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Depersonalized extended contact and injunctive norms about cross-group friendship impact intergroup orientations☆

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ABSTRACT

Five experiments examine the interactive power of descriptive and injunctive norms regarding intergroup friendships on the effects of extended contact – knowing ingroup members having outgroup friends – on intergroup orientations. We propose that the positive effect of extended contact can occur even when the ingroup members having outgroup friends are unknown to the individual who becomes aware of such contact – depersonalized extended contact. However, to be effective depersonalized extended contact requires ingroup normative support. We tested this prediction by providing participants with information about the number of ingroup members (Spaniards) who have outgroup (immigrants) friends -descriptive norms - and the normative support for cross-group friendship -injunctive norms. Three experiments tested how different levels of depersonalized extended contact (none vs. low vs. high), consensus regarding norms about cross-group friendship (low vs. high), and the source of such norms (ingroup vs. outgroup) impact intergroup orientations. Even low levels of depersonalized extended contact had positive effects on intergroup orientations, when there was normative support for cross-group friendship from the ingroup, but not from the outgroup. Two additional experiments extended these effects to a behavioral outcome, and showed that the positive effect of ingroup injunctive norms was mediated by the enhanced belief that outgroup members had a genuine interest in intergroup contact (integrative motives). However, the lack of effect of outgroup injunctive norms was mediated by the suspicion that outgroup members held utilitarian motives for contact. Implications of these findings for improving intergroup relations through depersonalized extended contact and injunctive normative influence are discussed.

Learning that an ingroup member has outgroup friends has a positive impact on intergroup attitudes (e.g., the extended contact effect, Wright, Aron, Mclaughlin-Volpe, & Ropp, 1997). Whereas research on extended contact has typically focused on individuals who *know* other ingroup members who have outgroup friends, here we propose and tested for the first time that learning that ingroup members *in general* have outgroup friends may also lead to positive intergroup orientations. We call this type of indirect contact involving unknown ingroup members 'depersonalized extended contact', which, for brevity, we abbreviate to DEC in this paper. In five experiments we examine the effects of DEC and how these effects can be maximized. Literature on social norms and persuasion suggests that acknowledging that ingroup members support cross-group friendship might reinforce the impact of extended contact. In the current research, we explored the interactive effect of DEC by providing information about the number of unknown ingroup members having outgroup friends (descriptive norms) and about normative support for cross-group friendship (injunctive norms) on positive intergroup orientations (desire to interact with outgroup members and behavioral intentions) and judgments about behavior toward outgroup members. In addition, we investigated the underlying mechanisms that explain this effect.

To address these issues it is, first, crucial to distinguish descriptive from injunctive norms. Whereas descriptive norms refer to *what other members of the group do* and serve as a shorthand guide to decide how to

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behave (Cialdini, Kallgren, & Reno, 1991), injunctive norms refer to *what other members of the group think should be done* and promise social rewards or punishments depending on whether one complies or does not engage in the desired behavior (Cialdini et al., 1991). In this particular case, the descriptive norm about intergroup contact is operationalized by DEC, that is, providing information about the number of immigrant friends that most ingroup members have. The injunctive norm would refer to whether ingroup members approve of cross-group friendship. Thus, other ingroup members' attitudes and behaviors model what is seen as appropriate conduct in intergroup relations.

In particular, we predict an interaction between descriptive and injunctive norms about intergroup contact, such that even low levels of DEC (learning that most ingroup members have one or two outgroup friends) might be enough to improve intergroup orientations if presented with explicit ingroup norms supporting cross-group friendship and a high degree of consensus about such a norm. We also predict that ingroup norms regarding intergroup friendship improve intergroup orientations because they reinforce the belief that outgroup members are genuinely interested in intergroup contact (because they desire integration). In contrast, outgroup norms regarding intergroup contact do not improve intergroup orientations, because they increase the attribution of utilitarian motives[1] (in the sense of self-serving or pragmatic) to outgroup members.

1. Extended contact and ingroup and outgroup norms

Wright et al. (1997) proposed and demonstrated that an indirect form of intergroup contact, extended contact, promotes positive intergroup orientations. The extended contact effect stipulates that knowing that ingroup members have outgroup members as friends can improve intergroup attitudes. Researchers have described the multiple positive effects of extended contact on intergroup orientations across different outgroups and in different countries, and considering a variety of outcome measures, attesting to the robustness of the concept (for a comprehensive review see Vezzali, Hewstone, Capozza, Giovannini, & Wölfer, 2014). Extended contact has been shown to improve attitudes toward foreigners (Pettigrew, Christ, Wagner, & Stellmacher, 2007), homosexuals (Capozza, Falvo, Trifiletti, & Pagani, 2014), refugees (Cameron, Rutland, Brown, & Douch, 2006) and stigmatized groups in adults (Cameron & Rutland, 2006) and in children (Cameron, Rutland, & Brown, 2007). It can reduce hostility between groups in conflict (Paolini, Hewstone, Cairns, & Voci, 2004) and dampen explicit and implicit outgroup prejudice (Turner, Hewstone, & Voci, 2007). It can also predict positive intergroup attitudes and expectancies for intergroup contact among both majority and minority participants (Gómez, Tropp, & Fernández, 2011).

As envisaged by Wright et al. (1997), Turner, Hewstone, Voci, and Vonofakou (2008) demonstrated that four processes simultaneously mediate relationships between extended contact and attitudes toward the outgroup: anxiety reduction, inclusion of the outgroup in the self, and, importantly to the current research, perceived ingroup and outgroup norms. The tolerant behavior of ingroup and outgroup members who take part in close intergroup contact might serve as a source of informational influence (Wright et al., 1997). So far a number of studies have found converging evidence in favor of these mechanisms. For instance, Gómez et al. (2011) found that extended contact improved the expectancies about intergroup contact of minority and majority members by increasing positive ingroup and outgroup norms about cross-group friendship. De Tezanos-Pinto, Bratt, and Brown (2010) suggested that learning that ingroup friends or classmates had contact with outgroup members affects intergroup attitudes toward outgroup members by changing the perception of ingroup norms and by reducing intergroup anxiety.

Even though extended contact can affect the perception of ingroup and outgroup norms, it tends to be a personal experience - directly knowing ingroup members who have outgroup friends. This characteristic explains why extended contact is usually measured, but not manipulated. As the review by Vezzali et al. (2014) shows, few studies have *manipulated* extended contact [for a rare exception see the original research by Wright et al., 1997, Study 4, which used minimal groups created in the laboratory].

Here we use a novel paradigm, which involves providing feedback about the number of unknown ingroup members who have outgroup friends. It is therefore a new form of indirect contact that is different from extended contact in several aspects. First, the nature of the effect is distinctive in that it does not involve direct contact with ingroup members who have outgroup friends. The idea that intergroup contact involving unknown ingroup members might be effective was first tested by Cernat (2011), who asked Romanian students to read a story about the friendship between an unknown outgroup member (a Roma) and an unknown ingroup member (a Romanian). However, whereas the story presented in Cernat (2011) was focused on a single ingroup member, we provide information about the quantity of intergroup contact that most ingroup members have. Second, the mechanisms that account for the positive effects of extended contact in previous studies (Cernat, 2011; Wright et al., 1997) are different from the processes we examine in the current experiments. In the extended contact approach individuals infer ingroup and outgroup norms about intergroup contact on the basis of a single exemplar. However, the participants in our experiments learn directly about ingroup and outgroup norms regarding cross-group friendship. Thus, we propose that by linking feedback to unknown ingroup members, one can effectively shift perceptions about social norms, where attempts to shift perceptions about known ingroup members may be implausible, or at least more difficult to realize.

Nevertheless, we predict that for DEC to improve intergroup orientations requires explicit ingroup support about intergroup contact. In particular, we conjecture that learning that most ingroup members only have one or two outgroup friends might not be enough to improve intergroup orientations. For this form of DEC to be effective, individuals should also learn that the majority of ingroup members support cross-group friendship. We base our prediction on the literature about social norms.

2. The impact of social norms on intergroup orientations

Research has consistently shown the power of social norms for influencing attitudes and behavior (Aarts & Dijksterhuis, 2003; Allport, 1954; Asch, 1958; Cialdini et al., 1991; Crandall & Stangor, 2005; Darley & Latané, 1970; Kerr, 1995; Sherif, 1936; Terry & Hogg, 2001). The effect of social norms is so powerful that individuals' behavior can be driven by norms, rather than by their own personal beliefs (Blanchard, Crandall, Brigham, & Vaughn, 1994; Miller, Monin, & Prentice, 2000; Paluck, 2009; Stangor, Sechrist, & Jost, 2001). Social norms can be defined as “socially shared definitions of the way people do behave or should behave” (Paluck, 2009, p. 575; see also Miller et al., 2000). This definition reflects that social norms are a mixture of both *descriptive* and *injunctive norms* (Paluck, 2009, p. 575; see also Cialdini et al., 1991; Cialdini & Trost, 1998; Miller et al., 2000; Reno, Cialdini, & Kallgren, 1993).

Descriptive and injunctive norms have independent effects on behavior and behavioral intentions (Warburton & Terry, 2000; White, Terry, & Hogg, 1994). Injunctive norms seem to have a stronger and more pervasive effect on behavior than descriptive norms (e.g.,

[1] We want to clarify that our implicit association of utilitarian motives as something bad or despicable and integrative motives as something good or genuine is based on the assumption that in this context participants will tend to attribute such meaning to both motives. However, the fact that majority members can often afford to engage in contact for mere integrative motives (due to their position of strength) does not make utilitarian motives necessarily bad. In fact utilitarian motives can be effectively used to encourage contact among both majority and minority members.

Cialdini, Reno, & Kallgren, 1990), because they are more likely to transcend situational boundaries than are descriptive norms. However, research has suggested that presenting aligned descriptive and injunctive norms can result in a stronger effect than presenting either type of norm in isolation (Cialdini, 2003; see also Smith & Louis, 2008). Consequently, and returning to our case, intergroup orientations might improve most when people learn that ingroup members both have and approve having immigrant friends. On the contrary, when there is a contradiction between descriptive and injunctive norms (for instance, when ingroup members do not engage in intergroup contact even though they approve it) people would comply with the norm that is most salient in that situation (Cialdini et al., 1990).

Importantly, social norms also refer to *the group consensus regarding* the appropriate treatment of another group (Sechrist & Stangor, 2001; Stangor et al., 2001). When individuals perceive a high consensus about some social norm, that norm can have a strong impact on intergroup attitudes in general (Haslam et al., 1996; Sechrist & Milford, 2007; Sechrist & Stangor, 2001, 2005; Sechrist, Stangor, & Killen, 2005; Wittenbrink & Henly, 1996). Specifically, in relation to prejudice, the amount of prejudice people express is strongly predicted by the perceived level of prejudice of other people in that context (Pettigrew, 1958), especially the perceived level of prejudice of other ingroup members (Stangor et al., 2001).

