 2012), reducing support for reparation policies (Zebel, Zimmermann, Viki, & Doosje, 2008), and reducing value attributed to life of outgroup members (Capozza, Di Bernardo, Favara, Trifiletti, Visintin, 2012).

Chapter 4

The effects of different forms of contact on intergroup emotions, prejudice, and humanity attributions

Overview of the studies

In four studies, we analyzed the relation between intergroup contact and prejudice; the relationship between Italians and immigrants was evaluated, considering the point of view of Italian participants. The aim of the studies was to deeply investigate which forms of contact were more effective in prejudice reduction, and whether some forms of contact were instead related to stronger prejudice.

The first study investigated the effects of meaningful direct contact with outgroup members; the second study considered, besides direct contact, also indirect contact (see Chapter 2): thus, we measured extended contact (Wright et al., 1997), and contact through mass-media, considering separately the exposure to television and radio news and newspapers portraying immigrants, and the exposure to outgroup members in movies and TV series. Study 3 and Study 4 investigated the distinct effects of positive and negative episodes of the forms of contact analyzed in Study 2 (see Chapter 1).

Moreover, we investigated the mediators of the contact-prejudice relationship. We decided to focus on affective processes, because a recent meta-analysis showed that affective mediators have stronger effects than cognitive mediators (Pettigrew & Tropp, 2008; see Chapter 1). Thus, we considered the two most reliable affective mediators, namely intergroup anxiety and emotional empathy, and a more recently proposed mediator, i.e. outgroup trust.

Concerning intergroup attitudes , we decided to explore different forms of prejudice. Indeed, social norms widespread in nowadays society may lead people to avoid expressing overt prejudicial attitudes (Pettigrew & Meertens, 1995). Thus, we measured both explicit attitudes and more indirect judgements. Concerning indirect prejudice expressions, we used an adaptation of the subtle prejudice scale by Pettigrew and Meertens (1995); items of the scale referred to the dimensions of defence of traditional values and exaggeration of cultural differences; we did not include the denial of positive emotions dimension, to avoid content overlapping with the scales of empathy and trust. We also used another indirect prejudice measure that investigated how much immigrants were perceived as threatening and dangerous, asking respondents to estimate the percentage of crimes committed in Italy by immigrants (Pagotto, Voci, & Maculan, 2010; Voci & Hewstone, 2007).

Moreover, we also assessed humanity attributions of Italians and immigrants (see Chapter 3). Humanity perceptions were measured using the scale by Capozza, Trifiletti, and colleagues (2012), that assessed the attribution of uniquely human and non uniquely human traits to immigrants and Italians. Recent studies showed that also traits can be used to measure humanity perceptions (e.g., Hodson & Costello, 2007; Vaes & Paladino, 2010). Finally, in the fourth study, we considered implicit attitudes, assessing if participants associated more quickly and accurately immigrants with positive or negative concepts, using an adaptation of the Single Category Implicit Association Task (Karpinski & Steinman, 2006).

Data were analyzed using Structural Equation Modeling with latent variables (Studies 1, 2, and 3) and regression analyses (Study 4). To investigate the presence of indirect and mediated effects, effects decomposition analysis (Loehlin, 1998) and bootstrapping procedures (Preacher & Hayes, 2008) were applied.

Context of the studies

The studies have been conducted in Italy, where immigration is a quite recent phenomenon. Indeed, immigration in Italy has begun since the 1970s, due to increasing economic wealth and industrialization.

At the 1st January 2011, foreigners in Italy were about 7.5% of the total residents (ISTAT, 2011), and about 10% of the Italian workforce; the largest immigrant groups were Romanians, Albanians, Moroccans, Chinese, and Ukrainians. Concerning geographical distribution, most of the immigrants lived in the North of Italy (61.3%).

In Italy, prejudice and discrimination toward immigrants are widespread, and higher than in other European countries; for example, a survey showed that Italians reported higher levels of discomfort with immigrant neighbors than respondents of other European countries (Eurobarometer, 2008). An ISTAT (2012) survey showed that most of Italian respondents, although being against overt discriminative behaviors, believed that Italians should be favored compared to immigrants in finding jobs and in assignments of housing. Additionally, more than 65% of Italians thought that there were too many immigrants in Italy and more than 50% of Italians believed that the increasing number of immigrants would lead to more criminality.

Media in Italy pay a lot of attention to immigration. Racist and prejudicial ideas are spread by mass-media, especially by television news and by internet, which often portray a link between immigration, criminality, and insecurity (Baussano, 2012; Tirotta & Bellini, 2012). Moreover, TV

news overrepresent the percentage of illegal immigrants compared to legal immigrants (Monzini, 2005).

Immigration and immigrants are becoming more and more represented also in Italian movies, especially from the 2000s. In movies, immigrants' point of view is usually presented in a personalized way, leading the watcher to identify with characters' life circumstances and events.

Study 1

Introduction

This first study aimed at testing the effects of direct contact on prejudice reduction. We considered the relationship between Italians and immigrants in Italy, taking into account the point of view of Italian respondents.

We expected direct contact with immigrants to have positive effects on intergroup relations, because it should ameliorate general attitude toward immigrants, and lessen the levels of subtle prejudice. Additionally, we used a more indirect measure of prejudice, asking participants to estimate the percentage of crimes in Italy committed by immigrants. We also investigated whether direct contact had effects on the attributions of humanity. As reported in Chapter 3, recent studies and theories suggest that outgroup members may be seen as less characterized by uniquely human traits, not shared with animals, than ingroup members (e.g., Leyens et al., 2007).

Finally, we tested whether the effects of contact on prejudice indexes were direct or mediated. Several studies demonstrated the mediational role of intergroup emotions (e.g. Pettigrew & Tropp, 2008; see Chapter 1) in the relation between contact and intergroup attitudes. In this study we considered, as affective mediators, empathic concern, intergroup anxiety, and outgroup trust.

Method

Participants

One hundred and seventy-four Italian participants (65 men and 109 women, aged between 18 and 67 years; mean age = 26.74, *SD* = 10.25) responded to the questionnaire on a voluntary basis. Most of them were university students (120).

Procedure

Participants completed the questionnaire individually; they were recruited through the network of social contacts of two research collaborators. Moreover, participants were assured that the responses were confidential and that they could interrupt the compilation whenever they wanted.

Measures in the questionnaire

Contact. This measure was adapted from the contact measure used by Voci and Hewstone (2003). Three items investigated the quantity of meaningful contact with immigrants. These items were: “How many immigrants in Italy do you know personally?”, “How many immigrants in Italy you may say you know well?”, and “How many of these persons are friends of yours?”. The response scale ranged from 0 to 4 (0 = *none*, 1 = *a few*; 2 = *some*, 3 = *many*; 4 = *a lot*). The

reliability of this scale was good: α = .82. Three items investigated the quality of the contact with the immigrants the participant knows. Participants had to rate how positive, pleasant and negative (reverse coded) was the contact with known immigrant persons. The response scale ranged from 0 (*not at all*) to 4 (*very much*). Alpha of this scale was .82.

To obtain a single measure of frequent and positive contact, quality of contact items were recoded so that -2 indicated negative contact, while +2 indicated positive contact. After the recoding, we multiplied the composites relative to quantity and quality of contact, in order to obtain a single index of positive frequent contact. Thus, scores ranged from -8 to +8; -8 indicates frequent and negative contact, 0 indicates either no contact with immigrants or contact of average quality, while + 8 indicates frequent and positive contact.

Intergroup anxiety (scale from Voci & Hewstone, 2003, derived from Stephan & Stephan, 1985). Participants were asked to imagine being the only Italian, in Italy, among unknown immigrants of their own gender, and rate the extent they would feel "cautious", "relaxed" (reverse coded), "agitated", "quiet" (reverse coded), and "anxious". Participants had to rate the degree they would experience each state on a 5-point Likert scale from 0 to 4 (*not at all – very much*). Items were averaged to form a reliable composite score (α = .90).

Outgroup trust (scale from Voci, 2006). Participants were asked how often they experience the following feelings toward immigrants in Italy: reliability, trust, positive expectations. Responses ranged from 0 (*never*) to 4 (*very often*). Items were averaged to form a reliable composite score (α = .83).

Empathic concern (scale partly derived from Voci & Hewstone, 2007, and Pagotto et al., 2010). Regarding empathy, in this first study we considered empathic concern, that is an other-oriented emotional response elicited by and congruent with the perceived welfare of a person in need (Batson & Ahmad, 2009). Participants were asked to think about discriminations and difficulties experienced by immigrants living in Italy, and to rate their emotional reactions on a scale from 0 (*not at all*) to 4 (*very much*). The emotional reactions proposed to participants were: sorrow, warmth, emotional closeness, I get emotional about their situation, tenderness. We constructed a reliable composite score, averaging the respective items (α = .89).

Attitude toward immigrants and toward Italians (scale from Voci & Hewstone, 2003). Participants were asked to indicate how positive, unfavorable (reverse coded), friendly, and negative (reverse coded) was their attitude toward immigrants. Responses ranged from 0 (*not at all*) to 4 (*very much*). The reliability of this scale was excellent: α = .88. Participants had to report their

attitude toward Italians too, on the same scales used to measure attitudes toward immigrants (α = .79).

Subtle prejudice. We used the Italian adaptation by Voci and Hewstone (2003) of the scale by Pettigrew and Meertens (1995). Eight items from Pettigrew and Meertens were adapted to measure subtle prejudice toward immigrants in Italy. These items were: "How different do you think Italians and Immigrants are in terms of the importance attributed to traditions?" *(not at all – very much)*, "How different do you think Italians and Immigrants are in terms of the goals they try to achieve?" *(not at all – very much)*, "How different do you think Italians and Immigrants are in terms of the values they teach to children?" *(not at all – very much)*, "How different do you think Italians and Immigrants are in terms of the importance attributed to family?" *(not at all – very much)*, "How different do you think Italians and Immigrants are in terms of the importance attributed to personal achievement at work?" *(not at all – very much)*, "Immigrants teach their children values and behaviors different from those required to be good Italian citizens" (*strongly disagree – strongly agree*), "Immigrants living in Italy should avoid places where they are not accepted" (*strongly disagree – strongly agree*), "If immigrants living in Italy would only try harder, they could be as well off as Italians" (*strongly disagree – strongly agree*). The response scale ranged from 0 to 4. Items were averaged to form a reliable index (α = .75).

Crimes rating (scale from Pagotto et al., 2010). Participants had to estimate the percentage of crimes committed by immigrants, answering to the question: "Considering all crimes committed in Italy, what do you think is the percentage of crimes committed by immigrants?".

Attribution of uniquely and non uniquely human traits (scale from Capozza, Trifiletti, et al., 2012). Participants had to indicate how much they endorse a list of traits both to immigrants and to Italians. For each target group they were presented with a list of 14 traits, and they had to rate how immigrants and Italians could be described by each trait, on a 7-point likert scale, ranging from -3 (absolutely false) to +3 (absolutely true). Of these 14 items, four (*reasoning, morality, rationality, intellective abilities*) are uniquely human traits (UH), so they can be attributed only to humans and not to animals; four traits (*impulsiveness, impetus, instinct, drive*) are non uniquely human traits (NUH), so they can be attributed to humans as to animals; the other six traits were fillers. These traits have been pretested to have the same levels of familiarity and valence (Capozza, Trifiletti, et al., 2012). Items were recoded on a scale ranging from 1 to 7, and then averaged to form two composites for immigrants (α = .81 for uniquely human traits, and .80 for non uniquely human traits) and two composites for Italians (α = .78 for uniquely human traits, and .88 for non uniquely human traits).

Results

Introductory analyses

For each of the scales included in the questionnaire, we computed a composite score, averaging the respective items. As shown in Table 1, quantity of contact was quite low, as participants did not report to have much meaningful contact with immigrants, but quality of this contact was good. Participants reported to feel anxious thinking to be the only Italian among unknown immigrants, not to trust much the outgroup and did not feel very empathic toward immigrants. Attitude toward immigrants was positive, but less positive than attitude toward Italians, $t(174) = -1.92$, $p < .06$. The level of subtle prejudice was not high. Finally, participants thought that a rather high percentage of crimes in Italy is committed by immigrants.

Table 1. Means and standard deviations of the variables measured in the questionnaire

Variables	Mean	Standard deviation	Difference from midpoint ($p <$)
1. Contact index	0.74	0.96	.001
2. Quantity of contact	1.02	0.67	.001
3. Quality of contact	2.71	0.65	.001
4. Intergroup anxiety	2.19	0.81	.01
5. Outgroup trust	1.64	0.69	.001
6. Empathic concern	1.75	0.93	.01
7. Attitude toward immigrants	2.52	0.75	.001
8. Attitude toward Italians	2.65	0.62	.001
9. Subtle prejudice	1.85	0.66	.01
10. Crimes rating	40.84	22.43	-

Note. For crimes rating there is no mid point in the scale.

Attribution of uniquely and non uniquely human traits. We computed a 2 (Traits: uniquely human vs. non uniquely human traits) × 2 (Target group: immigrants vs. Italians) ANOVA with repeated measures. We found a main effect of traits, $F(1, 173) = 47.00$, $p < .001$, $\eta^2_p = .214$: attributions of non uniquely human traits were generally higher ($M = 4.79$) than attributions of uniquely human traits ($M = 4.33$). We also found a main effect for target group, $F(1, 173) = 7.22$, $p < .01$, $\eta^2_p = .040$: traits in general were attributed more to the ingroup ($M = 4.64$) than to the outgroup ($M = 4.49$). More interestingly, we found a significant Traits × Target group interaction, $F(1,173) = 16.50$, $p < .001$, $\eta^2_p = .087$ (see Table 2). Uniquely human traits were attributed more to the ingroup than to the outgroup, $F(1,173) = 23.27$, $p < .001$, $\eta^2_p = .119$, so there was an effect of

infrahumanization of the outgroup (Leyens et al., 2007). Non uniquely human traits were similarly attributed to Italians and immigrants, $F(1,173) = 1.32$, *ns*. Finally, participants attributed more non uniquely human traits (vs. uniquely human traits) both to Italians and to immigrants, $F(1,173) = 5.88$, $p < .05$, $\eta^2_p = .033$, and $F(1,173) = 54.00$, $p < .001$, $\eta^2_p = .238$, respectively. The greater attribution of non uniquely human traits (vs. uniquely human traits) to both groups could reflect the cultural stereotype toward these groups, who are considered more impulsive than rational.

Table 2. Attribution of uniquely and non uniquely human traits: Traits × Target group interaction

	Target group		
Traits	Ingroup		Outgroup
Uniquely human traits	4.54_a (.90)	***	4.14 (.99)
	*		***
Non uniquely human traits	4.74_a (.95)		4.84_a (.88)

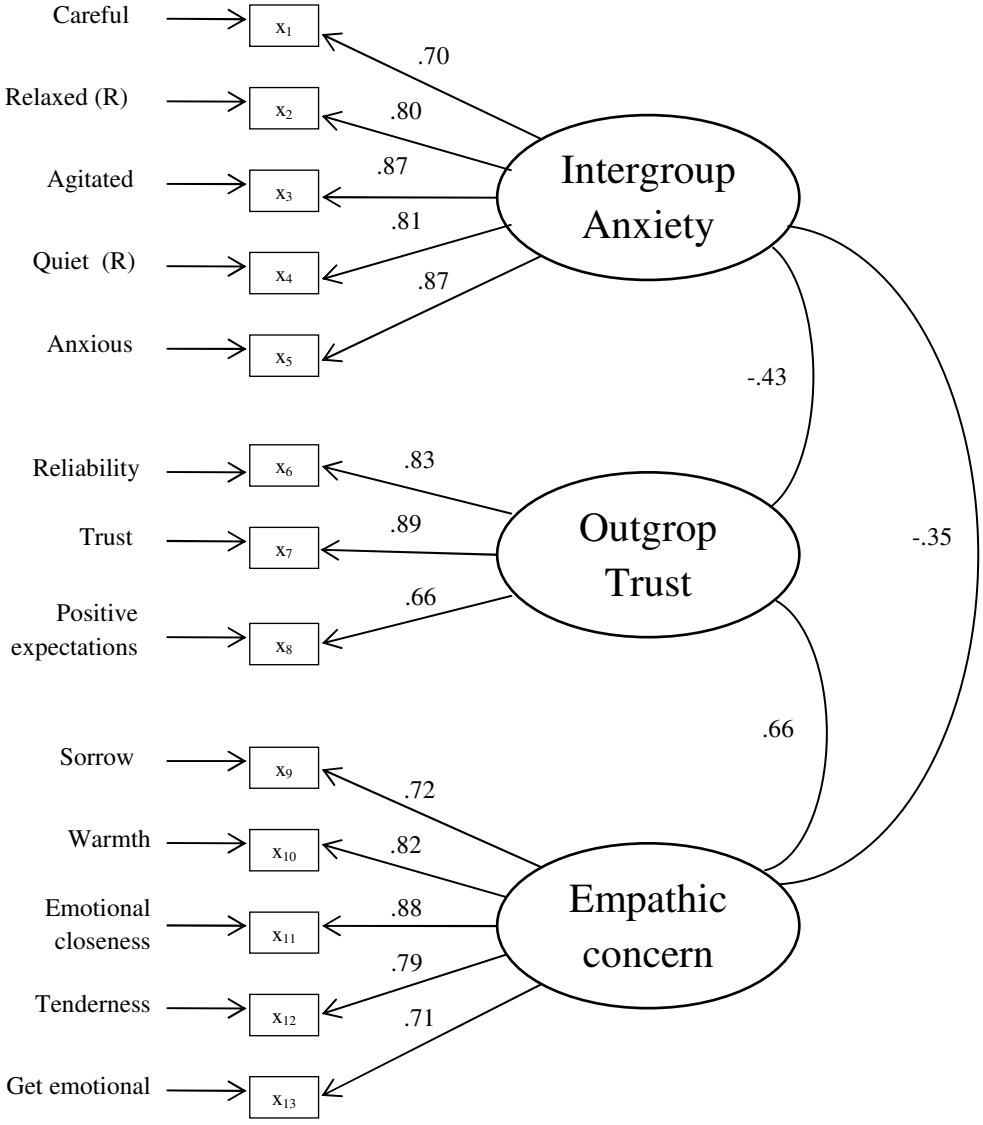
Note. * $p < .05$; *** $p < .001$. a = the score is different from the mid-point of the scale, $p < .001$. Standard deviations are reported in parenthesis.

Factor analyses of the emotional responses scale. To test the three-factor structure of the emotional scales, we decided to conduct a confirmatory factor analysis (CFA), using Lisrel 8.71 (Jöreskog & Sörbom, 2004). The model included three latent constructs (intergroup anxiety, outgroup trust, empathic concern) and 14 observed variables (the respective items); the CFA was applied to the covariance matrix (Cudek, 1989).

The goodness of fit of the model was assessed using several fit indices. Chi-square evaluates the degree of difference between the reproduced covariance matrix and the observed covariance matrix. The Chi-square of a model that fits the data well should be non-significant, or at least the chi-square/degrees of freedom ratio should be lower than 3 (Carmines & McIver, 1981). However this index has often been criticized, because it is sensitive to sample size and model complexity (e.g., Jöreskog & Sörbom, 1996). For this reason, we considered also other fit indices, i.e., the Comparative Fit Index (CFI; Bentler, 1990), the Root Mean Squared Error of Approximation (RMSEA; Steiger, 1990), and the Standardized Root Mean Square Residual (SRMS; Bentler, 1995). Model fits are considered satisfactory when CFI is greater than .95, RMSEA is lower than .06 and SRMS is lower than .08 (Hu & Bentler, 1999).

The model obtained the following indexes: $\chi^2(62) = 142.46$, $p < .001$, RMSEA = .089, SRMR = .069, CFI = .97. The chi-square was significant, but the chi-square/degrees of freedom ratio was lower than 3 (ratio = 2.36); RMSEA was over the cut-off value, while CFI and SRMR suggested an acceptable fit of the model. As expected, the three emotions were reliably correlated. Furthermore, factor loadings were all high and consistent (see Figure 1), ranging from .66 to .89. We concluded then that the three-factor model was indeed a good representation of the data.

Figure 1. Confirmatory factor analysis of emotion scales



Note. All parameters reported are standardized and significant with $p <$. 001.

Correlations

Before testing the mediational model, we analyzed correlations between variables. As expected (see Table 3), both the contact index, obtained by multiplying quantity by quality of contact, and the measure of quantity of contact were reliably related to the three emotions felt toward the outgroup. Contact and quantity of contact were negatively associated to intergroup anxiety, and positively related to empathic concern and outgroup trust. Emotions were correlated to the criterion variables: empathic concern and outgroup trust were positively correlated to outgroup attitude and to the attribution of uniquely human traits to immigrants, and negatively correlated to subtle prejudice and crimes rating; intergroup anxiety showed the opposite pattern of correlations. Moreover, both the contact index and quantity of contact were linked to more positive outgroup attitude, and the index of contact was negatively related to subtle prejudice. Since the correlations were significant and in the expected direction, we decided to test two mediational models: one has the contact index as independent variable, the other one has quantity of meaningful contact as independent variable.

Table 3. Correlations between variables

	1	2	3	4	5	6	7	8	9
1. Contact	—								
2. Quantity of contact	.66***	—							
3. Empathic concern	.34***	.16*	—						
4. Intergroup anxiety	-.32***	-.26***	-.33***	—					
5. Outgroup trust	.38***	.22**	.59***	-.41***	—				
6. Outgroup attitude	.45***	.28***	.60***	-.46***	.58***	—			
7. Subtle prejudice	-.19*	-.11	-.28***	.43***	-.28***	-.48***	—		
8. Crimes rating	-.01	-.02	-.21***	.22**	-.32***	-.35***	.37***	—	
9. Outgroup humanization	.14°	.04	.31***	-.16*	.42***	.27***	-.13	-.26***	—

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. ° $p = .056$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Structural equation models

To study the relationships between variables, we adopted Structural Equation Modeling (SEM) with latent variables (LISREL 8.71; Jöreskog & Sörbom, 2004).

Before testing the regression model of the effects of the contact index, we applied CFA to test the conceptual distinction between the constructs. As most variables were measured by several items, to smooth measurement error and keep an adequate ratio of cases to parameters, we applied the partial disaggregation procedure (Bagozzi & Heatherton, 1994). This consisted in creating subsets of items that were averaged to form two indicators for each construct, except for contact, as in this case the indicator was the index obtained by multiplying quantity of contact by quality of contact, and crimes rating, that was measured by a single item (for contact and crimes rating, error variance was fixed to zero). The eight-factor model fitted the data very well, $\chi^2(51) = 43.90$, $p = .75$, RMSEA = .00, SRMR = .019, CFI = 1.00. Importantly, parcel loadings were all significant ($p < .001$) and higher than .74; the eight constructs were distinct, with Φ coefficients ranging from -.57 (outgroup attitude and subtle prejudice) and .66 (empathic concern and outgroup trust), all different from $|1.00|$ (95% confidence interval).

First, we tested a model in which the index of contact was entered as predictor, the three emotions toward the outgroup (empathic concern, intergroup anxiety, outgroup trust) were entered as mediators, and attitude toward immigrants, subtle prejudice, crimes rating, and attribution of uniquely human traits to immigrants as criterion variables. In the proposed model, the mediators were all entered at the same level, as well as all the criterion variables. Direct paths from contact to the criterion variables were also estimated. The covariance matrix was used as input and estimates were derived using maximum likelihood method.

