

## Vicarious Intergroup Contact and the Role of Authorities in Prejudice Reduction

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The present study focuses on the effect of vicarious intergroup contact and the support of an authority figure on the improvement of outgroup and meta-stereotype evaluations. Meta-stereotype refers to the shared beliefs of ingroup members about how they consider outgroup members to perceive their group. Three preliminary studies were carried out to determine desirable and undesirable characteristics for a good basketball performance, the task that best demonstrates the application of these characteristics, and the two groups (basketball teams) that should be involved in the vicarious intergroup contact. Fans of one of the basketball teams participated in the current study. Vicarious intergroup contact improved outgroup and meta-stereotype evaluations as compared with a no contact condition. In addition, the positive effects of vicarious intergroup contact significantly increased when it was supported by an authority figure. More importantly, our study also shows that the improvement of outgroup evaluation was partially mediated by changes on meta-stereotypes.

*Keywords:* vicarious intergroup contact, authority figure, prejudice reduction, meta-stereotypes, perceived outgroup bias

El presente estudio se centra en los efectos del contacto vicario intergrupar y en el apoyo de una figura de autoridad en la mejora de las evaluaciones del exogrupo y del meta-estereotipo. Meta-estereotipo se refiere a las creencias compartidas de los miembros del endogrupo sobre cómo creen que los miembros del exogrupo les perciben. Se llevaron a cabo tres estudios preliminares para determinar las características deseables e indeseables para un buen desempeño en el baloncesto, la tarea que mejor demostraría la aplicación de estas características, y los dos grupos (equipos de baloncesto) que deberían implicarse en el contacto vicario intergrupar. En el presente estudio participaron los seguidores de uno de dichos equipos. El contacto vicario intergrupar mejoró la evaluación del exogrupo y del meta-estereotipo en comparación a una condición de no contacto. Adicionalmente, los efectos positivos del contacto vicario intergrupar aumentaron significativamente cuando fue apoyado por una figura de autoridad. Más importante todavía, nuestro estudio muestra que la mejora de la evaluación del exogrupo estuvo mediada parcialmente por los cambios en el meta-estereotipo.

*Palabras clave:* contacto intergrupar vicario, figura de autoridad, reducción de prejuicio, meta-estereotipos, sesgo exogrupal percibido

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There is no doubt that intergroup contact that satisfies the conditions specified by Allport's (1954) contact hypothesis has been already tested as one of the most powerful tools for improving intergroup relations. However, Pettigrew and Tropp (2006) concluded that conditions considered optimal for intergroup contact, such as cooperation, equal status, allowing cross-group friendship, and receiving institutional support, facilitate but are not essential, for prejudice reduction. On the other hand, several causes could inhibit or damage the positive effect of intergroup contact (Brown, Vivian & Hewstone, 1999). Pettigrew and Tropp identified intergroup anxiety as the main factor that could reduce the effect of intergroup contact, followed by authoritarianism and normative restraints. In order to solve some of these limitations, strategies to promote indirect ways of contact, as with vicarious contact, could be a possibility for prejudice reduction.

Probably the most popular and influential form of indirect contact is the extended contact effect (Wright, Aron, McLaughlin-Volpe & Ropp, 1997), which stipulates that knowing that ingroup friends have outgroup members as friends can promote more positive attitudes toward the outgroup. In a relatively short period of time, several researchers around the world have demonstrated the efficacy of this effect in different contexts: it promotes tolerance at schools (Liebkind & McAlister, 1999), improves attitudes toward refugees (Cameron, Rutland, Brown, & Douch, 2006), and stigmatized groups (Cameron & Rutland, 2006; Cameron, Rutland, & Brown, in press), reduces prejudice toward Muslims in Germany (Pettigrew, Christ, Wagner, & Jost, 2007), between Catholics and Protestants in Ireland (Paolini, Hewstone, Cairns, & Voci, 2004), and towards immigrants in Spain (Gómez, Méndez, & Tropp, 2007). We are not trying to present vicarious contact as a related or different form of indirect contact than that of extended contact. Rather, we are trying to present the advantages of a variation of direct contact that also reduces or even avoids one of the main mediators that should block the positive effects of intergroup contact: intergroup anxiety.