In sharp contrast, outgroup norms tend to influence decision-making and behavior when outgroup members have coercive power over the ingroup (Louis, Taylor, & Douglas, 2005). When compliance with outgroup norms is not associated with punishment or rewards, outgroup norms do not seem to modify ingroup members' attitudes (e.g., Mackie, Gastardo-Conaco, & Skelly, 1992; Terry & Hogg, 1996). Besides coercive power, other factors (e.g., strategic considerations, Louis et al., 2005) can increase or decrease the asymmetry between ingroup and outgroup norms, which seems to be context-specific. In this particular case, since immigrants are usually perceived as lacking power when compared with the ingroup majority, we conjecture that learning that outgroup members approve cross-group friendship should exert little influence on ingroup members' attitudes and intentions. Additionally, outgroup members' approval of cross-group relations might raise suspicions about the motives that underlie their support for intergroup contact. The attribution of utilitarian motives instead of genuine interest in intergroup contact should reduce the influence of outgroup norms (see Eagly, Wood, & Chaiken, 1978).

3. Overview of the present research

The present investigation was designed to test how DEC and injunctive norms concerning cross-group friendships can produce positive intergroup orientations (greater desire for intergroup contact and positive behavioral intentions toward outgroup members), and, importantly, judgments about behavior toward the outgroup. Across five experiments, we manipulated DEC by providing participants with information about the number of outgroup friends (immigrants) that most ingroup members (Spaniards) have. We manipulated injunctive norms by informing participants that cross-group friendships were supported by either ingroup members (Experiments 1 and 5) or outgroup members (Experiment 4), by varying the source of normative support to test the relative effects of ingroup versus outgroup support for cross-group friendships (Experiment 3), and by varying the degree of ingroup support for cross-group friendships (Experiment 2). All the participants in these five experiments were Spaniards, who were born in Spain, and none of them were second or third generation immigrants. Participants who did not fulfill these requirements were diverted to a different study. Once participants finished each of the experiments they were debriefed and thanked.

Based on previous research (Cialdini, 2003; Smith & Louis, 2008) we expected that descriptive (DEC) and injunctive norms (ingroup support) about cross-group friendships would interact to produce more positive intergroup orientations than when each type of norm was manipulated separately. Participants in the preliminary study and in Experiment 1 were undergraduate psychology students from the *Universidad Nacional de Educación a Distancia* (UNED); participants in Experiments 2–3 were high school students; and in Experiments 4–5 we employed a snowball technique such that students from UNED sent a link asking their friends, colleagues or acquaintances to participate. In Experiments 2–3, in order to avoid students responding to the questionnaires with their peers, participants from different classes were mixed and randomly assigned to groups of 20 participants and completed the questionnaire in a neutral room. Each participant was also randomly assigned to a different experimental condition. Participants in Experiments 1–3 were asked at the end of the questionnaire for the group/s they were thinking of when they thought about immigrants, and most reported Latin/South-Americans, East Europeans, Moroccans, Black Africans and Asians. The experimental manipulation did not alter the perception of the group that was thought about as immigrants. All measures, manipulations, and exclusions are disclosed. Sample size was determined before any data analysis.

4. Preliminary study

We conducted a preliminary study to examine the extent to which Spaniards know ingroup members (Spaniards) who have outgroup (immigrant) friends. Participants were drawn from the same population used for the later experiments; specifically, participants were undergraduate students recruited from a distance learning university in Spain (UNED). These student participants tend to be more heterogeneous than students from regular universities, in that they are older, usually working, and residing in rural and urban environments across different regions of Spain.

We recruited 337 undergraduate psychology students (285 female, 52 male, mean age = 31.33, SD = 7.77) to report how many Spaniards they knew who had immigrant friends. Results indicated that 32.9% of the participants knew no Spaniards who had immigrant friends; 18.1% knew one Spaniard who had immigrant friends; 16.9% knew two Spaniards; 11.3% three; 7.7% four; 6.2% five; 3.9% six; and 3% seven or more. Responses were then categorized into three levels of extended contact, to provide a basis for manipulating DEC in subsequent experiments: no extended contact (those who know no Spaniards who have immigrant friends, 32.9%), low extended contact (those who know 1–2 Spaniards who have immigrant friends, 35%), and high extended contact (those who know more than two Spaniards who have immigrant friends, 32.1%).

5. Experiment 1

Using the categories for degree of DEC determined in the preliminary study, Experiment 1 examined how DEC (no vs. low vs. high DEC) and injunctive norms for cross-group friendship (ingroup support vs. control) affect participants' positive intergroup orientations. We expected a main effect of DEC, such that learning of higher levels of intergroup contact would predict more positive intergroup orientations than lower levels of intergroup contact. We also predicted a main effect of injunctive norms, such that participants in the ingroup support condition would show more positive intergroup orientations than participants in the control condition. Most importantly, we expected an interaction between DEC and injunctive norms, such that ingroup support should predict more positive intergroup orientations under higher DEC.

Experiment 1 was conducted using experimental manipulations embedded within an online questionnaire. Although prior work shows that data collected online are reliable and valid (see Buhrmester, Kwang, & Gosling, 2011), we took one additional precaution to ensure data quality. In particular, we registered the IP of participants (to avoid multiple submissions by the same person). Geographical dispersion of

participants is an advantage for the verisimilitude of our manipulation. For instance, a participant from a rural area who does not know Spaniards who have immigrant friends could still believe that in other regions of Spain intergroup contact is frequent. In contrast, a participant living in a big city could think that intergroup contact is high in his/her environment but not in most regions of Spain.

5.1. Method

5.1.1. Participants and research design

One hundred and fifty-six undergraduate psychology students (80 female, 76 male; mean age = 36.54, *SD* = 7.11) completed the study online for partial course credit. Because there was no precedent for examining the impact of DEC on intergroup orientations, we could not accurately determine the required sample sizes. Considering the designs of Experiments 1 and 2 (6 groups), we estimated that 175 participants approximately would provide power of 95% to detect a medium-to-large effect size (Cohen's $f = 0.30$) with 0.05 significance level.

After completing some background questions regarding their prior contact experiences (see *Procedure and Materials*, below), each participant was randomly assigned to one of six experimental conditions within a 3 (descriptive norms: no vs. low vs. high DEC) × 2 (injunctive norms: ingroup support vs. control) factorial design.

Following the experimental manipulations, participants completed measures of positive intergroup orientations and manipulation checks for descriptive and injunctive norms.

5.1.2. Procedure and materials

The experiment was conducted online in a single testing session but in three parts.

5.1.2.1. Part 1. In Part 1, Spanish participants were asked to respond to a series of background questions regarding their prior contact experiences with immigrants, to examine whether prior contact scores varied among participants assigned to different experimental conditions and, if necessary, to be used as control variables in data analysis.

Quantity of prior contact was assessed using a 4-item scale, with item responses ranging from 0 (*never*) to 6 (*very often*). Participants were asked "How often do you have… (a) contact with immigrants in your neighborhood; (b) contact with immigrants in your job; (c) contact with immigrants in town; and (d) conversations with immigrants." These responses were averaged to create a composite measure ($\alpha = 0.80$).

Quality of prior contact was assessed using a 6-item scale, with item responses ranging from 0 (*totally disagree*) to 6 (*totally agree*). Participants were asked the extent to which they considered their contact with immigrants to be *Agreeable*, *Balanced*, *Cooperative*, *Voluntary*, *As Equals*, and *Personally Important*. An exploratory factor analysis showed that these items loaded onto one factor (loadings ranging from 0.77 to 0.89) and were substantially interrelated ($\alpha = 0.93$).

Prior cross-group friendship was measured with two items asking participants: "How many immigrant friends do you have?" and "How many friends of your age are immigrants?". Participants responded with a specific number in each case, and their responses were averaged to create a composite measure, $r(154) = 0.71$.

Prior extended contact was measured with four items. Participants were asked: "How many Spaniards do you know, in general, who have at least one immigrant friend?", "How many Spaniards of your age do you know that have at least one immigrant friend?", "How many of your friends in general have at least one immigrant friend?", and "How many of your friends of your age have at least one immigrant friend?". Participants responded with a specific number and the responses were averaged to create a composite measure ($\alpha = 0.85$).

5.1.2.2. Part 2. In Part 2, participants were informed that the Spanish Ministry of Education was interested in learning Spaniards' opinions about immigrants, and they were presented with a fictitious newspaper article, entitled "*Do Spaniards have immigrant friends?*" To enhance the credibility of the information presented, the text appeared in the format of a 250-word article in the online version of a well-known national newspaper, and the article described a research project supported by the Ministry and several Spanish universities. The newspaper article stated that a national study had been conducted with a representative survey of Spaniards, to (a) know whether, in general, Spaniards had immigrants as friends; and (b) determine how Spaniards perceived having immigrants as friends.

Participants were then randomly assigned to receive one of six versions of the newspaper article, which were varied systematically across experimental conditions to represent the factorial combination of the DEC manipulation (no vs. low vs. high DEC) and the injunctive norms manipulation (ingroup support vs. control). Ostensibly according to the results of the Ministry's study, participants learned either that most Spaniards reported having no immigrant friends (no DEC), one or two immigrant friends (low DEC), or having more than two immigrant friends (high DEC). Additionally, participants learned either that most Spaniards supported having immigrants as friends (ingroup support, or an injunctive norm) or they received no information regarding Spaniards' support for having immigrants as friends (control).

5.1.2.3. Part 3. In Part 3, after reading one of the six versions of the newspaper article, participants were asked to respond to a series of questions about positive intergroup orientations.

Positive intergroup orientations were measured using six items with responses ranging from 0 (*totally disagree*) to 6 (*totally agree*). Three items referred to desire to interact with outgroup members and were adapted from Shelton and Richeson (2005): "I would like to have more immigrant friends at work", "I would be interested in sitting next to immigrants at work", "I would be willing to get up from where I am sitting and sit down next to a group of immigrants". Three additional items referred to behavioral intentions: "I would be interested in joining a voluntary organization for improving the living conditions of immigrants," "I would be interested in organizing activities (e.g., sports, games) with Spanish and immigrant children, to help them to become more integrated," and "I would be interested in donating money to an organization that aims to help immigrants". Responses to these items were averaged to create a composite measure ($\alpha = 0.88$).[2]

5.2. Results and discussion

Although participants were randomly assigned to different experimental conditions, we conducted preliminary 3 (DEC: no vs. low vs. high DEC) × 2 (injunctive norms: ingroup support vs. control) analyses of variance (ANOVAs) using each of the prior contact variables as dependent variables, to test for possible differences in prior contact scores between participants assigned to different conditions. There were no main or interaction effects involving any of the prior contact variables in relation to the experimental conditions in any study (see the statistics in Table 1). In addition, the analyses were conducted both with and without controlling for the main effects of prior contact variables and they yielded virtually identical patterns of effects. Hence there was no need to use these variables as controls in subsequent data analysis.