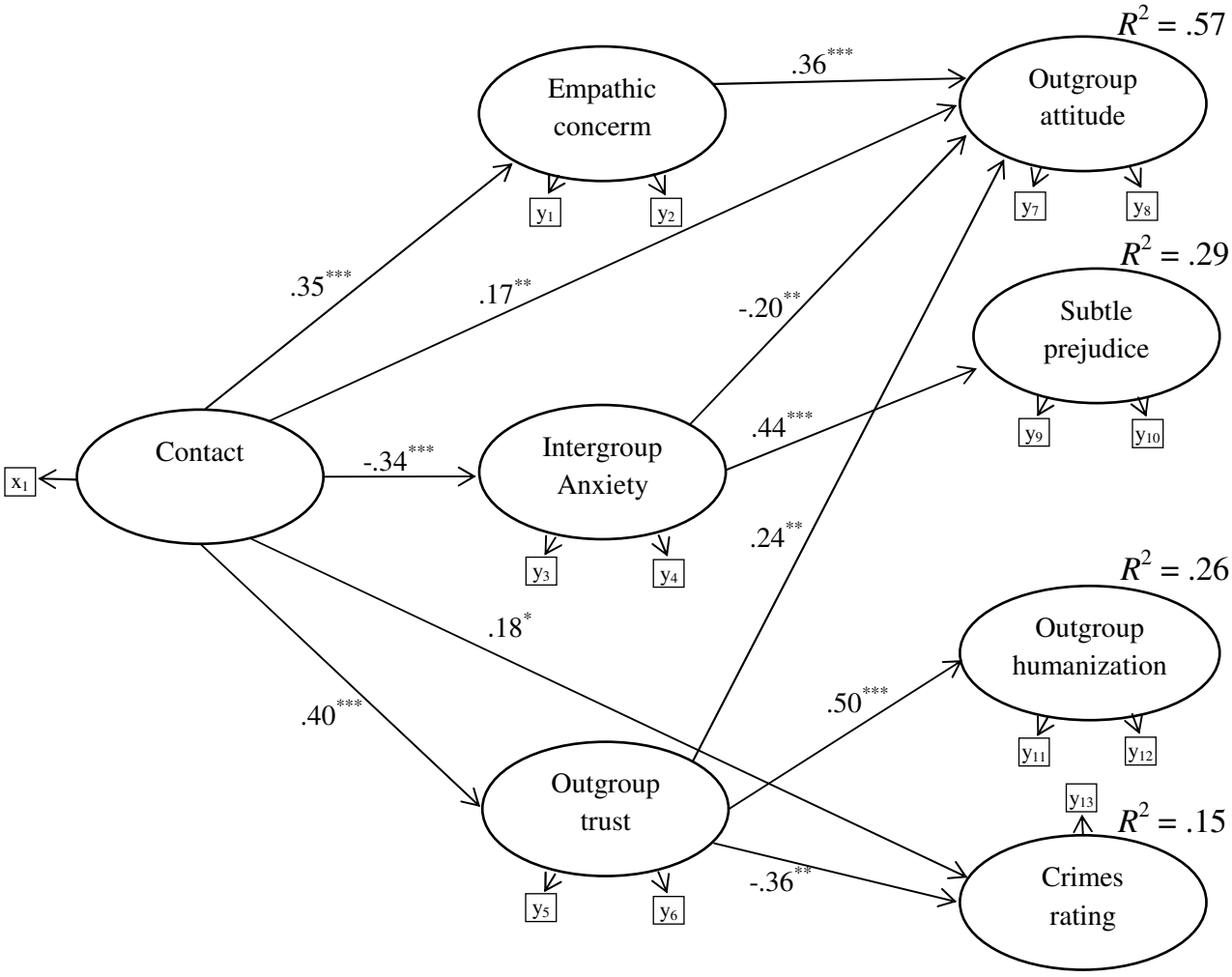
Given the parameters estimated in the model, the indexes of goodness of fit of the model are the same of the CFA. Thus, the model fitted the data very well, $\chi^2(51) = 43.90$, $p = .75$, RMSEA = .00, SRMR = .019, CFI = 1.00.

As shown in Figure 2, contact had an effect on the three emotions, predicting lower intergroup anxiety ($\gamma = -.34$, $p < .001$), higher outgroup trust ($\gamma = .40$, $p < .001$), higher empathic concern ($\gamma = .35$, $p < .001$). Intergroup anxiety was then associated with a worse outgroup attitude ($\beta = -.20$, $p < .01$), and higher subtle prejudice ($\beta = .44$, $p < .001$); outgroup trust predicted a better outgroup attitude ($\beta = .24$, $p < .01$), a greater attribution of uniquely human traits ($\beta = .50$, $p < .001$), and lower crimes rating ($\beta = -.36$, $p < .01$); empathic concern was associated with a better outgroup attitude ($\beta = .36$, $p < .001$). For what concerns direct effects of contact, it led to a better outgroup

attitude (γ = .17, $p < .01$), and to higher crimes rating (γ = .18, $p < .05$). This last result was unexpected, although rather weak.

Overall, the model accounted for 57% of variance of attitude toward immigrants, 29% of variance of subtle prejudice, 15% of variance of crimes rating, and 26% of variance of the attribution of uniquely human traits to immigrants.

Figure 2. Effects of direct contact (quantity by quality index): Structural equation model



Note. Coefficients are standardized. Only significant paths are reported. Correlations between variables at the same level: intergroup anxiety and outgroup trust (Ψ = -.32***), intergroup anxiety and empathic concern (Ψ = -.24**), outgroup trust and empathic concern (Ψ = .52***); attitude and subtle prejudice (Ψ = -.22***), attitude and uniquely human traits (Ψ = .00, *ns*), attitude and crimes rating (Ψ = -.15**), subtle prejudice and uniquely human traits (Ψ = .00, *ns*), subtle prejudice and crimes rating (Ψ = .26***), uniquely human traits and crimes rating (Ψ = -.12, *ns*).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4 reports direct, indirect, and total effects of contact in the model proposed (effects decomposition analysis, Loehlin, 1998). Contact had significant indirect positive effects on

outgroup attitude (IE = .29, $p < .001$) and on the attribution of uniquely human traits to immigrants (IE = .21, $p < .001$), and significant indirect negative effects on subtle prejudice (IE = -.21, $p < .001$) and on crimes rating (IE = -.19, $p < .001$).

Contact had a significant total effect on attitude toward immigrants (TE = .47, $p < .001$) and on subtle prejudice (TE = -.23, $p < .001$), and a marginally significant total effect on the attribution of uniquely human traits to immigrants (TE = .16, $p < .07$); contact had no total effect on crimes rating.

Table 4. Direct, indirect, and total effects of contact

	Direct effects of contact	Indirect effects of contact	Total effects of contact
Intergroup anxiety	-.34***	-	-.34***
Outgroup trust	.40***	-	.40***
Empathic concern	.35***	-	.35***
Outgroup attitude	.17**	.29***	.47***
Subtle prejudice	-.01	-.21***	-.23**
Crimes rating	.18*	-.19***	-.01
Outgroup humanization	-.06	.21***	.16º

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. º $p < .07$. * $p < .05$. ** $p < .01$. *** $p < .001$.

To test if the emerged indirect paths were significant, we used the bootstrapping method (Preacher & Hayes, 2008). We applied bootstrapping procedures using 1,000 resamples. The point estimates and the confidence intervals for the significant indirect effects are reported in Table 5. A 95% confidence interval (CI) that excludes zero indicates a significant mediation, $p < .05$ (Preacher & Hayes, 2004, 2008; Shrout & Bolger, 2002).

Table 5. Mediation analysis results

Predictor	Mediator	Outcome variable	B	SE	95% CI
Direct contact	Empathic concern	Outgroup attitude	.177	.069	[.061, .340]
Direct contact	Intergroup anxiety	Outgroup attitude	.092	.040	[.018, .176]
Direct contact	Intergroup anxiety	Subtle prejudice	-.075	.023	[-.123, -.033]
Direct contact	Outgroup trust	Outgroup attitude	.139	.071	[.016, .292]
Direct contact	Outgroup trust	Outgroup humanization	.344	.134	[.113, .635]
Direct contact	Outgroup trust	Crimes rating	-3.322	1.318	[-6.289, -1.801]

Note. Outgroup humanization = Uniquely human traits attributed to immigrants.

As it appears from Table 5, all the emerged paths were significant. Thus, direct contact improved outgroup attitude through the mediation of enhanced empathy and trust toward the outgroup, and reduced intergroup anxiety; subtle prejudice was reduced through the reduction of intergroup anxiety, while the effects on attribution of uniquely human traits to the outgroup and crimes estimate were mediated by outgroup trust.

The tested model confirmed our hypothesis: direct contact reduced prejudice, through the mediation of affective variables.

However, the quantity x quality contact index could be considered as problematic. Indeed, quality of contact reported by participants may be affected by feelings about the group, and this influence may contaminate the measure.

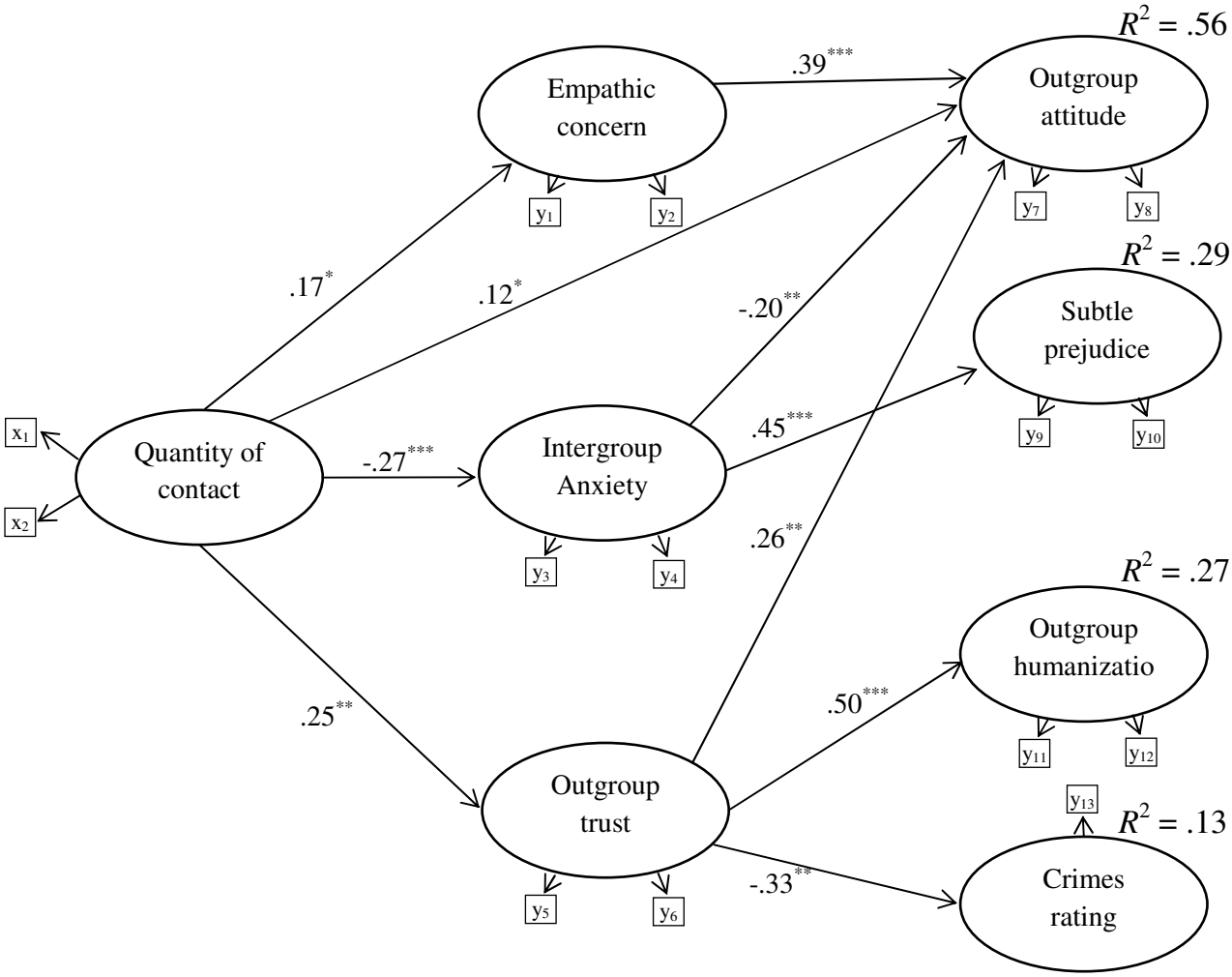
Thus, we tested a second model, in which we used quantity of meaningful contact with immigrants as predictor. Again, we first applied a CFA to test the conceptual distinction between the variables. In the CFA, for each construct, except for crimes rating that was measured by a single item (error variance was fixed to zero), two indicators were computed, using the procedure by Bagozzi and Heatherton (1994). This model fitted the data very well, $\chi^2(63) = 64.13$, $p = .44$, RMSEA = .00, SRMR = .026, CFI = 1.00. Importantly, loadings of factors were all significant ($p < .001$) and higher than .74; moreover, all the latent variables were distinct constructs, with Φ coefficients, ranging from -.56 (outgroup attitude and subtle prejudice) and .66 (empathic concern and outgroup trust) all different from $|1.00|$ (95% confidence interval).

In the regression model (see Figure 3), quantity of meaningful contact with immigrants was the predictor; mediators (intergroup anxiety, outgroup trust, empathic concern) and criterion variables (attitude toward immigrants, subtle prejudice, crimes rating, and attribution of uniquely human traits to immigrants) were the same of the previously presented model. Given the parameters estimated in the model, the indexes of goodness of fit of the model are the same of the CFA, showing a good fit, $\chi^2(63) = 64.13$, $p = .44$, RMSEA = .00, SRMR = .026, CFI = 1.00.

Quantity of contact had an effect on intergroup anxiety ($\gamma = -.27$, $p < .001$), outgroup trust ($\gamma = .25$, $p < .01$), and empathic concern ($\gamma = .17$, $p < .05$), so as on attitude toward immigrants ($\gamma = .12$, $p < .05$). Contact did not have direct effects on the other criterion variables. The relations between mediators and criterion variables were similar to the ones emerged in the previous model: anxiety was related to outgroup attitude ($\beta = -.20$, $p < .01$) and to subtle prejudice ($\beta = .45$, $p < .001$); outgroup trust had effects on outgroup attitude ($\beta = .26$, $p < .01$), crimes rating ($\beta = -.33$, $p < .01$) and attribution of uniquely human traits to immigrants ($\beta = .50$, $p < .001$); empathic concern predicted a better attitude toward immigrants ($\beta = .39$, $p < .001$).

Overall, the model accounted for 56% of variance of attitude toward immigrants, 29% of variance of subtle prejudice, 13% of variance of crimes rating, and 27% of variance of the attribution of uniquely human traits to immigrants.

Figure 3. Effects of quantity of meaningful direct contact: Structural equation model



Note. Coefficients are standardized. Only significant paths are reported. Correlations between variables at the same level: intergroup anxiety and outgroup trust (Ψ = -.39***), intergroup anxiety and empathic concern (Ψ = -.31***), outgroup trust and empathic concern (Ψ = .62***); attitude and subtle prejudice (Ψ = -.23***), attitude and uniquely human traits (Ψ = .00, *ns*), attitude and crimes rating (Ψ = -.14**), subtle prejudice and uniquely human traits (Ψ = .01, *ns*), subtle prejudice and crimes rating (Ψ = .26***), uniquely human traits and crimes rating (Ψ = -.12, *ns*).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Direct, indirect, and total effects of quantity of meaningful contact are reported in Table 6 (effects decomposition analysis). Quantity of contact had indirect effects on the four criterion variables of the model, enhancing outgroup attitude (IE = .19, $p < .01$) and outgroup humanization (IE = .12, $p < .05$), and decreasing subtle prejudice (IE = -.16, $p < .01$) and crimes rating (IE = -.11, $p < .01$). Moreover, quantity of contact had a significant total effect on attitude toward immigrants (TE = .31, $p < .001$), but not on subtle prejudice, crimes rating, and attribution of uniquely human traits.

Table 6. Direct, indirect, and total effects of quantity of meaningful direct contact

	Direct effects of quantity of contact	Indirect effects of quantity of contact	Total effects of quantity of contact
Intergroup anxiety	-.27***	-	-.27***
Outgroup trust	.25**	-	.25**
Empathic concern	.17*	-	.17*
Attitude toward immigrants	.12*	.19**	.31***
Subtle prejudice	.02	-.16**	-.14
Crimes rating	.09	-.11**	-.02
Outgroup humanization	-.11	.12*	.01

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. * $p < .05$. ** $p < .01$. *** $p < .001$.

To test if the mediated effects were reliable, we used bootstrapping procedures (1,000 resamples). Table 7 reports the significant mediated effects.

Table 7. Mediation analysis results

Predictor	Mediator	Outcome variable	B	SE	95% CI
Direct contact	Intergroup anxiety	Outgroup attitude	.128	.064	[.016, .275]
Direct contact	Intergroup anxiety	Subtle prejudice	-.104	.044	[-.198, -.026]
Direct contact	Outgroup trust	Outgroup attitude	.159	.096	[.002, .389]
Direct contact	Outgroup trust	Outgroup humanization	.358	.187	[.031, .793]
Direct contact	Outgroup trust	Crimes rating	-3.138	1.736	[-6.901, -.280]

Note. Outgroup humanization = Uniquely human traits attributed to immigrants.

As shown in Table 7, the mediated effects via outgroup trust on outgroup attitude, outgroup humanization, and crimes rating were significant; the mediated effects of contact on outgroup attitude and subtle prejudice through intergroup anxiety were significant too. Differently from the

previously presented model, the effect of contact to outgroup attitude via empathic concern was only marginally significant; indeed, the 93% confidence interval excluded zero (B = .154, SE = .095, CI = [.003, .348]), while the 95% confidence interval included zero: CI = [-.007, .370].

Discussion

Results of the first study confirmed our hypothesis: direct contact ameliorated intergroup attitudes, through the mediation of emotional processes.

Comparing the two regression models, we noticed that the two models explain similar portions of variance of the various prejudice measures, but the effects of the independent variable of the first model, the index of contact (Quantity x Quality), were stronger compared to the effects of the independent variable of the second model (quantity of meaningful contact); in fact, the total effect on attitude toward immigrants was stronger in the first model than in the second one, and there were total effects on subtle prejudice and outgroup humanization in the first model, that were not significant in the model with quantity of contact as predictor. In addition, the mediated effect on outgroup attitude via empathic concern was significant in the model with the index of contact, and only marginally significant in the model with quantity of contact as predictor; furthermore, the effects of the independent variable on the three emotions and the mediated effects on the criterion variables were stronger in the first model compared to the second one. This could be partly due to the correlation between quantity and quality of contact, that was quite low ($r = .22$, $p < .01$); thus, for participants of this first study, quantity of contact was not very strongly related to quality of contact.

Anyway, we considered the contact index as problematic, as the measure of quality could be affected by prejudice and attitudes toward the outgroup. Thus, in the next study, we decided to consider only quantity of meaningful contact as independent variable. Besides considering the effects of direct contact, in the second study we considered various forms of indirect contact.

Study 2

Introduction

The second study aimed at testing the effects of indirect forms of contact. As in Study 1, we considered the relationship between immigrants and Italians, analyzing the point of view of Italian respondents. In the intergroup context we considered, direct contact between members of the two groups is possible, but Italians do not often have actual contact with immigrants; in the Italian society, indeed, there is still a certain degree of segregation between Italians and immigrants concerning work places and different areas of the cities where Italians and immigrants live.

Moreover, results of the first study already suggested that Italians do not have a frequent contact with immigrants: in the quantity of contact scale, that investigated with how many immigrants the respondents had meaningful contact, the mean score was about 1 (*a few immigrants*), on a scale ranging from 0 to 4; moreover, the mean score of the third item, that asked specifically about the number of cross-group friendships, was even lower (M = .87).

Thus, we considered different forms of indirect contact, namely extended contact (the knowledge that an ingroup member has a close relationship with an outgroup member; Wright et al., 1997; see chapter 2), and contact through mass media. Extended contact has been shown to lead to better intergroup relations, and has effects over and above direct contact (Turner, Hewstone, Voci, et al., 2007). Concerning exposure to mass media where immigrants are portrayed, we decided to consider TV news, radio news, and newspapers separately from TV series and movies. Indeed, in Italy, TV news and newspapers may give a negative impression about immigrants, emphasizing news about criminality committed by immigrants in Italy, and underlying the provenience of the immigrants when a crime is committed by a foreigner, and not mentioning the provenience when the crime is committed by an Italian (e.g., Baussano, 2012); moreover TV news and newspapers may lead to overestimate the percentage of illegal immigrants compared to the legal ones (Monzini, 2005). Movies and TV series instead may portray a more positive image of immigrants; moreover, the group membership of immigrants has often importance for the movie plot, and this could lead to empathize with immigrants, considering that their group membership is often cause of suffering, and to reduce infrahumanization, considering that immigrants in movies are characterized by both positive and negative uniquely human features.

As in Study 1, we included as affective mediators intergroup anxiety, emotional empathy, and outgroup trust, and, as outcome variables, an explicit measure of outgroup attitude, the subtle

prejudice scale by Pettigrew and Meertens (1995), a crimes estimate measure, and humanity perceptions of Italians and immigrants.

In sum, we hypothesized that the four different forms of contact should influence intergroup attitudes: direct contact and extended contact should ameliorate outgroup attitudes, lessen the levels of prejudice, and increase outgroup humanization; these processes should be mediated by emotions, namely increased empathy and outgroup trust, and decreased intergroup anxiety; anyway, the effects of direct contact could be stronger compared to the effects of extended contact (see Paolini et al., 2007). Contact through TV news should be particularly negative, and thus should be related to increased prejudice and worsened outgroup attitudes. Finally, contact through movies may be the less powerful predictor, but could increase empathic feelings and the perception of the outgroup as fully human.

Moreover, in the questionnaires we included opportunity for contact, that is an instrumental variable that allowed us to test the causal order, from contact to prejudice reduction, through the mediation of emotional processes.

Method

Participants

Participants were 201: 109 Italian adults and 88 students (4 participants did not indicate their occupational status); they were aged between 15 and 84 (M = 30.79, SD = 13.61). Eighty-six were male, and 115 were female.

Procedure

As in Study 1, participants completed the questionnaire individually; they were recruited through the social network of two research collaborators and of students attending a psychology course.

Measures in the questionnaire

Contact measures. As anticipated in the introduction, we measured different forms of contact, and tested the effects of these indirect contact measures, besides the effects of direct contact. In the regression models, we considered quantity of these forms of contact as independent variables. Anyway, since we hypothesized that, in the intergroup context we analyzed, direct and extended contact would usually be positive, while contact through TV news and newspapers could be mostly negative, we also included measures of quality of these forms of contact in the questionnaire.

Direct contact. Quantity and quality of direct contact were measured with the same scales used in Study 1. Both scales were reliable (alphas = .81 and .74, respectively).

Extended contact. Both quantity and quality of extended contact were measured by one item (items adapted from Turner, Hewstone, & Voci, 2007). For quantity, the question was: "How many of the Italian persons you know have immigrant friends?" Response scale ranged from 0 to 4 (0 = *none*, 1 = *a few*; 2 = *some*, 3 = *many*; 4 = *a lot*). For quality, the question was: "How do you judge the relation between these Italian persons and their immigrant friends?", with a response ranging from *very negative* (0) to *very positive* (4).

Contact through mass-media. Quantity and quality of contact through TV news and newspapers and through movies were measured by single items (items adapted from Pagotto et al., 2010). For quantity of TV news contact, the question was "How often do you hear news about immigrants (for example, in TV news, newspapers, on the radio)?". Quantity of movies contact was measured by this question: "How often do you see immigrants in movies, TV series, fictions?". For both these scales, responses ranged from 0 (*never*) to 4 (*very often*). After each of these questions, participants were asked about the quality of these forms of contact, with a response ranging from *very negative* (0) to *very positive* (4).

Opportunity for contact. Opportunity for contact was measured by a single item, "How many immigrants do you see in the places you usually attend?". Response scale ranged from 0 to 4 (0 = *none*, 1 = *a few*, 2 = *some*, 3 = *many*, 4 = *a lot*).

Intergroup emotions.

Emotional empathy. We used an extended version of the scale used in Study 1, asking participants to think about discriminations and difficulties experienced by immigrants living in Italy, and to rate their emotional reactions on a scale from 0 (*not at all*) to 4 (*very much*). The emotional reactions referred both to reactive empathy (human warmth, liking, feeling sympathetic toward them, emotional closeness, tenderness, and getting emotional thinking about their situation) and to parallel empathy (regret, indignation for injustices, sadness, anger for discriminations, bitterness, and feeling of injustice). The scale was partly derived from Voci and Hewstone (2007), and Pagotto et al. (2010).

Outgroup trust. We used the same scale of Study 1 ($\alpha = .89$).

Intergroup anxiety. We used a scale similar to the measure of Study 1, asking participants to imagine being the only Italian, in Italy, among unknown immigrants of their own gender, and rate the extent they would feel "cautious", "relaxed" (reverse coded), "embarrassed", and "quiet" (reverse coded). Participants had to rate the degree they would experience each state on a 5-point

Likert scale from 0 to 4 (*not at all – very much*). Items were averaged to form a reliable composite score (α = .76).

Prejudice indexes. The other outcome variables were measured with the same scales of Study 1; all the multiple-item scales were reliable (attitude toward immigrants, α = .89; attitude toward Italians, α = .84; subtle prejudice, α = .74; uniquely human traits, α = .78 for immigrants, and α = .82 for Italians; non uniquely human traits, α = .79 for immigrants, and .79 for Italians).