Although the exposure of vicarious experiences via television, cinema, etc., is a part of everyday life (Shapiro & Lang, 1991), and a considerable influence on our attitudes, vicarious contact as a strategy for reducing prejudice has been less studied. The present study is focused on the effect of vicarious intergroup contact as a strategy for prejudice reduction. Nevertheless, Pettigrew and Tropp (2006) also recognize that the more Allport's conditions are present, the more likely a successful and lasting outcome will be achieved. The authors showed that the role of an authority figure has the same positive effect as two or more of Allport's conditions taken together. We assume that a vicarious intergroup contact supported by an authority figure should not only reduce prejudice as compared with a no contact situation, but even with a simple vicarious contact situation.

In addition, the process through which intergroup contact produces a change has also been the focus of much attention. Some mediators of the effect of contact on prejudice reduction have been already identified for direct contact (Brown & Hewstone, 2005; Eller & Abrams, 2003, 2004; Pettigrew, 1998; Viki, Culmer, Eller, & Abrams, 2006), and also for extended contact, as intergroup anxiety (Paolini et al., 2004; Pettigrew et al., 2007; Turner, Hewstone, & Voci, 2007; Turner, Hewstone, Voci, Paolini, & Christ, in press), self-disclosure (Turner et al., 2007) and normative influence (Gómez et al., 2007). However, Pettigrew and Tropp (2006) directly challenge researchers to further search for mediators of contact effects, because discovering the processes involved in attitude change via intergroup contact needs further exploration. Tropp and Pettigrew (2005) already stated that concerns about how the outgroup perceive the ingroup affects how people respond to intergroup contact. For example, while majority status members are concerned about being considered prejudiced, minority status members are concerned about being the target of prejudice. Shared beliefs by members of a group about how members of other groups perceive them have been identified as meta-stereotypes (Gómez, 2002; Vorauer, Main, & O'Connell, 1998). Meta-stereotypes are usually negative or worse than the ingroup self-stereotype, and this feature may determine intergroup relations, even more than the outgroup stereotype. Recent research shows that strategies directed to improve outgroup evaluations also modify meta-stereotypes (Gómez, Huici, & Morales, 2004) and that manipulating meta-stereotype information improves outgroup perception (Gómez & Rodríguez-Bailón, 2000). We propose that the improvement of outgroup evaluation could be mediated by changes on meta-stereotype perception. In order to test our predictions, we compared the effect of a vicarious intergroup contact situation supported by an authority figure with a simple vicarious intergroup contact and a no contact condition on outgroup and meta-stereotype perceptions.

### The Contact Hypothesis

The idea that contact between members of different groups would reduce intergroup conflict has been present in social psychology since the forties (Pettigrew, 1998). In fact, intergroup contact has been tested as one of the most powerful tools for improving intergroup relations for decades (Dovidio, Gaertner, & Kawakami, 2003; Pettigrew, 1998; Pettigrew & Tropp, 2000; 2006). But it was Allport's (1954) early formulation that has been the most influential. Within that framework, contact should occur in situations of equal group status that promote common goals and intergroup cooperation, with institutional support by authority and law, and within a context of egalitarian norms. It should also grant the opportunity to disconfirm the outgroup stereotype by providing personal and individualized knowledge of, as

well as high acquaintance potential with outgroup members. However, the literature also has revealed five main limitations of the contact hypothesis. The study reported here tries to deal with these possibly avoidable limitations by using an indirect way of contact, e.g., vicarious intergroup contact.

Until the end of the last century, two problems have been pointed out in research on the contact hypothesis (Pettigrew, 1998). One is that of *generalization*: positive contact with an individual member of a group does not mean that the perceptions, evaluations and behaviors toward the group as a whole will improve (Hewstone, 1996). The Hewstone and Brown (1986) model of intergroup contact, based on Social Identity Theory (Tajfel, 1978; Tajfel & Turner, 1986), predicts that generalization will take place when category membership is salient. However, Pettigrew and Tropp's (2006) meta-analysis shows a wider generalization effect than is commonly thought. For that reason, generalization should not really be a limitation. In any case, our study presents a contact that is intergroup by nature where individuals involved in such a contact are good exemplars of the group they represent. A second problem is that the original hypothesis did not specify *why* intergroup contact produces a more positive evaluation of the outgroup. Some mediators of the effect of contact on prejudice reduction as perspective taking (e.g., broadened views of the ingroup or perceived importance of the contact) have already been identified (Pettigrew & Tropp, 2006). However, the mutual impact of interacting individuals or groups has been rarely considered (Otten, 2002). That is, intergroup contact makes more salient the presence of others and also the beliefs about how others think of them, as either individuals or group members, which clearly influences social relations. Recent research has described ingroup's shared beliefs about how outgroup members perceive the ingroup as meta-stereotypes (Gómez, 2002; Vorauer et al., 1998). Vorauer et al. (1998) showed that meta-stereotypes are usually negative. Research has consistently shown that when people consider that they are perceived negatively, they also perceive their evaluators negatively (Frey & Tropp, 2006). As a consequence, a way of improving outgroup evaluations through intergroup contact should be changing meta-stereotypes. We suggest that intergroup contact should improve meta-stereotypes, and this change should influence the outgroup's evaluation.