5.2.1. Positive intergroup orientations

Positive intergroup orientations were submitted to a 3 (DEC: none vs. low vs. high DEC) × 2 (normative support vs. control) ANOVA. This analysis showed significant main effects of DEC, $F(2,150) = 31.34$,

[2] Factor analysis with varimax rotation yielded two factors. However, the pattern of results for both measures when considered independently was similar in all studies. To simplify the presentation of results, we collapsed all the items into a single measure with a high alpha. Separate analyses are available on request to the first author.

Table 1
Main and interactive effects of our manipulations on control variables.

	Experiment 1			Experiment 2			Experiment 3		
	F	*p*	η_p^2	*F*	*p*	η_p^2	*F*	*p*	η_p^2
Quantity:									
Contact	1.74	0.178	0.023	0.79	0.456	0.008	0.27	0.761	0.002
Norms	2.58	0.110	0.017	1.57	0.211	0.008	0.28	0.759	0.002
Interaction	1.21	0.302	0.016	2.17	0.116	0.022	1.42	0.226	0.016
Quality:									
Contact	0.46	0.631	0.006	1.36	0.259	0.104	0.00	0.999	0.000
Norms	2.51	0.115	0.016	0.58	0.448	0.003	2.33	0.098	0.013
Interaction	0.78	0.460	0.010	1.11	0.333	0.012	0.78	0.539	0.009
Direct contact:									
Contact	1.98	0.142	0.026	1.04	0.354	0.011	1.25	0.287	0.007
Norms	0.82	0.366	0.005	0.43	0.514	0.002	1.51	0.223	0.009
Interaction	0.10	0.903	0.001	1.50	0.226	0.016	1.43	0.223	0.016
Extended contact:									
Contact	2.18	0.116	0.028	1.85	0.160	0.019	0.30	0.743	0.002
Norms	2.68	0.104	0.018	0.33	0.564	0.002	1.99	0.138	0.011
Interaction	1.67	0.191	0.022	1.77	0.173	0.018	0.15	0.964	0.002

$p < .001$, $\eta_p^2 = 0.295$, 90% CI[3] [0.192; 0.379], and injunctive norms, $F(1,150) = 16.42$, $p < .001$, $\eta_p^2 = 0.099$, 90% CI [0.035; 0.178]. Positive intergroup orientations were greater among participants who learned of higher DEC, as well as those who learned of ingroup support for cross-group friendships. Importantly, these main effects were qualified by a significant interaction between DEC and injunctive norms, $F(2,150) = 5.25$, $p = .006$, $\eta_p^2 = 0.065$, 90% CI [0.011; 0.130] (see Fig. 1). Among participants in the no DEC condition, positive intergroup orientations did not significantly differ depending on whether there were or were not explicit ingroup norms supporting cross-group friendship ($M = 3.58$; $SD = 0.96$, and $M = 3.64$; $SD = 0.39$, respectively), $F(1, 150) = 0.06$, $p = .814$, $\eta_p^2 < 0.001$, 90% CI [0.000; 0.016]. However, among participants in the low DEC condition, positive intergroup orientations were significantly greater among participants who were exposed to ingroup norms supporting cross-group friendship ($M = 4.61$; $SD = 0.78$) than among those who were not exposed to those norms ($M = 3.76$; $SD = 0.88$), $F(1, 150) = 11.92$, $p = .001$, $\eta_p^2 = 0.074$, 90% CI [0.020; 0.147]. Similarly, among participants in the high DEC condition, positive intergroup orientations were significantly greater among participants who were also exposed to ingroup norms supporting cross-group friendship ($M = 5.27$; $SD = 0.62$) than among those who were not exposed to those norms ($M = 4.45$; $SD = 1.13$), $F(1, 150) = 12.77$, $p < .001$, $\eta_p^2 = 0.078$, 90% CI [0.023; 0.153].

Findings from Experiment 1 revealed, as predicted, that both DEC and injunctive norms for cross-group friendship are important predictors of desire for positive intergroup orientations, both interactively and independently. The effect size of the interactive effect was medium, whereas the main effects were high, particularly the main effect of DEC. Participants who learned that ingroup members generally have high levels of contact with outgroup members expressed more positive intergroup orientations than those who learned of low or no intergroup contact. Ingroup support also promoted more positive orientations toward outgroup members. However, the most interesting finding emerges as a result of the interplay between these normative influences. Extending prior research (Gómez et al., 2011; Turner et al., 2007; Wright et al., 1997), results showed that ingroup norms supporting cross-group friendship only impacted more positive intergroup orientations when respondents were aware of some degree of extended contact.

These findings suggest that injunctive norms in support of cross-group friendship may be effective to promote more positive intergroup orientations only to the extent that people also perceive convergent descriptive norms (DEC). That is, simply learning that ingroup members support cross-group friendship may not automatically improve intergroup orientations; it is also necessary for people to know that other members of their group actually engage in some contact with the outgroup. These results are in line with previous research showing that people follow the norm that is most salient in a situation when they perceive a contradiction between descriptive and injunctive norms (as is the case in the 'no extended contact' condition; see Cialdini et al., 1990).

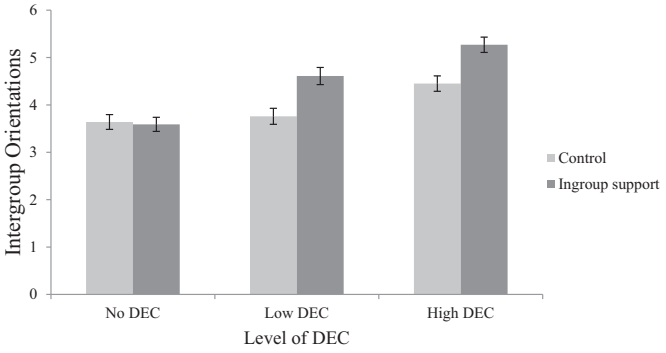

Fig. 1. Positive intergroup orientations as a function of depersonalized extended contact (DEC) and injunctive norms (Experiment 1). Error bars represent standard error.

Thus far, however, we have only tested the effects of injunctive norms in a general way, comparing effects when ingroup norms supporting cross-group friendships are or are not made explicit. Explicit norms supporting cross-group friendship may have different effects on intergroup outcomes depending on the degree to which people perceive consensus in those norms (e.g., Sechrist & Stangor, 2001). Thus, in Experiment 2, we tested how DEC and injunctive norms for cross-group friendship may interact in predicting intergroup outcomes, in relation to the degree of perceived consensus associated with ingroup normative support. Akin to Experiment 1, we expected that higher levels of DEC and greater consensus in ingroup norms supporting cross-group friendship would predict more positive intergroup orientations toward outgroup members, independently and interactively. We expected a main effect of DEC, such that higher levels of DEC would predict more positive intergroup orientations than lower levels of DEC. We also predicted a main effect of consensus in injunctive norms, such that participants who perceived greater consensus in ingroup norms supporting cross-group friendships would show more positive intergroup

[3] 90% was used to make sure that the confidence interval will be consistent with the results from the ANOVA using the 0.05 criterion of statistical significance.

orientations than participants perceiving less consensus. Most importantly, we predicted an interaction such that greater consensus in ingroup support should predict more positive intergroup orientations in the low and high DEC conditions, but levels of consensus should not differentially predict intergroup orientations in the no DEC condition.

6. Experiment 2

The design and procedures used in Experiment 2 closely followed the design and procedures of Experiment 1. However, rather than manipulating injunctive norms through the presence or absence of information about ingroup support for cross-group friendships, in Experiment 2 we manipulated the degree of consensus associated with ingroup support for cross-group friendships. For practical purposes only, procedures for Experiment 2 also differed from those used in Experiment 1 in that participants were high school students rather than undergraduates, and the questionnaires were administered using a paper-and-pencil format rather than an online format.

6.1. Method

6.1.1. Participants and design

One hundred and ninety-six high school students (67 girls, 129 boys; mean age = 15.46, $SD = 0.93$) voluntarily participated in the study with the consent of their school and parents. Each participant was randomly assigned to one of six experimental conditions in a 3 (DEC: no vs. low vs. high DEC) × 2 (injunctive norm consensus: low vs. high) design.

6.1.2. Procedure and materials

Similar to Experiment 1, the materials distributed to participants consisted of three parts. First, participants completed a brief questionnaire in which they reported on their prior contact with immigrants, using the same measures as in Experiment 1, including contact quantity and quality, prior cross-group friendship, and extended contact (all αs > 0.71).

One week later, participants were randomly assigned to receive one of six versions of a fictitious newspaper article, which were varied to represent the factorial combination of the manipulations of DEC (no vs. low vs. high DEC) and degree of injunctive norm consensus (low vs. high consensus in ingroup support). Participants in each of the descriptive norm conditions received the same information about Spaniards' levels of contact as participants in Experiment 1. In addition, participants in the low ingroup consensus condition were informed that 22% of Spaniards support having immigrants as friends, whereas participants in the high consensus condition were informed that 78% of Spaniards support having immigrants as friends.

Finally, after reading the newspaper article, participants were asked to respond to the same measure used in Experiment 1 to assess their positive intergroup orientations, α = 0.89.

6.2. Results and discussion

6.2.1. Positive intergroup orientations

Positive intergroup orientations were submitted to a 3 (DEC: none vs. low vs. high DEC) × 2 (injunctive norm consensus: low vs. high consensus in ingroup support) ANOVA. This analysis showed significant main effects of DEC, $F(2,190) = 28.27$, $p < .001$, $\eta_p^2 = 0.229$, 90% CI [0.143; 0.306], and injunctive norm consensus, $F(1,190) = 24.11$, $p < .001$, $\eta_p^2 = 0.113$, 90% CI [0.051; 0.185]. However, these main effects were qualified by a significant interaction between DEC and injunctive norm consensus, $F(2,190) = 6.06$, $p = .003$, $\eta_p^2 = 0.060$, 90% CI [0.013; 0.116] (see Fig. 2). Among participants in the no DEC condition, positive intergroup orientations did not significantly differ depending on whether consensus in ingroup norms supporting cross-group friendship was high or low ($M = 2.63$; $SD = 1.40$, and $M = 2.63$; $SD = 0.95$, respectively), $F(1,190) < 0.001$, $p = .994$, $\eta_p^2 < 0.001$, 90% CI [0.000; 0.000]. However, among participants in the low DEC condition, positive intergroup orientations were significantly greater among those who were informed that there was high consensus in ingroup norms supporting cross-group friendship ($M = 3.67$; $SD = 1.14$) than among those who were informed of low consensus in ingroup norms ($M = 2.47$; $SD = 1.54$), $F(1,190) = 18.88$, $p < .001$, $\eta_p^2 = 0.090$, 90% CI [0.035; 0.159]. Similarly, in the high DEC condition, positive intergroup orientations were significantly greater among participants who were informed of high consensus in ingroup norms supporting cross-group friendship ($M = 4.60$; $SD = 0.68$) than among those who were informed of low consensus in ingroup norms ($M = 3.48$; $SD = 0.64$), $F(1,190) = 17.42$, $p < .001$, $\eta_p^2 = 0.084$, 90% CI [0.031; 0.151].