Results

Introductory analyses

Factor analyses of the emotional empathy scale. Since we expected that the scale of emotional empathy included two components, namely reactive empathy and parallel empathy, we first conducted an exploratory analysis, that revealed the presence of only one factor (eigenvalue = 7.91), accounting for 65.88% of variance. Thus, we considered emotional empathy as a monofactorial scale (α = .95).

Descriptive statistics. For each variable measured by multiple items, we computed a composite score, averaging the respective items. Table 8 reports means, standard deviations, and differences from the mid-point of the scales of each variable. Replicating the results of Study 1, direct contact with immigrants was not very frequent, but was usually positive. Extended contact too was not frequent but usually positive. As regards contact through mass media, we found that contact through TV news and newspapers happened very often, but was negative; contact through movies and fictions, in turn, was not very frequent but quite positive. Considering intergroup emotions, replicating results of Study 1, participants felt intergroup anxiety, did not trust much the immigrants and did not feel empathic toward immigrants. Attitude toward immigrants was positive, but less positive than attitude toward Italians, $t(200) = -1.80$, $p = .074$, although the difference was only marginally significant. Participants expressed medium levels of subtle prejudice, and thought that a rather high percentage of crimes in Italy is committed by immigrants. Finally, participant reported not having frequent opportunity for contact.

Table 8. Means and standard deviations of the variables measured in the questionnaire

Variables	Mean	Standard deviation	Difference from midpoint ($p <$)
1. Quantity of direct contact	1.01	.67	.001
2. Quality of direct contact	2.54	.68	.001
3. Quantity of extended contact	1.25	.74	.001
4. Quality of extended contact	2.33	.82	.001
5. Quantity of news contact	3.02	.79	.001
6. Quality of news contact	1.43	.86	.001
7. Quantity of movies contact	1.78	.90	.001
8. Quality of movies contact	2.09	.66	.065
9. Intergroup anxiety	2.31	.71	.001
10. Outgroup trust	1.57	.78	.001
11. Emotional empathy	1.88	.93	.066
12. Attitude toward immigrants	2.42	.82	.001
13. Attitude toward Italians	2.57	.69	.001
14. Subtle prejudice	1.95	.69	*ns*
15. Crimes rating	37.08	21.28	-
16. Opportunity of contact	1.85	.95	.05

Note. For crimes rating there is no mid point in the scale.

Attribution of uniquely and non uniquely human traits. We conducted a 2 (Traits: uniquely human vs. non uniquely human) × 2 (Target group: immigrants vs. Italians) ANOVA with repeated measures. Results of the ANOVA fully replicated results of Study 1 (see Table 9). We found a main effect of traits, $F(1, 200) = 51.15$, $p < .001$, $\eta^2_p = .204$: attributions of non uniquely human traits were generally higher ($M = 4.72$) than attributions of uniquely human traits ($M = 4.33$). We also found a main effect for target group, $F(1, 200) = 10.60$, $p = .001$, $\eta^2_p = .050$: traits in general were attributed more to the ingroup ($M = 4.62$) than to the outgroup ($M = 4.43$). The two significant main effects were qualified by a significant Traits × Target group interaction, $F(1, 200) = 8.56$, $p < .01$, $\eta^2_p = .041$ (see Table 9). Uniquely human traits were attributed more to the ingroup than to the outgroup, $F(1, 200) = 15.33$, $p < .001$, $\eta^2_p = .071$, so there was an infrahumanization effect of the outgroup (Leyens et al., 2007). Non uniquely human traits were similarly attributed to Italians and immigrants, $F<1$. Finally, participants attributed more non uniquely human traits (vs. uniquely human traits) both to Italians, $F(1, 200) = 6.47$, $p < .05$, $\eta^2_p = .031$, and to immigrants, $F(1, 200) = 43.82$, $p < .001$, $\eta^2_p = .180$.

Table 9. Attribution of uniquely and non uniquely human traits: Traits by Target group interaction

	Target group		
Traits	Ingroup		Outgroup
Uniquely human traits	4.52_a (1.03)	***	4.14_b (.99)
	*		***
Non uniquely human traits	4.72_a (.84)		4.72_a (1.00)

Note. * $p < .05$. *** $p < .001$. a = the score is different from the mid-point of the scale, $p < .001$; b = the score is different from the mid-point of the scale, $p < .05$. Standard deviations are reported in parenthesis.

Correlations

Before testing the hypothesized regression model, we analyzed correlations between variables (see Table 10). As expected, there were significant correlations between the different forms of contact and the emotions felt toward the outgroup: quantity of direct contact was positively related to emotional empathy and outgroup trust, and negatively related to intergroup anxiety; quantity of extended contact was positively related to empathy and outgroup trust; contact through TV news and newspapers was positively related to intergroup anxiety. The three emotions were significantly related to all the prejudice indexes: trust and empathy were positively related to outgroup attitude and outgroup humanization and negatively related to subtle prejudice and crimes rating; intergroup anxiety showed the opposite pattern of correlations. Moreover, there were also strong significant correlations between the contact measures and the prejudice indexes. Finally, opportunity for contact was positively correlated to direct contact and extended contact, to emotional empathy and to outgroup attitude, and negatively correlated to crimes rating; moreover, it was also positively correlated at a marginally significant level to outgroup trust ($p = .084$) and contact through movies ($p = .055$). This last result was unexpected, since opportunity for contact should promote direct and extended contact, but should have no relation with contact through mass media.

Table 10. Correlations between variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Opportunity for contact	—											
2. Quantity of direct contact	.31***	—										
3. Quantity of extended contact	.28***	.37***	—									
4. Quantity of contact through TV news	.05	-.06	.09	—								
5. Quantity of contact through movies	.14	.08	.22**	.14	—							
6. Emotional empathy	.16*	.26***	.18*	-.11	-.01	—						
7. Intergroup anxiety	.01	-.16*	-.07	.16*	-.12	-.27***	—					
8. Outgroup trust	.12	.30***	.28***	-.08	.04	.65***	-.34***	—				
9. Outgroup attitude	.18**	.36***	.33***	-.15*	.03	.73***	-.39***	.73***	—			
10. Subtle prejudice	-.02	-.18*	-.15*	.20**	.00	-.50***	.38***	-.54***	-.56***	—		
11. Crimes rating	-.17*	-.19**	-.22**	.21**	-.06	-.31***	.34***	-.41***	-.48***	.40***	—	
12. Outgroup humanization	.04	.27***	.28***	-.10	.18**	.41***	-.29***	.43***	.44***	-.35***	-.28***	—

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

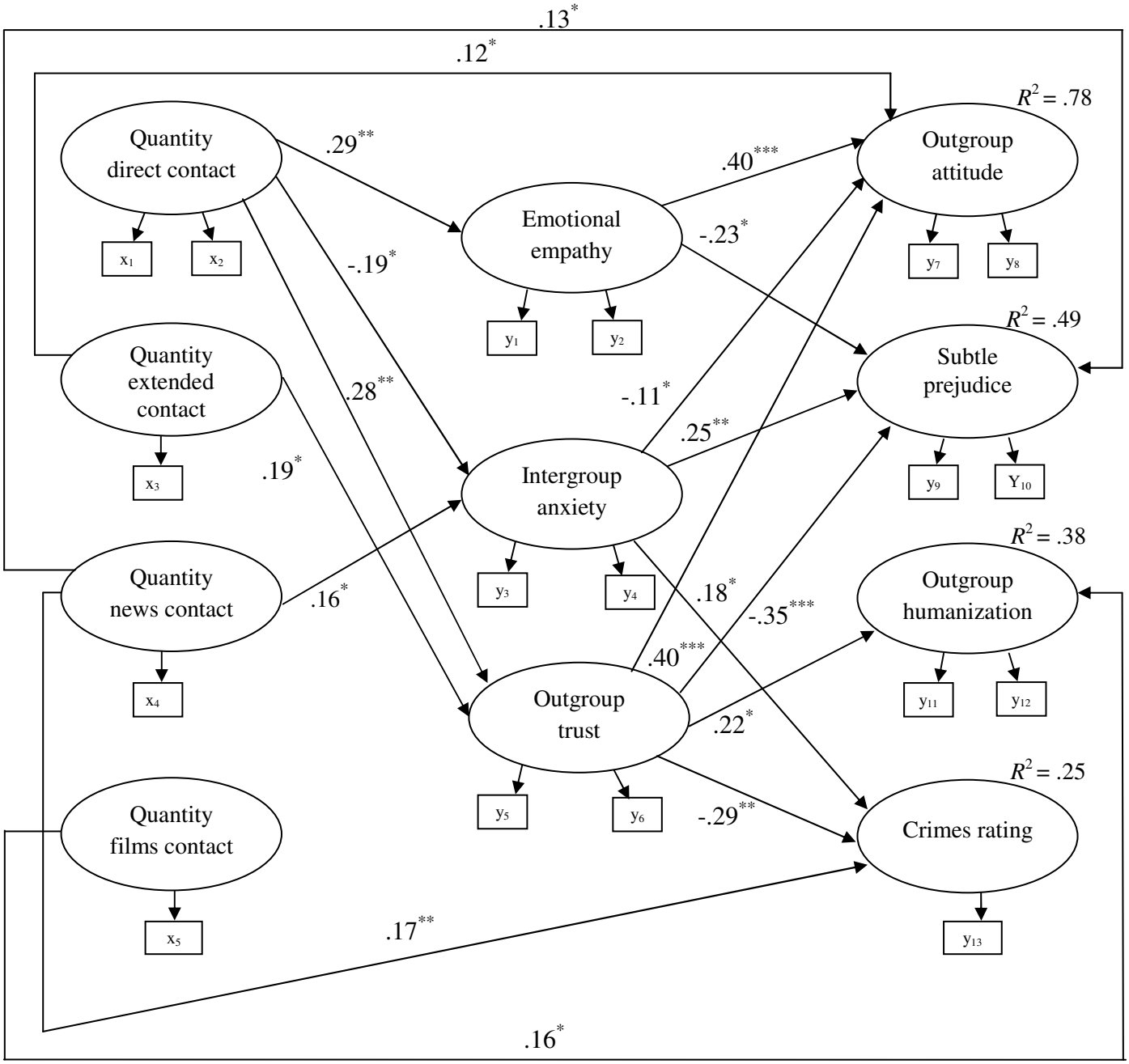
Structural equation models

Before testing the regression models, we tested convergent and discriminant validity of constructs, using CFA (LISREL 8.71; Jöreskog & Sörbom, 2004). In the CFA model, opportunity for contact, extended contact, contact through TV news and newspapers, contact through movies, and crimes rating were measured with a single indicator (for these variables, error variance was fixed to zero); for each of the other variables, we created two indicators, adopting the partial disaggregation approach by Bagozzi and Heatherton (1994). The twelve-factor model fitted the data well: $\chi^2(91) = 114.45$, $p < .05$, chi-square/degrees of freedom ratio = 1.26, RMSEA = .034, SRMR = .029, CFI = .99. Parcel loadings were all significant ($p < .001$), and higher than .61 (convergent validity). Regarding discriminant validity, latent factors were all distinct constructs, with Φ coefficients ranging from -.66 (outgroup attitude and subtle prejudice) to .80 (outgroup trust and outgroup attitude), all different from $|1.00|$ (95% confidence interval).

In the tested regression model, the four forms of contact were entered as predictors, the three emotions toward the outgroup were entered as mediators, and attitude toward immigrants, subtle prejudice, crimes rating, and attribution of uniquely human traits to immigrants as criterion variables. Direct paths from the four forms of contact to the criterion variables were also estimated. The model fitted the data well, $\chi^2(84) = 113.11$, $p < .05$, chi-square/degrees of freedom ratio = 1.35, RMSEA = .04, SRMR = .030, CFI = .99. As shown in Figure 4, quantity of direct contact, as found in Study 1, had an effect on the three mediators, enhancing emotional empathy ($\gamma = .29$, $p < .01$) and outgroup trust ($\gamma = .28$, $p < .01$), and reducing intergroup anxiety ($\gamma = -.19$, $p < .05$). Quantity of extended contact enhanced outgroup trust ($\gamma = .19$, $p < .05$), while quantity of contact through TV news and newspapers instead enhanced intergroup anxiety ($\gamma = .16$, $p < .05$). Quantity of contact through movies had no effect on the emotions toward the outgroup. As concerns the relationships between the mediators and the outcome variables, emotional empathy positively influenced outgroup attitude ($\beta = .40$, $p < .001$), reduced subtle prejudice ($\beta = -.23$, $p < .05$), and had a marginally significant effect on outgroup humanization ($\beta = .19$, $p = .056$). Intergroup anxiety enhanced subtle prejudice ($\beta = .25$, $p < .01$) and crimes rating ($\beta = .18$, $p < .05$), and reduced outgroup attitude ($\beta = -.11$, $p < .05$). Outgroup trust was the stronger mediator, influencing all the outcome variables: it enhanced outgroup attitude ($\beta = .40$, $p < .001$) and outgroup humanization ($\beta = .22$, $p < .05$), and it reduced subtle prejudice ($\beta = -.35$, $p < .001$) and crimes rating ($\beta = -.29$, $p < .01$). Moreover, significant direct effects emerged. Quantity of extended contact ameliorated outgroup attitude ($\gamma = .12$, $p < .05$). Quantity of contact through TV news and newspapers enhanced subtle prejudice ($\gamma = .13$, $p < .05$) and crimes rating ($\gamma = .17$, $p < .01$). Finally, quantity of contact

through movies enhanced the attribution of uniquely human characteristics to the outgroup (γ = .16, $p < .05$).

Figure 4. Effects of different forms of contact: Structural equation model



Note. Coefficients are standardized. Only significant paths are reported. Correlations between variables at the same level: direct contact and extended contact (Φ = .41***), direct contact and contact through TV news (Φ = -.05, *ns*), direct contact and contact through movies (Φ = .12, *ns*), extended contact and contact through TV news (Φ = .09, *ns*), extended contact and contact through movies (Φ = .22**), contact through TV news and contact through movies (Φ = .13*); intergroup anxiety and outgroup trust (Ψ = -.34***), intergroup anxiety and emotional empathy (Ψ = -.28***), outgroup trust and emotional empathy (Ψ = .55***); attitude and subtle prejudice (Ψ = -.07, *ns*), attitude and humanization (Ψ = .00, *ns*), attitude and crimes rating (Ψ = -.11**), subtle prejudice and humanization (Ψ = -.06, *ns*), subtle prejudice and crimes rating (Ψ = .11*), humanization and crimes rating (Ψ = -.04, *ns*).

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

Overall, the model accounted for 78% of variance of attitude toward immigrants, 49% of variance of subtle prejudice, 25% of variance of crimes rating, and 38% of variance of the attribution of uniquely human traits to immigrants, thus accounting for a great portion of variance of all the prejudice indexes.

Effects decomposition analysis. Table 11 reports total, direct, and indirect effects of the four forms of contact on the outcome measures. Direct contact had significant mediated effects on all the outcome variables (direct contact-to-outgroup attitude, IE = .25, $p < .001$; direct contact-to-subtle prejudice, IE = -.21, $p < .01$; direct contact-to-outgroup humanization, IE = .15, $p < .01$; direct contact-to-crimes rating, IE = -.12, $p < .01$); contact through TV news and newspapers had a marginally significant indirect positive effect on subtle prejudice (IE = .09, $p = .058$). For what concerns the total effects of the different forms of contact on outcome variables, all the four forms of contact had effects on the prejudice indexes: direct contact had strong effects in enhancing outgroup attitude (TE = .34, $p < .001$) and attribution of uniquely human traits to the outgroup (TE = .27, $p < .01$); extended contact ameliorated outgroup attitude (TE = .23, $p < .01$) and outgroup humanization (TE = .17, $p < .05$), and reduced crimes rating (TE = -.18, $p < .05$); contact through TV news and newspapers influenced all the outcome measures: it led to higher levels of subtle prejudice (TE = .22, $p < .01$) and crimes rating (TE = .22, $p < .01$), and worsened outgroup attitude (TE = -.16, $p < .05$) and outgroup humanization (TE = -.14, $p = .055$), although this last result was only marginally significant; finally, contact through movies had only a significant effect, enhancing the attribution of uniquely human characteristics to the outgroup (TE = .15, $p = .05$).

Table 11. Direct, indirect, and total effect of positive and negative episodes of different forms of contact

	Outgroup attitude			Subtle prejudice			Outgroup humanization			Crimes rating		
	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
Quantity of direct contact	.08	.25***	.34***	.06	-.21**	-.16	.13	.15**	.27**	-.01	-.12**	-.13
Quantity of extended contact	.12*	.11	.23**	-.04	-.09	-.13	.11	.06	.17*	-.12	-.06	-.18*
Quantity of contact through TV news	-.07	-.09	-.16*	.13*	.09º	.22**	-.08	-.06	-.14º	.17**	.05	.22**
Quantity of contact through movies	-.01	-.02	-.03	.00	.01	.01	.16*	-.01	.15*	-.04	.00	-.04

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. DE = direct effect; IE = indirect effect; TE = total effect. º $p \leq .058$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Bootstrapping analysis. In Table 12, significant mediated effects through the bootstrapping procedure (1,000 resamples) are reported.

Table 12. Mediation analysis results

Predictor	Mediator	Outcome variable	B	SE	95% CI
Direct contact	Emotional empathy	Outgroup attitude	.321	.148	[.033, .619]
Direct contact	Emotional empathy	Subtle prejudice	-.058	.035	[-.139, -.002]
Direct contact	Outgroup trust	Outgroup attitude	.348	.183	[.029, .762]
Direct contact	Outgroup trust	Subtle prejudice	-.088	.054	[-.213, -.008]
Direct contact	Outgroup trust	Crimes rating	-2.474	1.573	[-6.146, -.154]
Extended contact	Outgroup trust	Outgroup attitude	.184	.096	[.020, .390]
Extended contact	Outgroup trust	Subtle prejudice	-.047	.026	[-.103, -.004]
Extended contact	Outgroup trust	Crimes rating	-1.279	.738	[-2.888, -.118]
Contact through TV news	Intergroup anxiety	Subtle prejudice	.023	.017	[.001, .066]

Note. Outgroup humanization = Uniquely human traits attributed to immigrants.

As it appears from Table 12, only some of the emerged paths were significant: direct contact ameliorated outgroup attitude through emotional empathy and outgroup trust, reduced subtle prejudice through emotional empathy and outgroup trust, and reduced crimes rating via outgroup trust. Extended contact had significant mediated effects on outgroup attitude, prejudice and the percentage of crimes attributed to the outgroup through outgroup trust. Contact through TV news had only a significant mediated effect on subtle prejudice via intergroup anxiety. No significant mediated effect on outgroup humanization emerged. Since only few of the expected indirect paths were reliable, we considered the 90% confidence interval, to test if there were marginally significant mediated paths ($p < .10$). Direct contact had a marginally significant effect on outgroup attitude via intergroup anxiety (B = .067, SE = .054, CI = [.001, .163]), on subtle prejudice via intergroup anxiety (B = -.040, SE = .032, CI = [-.102, -.001]), and on outgroup humanization via emotional empathy (B = .080, SE = .060, CI = [.003, .195]); extended contact had a marginally significant effect on outgroup humanization via outgroup trust (B = .041, SE = .033, CI = [.001,

.103]); contact through TV news had mediated effects through intergroup anxiety on outgroup attitude (B = -.041, SE = .033, CI = [-.106, -.001]) and on crimes rating (B = .542, SE = .461, CI = [.013, 1.428]).

To summarize, direct contact and extended contact led to prejudice reduction, while contact through TV news and newspapers augmented prejudice; contact through movies had a positive effect only on outgroup humanization. The affective mediators were most strongly related to direct contact, while the indirect forms of contact had more direct effects; indeed, it is likely that other mediators explain the relationship between the forms of indirect contact and outcome measures; for example, extended contact effects could be mediated by inclusion of the outgroup in the self, ingroup norms, outgroup norms (Turner et al., 2008), or self-disclosure (Turner, Hewstone, & Voci, 2007).

Causal order. To check the causal order from contact to prejudice reduction, through the mediation of emotional reactions, we tested a series of alternative models. In the questionnaire, we included the variable opportunity for contact, that is an instrumental variable, highly correlating with contact but only weakly with emotions and prejudice. In the tested models, the instrumental variable opportunity for contact was the predictor; the other variables included in the regression models were: quantity of direct contact and quantity of extended contact (contact); emotional empathy, outgroup trust, and intergroup anxiety (intergroup emotions); outgroup attitude, subtle prejudice, crimes rating, attribution of uniquely human traits to the outgroup (prejudice indexes). We tested six fully mediated models; we entered opportunity for contact as predictor in all the models, and changed the order of the other groups of variables.

Finally, we compared the fit indexes (see Table 13). Besides chi-square, RMSEA, SRMR, and, CFI, we considered the Akaike Information Criterion (AIC; Akaike, 1974). The AIC is a measure of the relative goodness of fit. AIC values provide a means for the model selection: the smaller the value of AIC, the better the fit.

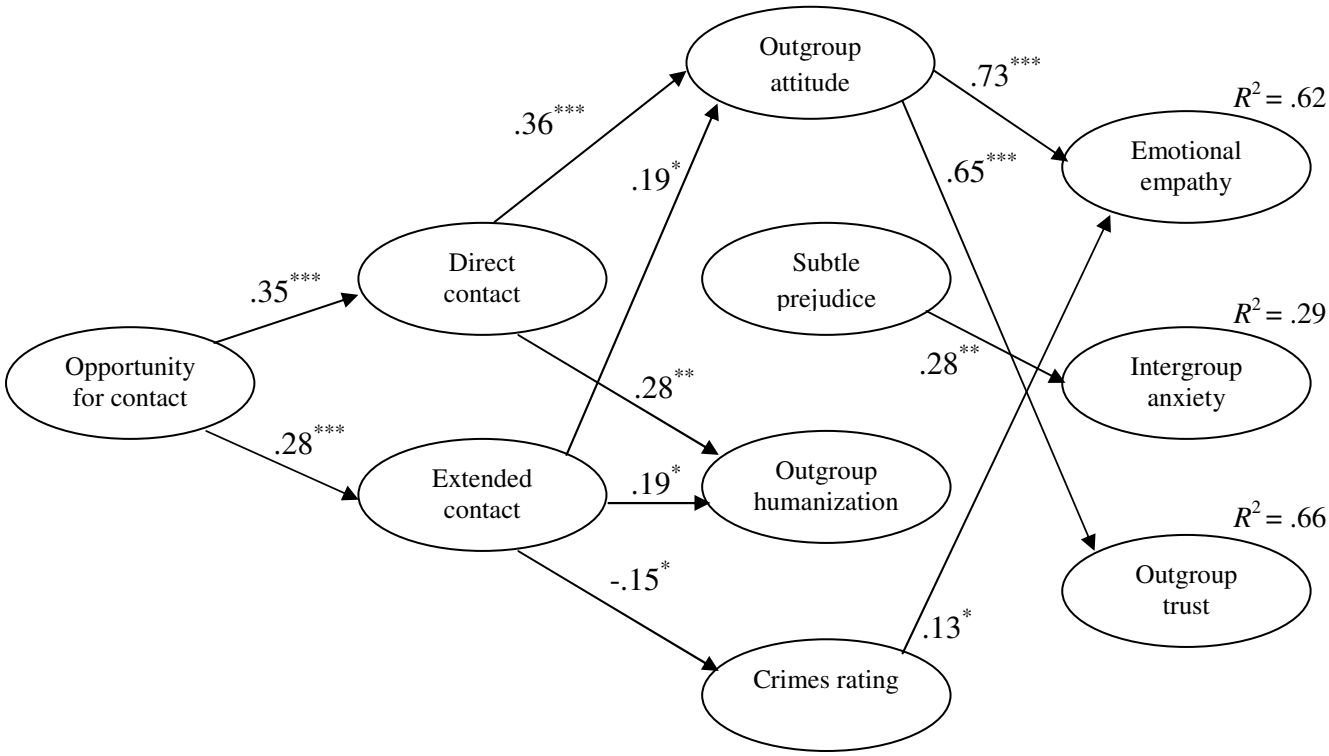
Table 13. Goodness-of-fit indexes of the six tested models

Model	Level 2	Level 3	Level 4	χ^2	RMSEA	SRMR	CFI	AIC
1	Contact	Intergroup emotions	Prejudice indexes	χ^2 (92) = 122.87, p = .017	.038	.043	.99	240.71
2	Contact	Prejudice indexes	Intergroup emotions	χ^2 (90) = 107.85, p = .097	.030	.033	1.00	232.38
3	Intergroup emotions	Prejudice indexes	Contact	χ^2 (89) = 127.95, p = .004	.046	.046	.99	254.61
4	Intergroup emotions	Contact	Prejudice indexes	χ^2 (95) = 216.72, p < .001	.074	.076	.97	315.01
5	Prejudice indexes	Intergroup emotions	Contact	χ^2 (90) = 138.16, p < .001	.048	.052	.99	257.54
6	Prejudice indexes	Contact	Intergroup emotions	χ^2 (94) = 202.98, p < .001	.069	.059	.97	301.63

Note. Level 1: Opportunity for contact (instrumental variable). Other variables in the models: Contact: quantity of direct contact, quantity of extended contact. Intergroup emotions: emotional empathy, outgroup trust, intergroup anxiety. Prejudice indexes: outgroup attitude, subtle prejudice, crimes rating, attribution of uniquely human traits to the outgroup.