In addition, Pettigrew and Tropp (2006) have recently described three causes that could inhibit or damage the effect of intergroup contact. First, some of the optimal conditions are quite unusual or difficult to produce in real life. Second, characteristics of the contact setting itself could increase anxiety (Stephan, 1987), inhibiting the positive effects of intergroup contact. Third, while prejudiced people may avoid the contact situation, tolerant people might actively seek opportunities to engage in it.

*Vicarious intergroup contact.* Although intergroup contact has been considered a successful strategy to reduce intergroup prejudice, strategies to promote indirect ways of contact have been less studied. Only the research focused on extended contact (Wright et al., 1997) has produced a remarkable and influential effect, as described earlier in the present paper. That vicarious experiences are important to create but also to modify stereotypes, prejudice, and discrimination is not something new, but is surprisingly uncommon in use. Being exposed to vicarious experiences strongly influences our attitudes and stereotypes for members of different social groups and it allows showing behaviours that could be very difficult to produce in a natural scenario. We present vicarious intergroup contact as an indirect approach to intergroup contact based on the contact hypothesis. Vicarious contact can be produced in at least two ways. First, showing a contact between two groups using media that already exists (e.g., films, etc.). Second, producing and recording an intergroup contact for a specific situation. For example, Clunies-Ross and O'Meara (1989) showed how manipulating vicarious contact improved attitudes toward the handicapped as compared with a control condition. Gómez et al. (2004, studies 1 and 2) also showed how intergroup vicarious contact improved outgroup attitudes as compared to a vicarious situation where two groups appeared separately. Furthermore, vicarious contact was more effective than positive racial contact to reduce prejudices toward black children (Katz & Zalk, 1978), and produced a higher reduction of stigma toward people with AIDS as compared to direct contact (Herek & Capitanio, 1997). Producing and recording an intergroup contact for a specific goal should overcome the three obstacles that could inhibit or damage the positive effects of intergroup contact. First, it permits the reproduction of unusual situations. Second, it should not increase intergroup anxiety, as there is no direct contact. Third, the situation is not stressful and should reduce the interest of prejudiced participants to avoid it. One theoretical perspective that focuses on effects of vicarious experience is social cognitive theory (SCT, Bandura, 1986). SCT stipulates that vicarious experiences should affect the viewer modelling, imitating, and being influenced because of reinforcement and punishment. From this theoretical perspective one could expect that positive vicarious contact could have an effect on improvement of intergroup relations. If an authority figure reinforces the positive behaviour showed by the models via the vicarious contact, it should increase the impact that such information will have in the future. In the same vein, Graves (1999) showed how television is a very fruitful strategy to modify children's racial attitude (e.g., "Sesame Street"). At this point, we predict that a vicarious intergroup contact should improve outgroup attitudes as compared with a no contact situation.

*The role of authorities in prejudice reduction.* The role of authorities in supporting intergroup contact is one of the conditions formulated by Allport (1954) as especially relevant for facilitating the positive effects of intergroup contact. Kruglanski et al. (in press) analyzed the effects of an authority figure in the social judgement of human behaviour. The authors introduce the standpoint of the information's recipient, because the influence that an authority figure has on an audience depends not only on the authority by itself (Raviv, Bar-Tal, Raviv, Biran, & Sela, 2003). It also might be necessary that the audience perceives that the person who has this role is really an authority figure for them, in this time, and in this context. These subjective beliefs were defined as epistemic authority, which refers to the extent that an individual is prepared to trust a source's information and to accept it. The person who adopts the role of an authority figure should be perceived as an epistemic authority, like a school teacher, or a *sport-trainer*, as will be the case in the present research.