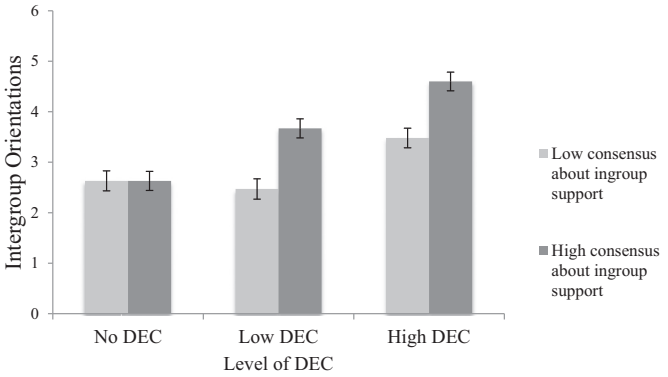

Fig. 2. Positive intergroup orientations as a function of depersonalized extended contact (DEC) and injunctive norms. (Experiment 2). Error bars represent standard error.

Complementing findings from Experiment 1, Experiment 2 showed that both DEC and injunctive norms supporting cross-group friendship are important predictors of positive intergroup orientations. Participants who learned that ingroup members generally have high levels of contact with outgroup members expressed more positive intergroup orientations, and greater consensus in ingroup norms regarding cross-group friendship promoted more positive orientations toward outgroup members. However, once again the most interesting finding refers to the interactive effect between these normative influences. Once again the effect size of the interaction was medium, whereas the sizes of the main effects were high, particularly the main effect of DEC.

Together, findings from the first two experiments show that the presence of (Experiment 1) and consensus on (Experiment 2) injunctive norms are especially likely to produce more positive intergroup orientations when coupled with information indicating that members of their group have some degree of contact with outgroup members. Thus far, we have employed manipulations of injunctive norms related to members of the ingroup (i.e., Spaniards). We chose this approach because: a) prior research has demonstrated that ingroup norms are often more strongly correlated with intergroup attitudes than outgroup norms (e.g., Gómez et al., 2011); b) norms encouraging positive intergroup relations are perceived more positively when they come from ingroup members than from outgroup members (Gómez, Dovidio, Cuadrado, Huici, & Gaertner, 2008); and c) the opinions of ingroup members are more likely to influence people's attitudes and actions than are those of outgroup members (Ariyanto, Hornsey, & Gallois, 2006; Hogg & Smith, 2007; Mackie, Worth, & Asuncion, 1990; Terry & Hogg, 1996). Nonetheless, we have yet to test directly whether the interactive effects of descriptive and injunctive norms are limited to contexts where injunctive norms supporting cross-group friendships come from the ingroup. To that end, we conducted a third experiment, in which we varied whether injunctive norms supporting cross-group friendships come from an ingroup source or an outgroup source.

Similar to the prior two experiments, we expected that higher levels of DEC and ingroup norms supporting cross-group friendship would predict more positive intergroup orientations, independently and interactively. We expected a main effect of DEC, such that learning that ingroup members have greater contact with the outgroup would predict more positive intergroup orientations. We also expected a main effect of source, such that ingroup support should produce more positive intergroup orientations than outgroup support. More importantly, we predicted an interaction such that ingroup norms supporting cross-group friendships should be more likely than outgroup norms to predict positive intergroup orientations in the low and high DEC conditions, but ingroup norms should have little influence in predicting intergroup orientations in the no DEC condition.

7. Experiment 3

Experiment 3 tested how DEC and injunctive norms contribute to predicting positive intergroup orientations. We used essentially the same procedures as in Experiment 1. However, we added conditions to manipulate the source of injunctive norms (ingroup vs. outgroup vs. control).

7.1. Method

7.1.1. Participants and design

Three hundred and sixty-one high school students (175 girls, 186 boys; mean age = 15.40, $SD = 1.35$) voluntarily participated in the present study with the consent of their school and parents. Each participant was randomly assigned to one of nine conditions in a 3 (DEC: no vs. low vs. high contact) × 3 (source of injunctive norms: ingroup vs. outgroup vs. control) design. Given that the design of Experiment 3 is more complex than that of Experiments 1–2 (9 groups instead of 6), we estimated that a sample of at least 300 participants would be necessary to yield power of 95% to detect a medium effect size.

7.1.2. Procedure and materials

The basic procedure for Experiment 3 was virtually identical to the procedure used in Experiment 2 with one variation: the main experiment was conducted one month (instead of one week) after the measures of prior contact were administered to participants. During Part 1, we assessed contact quantity and quality using the same measures as those used in the prior experiments (αs = 0.79 and 0.93 respectively). Prior cross-group friendship and extended contact were each measured using a single open-ended item, by asking participants how many of their friends were immigrants and how many Spaniards of their age they knew who had immigrant friends.

During Part 2, participants were randomly assigned to receive one of nine versions of a fictitious newspaper article, which were varied to represent the factorial combination of the descriptive norms manipulation (no vs. low vs. high DEC) and the source of injunctive norms supporting cross-group friendship (ingroup vs. outgroup vs. control).

Participants in each of the three descriptive norms conditions received the same information as participants in Experiments 1 and 2. In addition, to manipulate injunctive norms, participants in the *ingroup norms condition* learned that most Spaniards support having immigrants as friends (as in Experiment 1); by contrast, participants in the *outgroup norms condition* learned that most immigrants support having Spaniards as friends. No additional information about normative support for cross-group friendship was given to participants in the *control condition*.

After reading the newspaper article, participants were then asked to respond to the same questions as in Experiments 1–2 concerning their positive intergroup orientations (α = 0.87).

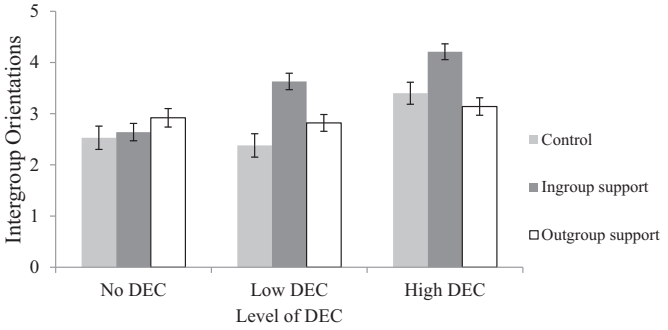

Fig. 3. Positive intergroup orientations as a function of depersonalized extended contact (DEC) norms and source of injunctive norms (Experiment 3). Error bars represent standard error.

7.2. Results and discussion

7.2.1. Positive intergroup orientations

We submitted positive intergroup orientations to a 3 (DEC: no vs. low vs. high DEC) × 3 (injunctive norm source: ingroup vs. outgroup vs. control) ANOVA. This analysis showed significant main effects of DEC, $F(2,352) = 18.31$, $p < .001$, $\eta_p^2 = 0.094$, 90% CI [0.049; 0.142], and injunctive norm source, $F(2,352) = 12.75$, $p < .001$, $\eta_p^2 = 0.068$, 90% CI [0.029; 0.110]. In particular, Tukey post-hoc analyses showed that participants in the ingroup norms condition expressed more positive intergroup orientations ($M = 3.54$, $SD = 1.20$), relative to participants in the outgroup norms condition ($M = 2.96$, $SD = 1.13$), and the control condition ($M = 2.79$, $SD = 1.43$), $ps < 0.001$. No significant difference in desire for contact emerged between participants in the outgroup norms and control conditions, $p = .573$. Moreover, these main effects were qualified by a significant interaction between DEC and injunctive norm source, $F(4,352) = 5.28$, $p < .001$, $\eta_p^2 = 0.057$, 90% CI [0.017; 0.091] (see Fig. 3). Among participants in the no DEC condition, positive intergroup orientations did not significantly differ depending on whether support for cross-group friendships came from an ingroup source ($M = 2.64$, $SD = 0.98$), an outgroup source ($M = 2.92$, $SD = 1.09$), or whether no information about normative support was given ($M = 2.53$, $SD = 1.36$), $F(2,352) = 1.10$, $p = .334$, $\eta_p^2 = 0.006$, 90% CI [0.000; 0.023]. However, positive intergroup orientations did significantly differ depending on the source of normative support among participants in the low DEC condition, $F(2,352) = 11.73$, $p < .001$, $\eta_p^2 = 0.062$, 90% CI [0.025; 0.104]. In particular, intergroup orientations were more positive among participants who received normative support for cross-group friendship from an ingroup source ($M = 3.63$, $SD = 1.05$) than among those who received normative support from an outgroup source ($M = 2.82$, $SD = 1.31$), or who received no normative support information ($M = 2.38$, $SD = 1.39$), $ps < 0.001$. The difference between those who received normative support from an outgroup source or received no normative support information was not significant, $p = .122$. Similarly, positive intergroup orientations differed significantly depending on the source of normative support among participants in the high DEC condition, $F(2,352) = 11.62$, $p < .001$, $\eta_p^2 = 0.062$, 90% CI [0.025; 0.103]. Intergroup orientations were more positive among participants who received normative support for cross-group friendship from an ingroup source ($M = 4.21$, $SD = 1.01$), than among those who received normative support from an outgroup source ($M = 3.14$, $SD = 0.95$), or who received no normative support information ($M = 3.41$, $SD = 1.36$), $ps = 0.001$ and 0.003, respectively. The difference between those who received normative support from an outgroup source or received no normative support information was not significant, $p = .343$.

Results of Experiment 3 complemented and extended findings from the previous experiments. DEC and injunctive norms once again were shown to be important predictors of positive intergroup orientations. In

particular, intergroup orientations were enhanced by normative support from the ingroup, as compared to normative support from the outgroup, or an absence of normative support. Of special interest is the finding that DEC and injunctive norms interact in predicting the intergroup outcomes. When there is no DEC, positive intergroup orientations do not differ depending on whether the source of normative support is the ingroup or outgroup. In contrast, when people believe that members of their group have at least some contact with outgroup members (low or high), normative support from the ingroup yields more positive intergroup orientations as compared to normative support from the outgroup, or when no information about normative support is given. Once again the effect size of the interaction was medium. The effect sizes of both extended contact and norms were medium-high.