The model that best fit the data was the model in which contact predicted intergroup emotions through the mediation of prejudice (Model 2). Anyway, also the model suggested by literature, in which contact predicted prejudice through the mediation on intergroup emotion (Model 1), showed a good fit. Figure 5 and Figure 6, respectively, represent these models.

Figure 5. Alternative Model 2: Structural equation model



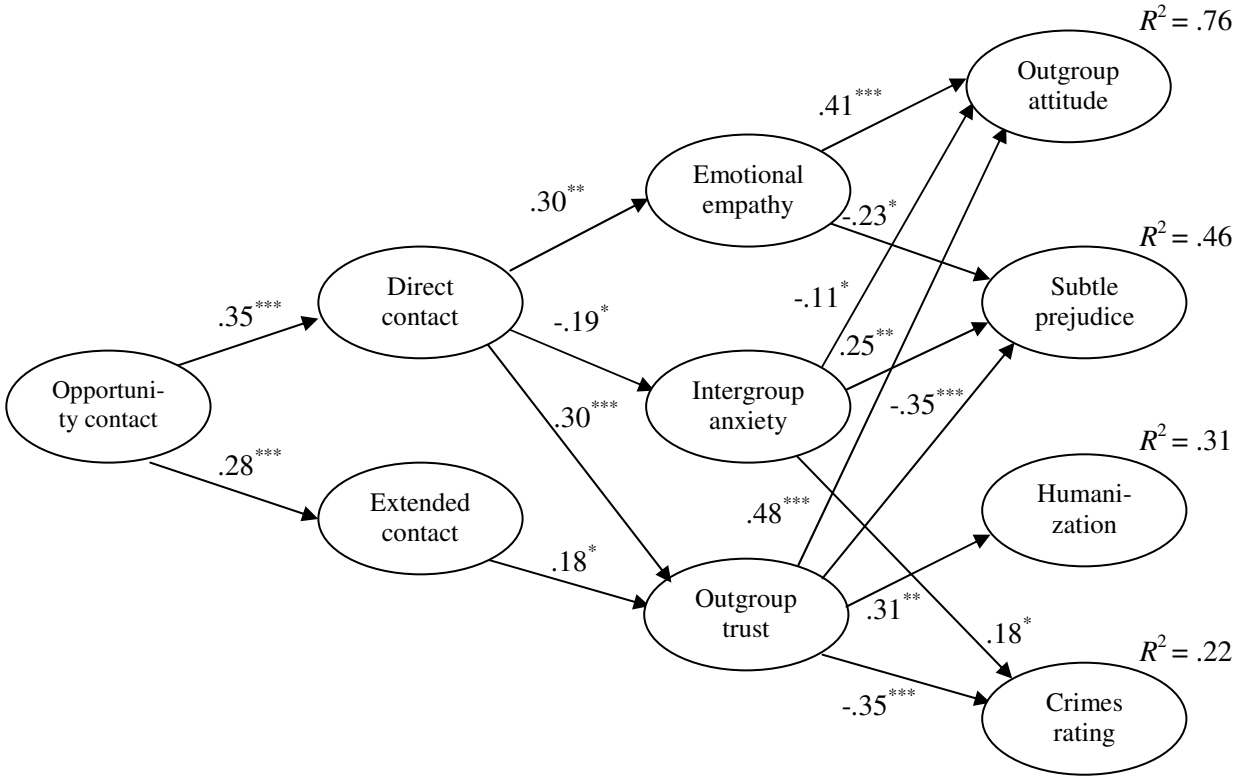
Note. Coefficients are standardized. Only significant paths are reported. Correlations between variables at the same level: direct contact and extended contact (Ψ = .31***); attitude and subtle prejudice (Ψ = -.55***), attitude and uniquely human traits (Ψ = .33***), attitude and crimes rating (Ψ = -.38***), subtle prejudice and uniquely human traits (Ψ = -.35***), subtle prejudice and crimes rating (Ψ = .38***), uniquely human traits and crimes rating (Ψ = -.22**); intergroup anxiety and outgroup trust (Ψ = -.02, *ns*), intergroup anxiety and emotional empathy (Ψ = .02, *ns*), outgroup trust and emotional empathy (Ψ = .05, *ns*).
* $p < .05$. ** $p < .01$. *** $p < .001$.

As shown in Figure 5, opportunity for contact promoted both direct contact ($\gamma = .35$, $p < .001$) and extended contact ($\gamma = .28$, $p < .001$); direct contact, in turn, enhanced outgroup attitude ($\beta = .35$, $p < .001$) and outgroup humanization ($\beta = .28$, $p < .01$); extended contact too enhanced attitude toward the outgroup ($\beta = .19$, $p < .05$) and attribution of uniquely human characteristics to the outgroup ($\beta = .19$, $p < .05$), and also reduced the percentage of crimes attributed to immigrants ($\beta = -.15$, $p < .05$); as regards the relationship between prejudice indexes and intergroup emotions, outgroup attitude had strong effects on emotional empathy ($\beta = .73$, $p < .001$) and outgroup trust ($\beta = .65$, $p < .001$); subtle prejudice increased intergroup anxiety ($\beta = .28$, $p < .01$); an unexpected,

although rather weak, result emerged, namely the positive relation between crimes rating and emotional empathy (β = .13, $p < .05$). The model accounted for a great portion of variance of emotional empathy and outgroup trust, and a modest portion of variance of intergroup anxiety.

A possible explanation of the unexpected finding about the positive effect of crimes rating on empathy may be referred to the presumed motivations of the crimes committed by immigrants: if these crimes were committed because of very negative living conditions due to group membership, people could empathize with them, because their sufferings became salient.

Figure 6. Alternative Model 1: Structural equation model



Note. Coefficients are standardized. Only significant paths are reported. Correlations between variables at the same level: direct contact and extended contact (Ψ = .31***); intergroup anxiety and outgroup trust (Ψ = -.35***), intergroup anxiety and emotional empathy (Ψ = -.29***), outgroup trust and emotional empathy (Ψ = .56***); attitude and subtle prejudice (Ψ = -.07, *ns*), attitude and uniquely human traits (Ψ = .03, *ns*), attitude and crimes rating (Ψ = -.13**), subtle prejudice and uniquely human traits (Ψ = -.06, *ns*), subtle prejudice and crimes rating (Ψ = .13*), uniquely human traits and crimes rating (Ψ = -.07, *ns*).
* $p < .05$. ** $p < .01$. *** $p < .001$.

The model represented in Figure 6 (Model 1), instead, replicates findings of the model depicted in Figure 4. Opportunity for contact promoted both direct contact (γ = .35, $p < .001$) and extended contact (γ = .28, $p < .001$). The significant relationships between predictors, mediators, and outcome variables were the same of the main model presented for this study.

Discussion

Study 2 showed that also forms of indirect contact influence intergroup attitudes and prejudice. Besides direct contact with outgroup members, we investigated the effects of extended contact, contact through TV news and newspapers, and contact through movies and TV series. Coherently with literature (e.g., Turner, Hewstone, Voci, et al., 2007), direct contact was the strongest predictor of prejudice reduction. However, also the other forms of contact had important effects. Indeed extended contact was strongly related to better outgroup attitudes and prejudice reduction. As regards contact through TV news, as hypothesized considering the intergroup context, it was very negative, and led to higher intergroup anxiety and stronger prejudice. Contact through movies and TV series was the weaker predictor, but, as expected, it led to stronger perceptions of the outgroup as human; contrary to the expectations, it did not affect emotional empathy.

Concerning the mediational processes through which contact influences prejudice, decomposition effects analysis showed that direct contact had significant mediated effects on all the prejudice indexes. Bootstrapping analysis showed that the effects of direct contact on outgroup attitude and on subtle prejudice were mediated by emotional empathy, outgroup trust, and intergroup anxiety, although the mediation of intergroup anxiety was only marginally significant on both outgroup attitude and prejudice; the effects of direct contact on crimes estimate was mediated by outgroup trust, while the relationship between direct contact and outgroup humanization, differently from Study 1, was mediated at a marginally significant level by emotional empathy, and not by outgroup trust. As regards the indirect effects of extended contact, the effects on all the prejudice indexes were mediated by outgroup trust (the mediation was marginally significant for the relationship between extended contact and outgroup humanization); extended contact had also a direct positive effect on outgroup attitude. Concerning contact through TV news and newspapers, it had direct effects on subtle prejudice and on crimes estimate; this last relationship was, as hypothesized, strong, considering that immigrants in Italian TV news are very often represented as criminals; moreover, contact through TV news worsened attitude toward immigrants and increased subtle prejudice and crimes rating through the mediation of increased intergroup anxiety. As anticipated before, contact through movies did not have indirect effects on any prejudice index.

To summarize, direct contact, as in Study 1, influenced prejudice through the mediation of the three emotions we considered; differently from Study 1, the mediation of emotional empathy was very effective, since it accounted for the effects on outgroup attitude, subtle prejudice, and attribution of uniquely human traits to the outgroup; the mediated effects through intergroup anxiety were weaker, as no mediated effect reached the conventional levels of statistical significance; as in Study 1, outgroup trust was a strong mediator of the effects of direct contact, influencing attitudes,

prejudice, and crimes estimate, but, differently from Study 1, not outgroup humanization. Extended contact influenced all the outcome measures via outgroup trust. Contact through TV news and newspapers, in turn, had mediated effects through increased intergroup anxiety. The three indirect forms of contact had reliable non mediated effects on the outcome measures, suggesting that other mediators should be considered. For example, the effects of extended contact could be explained by inclusion of the outgroup in the self, or by the perceptions of ingroup and outgroup norms about the intergroup relation (Turner et al., 2008). The effects of contact through mass media could involve ingroup and outgroup norms, or changes in the stereotypical beliefs about the group (Schiappa et al., 2005).

As regards humanity perceptions about the outgroup, we noticed that in Study 1 the attribution of uniquely human traits to immigrants was influenced only by trust, while in this second study it was affected also by emotional empathy; moreover, it was affected by the various forms of contact: direct contact affected humanization through emotional empathy, extended contact through trust; contact through movies had a direct effect on outgroup humanization, while, as regards contact through TV news and newspapers, it had a marginally significant total effect on it, but, neither the direct effect nor the indirect effects were significant (effects decomposition analysis).

Since we measured opportunity for contact, we also investigated the causal relationship between contact and prejudice, through the mediation of emotions. Our data showed, coherently with literature, that intergroup contact was the predictor of intergroup emotions and of various measures of prejudice; indeed, the two models that best fitted the data are the two models where direct and extended contact were entered as predictors of intergroup emotions and of prejudice. Differently from what most literature on intergroup contact suggested, namely that emotions are the mediators of the relationship between contact and prejudice (e.g., Pettigrew & Tropp, 2008; Swart et al., 2011), the model which best fitted to the data was the model in which prejudice indexes were entered as mediators of the relationship between contact and intergroup emotions. However, it is worth noting that in the model where intergroup emotions were entered as mediators of the contact-prejudice relationship, there were many significant relationships, all coherent with literature and our hypothesis; in the model in which prejudice indexes were entered as mediators of the contact-emotions relationship, instead, there were fewer significant relationships: subtle prejudice, that was the only variable influencing intergroup anxiety, was not determined by direct or extended contact; outgroup humanization was influenced by direct and extended contact, but had no effect on intergroup emotions; moreover, there was an unexpected positive effect of crimes rating on emotional empathy. In sum, the causal order analysis confirmed that contact is the predictor of

intergroup emotions and prejudice, but did not allow us to draw a definitive conclusion about the causal order between affective reactions toward the outgroup and prejudice.

This second study demonstrated that direct and extended contact, that are usually rated as positive, have strong effects on prejudice reduction; on the other hand, negative forms of contact, such as contact through TV news and newspapers, can lead to increase in prejudice toward groups that are negatively represented by mass media. In the next study, we will consider separately positive and negative episodes of these different forms of contact.

Study 3

Introduction

As anticipated in the discussion of the second study, in Study 3 we analyzed the effects of positive and negative episodes of the four forms of contact considered in Study 2. Thus, in a questionnaire, we asked Italian respondents about the amount of positive contact they had with immigrants, and about the amount of negative contact they had with immigrants; we then asked them how often they were exposed to positive interactions between their Italian friends and immigrants (positive extended contact) and how often they observed negative interactions between their Italian acquaintances and immigrants (negative extended contact). Respondents had then to report how often they got a positive image of immigrants seen on TV news or newspapers (positive contact through TV news), and how often they got a negative image of immigrants seen on TV news or newspapers (negative contact through TV news); the same questions were asked about the impression participants had of immigrants seen in movies and TV series. As in Study 1 and in Study 2, we considered as prejudice measures explicit outgroup attitude, subtle prejudice, crimes estimate, and humanity perceptions of the outgroup. Also the affective mediators were the same of the other two studies, namely emotional empathy, intergroup anxiety, and outgroup trust.

Considering results of previous studies, we expected that participants would have reported quite frequent positive direct contact with immigrants, and not very frequent negative direct contact; for extended contact, we expected about the same results. As found in Study 2, instead, contact through TV news and newspapers should be very negative, thus respondents would probably report frequent negative contact through TV news, and very rare positive contact through TV news. Finally, participants should report positive impressions of immigrants seen in movies and TV series more frequently than negative impressions.

We hypothesized that positive and negative episodes of each form of contact would have independent effects on intergroup emotions and prejudice. Previous research comparing the effects of positive direct contact and negative direct contact did not provide coherent evidence whether the effects of positive or negative contact are stronger (Barlow et al., 2012; Pettigrew, 2008). Thus, in this study we wanted to further explore this issue. Anyway, we expected that direct contact episodes (both positive and negative) would be strong predictors of prejudice. Positive extended contact and negative extended contact could have weaker effects than positive and negative direct contact; anyway, positive extended contact should reduce prejudice, while negative extended contact should increase it. Regarding contact through TV news, we hypothesized again that it could have strong effects on intergroup attitudes; in particular, the negative image people get from immigrants they

hear about on TV news could be one of the strongest predictors of prejudice. Finally, positive and negative contacts through movies and TV series should be the weaker predictors; anyway, positive contact through movies and TV series could be related to increased empathy, and to stronger attribution of uniquely human features to immigrants. We also hypothesized that the effects of positive and negative forms of contact could be mediated by intergroup emotions.

Last, we included opportunity for contact as an instrumental variable.

Moreover, we tested alternative models, to verify if the affective mediators operated at the same level, or whether they influenced one another. In most of previous research, affective mediators were entered at the same level (e.g., Pagotto et al., 2010; Tam et al., 2006; Turner, Hewstone, & Voci, 2007). Anyway, Pettigrew and Tropp (2008) suggested that it is possible that intergroup anxiety should be reduced by positive contact before increased empathy can contribute to prejudice reduction; this sequential relationship received support in the longitudinal study by Swart et al. (2011). Comparing alternative models, we further explored this issue.

Method

Participants

Participants to the third study were 330 Italians (155 males and 175 females), aged between 16 and 77 (M = 29.70, SD = 13.01), who accepted voluntarily to take part in the study. About half of them were students (160).

Procedure

As in Study 1 and 2, participants completed the questionnaire individually; they were recruited through the social network of three research collaborators and of students attending a psychology course.

Measures in the questionnaire

Direct contact. Positive and negative direct contact were measured by two items each. For *positive direct contact*, the questions were "How often do you interact with the immigrants you know and perceive the experience as positive?", and "How often, meeting the immigrants you know, do you feel calm and comfortable?". For *negative direct contact*, the questions were "How often do you interact with the immigrants you know and perceive the experience as negative?", and "How often, meeting the immigrants you know, do you feel discomfort?". The response scales ranged from 0 to 4 (0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *often*, 4 = *very often*). The two items of positive direct contact and the two items of negative direct contact were highly correlated (r = .78, and r = .70, respectively, ps < .001).

Extended contact. Two items were used to measure *positive extended contact*: the questions were: "How often do you observe the relationship between Italians you know and immigrants, and judge the relationship as positive?", and "How often do you observe the relationship between Italians you know and immigrants, and feel quite and comfortable?". For *negative extended contact*, the two questions were: "How often do you observe the relationship between Italians you know and immigrants, and judge the relationship as negative?", and "How often do you observe the relationship between Italians you know and immigrants, and feel discomfort?". Responses ranged from 0 (*never*) to 4 (*very often*). The two items of positive direct contact and the two items of negative direct contact were averaged to form reliable scales (r = .86, and r = .74, respectively, ps < .001).

Contact through mass-media. Positive and negative contact through mass-media were measured by single items, separately for contact through newspapers and TV news and contact through movies and TV series. For contact through newspapers and TV news, the questions were: "How often do you get a positive impression of immigrants you hear about on TV news, radio news, newspapers?" (*positive contact through TV news*), and "How often do you get a negative impression of immigrants you hear about on TV news, radio news, newspapers?" (*negative contact through TV news*). For contact through movies and TV series, the questions were: "How often do you get a positive impression of immigrants you see on movies and TV series?" (*positive contact through movies*), and : "How often do you get a negative impression of immigrants you see on movies and TV series?" *(negative contact through movies*). Response scales ranged from 0 to 4 (0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *often*, 4 = *very often*).

Opportunity for contact. Opportunity for contact was measured by two items: "How many immigrants live in your area?", and "How many immigrants do you see in the places you usually attend?" Response scale ranged from 0 to 4 (0 = *none*, 1 = *a few*, 2 = *some*, 3 = *many*, 4 = *a lot*). The two items were significantly correlated (r = .47, p < .001).

Intergroup emotions. For *emotional empathy* and *outgroup trust*, we used the same scales of Study 2. The two scales were reliable (α = .93, and α = .85, respectively). For *intergroup anxiety* (Stephan & Stephan, 1985), we asked participants to report how they would feel if they were the only Italian among a group of unknown immigrants; they had to indicate the extent they would feel "cautious", "relaxed" (reverse coded), "awkward", "troubled", "calm" (reverse coded), and "anxious" (0 = *not at all*, 4 = *very much*; α = .89).

Prejudice indexes. We used the same outcome measures of Study 1 and of Study 2. All the multiple-item scales were reliable (attitude toward immigrants, α = .88; attitude toward Italians, α =

.72; subtle prejudice, α = .74; uniquely human traits, α = .86 for immigrants, and α = .80 for Italians; non uniquely human traits, α = .84 for immigrants, and .84 for Italians).

Results

Introductory analyses

We first created composites for each multiple-item measure included in the questionnaire. As reported in Table 14, positive direct contact with immigrants was quite frequent, while negative direct contact was not; the two scores were reliably different, $t(329) = 16.68$, $p < .001$; results were similar concerning extended contact: participants reported observing positive interactions of Italians with immigrants more frequently than negative interactions between Italians and immigrants, $t(329) = 11.77$, $p < .001$. As expected, results concerning contact through TV news and newspapers were in the opposite direction: respondents often got a negative image of immigrants they hear about on TV news, while did not get a positive image of immigrants from TV news and newspapers; the two means were reliably different, $t(329) = -18.29$, $p < .001$. As regards contact through movies and TV series, participants got a positive image from immigrants on TV series and movies more frequently that a negative image, $t(329) = 4.55$, $p < .001$.

Respondents reported medium levels of intergroup anxiety, did not empathize much with immigrants' sufferings, and did not trust much immigrants. Participants had positive attitudes both toward immigrants and toward Italians; anyway attitude toward the ingroup was better than attitude toward the outgroup, $t(329) = 5.18$, $p < .001$. Participants had subtle prejudice toward immigrants, and thought that immigrants were responsible of a rather high percentage of the crimes committed in Italy. Finally, participants reported quite frequent opportunities for meeting immigrants.

Table 14. Means and standard deviations of the variables measured in the questionnaire

Variables	Mean	Standard deviation	Difference from midpoint ($p <$)
1. Positive direct contact	2.39	1.04	.001
2. Negative direct contact	1.24	.80	.001
3. Positive extended contact	2.26	.95	.001
4. Negative extended contact	1.48	.85	.001
5. Positive contact through TV news	1.47	.71	.001
6. Negative contact through TV news	2.72	.85	.001
7. Positive contact through movies	2.17	.85	.001
8. Negative contact through movies	1.83	.81	.001
9. Intergroup anxiety	2.07	.74	.068
10. Outgroup trust	1.64	.65	.001
11. Emotional empathy	1.80	.82	.001
12. Attitude toward immigrants	2.53	.74	.001
13. Attitude toward Italians	2.79	.53	.001
14. Subtle prejudice	2.08	.66	.05
15. Crimes rating	36.94	20.54	-
16. Opportunity of contact	2.09	.77	.05

Note. For crimes rating there is no mid point in the scale.

Attribution of uniquely and non uniquely human traits. As in Studies 1 and 2, we computed a 2 (Traits: uniquely human vs. non uniquely human traits) × 2 (Target group: immigrants vs. Italians) ANOVA with repeated measures. Results of the ANOVA fully replicated those of Studies 1 and 2 (see Table 15). The two significant main effects, Fs(1, 329) > 4.72, ps < .05, η_p^2s > .014, were qualified by a significant Traits × Target group interaction, $F(1, 329) = 21.53$, $p < .001$, $\eta^2_p = .061$ (see Table 15). Simple effects showed that uniquely human traits were attributed more to the ingroup than to the outgroup, $F(1, 200) = 22.03$, $p < .001$, $\eta^2_p = .063$; non uniquely human traits were similarly attributed to Italians and immigrants, $F(1, 329) = 2.87$, *ns*. Moreover, participants attributed more non uniquely human traits than uniquely human traits both to the ingroup, $F(1, 329) = 10.81$, $p = .001$, $\eta^2_p = .032$, and to the outgroup, $F(1, 329) = 74.10$, $p < .001$, $\eta^2_p = .184$.

Table 15. Attribution of uniquely and non uniquely human traits: Traits by Target group interaction

	Target group		
Traits	Ingroup		Outgroup
Uniquely human traits	4.77_a (.95)	***	4.48_a (1.09)
	***		***
Non uniquely human traits	4.96_a (.88)		5.06_a (.94)

Note. *** $p < .001$. a = the score is different from the mid-point of the scale, $p < .001$. Standard deviations are reported in parenthesis.

Correlations

Before testing the regression model, we looked at the correlations between variables (see Table 16). Interestingly, there were reliable correlations between all the positive forms of contact (positive direct contact, positive extended contact, positive contact through TV news, and positive contact through movies); moreover, most of the negative forms of contact were reliably correlated (except the correlation between negative extended contact and negative contact through movies). Positive and negative extended contact were positively correlated: this result is not surprisingly; indeed, it is likely that Italians who often see contact between other known Italians and immigrants happen to see both positive and negative interactions. Instead, there were strong negative correlations between positive contact through TG news and negative contact through TV news, and between positive contact through movies and negative contact through movies: participants tended to get a positive or negative image from immigrants seen in TV news and newspapers and in movies and TV series. There were significant correlations in the expected direction between the contact measures and intergroup emotions: positive forms of contact were positively related to emotional empathy and outgroup trust, and negatively to intergroup anxiety; for negative forms of contact, the correlations were in the opposite direction. Intergroup emotions were reliably correlated to the criterion variables: as in the previous studies, emotional empathy and outgroup trust were positively related to outgroup attitude and outgroup humanization, and negatively to subtle prejudice and crimes rating; the correlations between intergroup anxiety and criterion variables were in the opposite direction. Moreover, there were strong correlations between some of the contact measures and outcome variables.

As regards opportunity for contact, it was positively related to positive direct contact and to extended direct contact; instead, it was not correlated to negative direct contact, negative extended contact, and all the forms of contact through mass media. Unexpectedly, opportunity for

contact was related only to emotional empathy, but had no significant correlation with the other emotions and prejudice indexes. Since contact opportunity was not correlated to any prejudice index, we decided not to test alternative models including this variable as an instrumental variable.