The literature on persuasion has stressed the importance of certain source characteristics, as expertise from pioneer research within the learning domain (Hovland, Janis, & Kelley, 1953), to more recent contributions as the Elaboration Likelihood Model (ELM, Petty & Cacioppo, 1986), and the Heuristic-Systematic Model (HSM, Chaiken, 1979). According to the ELM, source characteristics would produce a motivating function for people to pay special attention to the message of authority figures, if they are considered experts. Following the HSM, source characteristics are considered as "heuristic" information. If the source that provides information is judged as an expert for the audience, it will facilitate the audience's acceptance of their feedback. These two models were integrated into the Unimodel (Kruglanski et al., in press). According to this model, authority figures affect their audiences because they create a persuasive context that includes "peripheral cues" and "message arguments."

In the intergroup domain, Billig (1976) emphasized the "power of a prestigious authority to create group divisions..." (p. 356). Finally Lickel, Miller, Stenstrom, Denson, and Schmader, (2006) hypothesized that individuals in leadership positions played a special role in vicarious processes. If someone is considered a leader for ingroup and outgroup members, but does not belong to either group, he/she should have a strong influence because he/she exerts social influence toward both groups, and he/she is considered responsible for his/her actions. In any case, we are not interested in the theoretical model that could explain why an authority figure is influential on an audience or target. However, what the models presented above have in common is the effect that an authority figure could have on an audience. This would justify including an authority figure as a support for a vicarious intergroup contact (see also Herek & Capitanio, 1997). Our prediction is that a vicarious intergroup contact supported by an authority figure should have even more positive effects on prejudice reduction than a simple intergroup vicarious contact.

## Overview of the Present Research

Three preliminary studies were conducted in order to develop the experimental materials and scenario of the main experimental study, which focused on the effect of vicarious intergroup contact on prejudice reduction. The effects of feedback provided by an external authority saying that the groups involved in a contact situation are very competent in the same important dimension, added to a pleasant vicarious intergroup contact. The effect of such strategy was compared to a simple vicarious intergroup contact and a control condition. *Vicarious contact* between representative members of two schools (members of the basketball teams) does not involve any direct interaction between participants (fans of the basketball teams). This contact presents several advantages: the manipulation is the same for all participants, it is a very economic way to have an impact on a large number of fans, and it relates to a real situation in which fans of each group watch their teams on television. In addition, authorities play a special role in vicarious processes that should add to diminish or eliminate intergroup conflict (Lickel et al., 2006).

First, we conducted some preliminary analyses to test whether participants positively evaluated the vicarious intergroup contact, if this situation improved the collective self-esteem, and that such a circumstance did not produce an increase in intergroup anxiety, as compared with a no contact situation. More importantly, we predicted that a vicarious intergroup contact situation would improve outgroup evaluation and meta-stereotypes as compared with a no contact situation. In addition, the positive effect of vicarious intergroup contact should be even stronger when it is supported by an authority figure. Furthermore, we expected that changes in outgroup perception through our experimental manipulation would be mediated by meta-stereotypes perception.

*Preliminary studies.* Three preliminary studies were carried out in order to prepare the materials and the scenario for our investigation. The main goal of the first preliminary study was to create the scales utilized in our experiment. Desirable (important) and undesirable characteristics for a good basketball performance were chosen by fans and coaches of twelve basketball teams that traditionally dispute the junior basketball league in Madrid, Spain (58 male, 10 female, mean age = 16.58, *SD* = 1.19). They considered the following traits as desirable: Control of the Ball, Speed, Elasticity, Comradeship, Sportsmanship, Coordination, Team play, and as undesirable: Foul Play and Conflict. These traits were used to measure ingroup, outgroup, and meta-stereotype evaluations. The participants also identified five traits to evaluate the nature of an intergroup relation in a sport context: Pleasant, Positive work atmosphere, Comradeship, Sportsmanlike, Team Spirit. These traits were used to assess the evaluation of the intergroup contact situation. In the

second preliminary study, the coaches of the twelve teams chose the exercises that best represented training in these characteristics (12 male, 6 graduated and 6 undergraduate, mean age = 23.21,  $SD = 4.32$ ). In the third preliminary study, two hundred and twenty fans of the twelve basketball teams (170 male, 50 female high school students, mean age = 15.65,  $SD = .91$ ), were interviewed in order to identify which group was similar to their ingroup in objective parameters and subjective appreciation. As a consequence, the groups that were chosen reciprocally as the most similar were selected.