Indeed, results from Experiment 3 indicate that outgroup norms had relatively little influence on Spaniards' intergroup orientations. This finding is consistent with prior work showing that ingroup members tend to be more influential and persuasive than outgroup members (Ariyanto et al., 2006; Mackie et al., 1990; Terry & Hogg, 1996), and specifically in the context of encouraging positive intergroup relations (Gómez et al., 2008). At the same time, it could be argued that outgroup norms supporting cross-group friendships are less influential because people suspect that those norms are merely based on utilitarian motives and not on a genuine interest in integration. Just as suspicion of ulterior motives has been shown to reduce persuasion in other contexts (Eagly et al., 1978), it is possible that Spaniards may perceive immigrants' support for cross-group friendship as being driven by instrumental concerns (e.g., to obtain benefits or gain employment) and to promote their group's advancement.

In Experiments 4–5, we therefore examine the extent to which Spaniards attribute utilitarian and integration motives to immigrant outgroup members, and how these motives might mediate the effects of DEC and injunctive norms on intergroup orientations. Extending the prior experiments, we also include judgments about a behavioral outcome in Experiments 4–5, by testing whether DEC and injunctive norms predict not only positive intergroup orientations, but also how these norms independently and interactively predict judgments about donations to ingroup and outgroup organizations.

Thus far, we have consistently found that intergroup orientations are significantly more positive in the high DEC condition than in the low and no DEC conditions, regardless of whether there is normative support for cross-group friendships or not. We also found that intergroup orientations significantly differ between the low DEC and no DEC conditions when injunctive norms are present. Since these two conditions are the most theoretically relevant in testing the role of extended contact, we focused exclusively on distinguishing between the low and no DEC conditions in Experiments 4–5. Regarding the role of injunctive norms, in Experiment 4 participants learnt about outgroup norms whereas in Experiment 5 we returned to our principal focus on ingroup support for cross-group friendships, as examined in Experiments 1 and 2. In both experiments 4 and 5 we included a measure of judgments about donations and measures of participants' attribution of utilitarian and integration motives to outgroup members as potential mediators of the experimental effects. Finally, a common limitation of the previous studies is that the effects could potentially be produced because the experimental manipulation appears more credible in some cases than in others (i.e., when the information comes from an ingroup source). Studies 4 and 5 included a manipulation check to address this alternative explanation.

8. Experiment 4

Experiment 4 was conducted to test whether outgroup norms supporting cross-group friendships do not exert influence on intergroup orientations because participants attribute outgroup members' interest in contact to utilitarian motives rather than a genuine desire for integration. To that end, we checked whether the effect of DEC and outgroup injunctive norms about intergroup contact on orientations and judgments about behavior toward outgroup members was mediated by the attribution of integrative or utilitarian motives to outgroup members.

Based on the results of Experiment 3, we did not expect to find main or interactive effects of DEC and outgroup injunctive norms on any of the dependent variables with the exception of the attribution of utilitarian motives to outgroup members. In this case, we expected to find an interactive effect of DEC and injunctive norms, such that the normative support from the outgroup should affect the attribution of utilitarian motives in the low DEC condition, but not in the no DEC condition. More specifically, learning about low intergroup contact would intensify the perception of utilitarian motives when outgroup members support intergroup contact as compared with the control condition in which no information about normative support is given. Learning that outgroup members support intergroup contact could increase suspicion when there is intergroup contact. When there is no DEC, there is not an objective basis to suspect that outgroup members have ulterior motives.

8.1. Method

8.1.1. Participants and design

Three hundred fifty-two Spaniards (205 women, 147 men; mean age = 35.79, *SD* = 13.24) voluntarily participated in the present study. We employed the snowball technique for data collection. Students from the *Universidad Nacional de Educación a Distancia* (UNED) sent a link soliciting the participation of friends, colleagues or acquaintances. Each participant was randomly assigned to one of four conditions of a 2 (DEC: none vs. low) × 2 (normative support for cross-group friendship: outgroup support vs. control) design. We estimated that a sample of at least 300 participants would yield power of 95% to detect a small-medium effect.

8.1.2. Procedure and materials

To shorten the questionnaire, we dispensed with the control variables and the final questions about the origin of immigrants, as we found no significant differences in experimental effects associated with these variables. Participants were randomly assigned to receive one of four versions of a fictitious newspaper article, which were varied to represent the factorial combination of the DEC manipulation (no vs. low contact) and the injunctive outgroup norms manipulation (outgroup support vs. control). We used the same instructions as in Experiment 3.

After reading the newspaper article, participants were asked to respond to two counterbalanced scales designed to assess utilitarian and integration motives for contact, with item responses ranging from 0 (*totally disagree*) to 6 (*totally agree*).

Utilitarian motives were assessed using five items, through which participants were asked the extent to which they believed immigrants would support having Spanish friends because it is a way to “get things more easily”, “get a job”, “get social benefits”, “get access to the health system”, and “satisfy material interests”. An exploratory factor analysis showed that these items loaded onto one factor (loadings ranging from 0.86 to 0.90) and were substantially interrelated ($\alpha = 0.92$).

Integration motives were assessed using six items, through which participants were asked the extent to which they believed immigrants would support having Spanish friends because they want to: “integrate in our society”, “better understand our life in general”, “understand our culture and customs”, “participate in our life”, “establish bonds of true friendship with us”, and “maintain their cultural heritage but also adopt ours”. An exploratory factor analysis showed that these items loaded

onto one factor (loadings ranging from 0.74 to 0.90) and were substantially interrelated (α = 0.92).[4]

Participants then completed the same questions as in Experiments 1–3 concerning their positive intergroup orientations (α = 0.88). Additionally, participants were informed that the Ministry of Science provided five euros to be donated for social causes in relation to each research participant recruited for the study. Participants were asked to decide whether this money would be given exclusively to, or shared between: (a) a non-governmental organization that helps low-income Spaniards, or/and (b) a non-governmental organization that works to integrate immigrants. Participants indicated the amount of money (0 to 5 euros), which could not exceed five euros, they would like to give to each organization.

Near the end of the questionnaire, participants completed three additional items as a manipulation check to assess the credibility of the newspaper article they read. Specifically, participants were asked to indicate the extent to which they considered the article to be credible, realistic, and convincing. Responses to these items were scored on a scale ranging from 0 (totally disagree) to 6 (totally agree), and scores on the three items were averaged to create a composite measure of article credibility (α = 0.92). Each dependent measure was then submitted to a 2 (intergroup contact: none vs. low) × 2 (normative support: support vs. control) ANOVA.

8.2. Results and discussion

8.2.1. Credibility of the newspaper article

As intended, there were no differences in rated article credibility as a function of the independent variables, $F(1,348) = 0.12$, $p = .721$, $\eta_p^2 = 0.000$, 90% CI [0.000; 0.014] for DEC, $F(1,348) = 0.25$, $p = .620$, $\eta_p^2 = 0.001$, 90% CI [0.000; 0.016] for norms, and $F(1,348) = 1.12$, $p = .291$, $\eta_p^2 = 0.003$, 90% CI [0.000; 0.025] for the interaction effect. A *t*-test considering the midpoint of the scale (3) revealed that participants perceived the article as credible, $t(351) = 12.97$, $p < .001$, 95% CI [0.776; 1.053], $M = 3.91$, $SD = 1.32$.

8.2.2. Dependent variables

Table 2 shows the descriptive statistics and correlations between the potential mediators and outcome variables. Utilitarian reasons correlated negatively with all variables, whereas integrative reasons correlated positively. Scores on positive intergroup orientations and donation toward outgroup members were significantly correlated.

All dependent measures were submitted to a 2 (DEC: no vs. low contact) × 2 (injunctive norms: outgroup support vs. control) MANOVA. The multivariate effect of DEC was significant, $F(4, 345) = 4.18$, $p = .003$, Pillai's Trace = 0.05, $\eta^2 = 0.046$, but the effect of norms was not, $F(4, 345) = 1.24$, $p = .292$, Pillai's Trace = 0.01, $\eta^2 = 0.014$. The multivariate effect of the interaction between DEC and norms was only marginal, $F(4, 345) = 2.26$, $p = .062$, Pillai's Trace = 0.03, $\eta^2 = 0.026$. The multivariate effect of norms was not significant in either the low, $F(4, 345) = 2.05$, $p = .087$, Pillai's Trace = 0.03, $\eta^2 = 0.023$, or the no, $F(4, 345) = 1.46$, $p = .215$, Pillai's Trace = 0.02, $\eta^2 = 0.017$, DEC condition. Significant univariate effects were found only for utilitarian reasons, but not for the remaining dependent variables, as described below.

8.2.2.1. Utilitarian reasons. The univariate *F* test on utilitarian reasons showed a small, but significant effect of the interaction between DEC and normative support, $F(1,348) = 6.05$, $p = .014$, $\eta_p^2 = 0.017$, 90% CI [0.002; 0.046]. Among participants in the no DEC condition, the effect of normative support from the outgroup was not significant, $F(1,384) = 1.78$, $p = .183$, $\eta_p^2 = 0.005$, 90% CI [0.000; 0.025]. The attribution of utilitarian reasons to outgroup members among participants in the support ($M = 2.38$, $SD = 1.29$) and control conditions ($M = 2.67$, $SD = 1.47$) was similar. In contrast, in the low DEC condition, the effect of normative support was small, but significant, $F(1,348) = 4.60$, $p = .033$, $\eta_p^2 = 0.013$, 90% CI [0.001; 0.039]. The attribution of utilitarian reasons to outgroup members among participants in the support condition ($M = 3.19$, $SD = 1.28$) was higher than in the control condition ($M = 2.74$, $SD = 1.56$). The main effect of the DEC manipulation was significant, $F(1,348) = 8.72$, $p = .003$, $\eta_p^2 = 0.024$, 90% CI [0.005; 0.057], but the main effect of norms was not significant, $F(1,348) = 0.32$, $p = .573$, $\eta_p^2 = 0.001$, 90% CI [0.000; 0.013].

Table 2
Experiment 4. Descriptive statistics and correlations.

	M	*SD*	1	2	3	4
1. Utilitarian reasons (0–6)	2.74	1.42	–			
2. Integrative reasons (0–6)	3.86	1.23	−0.32	–		
3. Intergroup orientations (0–6)	3.78	1.21	−0.28	0.60	–	
4. Donation (0–5)	1.90	1.20	−0.22	0.45	0.51	–

Note: All *ps* < 0.01.