Table 16. Correlations between variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Opportunity for contact	-															
2. Positive direct contact	.20***	-														
3. Negative direct contact	.03	.09	-													
4. Positive extended contact	.22***	.51***	-.05	-												
5. Negative extended contact	.07	.09	.50***	.12*	-											
6. Positive TV news contact	.04	.18***	-.14**	.24***	-.15**	-										
7. Negative TV news contact	-.08	-.14*	.22***	-.06	.16**	-.41***	-									
8. Positive movies contact	.02	.12*	-.10	.15**	-.08	.19***	-.01	-								
9. Negative movies contact	.08	-.06	.21***	-.08	.09	-.13*	.29***	-.29***	-							
10. Emotional empathy	.12*	.28***	-.33***	.29***	-.24***	.30***	-.32***	.22***	-.19*	-						
11. Intergroup anxiety	-.02	-.31***	.15**	-.32***	.13*	-.23***	.30***	.00	.09	-.39***	-					
12. Outgroup trust	.06	.42***	-.17**	.43***	-.11*	.35***	-.32***	.23***	-.12*	.57***	-.45***	-				
13. Outgroup attitude	.08	.43***	-.32***	.51***	-.16**	.43***	-.33***	.27***	-.20***	.59***	-.52***	.66***	-			
14. Subtle prejudice	-.03	-.18***	.30***	-.21***	.23***	-.18***	.30***	-.14*	.26***	-.55***	.44***	-.42***	-.49***	-		
15. Crimes rating	-.10	-.30***	.19***	-.33***	.08	-.23***	.28***	-.12*	.17**	-.43***	.49***	-.49***	-.60***	.48***	-	
16. Outgroup humanization	.08	.30***	-.08	.32***	-.08	.36***	-.22***	.12*	-.04	.31***	-.31***	.48***	.54***	-.20***	-.32***	-

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. * $p < .05$. ** $p < .01$. *** $p \leq .001$.

Structural equation models

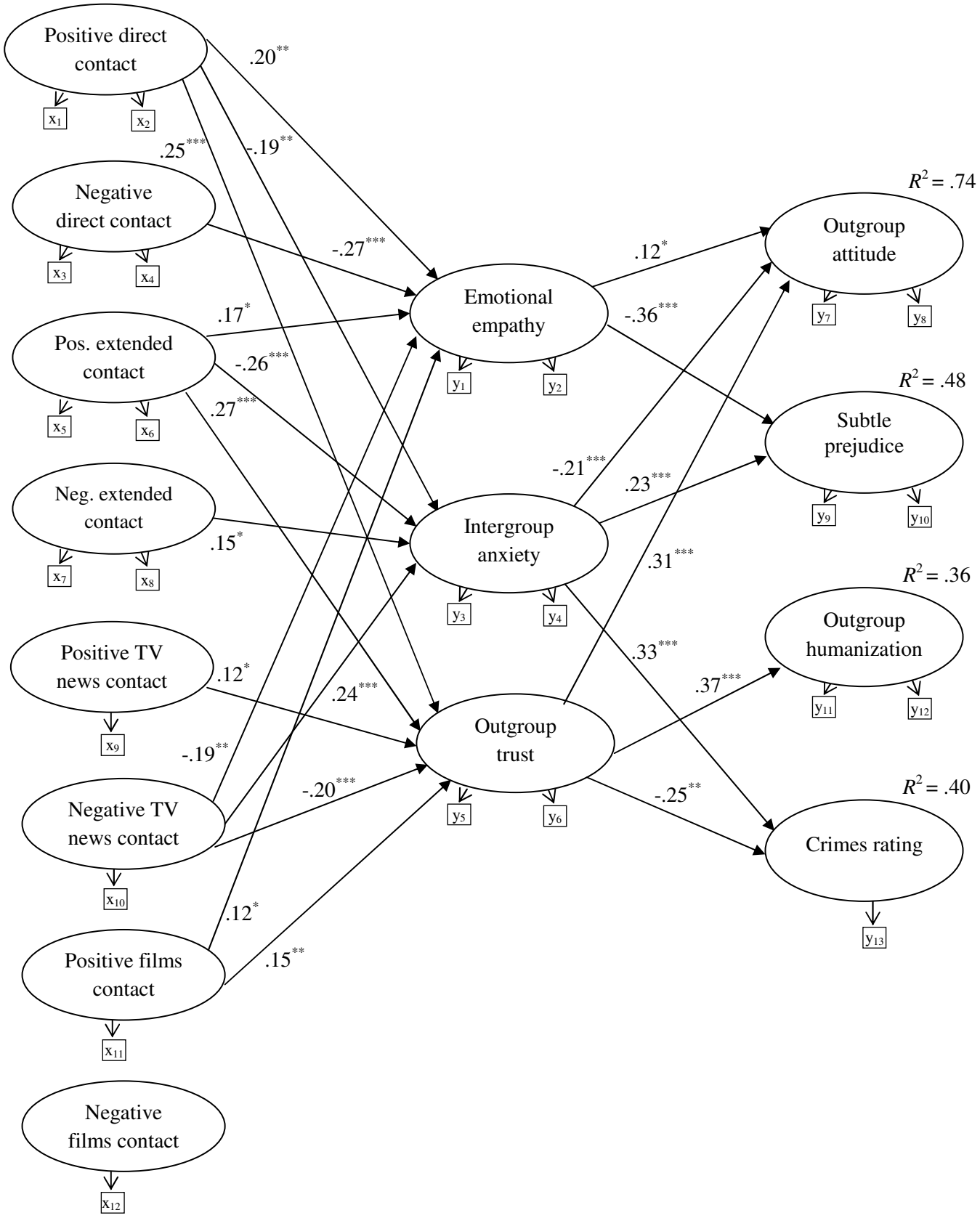
We first conducted a confirmatory factor analysis (CFA) with latent variables, to test whether there was conceptual overlap between the measures. A model with 15 latent variables was tested; positive contact through TV news, negative contact through TV news, positive contact through movies, negative contact through movies, and crimes rating were measured by single indicators (error variance was fixed to zero); positive direct contact, negative direct contact, positive extended contact, and negative extended contact were measured by the respective indicators; for the other variables, two indicators were created by adopting the partial disaggregation approach (Bagozzi & Heatherton, 1994). The 15 factor model fitted the data well: $\chi^2(175) = 294.60$, $p < .001$, chi-square/degrees of freedom ratio = 1.68, RMSEA = .044, SRMR = .030, CFI = .99. Parcel loadings were all significant ($p < .001$), and higher than .70 (convergent validity). Moreover, latent factors were all distinct constructs, with Φ coefficients ranging from -.62 (outgroup attitude and crimes rating) to .73 (outgroup trust and outgroup attitude), all different from $|1.00|$ (95% confidence interval); thus, discriminant validity was satisfactory.

Then, we tested a regression model with latent variables, where the eight contact measures were entered as predictors, the three intergroup emotions were entered as mediators, and outgroup attitude, subtle prejudice, crimes rating, and outgroup humanization were entered as outcome variables. All the mediators and all the outcome measured were entered at the same level; direct paths from the predictors to outcome measures were also estimated (see Figure 7).

Given the parameters to estimate, the goodness-of-fit indexes were the same of CFA, showing a good fit: $\chi^2(175) = 294.60$, $p < .001$, chi-square/degrees of freedom ratio = 1.68, RMSEA = .044, SRMR = .030, CFI = .99. Positive direct contact influenced the three emotions: it enhanced emotional empathy ($\gamma = .20$, $p < .01$) and outgroup trust ($\gamma = .25$, $p < .001$), while it decreased intergroup anxiety ($\gamma = -.19$, $p < .01$); negative direct contact instead decreased empathy ($\gamma = -.27$, $p < .001$); direct contact had also direct effects on the outcome measures: positive direct contact ameliorated outgroup attitude ($\gamma = .13$, $p < .01$), while negative direct contact worsened outgroup attitude ($\gamma = -.25$, $p < .001$) and increased subtle prejudice ($\gamma = .16$, $p < .05$). As regards the effects of extended contact, positive extended contact enhanced emotional empathy ($\gamma = .17$, $p < .05$), outgroup trust ($\gamma = .27$, $p < .001$), and outgroup attitude ($\gamma = .14$, $p < .01$), and decreased intergroup anxiety ($\gamma = -.26$, $p < .001$); negative extended contact instead increased anxiety ($\gamma = .15$, $p < .05$). As expected, contact through TV news and newspapers had strong effects: positive contact through TV news increased outgroup trust ($\gamma = .12$, $p < .05$) and had positive direct effects on outgroup attitude ($\gamma = .15$, $p < .001$) and the attribution of uniquely human traits to the outgroup ($\gamma = .19$, $p <$

.01); negative contact through TV news decreased emotional empathy (γ = -.19, p < .01) and outgroup trust (γ = -.20, p < .001) and augmented intergroup anxiety (γ = .24, p < .001). Also contact through movies and TV series had significant effects: positive contact through movies augmented empathy (γ = .12, p < .05), trust (γ = .15, p < .01), and attitudes toward the outgroup (γ = .09, p < .05); negative contact through movies had only a positive significant effect on subtle prejudice (γ = .11, p < .05). As regards the relationship between mediators and outcome variables, emotional empathy, as in Study 2, ameliorated outgroup attitude (β = .12, p < .05) and reduced subtle prejudice (β = -.36, p < .001); intergroup anxiety, again replicating results of Study 2, worsened outgroup attitude (β = -.21, p < .001) and increased subtle prejudice (β = .23, p < .001) and crimes rating (β = .33, p < .001); outgroup trust was again a strong mediator, as it enhanced outgroup attitude (β = .31, p < .001), reduced crimes rating (β = -.25, p < .001), and was the only emotion significantly influencing outgroup humanization (β = .37, p < .001).

Figure 7. Effects of positive and negative episodes of different forms of contact: Structural equation model



Note. Coefficients are standardized. Only significant paths are reported. For ease of interpretation, the **direct paths from the different contact measures and the outcome variables** are reported here: Positive direct contact →

Outgroup attitude (γ = .13**); Negative direct contact → Outgroup attitude (γ = -.25***); Negative direct contact → Subtle prejudice (γ = .16*); Positive extended contact → Outgroup attitude (γ = .14**); Positive contact through TV news → Outgroup attitude (γ = .15***); Positive contact through TV news → Outgroup humanization (γ = .19**); Positive contact through movies → Outgroup attitude (γ = .09*); Negative contact through movies → Subtle prejudice (γ = .11*). **Correlations between variables at the same level**: positive direct contact and negative direct contact (Φ = .13*), positive direct contact and positive extended contact (Φ = .56***), positive direct contact and negative extended contact (Φ = .13*), positive direct contact and positive contact through TV news (Φ = .19**), positive direct contact and negative contact through TV news (Φ = -.15*), positive direct contact and positive contact through movies (Φ = .12*), positive direct contact and negative contact through movies (Φ = -.06, *ns*), negative direct contact and positive extended contact (Φ = -.02, *ns*), negative direct contact and negative extended contact (Φ = .58***), negative direct contact and positive contact through TV news (Φ = -.15*), negative direct contact and negative contact through TV news (Φ = .26***), negative direct contact and positive contact through movies (Φ = -.11, *ns*), negative direct contact and negative contact through movies (Φ = .24***), positive extended contact and negative extended contact (Φ = .15*), positive extended contact and positive contact through TV news (Φ = .24***), positive extended contact and negative contact through TV news (Φ = -.06, *ns*), positive extended contact and positive contact through movies (Φ = .15**), positive extended contact and negative contact through movies (Φ = -.08, *ns*), negative extended contact and positive contact through TV news (Φ = -.13*), negative extended contact and negative contact through TV news (Φ = .17**), negative extended contact and positive contact through movies (Φ = -.07, *ns*), negative extended contact and negative contact through movies (Φ = .11*), positive contact through TV news and negative contact through TV news (Φ = -.41***), positive contact through TV news and positive contact through movies (Φ = .19***), positive contact through TV news and negative contact through movies (Φ = -.13*), negative contact through TV news and positive contact through movies (Φ = -.01, *ns*), negative contact through TV news and negative contact through movies (Φ = .29***), positive contact through movies and negative contact through movies (Φ = -.29***); intergroup anxiety and outgroup trust (Ψ = -.20***), intergroup anxiety and emotional empathy (Ψ = -.19***), outgroup trust and emotional empathy (Ψ = .28***); attitude and subtle prejudice (Ψ = -.07*), attitude and uniquely human traits (Ψ = .13***), attitude and crimes rating (Ψ = -.12***), subtle prejudice and uniquely human traits (Ψ = .05, *ns*), subtle prejudice and crimes rating (Ψ = .12***), uniquely human traits and crimes rating (Ψ = -.03, *ns*).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Effects decomposition analysis. A summary of effects decomposition analysis is reported in Table 17. Positive direct contact and positive extended contact had strong effects in the reduction of prejudice: both had significant direct effect on outgroup attitude, and mediated and total significant effects on all the outcome measures (positive direct contact-to-outgroup attitude, DE = .13, $p < .01$, IE = .14, $p < .001$, TE = .28, $p < .001$; positive direct contact-to-subtle prejudice, IE = -.13, $p < .001$, TE = -.18, $p < .01$; positive direct contact-to-outgroup humanization, IE = .11, $p < .01$, TE = .18, $p < .05$; positive direct contact-to-crimes rating, IE = -.15, $p < .001$, TE = -.18, $p < .05$; positive extended contact-to-outgroup attitude, DE = 14, $p < .001$, IE = .16, $p < .001$, TE = .30, $p < .001$; positive extended contact-to-subtle prejudice, IE = -.14, $p < .001$, TE = -.13, $p < .05$; positive extended contact-to-outgroup humanization, IE = .12, $p < .001$, TE = .21, $p < .001$; positive extended contact-to-crimes rating, IE = -.17, $p < .001$, TE = -.20, $p < .01$). Negative direct contact instead was a strong predictor of negative outgroup attitudes (DE = -.25, $p < .001$, TE = -.31, $p < .001$) and higher subtle prejudice (DE = .16, $p < .05$, IE = .11, $p < .001$, TE = .27, $p < .01$). Negative extended contact had quite weak effects: it had significant indirect effects on outgroup attitude (IE = -.07, $p < .05$) and on crimes rating (IE = .08, $p < .05$), but no significant total effect on any outcome variable. As regards contact through TV news and newspapers, positive contact through TV news had positive effects on outgroup attitude and on outgroup humanization; the direct, indirect, and

total effects of positive contact through TV news on these outcome measures were significant (positive contact through TV news-to-outgroup attitude, DE = .15, $p < .001$, IE = .06, $p < .05$, TE = .21, $p < .001$; positive contact through TV news-to-outgroup humanization, DE = .19, $p < .01$, IE = .05, $p < .05$, TE = .24, $p < .001$). Negative contact through TV news, instead, was a strong predictor of increased prejudice, with significant indirect effects on all the outcome measures (negative contact through TV news-to-outgroup attitude, IE = -.14, $p < .001$; negative contact through TV news-to-subtle prejudice, IE = .14, $p < .001$; negative contact through TV news-to-outgroup humanization, IE = -.09, $p < .01$, negative contact through TV news-to-crimes rating, IE = .15, $p < .001$), and significant total effects on outgroup attitude (TE = -.12, $p < .05$), prejudice (TE = .17, $p < .01$), and crimes rating (TE = .17, $p < .01$). Contact through movies and TV series again had quite weak effects: positive contact through movies had significant positive direct and total effects on outgroup attitude (DE = .09, $p < .05$, TE = .14, $p < .001$), and a positive mediated effect on the attribution of uniquely human traits to the outgroup (IE = .05, $p < .05$); negative contact through movies, in turn, had a significant direct and total effects on prejudice (DE = .11, $p < .05$, TE = .11, $p < .05$).

To recap, effects decomposition analysis suggested that the forms of contact who had major effects were positive and negative direct contact, positive extended contact, and positive and negative contact through TV news. Positive direct contact and positive extended contact influenced all the outcome measures of the model, enhancing outgroup attitude and outgroup humanization, and reducing subtle prejudice and crimes rating; the effects of these forms of contact were mediated by the intergroup emotions we considered. Negative direct contact was a strong predictor of worse outgroup attitudes and prejudice; its effects on subtle prejudice were partially mediated by affective reactions. As expected, contact through TV news was very influential: the positive impressions people got from TV news ameliorated attitude toward immigrants and the attribution of uniquely human features to immigrants; negative contact through TV news instead was strongly related to increased prejudice, worsened outgroup attitudes and outgroup humanization, through the mediation of the intergroup emotions.

Table 17. Direct, indirect, and total effect of positive and negative episodes of different forms of contact

	Outgroup attitude			Subtle prejudice			Outgroup humanization			Crimes rating		
	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
Positive direct contact	.13**	.14***	.28***	-.04	-.13***	-.18*	.07	.11**	.18*	-.03	-.15***	-.18*
Negative direct contact	-.25***	-.06	-.31***	.16*	.11**	.27***	.04	-.03	.01	.09	.05	.14*
Positive extended contact	.14**	.16***	.30***	.01	-.14***	-.13*	.09	.12***	.21**	-.03	-.17***	-.20**
Negative extended contact	.09	-.07*	.01	.06	.07	.12	-.05	-.05	-.10	-.10	.08*	-.02
Positive contact through TV news	.15***	.06*	.21***	.09	-.04	.05	.19**	.05*	.24***	.00	-.05	-.05
Negative contact through TV news	.02	-.14***	-.12*	.03	.14***	.17**	-.01	-.09**	-.11	.02	.15***	.17**
Positive contact through movies	.09*	.04	.13**	-.03	-.03	-.07	-.01	.05*	.04	-.01	-.02	-.03
Negative contact through movies	-.01	.01	.00	.11*	.00	.11*	.06	.01	.07	.06	-.01	.05

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. DE = direct effect; IE = indirect effect; TE = total effect. * $p \leq .05$. ** $p < .01$. *** $p < .001$.

Bootstrapping analysis. To test if the emerged mediated effects were reliable, we applied bootstrapping procedure (1,000 resamples).

Table 18. Mediation analysis results

Predictor	Mediator	Outcome variable	B	SE	95% CI
Positive direct contact	Emotional empathy	Subtle prejudice	-.036	.016	[-.071, -.008]
Positive direct contact	Intergroup anxiety	Outgroup attitude	.079	.042	[.007, .163]
Positive direct contact	Intergroup anxiety	Subtle prejudice	-.022	.012	[-.049, -.002]
Positive direct contact	Intergroup anxiety	Crimes rating	-1.350	.684	[-2.765, -.100]
Positive direct contact	Outgroup trust	Outgroup attitude	.128	.054	[.039, .252]
Positive direct contact	Outgroup trust	Outgroup humanization	.232	.102	[.067, .466]
Positive direct contact	Outgroup trust	Crimes rating	-1.298	.680	[-2.872, -.251]
Negative direct contact	Emotional empathy	Outgroup attitude	-.072	.041	[-.163, -.003]
Negative direct contact	Emotional empathy	Subtle prejudice	.058	.023	[.019, .108]
Positive extended contact	Emotional empathy	Subtle prejudice	-.033	.019	[-.076, -.001]
Positive extended contact	Intergroup anxiety	Outgroup attitude	.119	.051	[.038, .236]
Positive extended contact	Intergroup anxiety	Subtle prejudice	-.033	.016	[-.070, -.008]
Positive extended contact	Intergroup anxiety	Crimes rating	-2.060	.887	[-4.056, -.622]
Positive extended contact	Outgroup trust	Outgroup attitude	.151	.057	[.058, .277]
Positive extended contact	Outgroup trust	Outgroup humanization	.273	.104	[.096, .511]
Positive extended contact	Outgroup trust	Crimes rating	-1.509	.690	[-3.073, -.376]
Positive contact through TV news	Outgroup trust	Outgroup attitude	.063	.032	[.008, .136]
Positive contact through TV news	Outgroup trust	Outgroup humanization	.114	.058	[.014, .253]
Positive contact through TV news	Outgroup trust	Crimes rating	-.630	.361	[-1.488, -.057]
Negative contact through TV news	Emotional empathy	Subtle prejudice	.033	.015	[.008, .066]
Negative contact through TV news	Intergroup anxiety	Outgroup attitude	-.090	.037	[-.173, -.028]

Predictor	Mediator	Outcome variable	B	SE	95% CI
Negative contact through TV news	Intergroup anxiety	Subtle prejudice	.025	.012	[.006, .052]
Negative contact through TV news	Intergroup anxiety	Crimes rating	1.564	.671	[.469, 3.096]
Negative contact through TV news	Outgroup trust	Outgroup attitude	-.103	.042	[-.198, -.031]
Negative contact through TV news	Outgroup trust	Outgroup humanization	-.184	.074	[-.357, -.065]
Negative contact through TV news	Outgroup trust	Crimes rating	1.030	.498	[.209, 2.196]
Positive contact through movies	Emotional empathy	Subtle prejudice	-.022	.011	[-.047, -.003]
Positive contact through movies	Outgroup trust	Outgroup attitude	.075	.032	[.020, .144]
Positive contact through movies	Outgroup trust	Outgroup humanization	.135	.055	[.037, .261]
Positive contact through movies	Outgroup trust	Crimes rating	-.761	.390	[-1.620, -.145]

Note. Outgroup humanization = Uniquely human traits attributed to immigrants.

As shown in Table 18, most of the emerged indirect paths were significant. Positive direct contact ameliorated outgroup attitude through the mediation of intergroup anxiety, outgroup trust, and emotional empathy, although this last result was only marginally significant (the 90% confidence interval excluded 0; B = .044, SE = .028, CI = [.007, .094]); it reduced subtle prejudice via emotional empathy and intergroup anxiety, and crimes estimate via intergroup anxiety and outgroup trust; moreover, it enhanced outgroup humanization through trust. Negative direct contact had mediated effects through emotional empathy on outgroup attitude and on subtle prejudice. Positive extended contact influenced indirectly all the prejudice indexes: it led to better outgroup attitude through intergroup anxiety, outgroup trust, and emotional empathy (marginally significant mediated effect; B = .041, SE = .030, 90% CI = [.001, .096]), to reduced prejudice through emotional empathy and intergroup anxiety, to a lower percentage of crimes attributed to immigrants through the mediation of intergroup anxiety and trust, and enhanced attribution of uniquely human traits to immigrants via outgroup trust. Negative extended contact had no mediated effect on any outcome measure. Positive contact through TV news and newspapers had mediated effects through outgroup trust on attitude, attribution of uniquely human traits, and crimes estimate. Negative contact through TV news had indirect effects on all the outcome measures, involving all the three intergroup emotions we considered: it worsened outgroup attitude through intergroup anxiety, outgroup trust, and emotional empathy (marginally significant mediated effect; B = -.041, SE = .025, 90% CI = [-.087, -.006]); it augmented subtle prejudice via empathy and anxiety, and crimes

rating via anxiety and trust; it reduced the attribution of uniquely human characteristics to the outgroup through trust. Positive contact through movies ameliorated outgroup attitude through trust end empathy (marginally significant mediated effect; B = .027, SE = .019, 90% CI = [.002, .060]), and humanization of the outgroup via outgroup trust; it also reduced prejudice through empathy and crimes estimate through trust. Finally, negative contact through movies and TV series had no significant mediated effect.

Alternative models. After verifying the hypothesized model, we tested alternative models to identify whether the three mediators operate at the same level, or whether they mediate one another. Thus, we tested seven fully mediated models. In the first model, all the mediators were entered at the same level; in the other six models, we varied the possible positions of the three mediators in the relationship between the eight contact measures and the four prejudice measures. We then compared the goodness of fit indexes of the seven models (see Table 19). The model where the three affective mediators were entered at the same level (Model 1) showed a better fit on all the indexes we considered compared to the other models. Thus, data suggested that the three mediators operate at the same level.

Table 19. Goodness-of-fit indexes of the seven tested models

Model	Level 2	Level 3	χ^2	RMSEA	SRMR	CFI	AIC
1	Emotional empathy Intergroup anxiety Outgroup trust		χ^2 (207) = 409.85, $p < .001$	.054	.043	.98	643.95
2	Emotional empathy Intergroup anxiety	Outgroup trust	χ^2 (223) = 567.18, $p < .001$	.069	.072	.97	771.96
3	Emotional empathy Outgroup trust	Intergroup anxiety	χ^2 (223) = 624.80, $p < .001$	.073	.061	.96	814.03
4	Intergroup anxiety Outgroup trust	Emotional empathy	χ^2 (223) = 606.99, $p < .001$	.067	.098	.96	758.08
5	Outgroup trust	Emotional empathy Intergroup anxiety	χ^2 (227) = 554.67, $p < .001$	.063	.080	.97	721.02
6	Intergroup anxiety	Emotional empathy Outgroup trust	χ^2 (227) = 589.97, $p < .001$	.065	.10	.96	741.91
7	Emotional empathy	Intergroup anxiety Outgroup trust	χ^2 (227) = 576.41, $p < .001$	.067	.093	.97	755.19

Note. Level 1 = positive direct contact; negative direct contact; positive extended contact; negative extended contact; positive contact through TV news; negative contact through TV news; positive contact through movies; negative contact through movies. Level 4 = outgroup attitude; subtle prejudice; outgroup humanization; crimes rating.