## Experimental Study

### Method

#### *Participants*

One hundred and seven fans of one high school basketball team in Madrid, Spain participated in the present study (98 male and 9 female, mean age 15.18 years,  $SD = .86$ ). Participants were asked to compare the members of their basketball team with the members of a relevant outgroup, e.g., an opposing basketball team with equal status in the same league. Participation in the study was part of their training session in their gym class. Participants were randomly assigned to a no contact vs. vicarious intergroup contact vs. vicarious intergroup contact supported by an authority figure providing positive equalizing feedback conditions.

#### *Procedure*

Participants were told that the study was concerned with their opinion about the different teams that play in their high school basketball league. To manipulate vicarious intergroup contact, a video displayed a joint basketball training session of both the ingroup and outgroup teams performing two exercises that required a coordinated activity between the players of both teams. Group membership of contact participants was made salient through the use of different team jerseys. Notably, cooperation between the two teams was required in order to do the training. Participants in the vicarious intergroup contact condition (*vicarious condition* from now on) watched the video and filled out the questionnaire with the dependent measures. The video was not presented for participants in the no contact condition (*control condition* from now on), where participants simply answered the questionnaire after reading the introduction and instructions. In the vicarious intergroup contact supported by an authority figure providing positive equalizing feedback condition (*feedback condition* from now on), the coach (authority figure) provided feedback about evaluations of

the performances for both the ingroup and outgroup. The coach said that the two teams performed equally well in one skill they had been practicing together (*Speed*). This last condition is focused on affirmation of common positive qualities by the authority. Participants clearly differentiated speed as a characteristic relevant to play basketball. Additionally, the characteristic used for the experimental manipulation did not overlap with those used as dependent variables. The questionnaire included a manipulation check to test whether participants in the feedback condition perceived both ingroup and outgroup members equally for competence in Speed. Next, we incorporated some preliminary measures in order to test whether vicarious intergroup contact was evaluated positively, permitted participants to maintain a positive collective self-esteem, and did not produce an increase in intergroup anxiety, but an increase in sympathy toward outgroup members. Last, participants evaluated the players of both teams, and were asked how they thought outgroup members would evaluate their team. After each experimental condition participants were thanked and debriefed.

*Manipulation Checks.* One item was included to measure the perception that participants had of the outgroup status as compared to the ingroup status (1 = totally lower, 7 = totally higher). In addition, one item was included to assess the evaluation of Speed.

#### *Dependent Measures*

*Overall evaluation of the intergroup contact.* Participants rated the contact on the five traits previously obtained (1 = totally disagree, 5 = totally agree). Exploratory factor analysis revealed that these items loaded on a single dimension (factor loadings  $> .58$ ), 42.75% of variance. Consequently, these items were averaged to create a composite evaluation of intergroup contact scale, (Cronbach's  $\alpha = .76$ ).

*Intergroup Anxiety.* Participants evaluated their feelings about the situation on a five item scale (1 = totally disagree, 5 = totally agree): *Irritated, Distrustful, Nervous, Uncomfortable, Suspicious*. A single factor accounted for 51.03% of variance. The five items were averaged in a composite measure to evaluate intergroup anxiety, (Cronbach's  $\alpha = .75$ ).

*Collective Self-Esteem (CSE).* Four items of the Luhtanen and Crocker (1992) Collective Self-Esteem scale adapted to the specific ingroup were included: i.e., "*Belonging to this school is an important part of my self-image*," (1 = strongly disagree, 5 = strongly agree). A factor analysis was conducted and one factor explained 56.62% of variance (factor loadings  $> .59$ ),  $\alpha = .74$ . A composite index was created by averaging the ratings for the four items.

*Perceptions of ingroup and outgroup and meta-stereotypes.* Ingroup perceptions were measured by asking participants to indicate the percentage of members of the ingroup team that had each of the characteristics obtained

in the first preliminary study: positive or desirable traits and negative or undesirable traits. The same procedure was followed to measure outgroup and meta-stereotype perceptions. The order of presentation of the scales was counterbalanced. A factor analysis was conducted based on the ratings of the ingroup. A Varimax rotation was performed and two factors were obtained accounting for 60.9% of variance. The first factor explained 46.74% of variance and included all the positive characteristics,  $\alpha = .83$ . The second factor accounted for 14.15% of variance, and included the negative characteristics,  $\alpha = .89$ . Equally, two factors appeared in the analysis of outgroup ratings (42.67%,  $\alpha = .83$ , and 16.78%,  $\alpha = .84$ , respectively), and for the meta-stereotype (48.63%,  $\alpha = .88$ , and 14%,  $\alpha = .84$ , respectively). The skill Speed was eliminated for the factor analysis because it was used as a manipulation check.