No significant effects emerged on the univariate *F* tests on the remaining variables. For integrative reasons, the effects were: $F(1,348) = 2.15$, $p = .143$, $\eta_p^2 = 0.006$, 90% CI [0.000; 0.032] for DEC, $F(1,348) = 1.40$, $p = .237$, $\eta_p^2 = 0.004$, 90% CI [0.000; 0.027] for norms, and $F(1,348) = 0.05$, $p = .817$, $\eta_p^2 = 0.000$, 90% CI [0.000; 0.007] for the interaction. For orientations, the effects were: $F(1,348) = 0.73$, $p = .392$, $\eta_p^2 = 0.002$, 90% CI [0.000; 0.022] for DEC, $F(1,348) = 0.57$, $p = .452$, $\eta_p^2 = 0.002$, 90% CI [0.000; 0.020] for norms, and $F(1,348) = 2.80$, $p = .095$, $\eta_p^2 = 0.008$, 90% CI [0.000; 0.036] for the interaction. For donations toward outgroup members, the effects were: $F(1,348) = 0.63$, $p = .428$, $\eta_p^2 = 0.002$, 90% CI [0.000; 0.021] for DEC, $F(1,348) = 0.72$, $p = .395$, $\eta_p^2 = 0.002$, 90% CI [0.000; 0.022] for norms, and $F(1,348) = 0.16$, $p = .691$, $\eta_p^2 = 0.000$, 90% CI [0.000; 0.015] for the interaction.

Experiment 4 replicates previous findings in that we found no effects of outgroup norms on intergroup orientations. Outgroup norms did not affect donations either. We reasoned that the absence of significant effects might be due to the increased attribution of utilitarian motives to outgroup members when participants are aware that outgroup members support having Spanish friends. In fact, we obtained a significant interactive effect of DEC and injunctive norms on the attribution of utilitarian motives. Learning that outgroup members approve intergroup contact increased the attribution of these motives when participants knew that ingroup members actually have one or two immigrant friends. However, normative support was not important when participants were aware that most ingroup members did not have immigrant friends. These results suggest that the enhanced perception that outgroup members' interest in intergroup contact is not genuine could inhibit the positive effect of normative support that emerged in the previous experiments when the ingroup was the source of such support.

However, when participants are aware that ingroup members not only have contact with outgroup members but support cross-group friendship, they could infer that outgroup members are trustworthy. Previous research (Stangor et al., 2001) showed that providing information about racial ingroup beliefs can modify the stereotypes related to outgroup members. We conjecture that learning that ingroup members support and actually have intergroup contact might also influence the way people explain outgroup members' behavior. In particular, we expect that learning that ingroup members support, and actually have some degree of, contact with outgroup members should increase the attribution of integration motives to outgroup members

[4] A factor analysis with oblimin rotation on all the items of the scales of integration and utilitarian motives yielded two factors. The items of the integration motives scales loaded on the first factor (loadings > 0.78), whereas the items of the utilitarian motives scales loaded on the second factor (loadings > 0.82).

and, in turn, promote positive intergroup orientations.

In Experiment 5 we test whether the manipulations of DEC and ingroup support affect intergroup orientations by modifying the attribution of integrative motives to outgroup members. As in the previous studies, we predicted a main effect of DEC such that learning about low levels of DEC would predict more positive intergroup orientations and greater donation of money to an outgroup organization than learning about no DEC. We also expected a main effect of injunctive norms, such that learning about ingroup support for cross-group friendship would produce more positive intergroup orientations and greater donations to an outgroup organization than receiving no information about ingroup support. Importantly, we also predicted an interaction between DEC and injunctive norms, such that ingroup support would predict more positive intergroup orientations and greater donation in the low DEC condition, but not in the no DEC condition. Moreover, we expected that these interactive effects would be mediated by the attribution of integration motives to outgroup members, and not by the attribution of utilitarian motives.

9. Experiment 5

Using procedures virtually identical to those used in Experiment 1, Experiment 5 tested how DEC and injunctive norms contribute to predicting positive intergroup orientations and intergroup behavior in the form of donations toward an outgroup organization.

9.1. Method

9.1.1. Participants and design

Two hundred eighty-nine Spaniards (175 women, 114 men; mean age = 34.95, *SD* = 13.11) voluntarily participated online in the present study. We employed the snowball technique for data collection. Students from the *Universidad Nacional de Educación a Distancia* (UNED) sent a link soliciting the participation of friends, colleagues or acquaintances.

Each participant was randomly assigned to one of four conditions in a 2 (descriptive norms: no vs. low DEC) × 2 (injunctive norms: ingroup support vs. control) factorial design. Since we suspected that the effect of our manipulations on judgments about behavior would be weaker than on behavioral intentions, we recruited a larger sample than in Experiments 1–2, although the experimental design was simpler. We estimated that a sample of approximately 300 participants would provide power of 95% to detect a small effect size.

9.1.2. Procedure and materials

Participants were randomly assigned to receive one of four versions of a fictitious newspaper article, which were varied to represent the factorial combination of the DEC (no vs. low contact) and the normative support manipulations (support vs. control). We used the same instructions as in Experiment 3.

After reading the newspaper article, participants completed the same questions as in Experiment 4 concerning utilitarian and integration motives, αs > 0.89, their positive intergroup orientations (α = 0.88), monetary donation (0–5 euros) to outgroup members, and credibility of the newspaper article they read, α = 0.93.

9.2. Results and discussion

The manipulation check on the credibility of the newspaper article was submitted to a 2 (DEC: no vs. low) × 2 (injunctive norms: ingroup support vs. control) ANOVA. As intended, there were no differences in rated article credibility as a function of the independent variables, $F(1,285) = 0.45$, $p = .503$, $\eta^2_p = 0.002$, 90% CI [0.000; 0.023] for DEC, $F(1,285) = 0.33$, $p = .564$, $\eta^2_p = 0.001$, 90% CI [0.000; 0.022] for norms, and $F(1,285) = 1.55$, $p = .215$, $\eta^2_p = 0.005$, 90% CI [0.000; 0.035] for the interaction effect. A *t*-test comparing the mean score ($M = 3.96$) of credibility to the midpoint of the scale (3.0) revealed that participants generally perceived the article as credible, $t(288) = 12.80$, $p < .001$, 95% CI [0.816; 1.112].

Table 3
Experiment 5. Descriptive statistics and correlations.

	M	*SD*	1	2	3	4
1. Utilitarian reasons (0–6)	2.63	1.48	–			
2. Integrative reasons (0–6)	3.90	1.09	−0.34	–		
3. Intergroup orientations (0–6)	3.66	1.19	−0.30	0.62	–	
4. Donation (0–5)	1.97	1.02	−0.31	0.45	0.50	–

Note: All *ps* < 0.01.

9.2.1. Dependent variables

Table 3 shows the descriptive statistics and correlations between the potential mediators and outcome variables. Utilitarian reasons correlated negatively with all variables, whereas integrative reasons correlated positively. Scores on positive intergroup orientations and donations were significantly correlated (see Table 3). All dependent measures were submitted to a 2 (DEC: no vs. low DEC) × 2 (injunctive norms: ingroup support vs. control) MANOVA.

The multivariate effect of DEC was significant, $F(4, 281) = 4.88$, $p = .001$, Pillai's Trace = 0.06, $\eta^2 = 0.065$, but the effect of norms was not, $F(4, 281) = 1.18$, $p = .320$, Pillai's Trace = 0.02, $\eta^2 = 0.017$. The main effect of DEC was qualified by a multivariate effect of the interaction, $F(4, 281) = 3.79$, $p = .005$, Pillai's Trace = 0.51, $\eta^2 = 0.051$. The multivariate effect of norms was significant in the low DEC condition, $F(4, 281) = 4.04$, $p = .003$, Pillai's Trace = 0.54, $\eta^2 = 0.054$, but not in the no DEC condition, $F(4, 281) = 0.90$, $p = .466$, Pillai's Trace = 0.01, $\eta^2 = 0.013$. Significant univariate effects were found for all dependent variables except for utilitarian reasons, as described below.

9.2.1.1. Positive intergroup orientations. The univariate *F* test on positive intergroup orientations revealed a significant main effect of DEC, $F(1,284) = 15.55$, $p < .001$, $\eta^2_p = 0.052$, 90% CI [0.018; 0.099], while the main effect of injunctive norms was marginally significant, $F(1,285) = 3.07$, $p = .081$, $\eta^2_p = 0.011$, 90% CI [0.000; 0.039]. The main effect of DEC was qualified by a significant interaction between DEC and injunctive norms, $F(1,285) = 11.37$, $p = .001$, $\eta^2_p = 0.038$, 90% CI [0.010; 0.081] (see Fig. 4a). Among participants in the no DEC condition, the effect of normative support from ingroup members was not significant, $F(1,285) = 1.33$, $p = .250$, $\eta^2_p = 0.005$, 90% CI [0.000; 0.027]. Positive intergroup orientations were similar among participants in the ingroup support ($M = 3.29$, $SD = 1.09$) and control ($M = 3.50$, $SD = 1.29$) conditions. However, among participants in the low DEC condition, injunctive norms significantly affected positive intergroup orientations, $F(1,285) = 12.97$, $p < .001$, $\eta^2_p = 0.044$, 90% CI [0.013; 0.088]. Intergroup orientations were significantly more positive among participants who received normative support for cross-group friendship from ingroup members ($M = 4.27$, $SD = 0.93$) than among those who received no information about normative support ($M = 3.58$, $SD = 1.20$).

9.2.1.2. Donations. The univariate *F* test on donations toward outgroup members showed a significant main effect of the DEC manipulation, $F(1,284)$[5] = 10.23, $p = .002$, $\eta^2_p = 0.035$, 90% CI [0.008; 0.076] but the main effect of injunctive norms did not reach significance, $F(1,284) = 3.02$, $p = .084$, $\eta^2_p = 0.011$, 90% CI [0.000; 0.038]. The significant main effect of DEC was qualified by the significant interaction between DEC and injunctive norms, $F(1,284) = 6.89$, $p = .009$, $\eta^2_p = 0.024$, 90% CI [0.003; 0.060] (see Fig. 4b). Among

[5] One participant did not respond to this question.