Discussion

The third study regarded the distinction between positive and negative forms of contact, with the aim of testing if they were distinct constructs, having independent effects on prejudice. Results confirmed that positive and negative episodes of the considered forms of contact are distinct constructs: indeed, confirmatory factory analysis showed that all the contact measures were distinct. Moreover, interestingly, correlations between positive direct contact and negative direct contact, and between positive extended contact and negative extended contact were quite weak but positive; thus, it is likely that Italian respondents who personally know immigrants often happen to have both positive and negative intergroup encounters, and that Italian respondents who know other Italians who have immigrant friends happen to observe both positive and negative interactions. As hypothesized, instead, correlations between positive contact through TV news and negative contact through TV news, and between positive contact through movies and TV series and negative contact through movies and TV series, were negative: people tend to have a positive or a negative image of immigrants seen in TV news, and in movies and TV series. Supporting results of previous research (Barlow et al., 2012; Pettigrew, 2008), positive direct contact happened more often than negative direct contact; also positive extended contact was more frequent than negative extended contact, while, as hypothesized, the pattern was the opposite for contact through TV news and newspapers.

All the forms of contact we considered had independent effects on intergroup emotions and outcome measures. Positive direct contact and positive extended contact emerged as the strongest predictors of the reduced prejudice: indeed, both had significant indirect and total effects on all the outcome measures. Moreover, also negative direct contact had strong effects: the total effects of negative direct contact on outgroup attitude and on subtle prejudice were reliable and greater than the effects of the other predictors. Negative extended contact instead was a weaker predictor: it had a significant positive effect on intergroup anxiety, and significant but weak indirect effects on outgroup attitude and on crimes estimate; moreover, bootstrapping procedures showed that no mediated effect of negative extended contact via intergroup anxiety on the prejudice indexes was reliable. Contact through TV news and newspapers was very influential, and both the positive and the negative forms of contact had reliable effects; positive episodes of contact through TV news ameliorated outgroup attitudes and the attribution of uniquely human traits to immigrants, both directly and indirectly through emotions; positive contact through TV news was also the strongest predictor of outgroup humanization. Negative contact through TV news and newspapers influenced the three intergroup emotions, and had strong indirect effects on all the outcome measures, enhancing prejudice and crimes estimate, and worsening outgroup attitude and humanization. Finally, contact through movies and TV series was a weaker predictor: anyway, the positive

impression people get from immigrants seen in movies led to more positive attitude, and to a greater attribution of uniquely human features to immigrants, through the mediation of outgroup trust; negative forms of contact through movies and TV series were positively related to subtle prejudice.

As regards the effects of intergroup emotions, we found effects consistent with those of the previous studies: emotional empathy reduced subtle prejudice and ameliorated outgroup attitude, although this last result was weak: indeed, most of the effects of the contact measures on outgroup attitude via emotional empathy were only marginally significant; intergroup anxiety was related, as in Study 2, to worsened outgroup attitudes, and to higher levels of subtle prejudice and crimes estimate; outgroup trust was again a strong mediator, because it lessened crimes rating, ameliorated attitudes, and was the only emotion significantly related to outgroup humanization.

Taken together, results suggested that direct contact was very influential: both positive and negative direct intergroup encounters had significant effects on the prejudice indexes; positive direct contact enhanced outgroup humanization and reduced crimes estimate, which were not influenced by negative direct contact; as regards outgroup attitudes and subtle prejudice, both positive and negative direct contact had strong effects. Results are in line with what found by Pettigrew (2008), namely that positive contact predicted reduced prejudice more than negative contact predicted increased prejudice; instead, results are not fully consistent with what suggested by Barlow and colleagues (2012): although the total effects of negative direct contact on attitudes and prejudice were slightly greater than the effects of positive direct contact, negative direct contact did not affect emotions such as anxiety and trust, and some indirect forms of prejudice, such as crimes rating and humanity perceptions. This result is encouraging for the effectiveness of direct intergroup contact in reducing prejudice: when direct contact occurs, it is usually positive; moreover, positive direct contact is more associated with prejudice reduction than negative contact is with its increase.

As regards extended contact, observing positive intergroup encounters was very influential for the reduction of all the forms of prejudice, while observing negative intergroup interactions was not so relevant. The fact that positive extended contact occurred more frequently than negative extended contact, and that positive extended contact had stronger effects than negative extended contact showed that promotion of social networks characterized by people from different ethnic groups could be an effective strategy for improving intergroup relations.

Concerning contact through TV news and newspapers, negative episodes influenced indirectly all the prejudice indexes; anyway, both positive and negative episodes were very influential: the effects of positive contact through TV news on outgroup attitudes and outgroup humanization were stronger than the effects of negative contact through TV news, but only negative

contact through TV news affected prejudice and crimes estimate. Considering that negative contact through TV news and newspapers was very frequent, while positive TV news contact was not, results confirmed that the negative portrayal of outgroups by TV news and newspapers could be very detrimental for harmonious intergroup relations.

Contact through movies was less influential than the other forms of contact, as found in Study 2; anyway positive forms of contact through movies reduced various prejudice expressions through increased empathy and trust; thus, also movies portraying positive images of immigrants can ameliorate outgroup attitudes.

Finally, we tested the causal sequence of the mediators. Comparing alternative models, where we changed the sequence of the mediators, we found that the model which best fitted the data was the model where the three mediators operated at the same level; thus, each mediator played an independent role, instead of predicting one another.

Study 4

Introduction

The aim of Study 4 was to replicate and extend results of Study 3, considering as outcome measure also implicit attitudes.

Implicit attitudes are automatic associations, activated by the mere presence of an object, that are difficult to assess through self-report measures (Fazio et al., 1995); they are primarily unintentional, less influenced by social desirability, and outside the conscious control (Gawronski & Bodenhousen, 2006; Greenwald et al., 1998). Dual processes models of attitudes (Fazio & Olson, 2003; Gawronski & Bodenhousen, 2006) proposed that explicit attitudes and implicit attitudes are formed through different processes, and predict different behaviors: explicit attitudes predict deliberative behaviors, while implicit attitudes are associated with spontaneous and automatic behaviors (e.g., McConnell & Leibold, 2001). The MODE model (Fazio, 1990) suggested that explicit and implicit attitudes are correlated only for nonsocially sensitive issues, while for socially sensitive issues, such as prejudice, people will be influenced by social desirability in reporting explicit attitudes.

While explicit attitudes can change quite easily, implicit attitudes are more resistant to change (Wilson, Lindsey, & Schooler; 2000). Anyway, research has demonstrated that also implicit attitudes have a certain degree of flexibility, and can change due to characteristics of the social context (Blair, 2002); in particular, implicit attitudes could change through the exposure to repeated associations between positive stimuli and a target object.

Intergroup contact and implicit prejudice

Previous research has explored the relationship between direct contact and implicit attitudes. In most of the studies, an Implicit Association Test (IAT; Greenwald et al., 1998) was used to assess implicit outgroup attitudes and prejudice; thus, in the description of previous studies examining the relationship between intergroup contact and implicit attitudes, I will specify the tool to assess implicit attitude only if it was not an IAT. Tam and colleagues (2006) explored the effects of quantity and quality of intergenerational contact of British students with older people (other than grandparents) on explicit and implicit attitudes toward older people. Quantity of contact was associated with more favorable implicit attitudes; both quantity and quality of contact, instead, ameliorated explicit attitudes, through the mediation of increased self-disclosure, empathy, and reduced anxiety during communication with grandparents. Exploring the effects of contact with disabled persons, Pruett and Chan (2006) showed that quantity of contact was a significant predictor of more positive implicit attitudes toward disabled persons. Vezzali and Capozza (2011) instead

found that quality of contact improved implicit evaluation of disabled people, measured by a Go/No-go Association Task (Nosek & Banaji, 2001), only when quantity of contact was high; moreover, membership salience reduced implicit ingroup bias per se. Turner, Hewstone, and Voci (2007), analyzing British elementary school's contact and attitude toward South Asians, found that cross-group friendships (Study 1), and opportunity for contact (Studies 2 and 3) were associated with more positive implicit outgroup attitudes; this effect, differently from what found for explicit outgroup attitudes, was direct and not mediated by affective variables such as self-disclosure and intergroup anxiety. Cross-group friendship was found to be a key predictor of more favourable implicit outgroup attitudes also by Aberson and colleagues (2004), who showed that White participants with African Americans or Latinos close friends exhibited less implicit prejudice toward the respective outgroup compared to participants without close friends from the target group. An experimental test of the effects of high qualitative intergroup contact on implicit associations was provided by Shook and Fazio (2008): the authors assessed implicit prejudice (through an evaluative priming procedure, Fazio et al., 1995) of White college students, who had been randomly assigned to either a White or an African American roommate, the first two weeks (Time 1) and the last two weeks (Time 2) of their first quarter on campus. Implicit outgroup attitudes of White college students with an African American roommate improved from Time 1 measurement to Time 2 measurement, while attitudes of White students with a same-race roommate did not change.

Besides the studies by Tam and colleagues (2006) and by Turner, Hewstone, and Voci (2007), other studies showed that the relationship between intergroup contact and implicit prejudice was direct and not mediated. Vezzali and Giovannini (2011) demonstrated that cooperative contact at work of Italian businessmen with their immigrant workers reduced implicit prejudice toward immigrants; this effect was not mediated by reduced negative stereotypes, that were instead a significant mediator of the relationship between cooperative contact and support for social policies favoring immigrants' rights. Moreover, Aberson and Haag (2007) confirmed that intergroup contact of White respondents with African Americans directly affected implicit outgroup attitudes, without the mediation of perspective taking and intergroup anxiety, that were instead involved in the relationship between contact and explicit outgroup attitudes and between contact and outgroup stereotypes.

Research has demonstrated that also imagined intergroup contact improves implicit outgroup attitudes (Turner & Crisp, 2010; Vezzali, Capozza, Giovannini, et al., 2012); moreover, the study by Vezzali, Capozza, Giovannini et al. showed that the effects of imagined contact on implicit attitudes were direct, and that the mediator the authors considered (imagined self-

disclosure) influenced only the explicit measures, supporting most of the studies on the relationship between direct contact and implicit prejudice.

Research has also examined the effects of positive and negative direct contact on implicit prejudice. In the study by Aberson and Gaffney (2008; see the paragraph on positive and negative contact) positive and negative contact with African Americans were related to implicit outgroup attitudes, through the mediation of intergroup anxiety and realistic threat, among White participants. Specifically, positive contact reduced intergroup anxiety and threat perceptions, while negative contact increased anxiety and realistic threat; anxiety and threat perceptions were in turn associated with more negative implicit outgroup attitudes.

In sum, research showed that intergroup contact can improve implicit outgroup attitudes. In most of the studies, the relationship between the contact measures (contact quantity, contact quality, and cross-group friendships) was direct, and did not involve the mediators considered by the authors, that influenced only explicit prejudice (for an exception, see Aberson & Gaffney, 2008). To our knowledge, only one study (Aberson & Gaffney, 2008) explored the relationship between positive and negative contact and implicit prejudice.

Overview of Study 4

To assess implicit attitudes toward immigrants, we decided to use a Single Category Implicit Association Task (SC-IAT; Karpinski & Steinmann, 2006), that allows to measure the strength of evaluative associations toward a category that does not have a complementary category. Thus, in the SC-IAT, we assessed if words representing immigrants were more associated with positive or negative words. We choose to use a SC-IAT, instead of a traditional IAT, because it was more in line with the outcome measures used in the previous studies. Indeed, in the other three studies, we analyzed the effects of contact and intergroup emotions on explicit outgroup attitudes, not on explicit ingroup bias (ingroup attitudes – outgroup attitudes), and on the attribution of uniquely human traits to immigrants, not on infrahumanization (uniquely human traits attributed to Italians – uniquely human traits attributed to immigrants). We were thus interested to investigate whether immigrants were more associated to positive or negative words, assessing a general implicit attitude, instead of assessing whether immigrants were associated less than Italians to positive words, and more than Italians to negative words. Participants to the fourth study first completed an online questionnaire, containing the same measures of the questionnaire used in Study 3, and then engaged in the SC-IAT.

Considering that explicit attitude toward immigrants was positive for participants of the previous studies, we expected explicit attitude to be positive, while implicit attitude could be negative (Franco & Maass, 1999). As regards relationships between variables, we expected that

relations between contact measures, emotions, and explicit prejudice indexes were similar to those emerged in Study 3, with positive direct contact, positive extended contact, and negative contact through TV news and newspapers having the strongest effects. For implicit prejudice, we hypothesized that it could be affected by direct contact, especially by positive direct contact, that usually emerges as the stronger predictor of both explicit and implicit outgroup attitudes. Also indirect forms of contact could influence implicit attitudes: indeed, multiple exposures through mass media to positive outgroup exemplars could strengthen the association between the outgroup and positive concepts, while exposure to negative exemplars could favour association of immigrants with negative concepts. We further hypothesized, coherently with literature (e.g., Tam et al., 2006; Turner, Hewstone, & Voci, 2007), that the effects of the contact measures on implicit outgroup attitude could be direct, and not mediated by intergroup emotions. As regards opportunity for contact, it could favour more positive outgroup attitudes (see Turner, Hewstone, & Voci, 2007).

Method

Participants

Initially, participants to the fourth study were 197. First, we dropped from further analyses two respondents because they were not Italian, and one respondent who did not complete most of the measures of the questionnaire. Then, we excluded from further analyses 25 participants who made more that 20% of errors and nonresponses on the SC-IAT (see Karpinski & Steinmann, 2006). Thus, the final sample included 169 participants; 114 were female, 44 were male, and 11 participants did not indicate the gender; mean age was 29.32 (*SD* = 8.01), ranging from 18 to 68. Most of them were full-time workers (only 59 were students).

Procedure

Participants were recruited through my social network, and were sent an email or a facebook message asking them to complete a questionnaire and a categorization task regarding intergroup relationships and prejudice. Participants were also invited to forward the message to other friends or acquaintances, or to give me the email address of their acquaintances, so that I could send them the email. In the email, participants were asked to click on the link of the experiment, to download the program that registered reaction times, and to complete the questionnaire and the categorization task; they were also explained that if they wanted to stop the experiment, they had to press simultaneously the CTRL key and the Q key. Data collection was controlled by Inquisit 3 Web, that works only on Windows OS; thus, participants were asked to complete the questionnaire only if they had a computer with Windows OS, of if they could ask someone to borrow them such a computer.

Measures

Respondents completed an online questionnaire, that contained most of the same measures of the questionnaire used in Study 3.

Contact measures. The items investigating contact were the same of Study 3. Quantity of positive direct contact, quantity of negative direct contact, quantity of positive extended contact, and quantity of negative extended contact were measured by two items each; pairs of items were highly correlated (r = .73 for the two items measuring positive direct contact, r = .79 for the negative direct contact items, r = .84 for the positive extended contact items, r = .81 for the negative extended contact items, ps < .001). Positive contact through TV news and newspapers, negative contact through TV news and newspapers, positive contact through films and TV series, and negative contact through films and TV series were measured by single items.

Intergroup emotions. Intergroup anxiety, emotional empathy, and outgroup trust were measured with the same scales used in Study 3. All the measures were reliable (α = .91 for intergroup anxiety, α = .93 for empathy, and α = .83 for trust).

Outcome measures. The explicit outcome measures were the same of the other three studies. Because of display problems of the item investigating crimes estimate, many participants did not respond to the question (47 missing responses); thus, we did not consider this variable in further analyses. The other measures were reliable (attitude toward immigrants, α = .85; attitude toward Italians, α = .78; subtle prejudice, α = .76; uniquely human traits, α = .86 for immigrants, and α = .82 for Italians; non uniquely human traits, α = .87 for immigrants, and .82 for Italians).

Opportunity for contact. Three items, placed at the end of the explicit questionnaire, investigated opportunity for contact. Two questions were the same used in Study 3: "How many immigrants live in your area?", and "How many immigrants do you see in the places you usually attend?" Responses ranged from 0 to 4 (0 = *none*, 1 = *a few*, 2 = *some*, 3 = *many*, 4 = *a lot*). The third item asked participants: "Which is the percentage of immigrants living in your area?". Responses to the three items were transformed in z-scores, and averaged to form a reliable composite (α = .72).

At the end of the explicit questionnaire, participants were invited to complete the categorization task.

Single Category IAT. To measure the implicit attitude toward immigrants, we used an adaptation of the Single Category Implicit Association Test (Karpinski & Steinmann, 2006), a categorization task that measures how a target group (in this case immigrants) is associated to two other attributes or categories (namely, positive words and negative words). Stimuli of the task were words representing the three categories: five words represented the category immigrants

(immigrant, immigrants, Moroccans, Albanians, and Romanians); five words were positive (peace, happiness, joy, friendship, love), and five words were negative (violence, sadness, war, hate, pain). Positive and negative words were matched for length. In the first practice stage, participants responded to 20 practice trials, and had to categorize positive words and negative words with two different response keys (W and P, respectively), to become familiar with the two stimuli sets and with the task. This practice block was followed by two blocks, each consisting of 24 practice trials followed by 72 experimental trials. In a stage, participants were instructed to categorize words representing the category immigrants and positive words with the same response key (W), and negative words with another response key (P). Immigrants' words, positive words, and negative words were presented in a 7:7:10 ratio, so that 58% of the correct responses were on the W key, and 42% of the correct responses were on the P key, as suggested by Karpinski and Steinmann. In the other stage, the response key of the category immigrants was changed, namely participants had to categorize words representing immigrants and negativity with one response key (P), and words representing positivity with another response key (W). Words representing immigrants, positive words, and negative words were presented in a 7:10:7 ratio. The order of presentation of the two blocks was counterbalanced across participants. Category label reminders were positioned on the upper left and upper right parts of the screen and remained on the screen during all the task. Stimuli appeared on the screen until participants responded or for 1,500 ms. If participants failed to respond within 1,500 ms, a reminder "Please respond more quickly" appeared on the centre of the screen. Intertrial stimulus interval (ISI) lasted 250 ms. During the ISI, a feedback about performance accuracy was provided. Correct responses were followed by a green "O", while errors were followed by a red "X". These feedback letters remained on the screen for 150 ms.

Statistical analyses

For the multiple items explicit measures, we computed composite scores averaging the respective items.

To measure the implicit association of the category immigrants with the two categories positive words and negative words, we calculated the SCIAT-score. For the resulting SCIAT-scores, higher values indicated stronger association of the categories immigrants and positive words compared to the categories immigrants and negative words, thus indicating more positive implicit outgroup attitude. Responses of the practice trials were not considered. Responses shorter than 350 ms were eliminated, and error responses and nonresponses were replaced with the mean of the correct responses of the block plus an error penalty of 400 ms. The average response times of the block where immigrants and positive words are associated were subtracted by the average response

times of the block where immigrants and negative words are associated, and this quantity had been divided by the standard deviation of all correct response times within the two blocks.

After removing data of participants with more than 20% of errors on the SC-IAT, the average error rates were quite low (7.65%). To compute reliability of the SC-IAT, we followed the procedure by Steinman and Karpinski (2008; see also Karpinski & Steinmann, 2006): we divided the SC-IAT into thirds, and calculated a SC-IAT score separately for each third of trials, without dividing by the standard deviation of correct response times; then, we computed a Cronbach's alpha on these three scores. The SC-IAT was reliable: $\alpha = .66$.

Results

Introductory analyses

As it appears from Table 20, participants reported quite frequent positive direct contact with immigrants, and not frequent negative direct contact with immigrants; the two scores were reliably different, $t(168) = 15.85$, $p < .001$; also as regards extended contact, positive extended contact was more frequent than negative extended contact, $t(168) = 9.09$, $p < .001$. Negative contact through TV news and newspapers was frequent, while positive contact through TV news was not, and the two scores were reliably different, $t(168) = -15.33$, $p < .001$. Contact through movies and TV series was not very frequent; anyway, participants got a positive image from immigrants on TV series and movies more frequently than a negative image, $t(168) = 2.47$, $p < .05$.

Respondents reported quite low levels of intergroup anxiety, and declared to empathize with immigrants' sufferings, but did not trust much immigrants. Subtle prejudice was quite low. As in the other three studies, participants reported positive attitudes both toward immigrants and toward Italians; anyway, differently from previous studies, attitude toward immigrants was better than attitude toward Italians, $t(168) = 2.27$, $p < .05$. As regards implicit prejudice, the score is different from 0 and negative (0 indicates neutral implicit attitude toward immigrants): thus, participants associated more quickly and more accurately words representing immigrants with negative words than with positive words, indicating a negative implicit attitude.

There were differences between explicit and implicit evaluations: while the explicit outgroup attitude was very positive, implicit outgroup attitude was negative.

Table 20. Means and standard deviations of the variables measured in the questionnaire

Variables	Mean	Standard deviation	Difference from midpoint ($p <$)
1. Positive direct contact	2.53	1.13	.001
2. Negative direct contact	.99	.77	.001
3. Positive extended contact	2.21	1.05	.01
4. Negative extended contact	1.30	.91	.001
5. Positive contact through TV news	1.30	.70	.001
6. Negative contact through TV news	2.75	.82	.001
7. Positive contact through movies	2.05	.93	*ns*
8. Negative contact through movies	1.80	.94	.01
9. Intergroup anxiety	1.98	.79	*ns*
10. Outgroup trust	1.60	.67	.001
11. Emotional empathy	2.24	.80	.001
12. Explicit attitude toward immigrants	2.64	.63	.001
13. Attitude toward Italians	2.51	.59	.001
14. Subtle prejudice	1.75	.67	.001
15. Implicit attitude toward immigrants	-.23	.45	.001

Note. For the variables from 1 to 14 the midpoint of the scale was 2; for implicit prejudice the midpoint of the scale was 0.

Attribution of uniquely and non uniquely human traits. As in the previous studies, we computed a 2 (Traits: uniquely human vs. non uniquely human traits) × 2 (Target group: immigrants vs. Italians) ANOVA with repeated measures. Results of the ANOVA were different from results of the other three studies. There was a significant main effect of Traits, $F(1, 168) = 18.81$, $p < .001$, $\eta^2_p = .101$, with attributions of non uniquely human traits ($M = 4.76$) higher than attributions of uniquely human traits ($M = 4.46$). No other main effect or interaction was significant. Thus, participants assigned both to the ingroup and to the outgroup more non uniquely human than uniquely human characteristics (see Table 21); differently from previous studies, there was no infrahumanization effect.

Table 21. Attribution of uniquely and non uniquely human traits to the ingroup and to the outgroup

	Target group	
Traits	Ingroup	Outgroup
Uniquely human traits	4.45_a (.95)	4.46_a (1.04)
	***	***
Non uniquely human traits	4.72_a (.80)	4.80_a (1.01)

Note. *** $p = .001$. a = the score is different from the mid-point of the scale, $p < .001$. Standard deviations are reported in parenthesis.

To summarize, participants of this fourth study reported lower levels of prejudice on the explicit measures compared to participants of the other three studies: indeed, levels of intergroup anxiety were lower, and of emotional empathy were higher than levels of participants of the other studies. Moreover, attitude toward immigrants was better than attitude toward Italians, and Italians and immigrants were assigned the same levels of uniquely human characteristics. This differences could be ascribed to specific characteristics of the sample, and will be addresses in the Discussion of the fourth study.

Correlations

Table 22 reports correlations between variables. As in Study 3, positive direct contact was reliably related to the three intergroup emotions (negative correlation with intergroup anxiety) and to explicit outgroup attitude; negative direct contact, instead, was positively related to intergroup anxiety and subtle prejudice, and negatively to explicit outgroup attitude. Positive extended contact had significant positive correlations with empathy, trust, and explicit attitudes, and negative correlations with intergroup anxiety; negative extended contact instead was related, at a marginally significant level, only to subtle prejudice ($p = .064$). Positive contact through TV news and newspapers was negatively related to anxiety and positively to the attribution of uniquely human traits to the outgroup; negative contact through TV news and newspapers instead was negatively related to outgroup trust and to explicit outgroup attitude. As regards contact through movies and TV movies, the positive episodes of this form of contact were related to outgroup humanization, while the negative episodes were negatively related to explicit outgroup attitude.