*Sympathy toward outgroup members.* Participants evaluated their sympathy toward outgroup members on a three item scale (1 = totally disagree, 5 = totally agree): *Sympathetic*, *Pleasant*, and *Warm*. A single factor accounted for 68.86% of variance. The three items were averaged in a composite measure to evaluate sympathy toward outgroup members, (Cronbach's  $\alpha = .76$ ).

## Results

No main effects or interactions involving participant sex were obtained, and thus this factor was not included in our analyses.

### Manipulation Check

*Status perception.* To check the perception that participants have of ingroup-outgroup status, an ANOVA was conducted showing that participants considered both groups to share a similar status, ( $M = 3.95$ ),  $t(106) = -.62$ ,  $p = .54$ .

*Feedback provided by the authority.* A 3 (control vs. vicarious vs. feedback)  $\times$  2 (ingroup vs. outgroup evaluation) MANOVA was conducted to determinate the percentage of ingroup and outgroup members assigned to the skill of Speed. A main effect of group was found,  $F(1, 104) = 82.11$ ,  $p < .001$ . The percentage assigned the speed characteristic

was higher for the ingroup, than for the outgroup ( $M_s = 73.60$ , vs.  $54.28$ ),  $t(106) = 8.05$ ,  $p < .001$ . Also, a main effect of condition  $F(1, 104) = 15.02$ ,  $p < .001$ , showed that participants assigned a higher percentage of speed in the feedback condition ( $M = 72.76$ ), than in the control and vicarious conditions ( $M = 56.54$ ),  $t(74) = -5.56$ ,  $p < .001$ , and ( $M = 62.52$ ),  $t(67) = -3.62$ ,  $p < .001$  respectively. No significant differences were produced between these two last conditions,  $t(67) = -1.70$ ,  $p = .09$ . However, we found a significant condition by group interaction,  $F(2, 104) = 15.56$ ,  $p < .001$  (see Table 1). No differences were found for the ingroup evaluation between the feedback and vicarious conditions,  $t(67) = -.78$ ,  $p = .43$ , neither between the feedback and control conditions,  $t(74) = -.67$ ,  $p = .49$ , nor between the vicarious and control conditions,  $t(67) = .15$ ,  $p = .87$ . However, outgroup evaluation in speed was higher in the vicarious condition as compared to the control condition,  $t(67) = -2.45$ ,  $p < .01$ , and in the feedback condition as compared to the vicarious condition,  $t(67) = -4.04$ ,  $p < .001$ , and the control condition,  $t(74) = -7.37$ ,  $p < .001$ . Analysis revealed that participants in the feedback condition did not establish a significant difference between the evaluation of the ingroup and the evaluation of the outgroup,  $t(37) = .31$ ,  $p = .75$ . These findings clearly confirm that the manipulation of feedback was successful.

### Preliminary Analysis

*Evaluation of vicarious intergroup contact.* In order to test the effect of the feedback condition on the evaluation of vicarious intergroup contact, an ANOVA (vicarious vs. feedback conditions) was conducted. The experimental manipulation effect was significant  $F(1, 68) = 20.23$ ,  $p < .001$ . The intergroup contact was better evaluated in the feedback condition than in the vicarious condition ( $M_s = 4.08$  vs.  $3.67$ ),  $t(67) = -4.28$ ,  $p < .001$ .

### Intergroup Anxiety

As predicted, an ANOVA (control vs. vicarious vs. feedback) showed no differences on intergroup anxiety between the experimental conditions,  $F(2, 106) = 1.16$ ,  $p = .32$ . Intergroup anxiety did not increase significantly between the control, vicarious, and feedback conditions respectively ( $M_s = 4.45$  vs.  $4.77$  vs.  $4.89$ ), all  $p_s > .43$ .

Table 1

*Percentage of Ingroup and Outgroup Members Assigned the Skill of Speed in Each Experimental Condition*

	Control Condition	Vicarious Condition	Feedback Condition
Ingroup	73.07a	72.45a	74.42a
Outgroup	40.00c	52.58b	73.66a

Note: Cells with different superscripts are significantly different from each other ( $p < .01$ ).