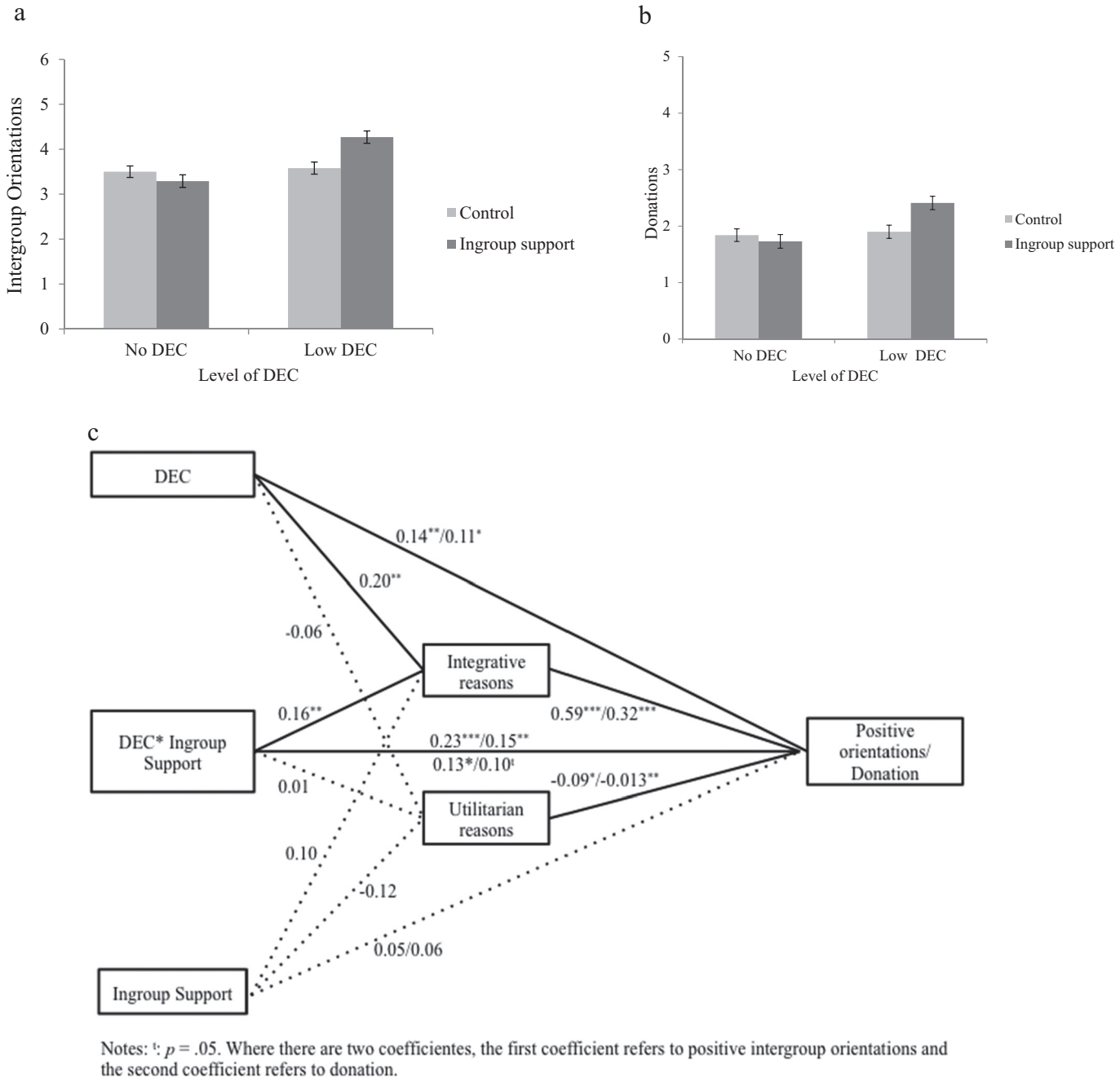

Fig. 4. Positive intergroup orientations (a) and donation (b) as a function of depersonalized extended contact (DEC) and injunctive norms. (Experiment 5). Error bars represent standard error. Analysis of the indirect effect of the interaction between depersonalized extended contact (DEC) and injunctive norms on positive intergroup orientations and donation (c) through the attribution of utilitarian and integrative reasons. (Experiment 5).

participants in the no DEC condition, the effect of injunctive norms did not reach significance, $F(1,284) = 0.40$, $p = .529$, $\eta_p^2 = 0.001$, 90% CI [0.000; 0.017]. Donations were similar among participants in the support ($M = 1.73$, $SD = 0.91$) and control ($M = 1.84$, $SD = 1.03$) conditions. However, among participants in the low DEC condition, normative support significantly affected the donation toward outgroup members, $F(1,284) = 9.41$, $p = .002$, $\eta_p^2 = 0.032$, 90% CI [0.007; 0.072]. In particular, the amount of money donated (from 0 to 5 euros) was significantly higher among participants who received normative support for cross-group friendship from ingroup members ($M = 2.41$, $SD = 0.85$) than among those who received no information about normative support ($M = 1.90$, $SD = 1.15$). Importantly, in this condition, the difference between the donation toward ingroup members and the donation toward outgroup members was not significant, $t(69) = 0.85$, $p = .400$, indicating lack of ingroup favoritism.

9.2.1.3. Utilitarian motives. The univariate *F* test on utilitarian motives yielded no significant main or interaction effects, $F(1,285) = 0.54$, $p = .464$, $\eta_p^2 = 0.002$, 90% CI [0.000; 0.025] for DEC, $F(1,285) = 2.07$, $p = .151$, $\eta_p^2 = 0.007$, 90% CI [0.000; 0.039] for norms, and $F(1,285) = 0.02$, $p = .888$, $\eta_p^2 = 0.000$, 90% CI [0.000; 0.003] for the interaction.

9.2.1.4. Integration motives. The univariate *F* test on integration motives showed a significant main effect of the DEC manipulation, *F*

(1,285) = 10.21, p = .002, η_p^2 = 0.035, 90% CI [0.008; 0.076], but the main effect of injunctive norms was not significant, F(1,285) = 2.31, p = .130, η_p^2 = 0.008, 90% CI [0.000; 0.034]. The main effect was qualified by a significant interaction between DEC and injunctive norms, F(1,285) = 6.86, p = .009, η_p^2 = 0.024, 90% CI [0.003; 0.060]. Among participants in the no DEC condition, there was no significant effect of injunctive norms on attribution of integration motives to outgroup members, F(1,285) = 0.61, p = .434, η_p^2 = 0.002, 90% CI [0.000; 0.020]; the attribution of integration motives was similar among participants in the ingroup support (M = 3.64, SD = 0.96) and control (M = 3.77, SD = 1.16) conditions. In contrast, in the low DEC condition, the effect of injunctive norms was significant, F (1,285) = 8.45, p = .004, η_p^2 = 0.029, 90% CI [0.005; 0.068]. Participants attributed greater integration motives to outgroup members in the ingroup support condition (M = 4.37, SD = 0.89) than in the control condition (M = 3.85, SD = 1.19).

9.2.2. Tests of mediation

To test whether utilitarian and integration motives mediate the effect of the interaction between DEC and injunctive norms on positive intergroup orientations and donation toward outgroup members, we tested the model depicted in Fig. 4c using the Lavaan package in R. The covariance between intergroup orientations and donation was: cov = 0.22, p < .001.

This analysis confirmed that the indirect effect of the interaction between DEC and injunctive norms on intergroup orientations was significant through the attribution of integration motives to outgroup members, B = 0.19, 95% CI = 0.045 to 0.342. This indirect effect was significant among participants in the low DEC condition, B = 0.15, 95% CI = 0.047 to 0.260, but not for participants in the no DEC condition, B = −0.04, 95% CI = −0.142 to 0.062. The indirect effect through utilitarian motives was not significant, B = −0.001, 95% CI = −0.032 to 0.030.

Regarding donations, the indirect effect of the interaction between DEC and injunctive norms was significant through the attribution of integration motives, B = 0.11, 95% CI = 0.020 to 0.191. The indirect effect was significant among participants in the low DEC condition, B = 0.08, 95% CI = 0.022 to 0.146, but not among participants in the no DEC condition, B = −0.02, 95% CI = −0.078 to 0.034. The indirect effect through utilitarian motives was not significant, B = −0.002, 95% CI = −0.045 to 0.041.

Experiment 5 replicates previous findings in that we found that learning about low intergroup contact promotes more positive intergroup orientations and greater donation of money toward outgroup members than learning about no contact. Unlike in Experiment 1 (which also included a 'high DEC' condition), the main effect of the normative support did not reach significance. More importantly, injunctive norms did interact with DEC, as expected. Learning that ingroup members approve intergroup contact improved intergroup orientations and, to a lesser extent, judgments about behavior when participants knew that ingroup members actually had one or two immigrant friends. However, normative support did not produce such a positive effect when participants were aware that most ingroup members did not have immigrant friends. Our manipulations had a stronger effect on behavioral intentions (medium effect size) than on judgments about behavior (small effect size).

The main finding of Experiment 5 is related to the exploration of the underlying mechanisms that explain this interaction. Normative support from the ingroup promoted intergroup orientations and judgments about behavior because it led participants to attribute more integrative reasons to outgroup members. In contrast, normative support from the ingroup did not influence the attribution of utilitarian motives to outgroup members.

10. General discussion

Five experiments consistently confirmed that learning about high levels of DEC promotes more positive intergroup orientations toward the outgroup even though the ingroup and outgroup members involved in intergroup contact were not known personally. Two factors moderated the influence of that information about intergroup contact on intergroup orientations: ingroup injunctive norms about intergroup contact and the degree of consensus about such norms. We showed that the experimental manipulation of injunctive norms (what most ingroup members approve) reinforces the effect of DEC (what most ingroup members do) about intergroup contact, notably increasing the impact of learning even about low levels of intergroup contact. Importantly, these interactive effects also modify, although to a lesser extent, judgments about behavior. Additionally, we found that this interactive effect was mediated by a stronger belief that outgroup members have a genuine interest in contact. In sharp contrast, outgroup norms supporting cross-group friendship did not influence ingroup members' intentions or behavior toward outgroup members, apparently because their approval is interpreted as a sign of utilitarian interest.

We discuss key issues arising from these findings, especially regarding the role of injunctive norms in reinforcing DEC, and channeling this kind of impersonal extended contact into direct personal contact. Finally, we acknowledge some limitations of the present research and highlight some issues to be considered in future research.

Using social norms to reinforce the impact of impersonal extended contact.

Since Wright et al.'s (1997) seminal paper on extended contact, it has been suggested that norms are a key mechanism by which extended contact has its impact in reducing prejudice. A substantial body of work shows that ingroup norms critically affect intergroup bias (see Allport, 1954). People show greater prejudice when they come to perceive that intergroup bias is more normative than they might have previously thought (Blanchard et al., 1994; Simon & Greenberg, 1996). Analogously, people exhibit lower levels of prejudice when they believe that bias is normatively condemned (Crandall & Stangor, 2005; Paluck, 2009, 2010; Wittenbrink & Henly, 1996). Demonstrating effects of indirect contact, Paluck (2009) showed that positive vicarious contact, portrayed in a radio soap opera in Rwanda, led listeners to perceive more positive norms about intergroup relations and produced more trusting, empathic, and cooperative intergroup orientations. Specific to extended contact, Turner et al. (2008) confirmed that norms, especially ingroup norms, mediate the effects of extended contact on prejudice. The present studies clarified the nature of relevant norms in intergroup contact, by considering the effects of both descriptive and injunctive norms, and showed for the first time that experimental manipulations of injunctive norms moderated the impact of descriptive norms based on DEC.