Intergroup emotions were correlated to the explicit prejudice indexes: empathy and trust were positively related to outgroup attitude and humanization, and negatively to subtle prejudice;

intergroup anxiety, in turn, was positively related to subtle prejudice and negatively to outgroup attitude.

As regards opportunity for contact, it was related, as in Study 3, to positive episodes of direct contact and to positive episodes of extended contact, while it was not associated with negative episodes of direct or extended contact. Moreover, opportunity for contact was positively related to outgroup trust and attitude, and negatively to intergroup anxiety.

Concerning implicit attitude, it was not reliably related to the contact measures or to intergroup emotions; anyway, there were non-significant tendencies for positive correlations with positive direct contact (p = .28), positive contact through movies and TV movies (p = .15), emotional empathy (p = .13), trust (p = .20), and non-significant tendencies for negative correlations with opportunity for contact (p = .22), negative extended contact (p = .17), negative contact through TV news and newspapers (p = .27), and negative contact through movies and TV movies (p = .26). Although implicit attitude was not reliably related to contact measures and emotions, we performed regression analysis, to test if some variables, controlling by the other variables, affected implicit attitude.

Table 22. Correlations between variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Opportunity for contact	-															
2. Positive direct contact	.29***	-														
3. Negative direct contact	.07	.16*	-													
4. Positive extended contact	.26**	.30**	.06	-												
5. Negative extended contact	.05	.09	.43***	.11	-											
6. Positive TV news contact	-.09	-.06	-.12	.00	-.01	-										
7. Negative TV news contact	-.01	.09	.09	.01	.08	-.36***	-									
8. Positive movies contact	.02	-.17*	-.05	.02	.04	-.04	.05	-								
9. Negative movies contact	.08	.02	.17*	-.10	.19*	-.26***	.35***	-.03	-							
10. Emotional empathy	.13	.26***	-.06	.26***	.07	.08	-.11	.13	-.15	-						
11. Intergroup anxiety	-.15*	-.29***	.16*	-.17*	.07	-.17*	.14	.08	.01	-.16*	-					
12. Outgroup trust	.23**	.33***	-.12	.30***	.10	.09	-.16*	.13	-.06	.52***	-.29***	-				
13. Explicit attitude	.20**	.41***	-.24**	.23**	-.09	.03	-.22***	.03	-.26***	.49***	-.35***	.52***	-			
14. Subtle prejudice	-.04	-.15	.28***	-.15	.14	.00	.14	-.04	.06	-.29***	.37***	-.24***	-.41***	-		
15. Outgroup humanization	-.06	-.04	-.04	.07	-.02	.17*	-.11	.20**	-.07	.15**	.00	.23**	.15*	-.15	-	
16. Implicit attitude	-.10	.08	-.01	-.05	-.10	-.01	-.08	.11	-.09	.12	-.07	.10	.07	-.05	.06	-

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Regression analyses

Given the high number of contact measures and affective mediators, and the relatively small sample size, we decided to conduct simple regression analyses, instead of SEM with latent variables. In the first series of regression analyses, we included opportunity for contact, positive direct contact, negative direct contact, positive extended contact, negative extended contact, positive contact through TV news and newspapers, negative contact through TV news and newspapers, positive contact through movies and TV series, and negative contact through movies and TV series as independent variables, and intergroup emotions (emotional empathy, intergroup anxiety, and outgroup trust) and prejudice indexes (explicit attitude, subtle prejudice, outgroup humanization, and implicit prejudice) as dependent variables. Results are reported in Table 23.

Positive direct contact, as found in Study 3, influenced the three emotions: it increased emotional empathy and outgroup trust, and it decreased intergroup anxiety; moreover, it improved both explicit and implicit outgroup attitudes, and reduced subtle prejudice. Also negative direct contact had strong significant effects: it augmented intergroup anxiety and prejudice, and worsened the perception of the outgroup as trustworthy and explicit outgroup attitude. Extended contact had weaker effects: positive extended contact augmented outgroup trust and emotional empathy, while negative extended contact had no significant effect. As suggested by the previous studies, contact through TV news and newspapers had important effects: positive forms of TV news contact decreased intergroup anxiety and enhanced outgroup humanization (marginally significant effects); negative forms of TV news and newspapers contact indeed had negative effects, increasing subtle prejudice and worsening outgroup trust and attitudes. As regards contact through movies and TV series, positive forms of this kind of contact had important results: they had positive effects on emotional empathy, trust, outgroup humanization, and implicit attitude (marginally significant effect); negative contact through movies, in turn, had only a significant effect: it worsened outgroup attitude. Opportunity for contact, that promoted positive direct contact and positive extended contact (see above) had no significant effect on the outcome measures. The regressions explain a quite large portion of variance of intergroup emotions, explicit attitude, and subtle prejudice, but a modest portion of variance of the attribution of uniquely human traits to the outgroup and of implicit attitude.

In an additional series of regression analyses (see Table 24), we included, besides opportunity for contact and the contact measures, intergroup emotions as antecedents of explicit and implicit attitudes, subtle prejudice, and outgroup humanization. As found in the previous studies, explicit outgroup attitudes were influenced by the three emotions (positive effects of empathy and trust, and negative effect of anxiety); anyway, including the emotions in the regression analysis, the

positive effect of positive direct contact, and the negative effects of negative contact through TV news and newspapers, and of negative contact through movies on explicit outgroup attitudes remained significant; moreover, the negative effect of negative direct contact became significant, so as an unexpected negative association between positive contact through movies and explicit outgroup attitudes. It is worth noting that there was no correlation between positive contact through movies and explicit attitude (r = .03, p = .72). As regards subtle prejudice, it was influenced, as in previous studies, by intergroup anxiety and emotional empathy; the effect of negative direct contact on prejudice remained significant in this regression analysis, while the effects of positive direct contact and negative contact through TV news and newspapers became non significant. Replicating previous studies, outgroup trust was the strongest predictor of outgroup humanization; the effect of positive movies contact remained significant when emotions where included in the regression analysis, while the effect of positive contact through TV news became marginally significant. Concerning implicit prejudice, the three intergroup emotions had no effect on this variable; anyway, in the regression model including emotions as antecedents of implicit prejudice, also the effect of positive direct contact and of positive contact through movies and TV series became non significant; in this regression analysis, there were only two marginally significant effects: a positive effect of positive contact through movies (p = .10), and a negative effect of opportunity for contact (p = .09). It is possible that the effects of positive direct contact and of positive contact through movies, quite weak, became non significant because of high correlations between these variables and intergroup emotions.

Including intergroup emotions as antecedents of prejudice and attitudes in the regression analyses augmented the portion of explained variance of explicit attitudes, subtle prejudice, and outgroup humanization, but not of implicit attitudes.

Table 23. Standardized regression coefficients and explained variance

	Dependent variables						
	Emotional empathy	Intergroup anxiety	Outgroup trust	Explicit attitude	Subtle prejudice	Outgroup humanization	Implicit attitude
Independent variables							
Opportunity for contact	.03	-.06	.10	.07	.04	-.08	-.14
Positive direct contact	.25**	-.29***	.32***	.44***	-.19*	.01	.18*
Negative direct contact	-.12	.19*	-.22**	-.29***	.30***	.00	.04
Positive extended contact	.17*	-.10	.18*	.07	-.14	.09	-.06
Negative extended contact	.10	.04	.14	.03	.04	-.03	-.12
Positive TV news contact	.03	-.15°	.05	-.09	.08	.16°	-.05
Negative TV news contact	-.10	.13	-.18*	-.21**	.18*	-.06	-.11
Positive movies contact	.16*	.02	.18*	.09	-.07	.21**	.15°
Negative movies contact	-.09	-.11	.03	-.18*	-.06	.02	-.04
R^2	.17	.19	.28	.37	.16	.09	.07

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. °$p \leq .06$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Table 24. Standardized regression coefficients and explained variance

	Dependent variables			
	Explicit attitude	Subtle prejudice	Outgroup humanization	Implicit attitude
Independent variables				
Opportunity for contact	.04	.06	-.10	-.14
Positive direct contact	.27***	-.06	-.05	.12
Negative direct contact	-.18**	.22**	.04	.07
Positive extended contact	-.02	-.08	.05	-.09
Negative extended contact	-.02	.05	-.07	-.13
Positive TV news contact	-.13*	.13	.16°	-.06
Negative TV news contact	-.13*	.13	-.03	-.08
Positive movies contact	.02	-.04	.16*	.13
Negative movies contact	-.18**	-.05	.02	-.04
Emotional empathy	.25***	-.22**	.04	.08
Intergroup anxiety	-.14*	.29***	.07	-.05
Outgroup trust	.21**	.01	.23*	.06
R^2	.51	.27	.13	.08

Note. Outgroup humanization = Uniquely human traits attributed to immigrants. °$p \leq .07$. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Bootstrapping analysis. Bootstrapping procedures with 1,000 resamples were used to test if the indirect paths were significant (see Table 25).

Table 25. Mediation analysis results

Predictor	Mediator	Outcome variable	B	SE	95% CI
Positive direct contact	Emotional empathy	Outgroup attitude	.034	.017	[.008, .078]
Positive direct contact	Emotional empathy	Subtle prejudice	-.031	.016	[-.076, -.008]
Positive direct contact	Intergroup anxiety	Outgroup attitude	.023	.014	[.003, .058]
Positive direct contact	Intergroup anxiety	Subtle prejudice	-.049	.018	[-.093, -.020]
Positive direct contact	Outgroup trust	Outgroup attitude	.038	.018	[.010, .079]
Positive direct contact	Outgroup trust	Outgroup humanization	.068	.032	[.018, .144]
Negative direct contact	Intergroup anxiety	Subtle prejudice	.048	.023	[.012, .106]
Negative direct contact	Outgroup trust	Outgroup attitude	-.038	.021	[-.097, -.011]
Negative direct contact	Outgroup trust	Outgroup humanization	-.069	.038	[-.167, -.013]
Positive extended contact	Emotional empathy	Outgroup attitude	.025	.014	[.003, .062]
Positive extended contact	Emotional empathy	Subtle prejudice	-.023	.016	[-.062, -.001]
Positive extended contact	Outgroup trust	Outgroup attitude	.023	.014	[.003, .061]
Positive extended contact	Outgroup trust	Outgroup humanization	.040	.024	[.006, .104]
Positive contact through TV news	Intergroup anxiety	Subtle prejudice	-.043	.021	[-.096, -.009]
Negative contact through TV news	Outgroup trust	Outgroup attitude	-.029	.017	[-.076, -.005]
Negative contact through TV news	Outgroup trust	Outgroup humanization	-.052	.035	[-.140, -.002]
Positive contact through movies	Emotional empathy	Outgroup attitude	.027	.017	[.002, .068]
Positive contact through movies	Emotional empathy	Subtle prejudice	-.025	.017	[-.070, -.002]
Positive contact through movies	Outgroup trust	Outgroup attitude	.025	.015	[.004, .069]
Positive contact through movies	Outgroup trust	Outgroup humanization	.045	.031	[.002, .133]

Note. Outgroup humanization = Uniquely human traits attributed to immigrants.

Confirming results of Study 3, positive direct contact ameliorated outgroup attitudes through increased empathy and trust, and through reduced intergroup anxiety; moreover, it reduced subtle prejudice augmenting empathy and reducing anxiety, and enhanced outgroup humanization via outgroup trust. Negative direct contact worsened outgroup attitudes and outgroup humanization by reducing trust, and increased prejudice through intergroup anxiety. Positive extended contact ameliorated attitudes via emotional empathy and outgroup trust, reduced prejudice via empathy, and increased the attribution of uniquely human traits via trust. Replicating results of Study 3, negative extended contact had no mediated effect on the outcome variables. Positive contact through TV news had quite weak effects: it reduced subtle prejudice via reduced intergroup anxiety. Negative contact through TV news exerted its effects reducing outgroup trust: thus, it led to worse outgroup attitudes and lower attribution of uniquely human traits to outgroup members. As suggested above, positive contact through movies and TV series had strong effects: it ameliorated outgroup attitudes via empathy and trust, reduced prejudice via empathy, and enhanced outgroup humanization via trust. As found in Study 3, negative contact through movies had no significant mediated effect.

Supplementary analysis of the SC-IAT responses

After computing the SC-IAT score and analyzing its relationship with the other measures, we further explored error responses in the SC-IAT. It was interesting to note that participants made more categorization errors in the block they had to categorize immigrants and positive words with the same response key (M = 6.18, SD = 4.49) than in the block they had to categorize immigrants and negative words with the same response key (M = 4.83, SD = 3.82), $t(168) = 3.30$, $p = .001$. This should again reflect a negative implicit attitude.

Although Karpinski and Steinmann (2006) suggested to compute the SC-IAT score considering both response latencies and errors (penalizing errors, and thus replacing latencies of errors with the mean of the block plus 400 ms), it is reasonable also to consider the number of errors as a measure of implicit associations, and thus to compute a score considering only the difference of errors in the two blocks. Indeed, in other implicit measures, such as the Go/No-go Association Task (GNAT; Nosek & Banaji, 2001), the score is calculated considering the number of errors, and not response latencies. Payne (2001) suggested that in the weapon bias task both reaction times and errors could be used to detects if priming Black (vs. White) faces facilitated the categorization of weapons (vs. tools). Thus, we computed a score subtracting the number of errors in the block where immigrants and positive words are associated from the number of errors in the block where

immigrants and negative words are associated (Implicit attitude – Error difference). In the Implicit attitude (Error difference) score, higher values reflect more positive implicit attitudes. Mean of the Implicit attitude (Error difference) score was -1.34 (*SD* = 5.30), significantly different from 0, $t(168) = -3.30$, $p = .001$.

Reliability of the errors of the SC-IAT was calculated dividing the SC-IAT into thirds, and calculating an Error difference score separately for each third; we then computed a Cronbach's alpha on these three scores. Alpha was .48, showing poor internal consistency. Anyway, reliability of implicit measures considering errors is usually quite low; for example, reliability of the GNAT in the first studies using this technique were low (Nosek & Banaji, 2001). As suggested by Vianello (2009), low reliability may be due to the use of errors and not latencies in computing the score.

After calculating the Implicit attitude (Error difference) score, we analyzed its correlations with the explicit measures in the questionnaire. The score was significantly related only to emotional empathy ($r = .23$, $p < .01$).

We then analyzed which variables influenced this measure of implicit attitudes in a regression analysis, where predictors were opportunity for contact, all the contact measures, and the three intergroup emotions. Results are shown in Table 26.

Table 26. Standardized regression coefficients and explained variance

	Dependent variable
	Implicit attitude – Error differences
Independent variables	
Opportunity for contact	-.10
Positive direct contact	.08
Negative direct contact	-.08
Positive extended contact	-.10
Negative extended contact	-.04
Positive TV news contact	-.10
Negative TV news contact	-.04
Positive movies contact	.07
Negative movies contact	.00
Emotional empathy	.23*
Intergroup anxiety	-.04
Outgroup trust	.01
R^2	.10

Note. * $p < .05$.

As shown in Table 25, emotional empathy ameliorated implicit attitude (Error difference); the effects of the other predictors were not reliable.

To test if the contact measures influenced implicit attitudes (Error differences) through the mediation of emotional empathy, we applied bootstrapping procedures with 1,000 resamples. Positive direct contact had a positive mediated effect on implicit attitudes (Error differences) through emotional empathy (B = .271, SE = .159, 95% CI = [.038, .690]); also positive extended contact (B = .196, SE = .132, 95% CI = [.015, .535]) and positive contact through movies and TV series (B = .211, SE = .147, 95% CI = [.015, .606]) ameliorated implicit attitudes (Error differences) via emotional empathy.

Discussion

The fourth study attempted at replicating and extending results of Study 3, considering positive and negative episodes of contact as predictors also of implicit outgroup attitudes. As in Studies 2 and 3, we considered direct contact, extended contact, contact through television news and newspapers, and contact through movies and TV series. Participants were recruited within my social network, and received the link for the online questionnaire through email or facebook massages.

The sample of this fourth study exhibited lower levels of prejudice on the explicit measures, compared to the samples of the other studies; indeed, attitude toward immigrants was better than attitudes toward Italians, while in the other studies the opposite pattern was found; respondents did not differentiate between Italians and immigrants in the attribution of uniquely human characteristics, while in the previous studies they infrahumanized the immigrant outgroup; also the mean score of subtle prejudice was lower compared to the other studies. Concerning intergroup emotions, emotional empathy was higher than in the other three studies; differently from Studies 1 and 2, but not from Study 3, participants did not report feeling high levels of intergroup anxiety; anyway, as in the previous studies, respondents did not trust much the outgroup. Thus, participants in this fourth study reported better intergroup attitudes compared to participants in the other studies. This could be due to specific characteristics of the sample, and to the way of recruiting participants. Indeed, respondents of previous studies were approached by different research collaborators (at least two in each study) and by students attending a psychology course; in this fourth study, all the respondents were recruited directly in my social network, or were friends and acquaintances of my friends. Thus, my social network could be less diversified in terms of prejudice; moreover, we have to acknowledge the possibility that many of my friends and acquaintances know that I am studying prejudice, and thus a certain degree of social desirability may have played a role. It is also possible that participants used to spend some time in internet pay attention to different information sources, that leads them to a less prejudiced view of immigrants.

Although respondents exhibited positive outgroup attitudes on the explicit measures, implicit outgroup attitudes were negative: participants associated words representing the category immigrants with negative words faster and more accurately than with positive words. There was thus a dissociation between positive explicit outgroup attitudes and negative implicit outgroup attitudes.

Concerning relationships between contact measures, intergroup emotions, and explicit prejudice indexes, results were quite, but not fully, similar to results of Study 3. Positive direct

contact was the strongest predictor of reduced prejudice: indeed, it ameliorated explicit outgroup attitudes, increased outgroup humanization, and reduced subtle prejudice; the prejudice reduction deriving from positive direct contact involved the mediation of the three emotions; positive direct contact also had a positive direct effect on explicit outgroup attitudes. Negative direct contact worsened explicit outgroup attitudes and outgroup humanization through the mediation of reduced outgroup trust, and increased subtle prejudice via increases anxiety; it also had a positive direct effect on subtle prejudice and a negative direct effect on explicit outgroup attitudes. Confirming results of Study 3, positive direct contact reduced prejudice more than negative direct contact increased prejudice, supporting results of Pettigrew (2008) and not results of Barlow and colleagues (2012). We have to acknowledge a different mediational pattern of the effects of negative direct contact between Study 3 and Study 4. Indeed, in Study 3 negative direct contact had strong mediated effects through reduced empathy, while in Study 4 it had mediated effects through reduced outgroup trust and increased intergroup anxiety.

As regards extended contact, positive extended contact reduced subtle prejudice, ameliorated explicit outgroup attitudes and enhanced outgroup humanization via emotional empathy and outgroup trust. Negative extended contact had no significant effect on intergroup emotions and on prejudice indexes. Thus, confirming results of Study 3, positive extended contact was a reliable predictor or reduced prejudice, while negative extended contact did not significantly increase prejudice.

Concerning contact through TV news and newspapers, positive forms had quite weak effects: the positive image respondents got of immigrants they hear about in TV news and newspapers decreased intergroup anxiety (marginally significant effect) and increased the attribution of uniquely human traits to immigrants (marginally significant effect); moreover, it reduced subtle prejudice through the reduction of intergroup anxiety. Negative contact through TV news and newspapers worsened explicit outgroup attitudes and outgroup humanization through the reduction of outgroup trust; additionally, it had a significant negative direct effect on explicit outgroup attitudes. Thus, results suggested that negative contact through TV news and newspapers increased prejudice more than positive contact through TV news and newspapers reduced prejudice. In general, the effects of contact through television news and newspapers were weaker than the effects found in Study 3. A possible explanation should consider characteristics of the sample and the specific questions concerning these forms of contact: it is likely that respondents of this fourth study usually use internet, and thus often read news in online newspapers and magazines; the items in the questionnaire specifically referred to TV news, newspapers, and radio news, but did not

mention online newspapers and magazines. In future studies, also contact through online newspapers and magazines should be investigated, given that it is becoming an important source of information.

Relating contact through movies and TV series, the positive image of immigrants seen in movies had strong effects: it ameliorated outgroup attitudes and enhanced outgroup humanization, and reduced subtle prejudice via increased empathy and trust; moreover, it had a positive direct effect on outgroup humanization. The negative image of immigrants seen in movies and TV series instead had only a negative direct effect on explicit outgroup attitudes. Thus, confirming results of Study 3, the effects of the positive image of foreigners seen in movies on prejudice reduction were stronger than the effects of the negative image of immigrants in movies on increased prejudice.

Concerning the relationships between mediators and outcome measures, we found effects very consistent with effects of previous studies: emotional empathy improved explicit outgroup attitudes (as in the previous three studies) and reduced subtle prejudice (as in Studies 2 and 3); intergroup anxiety was related, as in the previous three studies, to worsened explicit outgroup attitudes and to more subtle prejudice; finally, outgroup trust was, across the four studies, the only emotion significantly influencing outgroup humanization; it was also related, as in previous studies, to more positive explicit outgroup attitudes.

Regarding implicit outgroup attitudes, the effects of contact were quite weak: implicit attitudes were positively influenced by positive direct contact and by positive contact through movies and TV series; anyway, in the regression analysis where also intergroup emotions were entered as predictors, the effects of positive direct contact and of positive contact through movies and TV series became non significant. Results suggested however that the contact forms that were most strongly related to prejudice reduction were positive direct contact and positive contact through movies and TV series. Moreover, the result that emotions did not affect implicit attitudes is consistent with some previous studies who found that contact reduced prejudice directly, and not through the mediation of emotions (e.g., Tam et al., 2006; Turner, Hewstone, & Voci, 2007; Vezzali & Giovannini, 2011). We also have to acknowledge that opportunity for contact had marginally significant negative effects on implicit attitudes toward immigrants: differently from what found in previous studies (Turner, Hewstone, & Voci, 2007), opportunity for contact did not ameliorate implicit associations, but tended to worsen them; thus, the mere presence of immigrants, if not accompanied by positive contact, led to more associations of immigrants with negative rather than with positive concepts.

Besides computing the SC-IAT score following the procedure by Karpinski and Steinman (2006), and assessing the relationships between this score and contact measures, we computed another implicit attitudes score, considering errors instead of latencies. The fact that participants made more categorization errors when they had to associate immigrant and positive concepts with the same response key than when they had to associate immigrant and negative concepts with the same response key could reflect a negative implicit outgroup attitude. Correlational and regression analysis showed that emotional empathy was related to lower errors in the block where immigrants and positive words were associated, compared to the block where immigrants and negative words were associated, and thus to a more positive implicit attitude toward immigrants. Moreover, positive direct contact, extended direct contact, and positive contact through movies and TV series ameliorated this implicit outgroup attitude score through emotional empathy.

Chapter 5
General discussion

In four correlational studies, we deeply explored the relationship between Italians' contact with immigrants and prejudice toward immigrants in Italy. The first study aimed at investigating the effects of meaningful direct contact on prejudice. The second study considered, besides direct contact, also indirect forms of contact, and, more specifically, extended contact, contact through TV news and newspapers, and contact through movies and TV series. The third and the fourth study analyzed separately the effects of positive and negative episodes of the contact forms considered in Study 2. Moreover, in the four studies, the role of three important affective mediators was evaluated; these mediators were intergroup anxiety, emotional empathy, and outgroup trust. Different forms of prejudice were analyzed, namely explicit attitudes, subtle prejudice, crimes estimate, attribution of uniquely human traits to outgroup members, and, in Study 4, implicit attitudes.

Direct contact

Taken together, results demonstrated that direct contact was the variable most strongly influencing the various forms of prejudice. Indeed, results of Study 1 and of Study 2 showed that meaningful contact of Italian respondents with immigrants was related to better explicit outgroup attitudes, more attribution of uniquely human traits to immigrants, lower levels of subtle prejudice and lower perceptions of immigrants as threatening and dangerous (crimes estimate). Moreover, Study 2 demonstrated the effectiveness of direct contact, even controlling for the effects of extended contact and of contact through mass-media. The effects of meaningful direct contact involved the mediation of all the three intergroup emotions we considered (reduced intergroup anxiety, increased empathy and trust). Study 3 and Study 4 considered both positive and negative episodes of direct contact, to investigate which were more predictive of reduced or increased prejudice. In both studies, confirming what found in other intergroup contexts (Barlow et al., 2012; Pettigrew, 2008), positive direct contact episodes were far more frequent than negative direct contact episodes. Positive direct contact and negative direct contact were independent constructs, and were both related to intergroup attitudes. Additionally, results suggested that positive direct contact was a stronger predictor of reduced prejudice than negative direct contact of increased prejudice. Indeed, in both studies, positive direct contact influenced all the three intergroup emotions, enhancing empathy and trust, and reducing anxiety; it also influenced, directly or

indirectly, all the dependent variables: it increased outgroup humanization, ameliorated both explicit and implicit outgroup attitudes (although the effects on implicit attitudes found in Study 4 were quite weak), and reduced subtle prejudice and crimes estimate. Negative direct contact instead did not affect all the emotions and outcome variables: in Study 3, it reduced emotional empathy, but did not influence anxiety and trust; it worsened outgroup attitudes and increased prejudice, but had no effect on outgroup humanization, and only a weak effect on crimes rating; in Study 4, finally, it increased intergroup anxiety and reduced trust, but did not affect empathy; it worsened explicit attitudes, decreased humanity attributions, and increased prejudice, but did not influence implicit attitudes. The effects of positive direct contact were thus stronger and more consistent across the two studies than the effects of negative direct contact. Results of Studies 3 and 4 were in line with the optimistic view of the effectiveness of contact by Pettigrew (2008) rather than with the pessimistic opinion by Barlow and colleagues (2012). Indeed, positive direct contact happened more frequently than negative direct contact, and reduced prejudice more than negative direct contact increased prejudice.

Extended contact

Besides direct contact, we explored the effects of extended contact (Wright et al., 1997). Study 2 showed that also extended contact (i.e. the number of Italian friends who have immigrant friends) influenced attitudes toward immigrants, controlling for the effects of direct contact and of contact through mass media. Indeed, extended contact was related to better outgroup attitudes, greater attribution of uniquely human characteristics to immigrants, and reduced prejudice and crimes estimate, via increased outgroup trust. Consistently with literature, the effects of extended contact were weaker than the effects of direct contact (see Turner, Hewstone, Voci, et al., 2007). Additionally, the role of trust as a mediator of the extended contact effects was confirmed (Andrighetto et al., 2012; Tam et al., 2009). The third and the fourth study examined the distinction between positive and negative extended contact. In line with direct contact, also positive extended contact occurred more often than negative extended contact. Across the two studies, extended contact was a strong predictor of reduced prejudice. In Study 3, positive extended contact reduced all the forms of prejudice we considered, and the mediation involved all the three intergroup emotions. In Study 4, it ameliorated explicit attitudes, increased outgroup humanization, and reduced subtle prejudice through the mediation of increased empathy and trust toward immigrants. On the other side, negative extended contact had almost no effect: in Study 3, it only had a weak effect on intergroup anxiety, but it did not influence any outcome variable neither directly nor indirectly; in Study 4, it had no significant effect. Thus, also positive extended contact occurred

more often than negative extended contact, and was effective for prejudice reduction; negative extended contact instead had almost no effect.

Contact through mass media

Previous research showed that also mass media can impact intergroup attitudes, and that prejudice could be increased or decreased due to exposure to outgroup members via television, depending on the content of the television programs (Mutz & Goldman, 2010). Thus, we also investigated the effects of contact through mass media, considering separately contact through television news and newspapers from contact through movies and TV series. Study 2 showed that contact through TV news and newspapers was positively related to prejudice. Indeed, it increased subtle prejudice and crimes estimate, and worsened outgroup attitudes; these effects were partially mediated by intergroup anxiety. Contact through movies and TV series instead had only an important effect: it increased the attribution of uniquely human traits to immigrants. Studies 3 and 4 investigated separately the exposure to positive or negative images of immigrants in TV news and newspapers, and in movies and TV series. In both studies, people got more often a negative than a positive image of immigrants seen in TV news and newspapers. In Study 3, both the very rare positive contact through TV news and newspapers episodes and the more frequent negative contact through TV news and newspapers episodes influenced intergroup attitudes: the positive episodes ameliorated outgroup attitudes and increased outgroup humanization; these effects were partially mediated by outgroup trust; the negative episodes instead were related to increased prejudice on all the indexes we considered, and these processes involved the mediation of increased intergroup anxiety, and reduced trust and empathy toward immigrants. In Study 4, the positive episodes of contact through TV news and newspapers had quite weak effects: they reduced prejudice via intergroup anxiety, increased the attribution of uniquely human traits to immigrants (marginally significant effect) and, unexpectedly, worsened explicit attitudes toward immigrants; negative contact through TV news and newspapers instead worsened explicit outgroup attitudes and decreased outgroup humanization, through reduced outgroup trust. Thus, the image of immigrants seen in TV news and newspapers was very negative, and the negative episodes were more predictive of increased prejudice than the positive episodes were predictive of reduced prejudice. On the other hand, both in Study 3 and in Study 4, the episodes providing a positive image of immigrants in movies and TV series were quite more frequent than the negative ones. Moreover, the effects of the positive episodes were stronger than the effects of the negative episodes. Indeed, both in Study 3 and in Study 4, the positive episodes of contact through movies and TV series were related to more empathy and more trust toward immigrants, that were in turn related to lower

prejudice; moreover, in Study 4, positive contact through movies and TV series was also related, at a marginally significant level, to better implicit attitudes. The negative episodes of contact through movies and TV series instead had quite weak effects: in Study 3, they increased subtle prejudice, and in Study 4 they worsened explicit attitudes toward immigrants. Results of these studies confirmed that exposure to outgroup members through mass media affects intergroup attitudes, and demonstrated that, in the intergroup context of Italians and immigrants in Italy, TV news and newspapers provide a very negative image of immigrants, and increase prejudice levels in the population. Movies and TV series instead provide a more positive image of immigrants, and exposure to immigrants in movies is related to lower prejudice.

Relationships between mediators and prejudice

Concerning the mediational role of intergroup anxiety, emotional empathy, and trust, a consistent pattern emerged between mediators and outcome variables. Emotional empathy was related to better outgroup attitudes and to lower subtle prejudice (except in Study 1); it was not related to crimes rating and to outgroup humanization (although, there was a marginally significant relationship between empathy and humanization in Study 2). Intergroup anxiety led to worse outgroup attitudes, more subtle prejudice, and higher crimes estimate (except in Study 1), but had no relationship with outgroup humanization. Finally, outgroup trust was related to better outgroup attitudes, lower crimes rating, and to a greater attribution of uniquely human traits to immigrants; it did not affect, except in Study 2, subtle prejudice. Concerning humanity attributions, it is noteworthy that, across the four studies, preliminary analysis showed that also empathy was positively and anxiety was negatively correlated to the attribution of uniquely human traits to immigrants (see Capozza, Trifiletti, et al., 2012), but that the effects of outgroup trust were stronger, and thus that trust was the only emotion significantly influencing outgroup humanization in the regression analyses.

Implicit attitudes

In Study 4, we assessed implicit attitudes using a Single Category IAT (Karpinski & Steinman, 2006). Positive direct contact and positive contact through movies and TV series had positive effects on implicit associations; anyway, we have to acknowledge that these effects were quite weak, and that, when intergroup emotions were entered as predictors of implicit attitudes, no contact measure had significant effects. The SC-IAT score moreover was not affected by intergroup emotions. This effect was not surprising, and confirmed previous studies, which found only direct effects of contact on implicit attitudes (e.g., Tam et al., 2006; Turner, Hewstone, & Voci, 2007). Besides following the procedure by Karpinski and Steinman (2006) to calculate the SC-IAT score,

we proposed another index, calculated considering the difference of the number of errors in the two blocks of the SC-IAT. If a participant made less errors in the block when she/he had to categorize immigrant and positive concepts with the same response key, compared to the block when she/he had to categorize immigrant and negative concepts with the same response key, she/he should have a positive implicit attitude toward immigrants. Emotional empathy was positively related to this measure of implicit outgroup attitudes. Moreover, positive direct contact, positive extended contact, and positive contact through movies and TV series ameliorated implicit attitudes (Error difference) via emotional empathy.

Causal sequence problem

In our research program, we also addressed the causal sequence problem (see Pettigrew, 1998). Although we used a cross-sectional design, we tested alternative models using opportunity for contact as an instrumental variable. The comparison of alternative models conducted in Study 2 confirmed that contact preceded intergroup emotions and attitudes. Anyway, results did not provide final evidence whether intergroup emotions preceded intergroup attitudes, as suggested by literature (e.g., Brown & Hewstone, 2005; Pettigrew & Tropp, 2008; Swart et al., 2011), or intergroup attitudes preceded intergroup emotions. In Study 3, we chose not to test alternative models using opportunity for contact as an instrumental variable, because opportunity was not correlated with any prejudice index; anyway, the fact that contact opportunity was strongly related to positive direct contact and to positive extended contact, weakly to empathy, but not to prejudice, suggested again that contact comes before emotions and prejudice.

Practical implications

Results of the four studies confirmed the effectiveness of direct contact and of extended contact for prejudice reduction. Indeed, both direct and extended contact encounters were more often perceived as positive than negative, and the positive episodes were more predictive of reduced prejudice than the negative episodes of increased prejudice. Thus, promoting cross-group encounters between Italians and immigrants could be a useful strategy to reduce prejudice (see Brown & Hewstone, 2005; Pettigrew & Tropp, 2006). For example, local institutions could propose and organize events and celebrations that favor encounters between Italians and immigrants, especially events where Italians and foreigners have the chance to get to know each other well and develop friendships. Italians and immigrants may also have the opportunity to meet in various circumstances: for example, schools could propose meetings between Italian and immigrant children and between Italian and immigrant parents. In general, all the situations that favor deep and non superficial cross-group encounters could help ameliorating intergroup attitudes.

Prejudice reduction programs could also be based on extended contact: indeed, schools could plan and carry on interventions based on reading stories of friendship between ingroup and outgroup characters (see, e.g., Cameron & Rutland, 2006; Vezzali, Stathi, & Giovannini, 2011).

Social network diversity may be a crucial component for reducing prejudice and ameliorating intergroup attitudes: it would allow the development of cross-group friendships, and would also increase the likelihood of observing positive intergroup encounters and friendships (see Vezzali, Capozza, Hewstone, et al., 2012).

Moreover, results showed that particular attention should be paid to information conveyed by mass media, especially to negative information from TV news and newspapers, that could have detrimental consequences for intergroup relations. It would be useful to propose guidelines to avoid that TV news and newspapers use a prejudicial language and to avoid the overrepresentation of immigrants in negative situations, linked to criminality, or the overrepresentation of illegal immigration in TV news and newspapers.

Given that movies and TV series broadcast a positive image of immigrants, leading to attribute them uniquely human characteristics, movies and TV series portraying immigrants should be promoted. Moreover, TV series or sitcoms could also be expressly created and proposed to television networks, with the aim of promoting tolerance (see Paluck, 2009).

Innovativeness

This doctoral work presents many innovative characteristics: (1) To our knowledge, this is the first series of published studies comparing simultaneously the effects of direct contact, extended contact, and contact through mass media; (2) This is also the first series of published studies examining the independent effects of positive and negative extended contact, positive and negative contact through TV news and newspapers, positive and negative contact through movies and TV series; (3) We considered simultaneously the role of three affective mediators, i.e. intergroup anxiety, emotional empathy, and trust, and showed that trust is particularly relevant as it influences outgroup humanization; (4) We deeply explored antecedents of various forms of prejudice, ranging from explicit outgroup attitudes to implicit associations; (5) In the four studies, the samples were composed by both students and workers from various sectors, to have heterogeneous samples.

Limitations and future directions

Although we believe that our results constitute an important advancement and deepening in the literature on intergroup contact, we have to acknowledge some limitations, that can be turned into proposals for lines of future research. First, all the studies were correlational, and thus did not allow us to make definitive inferences about causality. Anyway, the vast literature on intergroup

contact, including longitudinal and experimental studies (see, e.g., Pettigrew & Tropp, 2006), provided support for the causal sequence from contact to (reduced) prejudice. Future research should replicate these findings using experimental or longitudinal designs, that allow stronger causal inferences.

In all the four studies, we considered the point of view of majority group members (Italians) reporting contact with minority group members (immigrants). Given that recent theorizations and meta-analysis (Tropp & Pettigrew, 2005b) demonstrated that the contact-prejudice relationship is stronger for majority than for minority respondents, relations between variables could be weaker if the point of view of immigrants was considered. Future studies should replicate our findings investigating minority group members' contact with majority group members.

Moreover, other intergroup contexts should be analyzed. Indeed, the inconsistencies concerning the power of effects of positive and negative episodes of direct contact between our studies and studies by Pettigrew (2008) on one hand, and studies by Barlow and colleagues (2012) on the other hand, may be due to characteristics of the intergroup context. Both in our studies and in the study by Pettigrew (2008), respondents were inhabitants of a European country (Italy and Germany, respectively) reporting contact and attitudes toward immigrants; Study 2 by Barlow et al. (2012) instead considered White Americans' contact with and prejudice toward Black Americans. To disentangle these inconsistencies, other intergroup contexts should be analyzed.

Additionally, it would be interesting to investigate the effects of contact through TV news and newspapers and of contact through movies and TV series toward other outgroups, not necessarily ethnic outgroups. For example, we could expect that both television news and movies should broadcast a positive image of disabled people, but exposure to disabled people in TV news could provide a stereotyped view of them, leading to a decrease of able-bodied people's blatant prejudice but to an increase of paternalistic forms of prejudice (see Glick & Fiske, 2001).

Concerning contact through mass-media, we investigated the frequency of exposure and the valence of episodes portraying immigrants in television news and newspapers, and in movies and television series. Anyway, we did not deeply investigate the exposure to intergroup interactions. Given that a growing body of literature is demonstrating that mediated exposure to positive intergroup interactions can reduce prejudice (e.g., Ortiz & Harwood, 2007; Schiappa et al., 2005), future studies should test the effects of the exposure to positive and negative televised intergroup interactions.

Furthermore, to deepen the understanding of the relationship between contact through mass-media and prejudice, it would also be useful to use qualitative methodologies to analyze the content

of the media; specifically, the relationship between content of the media, perceptions of the contact as positive or negative, and prejudice should be analyzed.

In their meta-analytic work, Pettigrew and Tropp (2008) demonstrated that affective mediators had stronger effects than cognitive mediators in the relationship between direct contact and reduced prejudice. Anyway, indirect contact is more a cognitive than an affective experience (Paolini et al., 2007), and thus could have stronger relations with cognitive mediators. Although we showed that also indirect contact is related to intergroup anxiety, emotional empathy, and outgroup trust, in the next studies comparing direct, extended, and mass-mediated contact, also other mediators should be considered. For extended contact, cognitive mechanisms such as group norms and inclusion of the outgroup in the self may play a mediational role (Turner et al., 2008; Wright et al., 1997). The relationship between contact through mass media and prejudice could be mediated by cognitive factors such as perceived intergroup uncertainty (Mazziotta et al., 2011) and ingroup and outgroup norms.

Future research should also consider moderators of the contact-prejudice relationship, namely intergroup salience and typicality of the outgroup member involved in the contact situation (see Brown & Hewstone, 2005). Indeed, it is likely that the relationship between contact and prejudice is stronger when category salience is high (vs. low); typicality could be particularly relevant for the generalization of attitudes from outgroup members during mass-mediated contact to the whole outgroup (see Ortiz & Harwood, 2007).

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Appendices

Appendix A: Standard deviations and zero-order correlations between indicators of latent variables (N = 174), Study 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Contact index	1															
2. Quantity of contact (1)	.56***	1														
3. Quantity of contact (2)	.66***	.78***	1													
4. Empathic concern (1)	.33***	.16*	.15*	1												
5. Empathic concern (2)	.31***	.10	.14	.84***	1											
6. Intergroup anxiety (1)	-.32***	-.25***	-.24***	-.31***	-.32***	1										
7. Intergroup anxiety (2)	-.29***	-.23**	-.22**	-.28***	-.30***	.84***	1									
8. Outgroup trust (1)	.37***	.19*	.24***	.53***	.50***	-.36***	-.36***	1								
9. Outgroup trust (2)	.35***	.14	.20**	.56***	.54***	-.41***	-.34***	.77***	1							
10. Outgroup attitude (1)	.43***	.24***	.30***	.58***	.57***	-.41***	-.42***	.54***	.52***	1						
11. Outgroup attitude (2)	.42***	.20**	.24**	.54***	.52***	-.45***	-.42***	.57***	.50***	.85***	1					
12. Subtle prejudice (1)	-.12	-.07	-.01	-.22**	-.21**	.34***	.33***	-.20**	-.19**	-.34***	-.41***	1				
13. Subtle prejudice (2)	-.21**	-.16*	-.15	-.24***	-.29***	.44***	.38***	-.32***	-.25***	-.43***	-.48***	.64***	1			
14. Crimes estimate (1)	-.01	-.03	-.02	-.20	-.21**	.22**	.21**	-.27***	-.33***	-.34***	-.33***	.32***	.34***	1		
15. Outgroup humanization (1)	.12	-.06	-.04	.30***	.27***	-.15*	-.09	.30***	.41***	.23**	.25***	-.08	-.10	-.25***	1	
16. Outgroup humanization (2)	.14	.06	.10	.28***	.25***	-.16*	-.12	.33***	.38***	.22**	.25***	-.09	-.12	-.23**	.67***	1
SD	.96	.70	.71	.93	1.05	.78	.94	.83	.68	.76	.80	.72	.74	22.43	1.06	1.12

Notes. * $p < .05$. ** $p \leq .01$. *** $p \leq .001$.

Appendix B: Standard deviations and zero-order correlations between indicators of latent variables (N = 201), Study 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Opportunity for contact	1																		
2. Direct contact (1)	.28***	1																	
3. Direct contact (2)	.28***	.63***	1																
4. Extended contact	.28***	.30***	.36***	1															
5. Contact through TV news	.05	-.02	-.08	.09	1														
6. Contact through movies	.14	.16*	.02	.22**	.14	1													
7. Emotional empathy (1)	.15*	.28***	.19**	.17*	-.10	-.03	1												
8. Emotional empathy (2)	.16*	.29***	.19**	.18*	-.11	.01	.93***	1											
9. Intergroup anxiety (1)	.03	-.20**	-.14	-.10	.16*	-.05	-.33***	-.36***	1										
10. Intergroup anxiety (2)	-.02	-.13	-.08	-.01	.13	-.17*	-.09	-.14	.60***	1									
11. Outgroup trust (1)	.12	.36***	.26***	.26**	-.04	.05	.55***	.55***	-.39***	-.18*	1								
12. Outgroup trust (2)	.12	.26***	.24***	.27**	-.10	.03	.65***	.64***	-.40***	-.18*	.82***	1							
13. Outgroup attitude (1)	.16*	.36***	.28***	.27**	-.16*	.03	.70***	.71***	-.41***	-.22**	.63***	.68***	1						
14. Outgroup attitude (2)	.19**	.30***	.32***	.36**	-.13	.04	.66***	.68***	-.44***	-.24***	.64***	.70***	.83***	1					
15. Subtle prejudice (1)	-.03	-.15*	-.17*	-.16*	.17*	-.02	-.43***	-.49***	.46***	.28***	-.43***	-.49***	-.48***	-.52***	1				
16. Subtle prejudice (2)	-.01	-.10	-.16*	-.12	.20**	.02	-.43***	-.44***	.33***	.17*	-.44***	-.48***	-.49***	-.49***	.68***	1			
17. Crimes estimate	-.17*	-.16*	-.18**	-.22**	.21**	-.06	-.30***	-.31***	.34***	.27***	-.38***	-.40***	-.45***	-.47***	.38***	.36***	1		
18. Outgroup humanity (1)	.02	.27**	.21**	.22***	-.15*	.16*	.40***	.39***	-.31***	-.14	.35***	.41***	.38***	.38***	-.35***	-.27***	-.28***	1	
19. Outgroup humanity (2)	.06	.28**	.17*	.29***	-.03	.17*	.32***	.32***	-.28***	-.22**	.33***	.38***	.36***	.39***	-.28***	-.25***	-.24***	.65***	1
SD	.95	.86	.68	.75	.79	.90	.95	.95	.83	.76	.87	.80	.84	.88	.77	.75	21.28	1.16	1.02

Notes. * $p < .05$. ** $p < .01$. *** $p \leq .001$.

Appendix C: Standard deviations and zero-order correlations between indicators of latent variables (N = 330), Study 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Positive direct c. (1)	1																								
2. Positive direct c. (2)	.79***	1																							
3. Negative direct c. (1)	.16**	.06	1																						
4. Negative direct c. (2)	.08	.03	.70***	1																					
5. Positive extended c. (1)	.49***	.48***	.03	-.03	1																				
6. Positive extended c. (2)	.42***	.46***	-.04	-.13*	.86***	1																			
7. Negative extended c. (1)	.18**	.03	.51***	.39***	.12*	.15**	1																		
8. Negative extended c. (2)	.11	.00	.41***	.40***	.06	.08	.74***	1																	
9. Positive c. TV news	.16**	.18***	-.13*	-.13*	.21***	.24***	-.11	-.17**	1																
10. Negative c. TV news	-.11*	-.16**	.25***	.16**	-.05	-.07	.16**	.14*	-.41**	1															
11. Positive c. movies	.10	.12*	-.10	-.08	.11*	.17**	-.06	-.08	.19***	-.01	1														
12. Negative c. movies	-.03	-.08	.22***	.17**	-.04	-.11*	.11*	.06	-.13*	.29***	-.29***	1													
13. Emotional empathy (1)	.25***	.28***	-.30***	-.31***	.27***	.33***	-.18***	-.19***	.28***	-.33***	.22***	-.19***	1												
14. Emotional empathy (2)	.22***	.26***	-.32***	-.28***	.23***	.27***	-.23***	-.22***	.30***	-.29***	.19***	-.17***	.87***	1											
15. Intergroup anxiety (1)	-.27***	-.29***	.12*	.17***	-.30***	-.30***	.12*	.14*	-.23***	.27***	-.04	.08	-.38***	-.32***	1										
16. Intergroup anxiety (2)	-.25***	-.28***	.10	.10	-.30***	-.28***	.09	.10	-.19***	.31***	.04	.10	-.40***	-.35***	.75***	1									
17. Outgroup trust (1)	.34***	.39***	-.16**	-.18***	.39***	.42***	-.12*	-.14**	.35***	-.32***	.24***	-.16**	.58***	.54***	-.41***	-.41***	1								
18. Outgroup trust (2)	.38***	.37***	-.10	-.10	.34***	.35***	-.02	-.05	.28***	-.25***	.17**	-.03	.44***	.38***	-.35***	-.41***	.72***	1							
19. Outgroup attitude (1)	.39***	.39***	-.29***	-.28***	.46***	.49***	-.10	-.18***	.42***	-.29***	.24***	-.17**	.55***	.53***	-.47***	-.42***	.64***	.52***	1						
20. Outgroup attitude (2)	.41***	.39***	-.30***	-.28***	.46***	.48***	-.12*	-.17**	.42***	-.34***	.28***	-.22***	.57***	.56***	-.52***	-.43***	.65***	.50***	.86***	1					
21. Subtle prejudice (1)	-.09	-.09	.16**	.16**	-.13*	-.17**	.12*	.13*	-.16**	.26***	-.08	.21***	-.44***	-.43***	.34***	.36***	-.35****	-.26**	-.33***	-.35***	1				
22. Subtle prejudice (2)	-.17**	-.25***	.35***	.33***	-.17**	-.27***	.25***	.27***	-.17**	.30***	-.17**	.26***	-.57***	-.54***	.41***	.39***	-.44***	-.330**	-.50***	-.53***	.69***	1			
23. Crimes estimate	-.28***	-.28***	.16**	.18***	-.30***	-.32***	.04	.11	-.23***	.27***	-.12*	.17**	-.43***	-.42***	.48***	.43***	-.50***	-.37***	-.58***	-.58***	.38***	.49***	1		
24. Outgroup humanity (1)	.28***	.28***	-.09	-.12*	.31***	.29***	-.10	-.11	.31***	-.23***	.12*	-.04	.38***	.35***	-.32***	-.27***	.48***	.40***	.49***	.53***	-.21***	-.24***	-.32***	1	
25. Outgroup humanity (2)	.27***	.23***	.00	-.08	.31***	.27***	-.02	-.04	.36***	-.18***	.10	-.03	.22***	.20***	-.27***	-.22***	.41***	.35***	.45***	.48***	-.13*	-.12**	-.29**	.77***	1
SD	1.09	1.12	.88	.86	.97	1.01	.92	.90	.72	.77	.85	.81	.88	.84	.90	.68	.67	.74	.75	.78	.68	.76	20.54	1.12	1.20

Notes. c. = contact; * $p < .05$. ** $p < .01$. *** $p \leq .001$.