Previous research has shown that extended contact, learning or observing that an ingroup member has an outgroup friend, reduces hostility and prejudice, promotes intergroup tolerance, and enhances intergroup attitudes and expectancies for contact (for a review, see Vezzali et al., 2014). While the basic assumption for extended contact is that knowing an ingroup member having outgroup friends is required for a positive effect, our experimental manipulation of DEC implies that participants do not need to know personally an ingroup member with outgroup friends. Besides proposing a new form of indirect contact, we also examined when DEC has an impact. Experiment 1 showed that being made aware that most ingroup members have more than two outgroup friends was sufficiently powerful to improve intergroup behavioral intentions. When the DEC of ingroup members was low, however, intergroup orientations were only promoted if there was normative ingroup support for cross-group friendships. This normative support constituted an injunctive norm, concerning what other members of the group think should be done.

Experiment 1 also revealed that norms supporting cross-group

friendship only impacted intergroup orientations when participants were informed that members of their group were engaging in *some* contact with outgroup members (i.e., when there was some degree of DEC). Thus normative support did not impact prejudice in the absence of DEC, yet normative support reinforced the impact of learning about intergroup contact in both the low and high DEC conditions. Thus Experiment 1 showed that, consistent with prior research, presenting aligned descriptive and injunctive norms can result in a stronger effect than presenting either type of norm in isolation (Cialdini, 2003; see also Smith & Louis, 2008), but this conjoined effect was only found when at least a low level of intergroup contact was reported. That is, DEC is effective only when it is accompanied by ingroup normative support.

The importance of norms was clarified in Experiment 2, which tested the idea that DEC may have different effects on intergroup orientations depending on the degree to which people perceive consensus in normative support (see Sechrist & Stangor, 2001). In line with Experiment 1, Experiment 2 showed that some level of DEC was required for normative support to have an added impact. For participants in the no contact condition, intergroup orientations did not differ depending on whether consensus in norms supporting cross-group friendship was high or low. However, among participants who learnt about *some* degree of DEC (low and high DEC conditions), intergroup orientations were significantly more positive among participants who were informed that there was high versus low consensus in norms supporting cross-group friendship.

Experiment 3 showed, as expected, the impact of the source of normative support, which was greater from the ingroup than the outgroup source (see Hogg & Turner, 1987; Mackie et al., 1992). However, normative support for cross-group friendship from an ingroup versus outgroup source only led to more positive intergroup orientations toward the outgroup among participants who were informed about *some* degree of DEC (the source of norms effect was not significant in the no contact condition). In fact, outgroup norms regarding cross-group friendship had no effect on intergroup orientations. These results are consistent with previous findings indicating that ingroup opinions and actions are more influential than outgroup opinions and actions (Mackie et al., 1992). Outgroup norms would presumably exert a positive influence on intergroup orientations when similar norms were endorsed by ingroup members (see Gómez et al., 2011). Otherwise, individuals could be suspicious of the true intentions of outgroup members and question whether these norms were trustworthy (Ariyanto et al., 2006; Hogg & Smith, 2007; Terry & Hogg, 1996).

Experiments 4 and 5 clarified the mediator mechanisms of the effects that DEC and injunctive norms have on intergroup orientations and, more importantly, judgments about behavior toward outgroup members. Experiment 5 showed that the interaction between DEC and injunctive norms affects intergroup orientations by reinforcing the belief that outgroup members are genuinely interested in integration. However, the combination between low levels of DEC and normative support of that intergroup contact from outgroup members increased the attribution of utilitarian motives to them. As a result, the positive influence consistently found when ingroup injunctive norms were salient did not emerge when those same norms came from outgroup members. We cannot rule out, however, that outgroup norms might influence intergroup orientations if people receive information about ingroup support at the same time. Future studies should test this possibility in different intergroup contexts.

11. Channeling impersonal extended contact into direct contact

As social norms clarify what behaviors are expected of us by other ingroup members (Cialdini & Trost, 1998), participants may interpret the information regarding DEC as a guide for their intended behavior, and intentions are often important predictors of behavior (Ajzen & Fishbein, 2005). An obvious direction for future research is to follow up the idea, long mooted, that depersonalized or classic extended contact – whether in the form of learning of or observing fellow ingroup members engaged in close contact with members of the outgroup – might prepare such individuals for future direct, face-to-face contact, and indeed even increase the extent to which they take up opportunities for contact (see Turner et al., 2007, 2008). Schofield, Hausmann, Ye, and Woods' (2010) study provided longitudinal evidence supporting the idea that extended contact might increase direct contact. They reported that extended contact (number of ingroup friends with outgroup friends) prior to college was, in addition to other factors such as direct contact, a predictor of the formation of cross-group friendships during college among Whites and Blacks. More recently, Eller, Abrams, and Gomez (2012) provided indirect correlational (Study 2) and longitudinal (Study 3) evidence for the role of extended contact in promoting engagement with the outgroup culture, a self-reported behavior consisting in watching outgroup movies and television programs, listening to outgroup music, reading outgroup newspapers and magazines and learning about the outgroup culture. Future research should study whether the ideas discussed in this paper – such as corralling normative support for DEC to promote increased desire for contact – could be incorporated into large-scale interventions, that might be introduced, for example, in schools.

Furthermore, DEC might also provide a number of benefits as compared with other forms of contact such as high applicability and few collateral effects. Regarding the first point, DEC might be presented in the media as a tool for improving intergroup orientations because it does not require that people personally know other ingroup members who have intergroup contact. Of course, we are not suggesting that we should provide false information about the behavior and norms of others but accurate feedback on intergroup contact. Shelton and Richeson (2005) found that Whites and Blacks would like to have more contact with each other but believe the outgroup does not want to have contact with them. DEC might be useful to inhibit pluralistic ignorance about intergroup contact.

This strategy could also prevent the collateral effect associated with extended contact. For instance, Eller, Gomez, Vázquez, and Fernández (2015) showed that those ingroup members having intergroup contact were evaluated negatively when such contact was not normative. To the extent that extended contact involves unknown ingroup members and works through normative support, no one would assume costs related to intergroup contact.

12. Limitations

While a strength of our research is that we experimentally manipulated DEC, normative support, consensus, and source of normative support, and we obtained positive effects on intergroup orientations and judgments about behavior, a limitation is that we operationalized all these manipulations via simple, written instructions. Given that several studies of extended contact have investigated the impact of observing indirect contact (Castelli, De Dea, & Nesdale, 2008; Mazziotta, Mummendey, & Wright, 2011), and not merely knowing about extended contact, such paradigms would be a good next step for confirming the impact of these variables in less restricted studies.

Future studies should compare the effectiveness of DEC with other types of indirect (and especially extended) contact to show if and when they have distinct effects. It would also be necessary to test whether this and complementary paradigms designed to vary norms can also impact a range of dependent variables, including the strength, and not merely the valence, of attitudinal outcomes (Christ et al., 2010; Krosnick, Boninger, Chuang, Berent, & Carnot, 1993). Ideally, such studies would include both experimental and longitudinal designs, because although experimental studies provide the best means of testing the causal impact of variables, longitudinal studies, especially of interventions, indicate how likely they are to work outside the lab and in the presence of multiple other influences.

Skeptics might argue that there could be a demand effect such that

participants might respond as they think they are expected to do according to the experimental manipulation. However, we think it is unlikely that demand characteristics could explain the interactive effects we consistently found in five experiments with different samples. For instance, if participants were affected by demand characteristics, they should have expressed more positive orientations in the low DEC conditions as compared with the no DEC conditions without information about ingroup norms, which they did not. Related to this criticism, it could also be argued that some items of our measure of intergroup orientations promote a specific integrative (over utilitarian) orientation, which would limit generalization of the reported effects. Nevertheless, this bias is not present on the donation measure that yielded a pattern of results similar to that of intergroup orientations.

Another shortcoming of the current work is the imbalance regarding the source of DEC. In all five experiments, the information about DEC refers to what ingroup members do. However, no information is given about what most outgroup members do regarding intergroup contact. To clearly compare the influence of injunctive ingroup and outgroup norms future studies should provide information about DEC coming from either one of the two groups. Otherwise, we cannot discard that the effect found with ingroup DEC would be also evident when information regarding outgroup members' friendships with ingroup members is provided. The effect size found in Experiment 5 regarding the attribution of integrative motives is modest, which suggests that other mechanisms might be involved. Future research should also investigate whether DEC has different effects depending on specific outgroups. For example, ingroup members might perceive fewer obstacles to follow ingroup norms and become friends with immigrants who speak their language or share their religious affiliation. Furthermore, DEC might have a stronger impact when there are not clear rules regulating intergroup relations. For instance, when a society clearly discourages or even proscribes cross-group friendship with a specific outgroup, DEC is hardly applicable.

A final limitation is that all five of our experiments have focused, like most contact research to date, on the orientations of majority group members (see Pettigrew & Tropp, 2006). Yet, contact may have weaker impact on the attitudes of minority compared with majority members (Tropp & Pettigrew, 2005). Encouragingly, however, extended contact has been found to predict positive intergroup attitudes and intergroup expectancies among both majority and minority participants (Gómez et al., 2011). But both the present paradigm and new paradigms exploring the same variables should now be investigated with minority as well as majority samples.

13. Conclusions

To conclude, the reported experiments provide robust evidence for the power of manipulating a new form of indirect contact (DEC) and injunctive social norms on improving intergroup orientations and judgments about behavior. We did not only propose a new paradigm, but we also clarified the conditions in which its effects are maximized.

Our new paradigm of DEC is more applicable since it does not require direct contact with ingroup members having outgroup friends. Learning that ingroup members have contact with outgroup members, and that the group supports such contact leads individuals to perceive that outgroup members want to be integrated, which has positive effects on intergroup orientations and behaviors. However, when norms about contact come from the outgroup, there is no positive effect, because perceivers attribute outgroup members' desire for contact to utilitarian, rather than integrative, reasons.

Our work shows that injunctive ingroup norms, whether in the form of normative support for cross-group friendships or high consensus for such intergroup interaction, can reinforce the impact of DEC, but require some degree of DEC for this to occur. Such issues should be considered in the design of future interventions to reduce prejudice, in order to maximize their effectiveness.

Open practices

The experiments in this article earned Open Materials and Open Data badges for transparent practices. Materials and data for the experiment are available at https://data.mendeley.com/datasets/v23xddfd8k/draft?a=8f8e7e26-e8e4-4dd5-a6bf-17ae387988d1.

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