### Collective Self-esteem

To check the effect of our experimental manipulation on collective self-esteem, an ANOVA (control vs. vicarious vs. feedback) was conducted. The ANOVA yielded a significant main effect of the experimental manipulation  $F(2, 106) = 5.54, p < .01$ . Collective self-esteem was higher in the feedback condition than either the vicarious condition ( $M_s = 3.38$  vs.  $2.96$ ),  $t(67) = -2.42, p < .01$ , or the control condition, ( $M = 2.82$ ),  $t(74) = -3.05, p < .01$ . No differences were found between the vicarious and control conditions,  $t(67) = .76, p = .44$ .

### Ingroup and Outgroup Perceptions

A  $3$  (control vs. vicarious vs. feedback)  $\times$   $2$  (positive vs. negative characteristics) ANOVA with repeated measures on the last factor was conducted for ingroup and outgroup perception separately. Ingroup and outgroup perception could also be included as a repeated measures factor, but we have opted to do it in this way in order to simplify the results, while at the same time indicating whether changes have to do with perceptions of the ingroup or the outgroup. For ingroup perception, the effect of valence was significant  $F(1, 104) = 1.20, p < .001$ . A post-hoc test revealed that the percentage of positive characteristics assigned to the ingroup was higher than the

percentage of negative characteristics, ( $M_s = 69.13$  vs.  $31.54$ ),  $t(106) = 11.91, p < .001$ . The interaction between condition and valence was not significant,  $F(1, 104) = 6.73, p = .30$  (see Figure 1).

The  $3 \times 2$  ANOVA for outgroup perception showed a main effect of valence  $F(2,104) = 29.28, p < .01$ . Participants assigned more positive than negative characteristics to the outgroup ( $M = 51.18$  vs.  $42.52$ ),  $t(106) = 2.04, p = .04$ . More importantly, a significant interaction was found between condition and valence,  $F(2, 104) = 29.28, p < .001$  (see Figure 2). A post-hoc test revealed that the percentage of outgroup members assigned positive characteristics was higher in the vicarious condition than in the control condition ( $M_s = 44.7$  vs.  $36.41$ ),  $t(67) = -2.34, p < .001$ . However, as predicted, the best evaluation in the positive characteristics for the outgroup was obtained in the feedback condition. In this condition, participants assigned positive characteristics to more outgroup members ( $M = 63.72$ ), than in either the vicarious condition,  $t(67) = -4.55, p < .001$ , or the control condition,  $t(74) = -8.33, p < .001$ . The percentage of outgroup members assigned negative characteristics was higher in the control condition than either the vicarious condition ( $M_s = 63.47$  vs.  $35.9$ ),  $t(67) = 4.09, p < .001$ , or the feedback condition ( $M = 26.99$ ),  $t(74) = 6.53, p < .001$ . However, no significant differences were found between the vicarious and feedback conditions,  $t(67) = 1.55, p = .12$ .

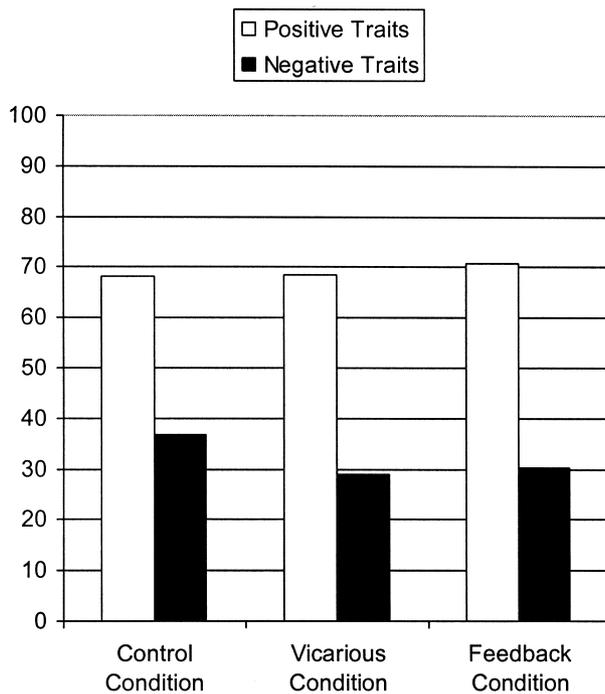


Figure 1. Effect of experimental manipulation on ingroup evaluation.

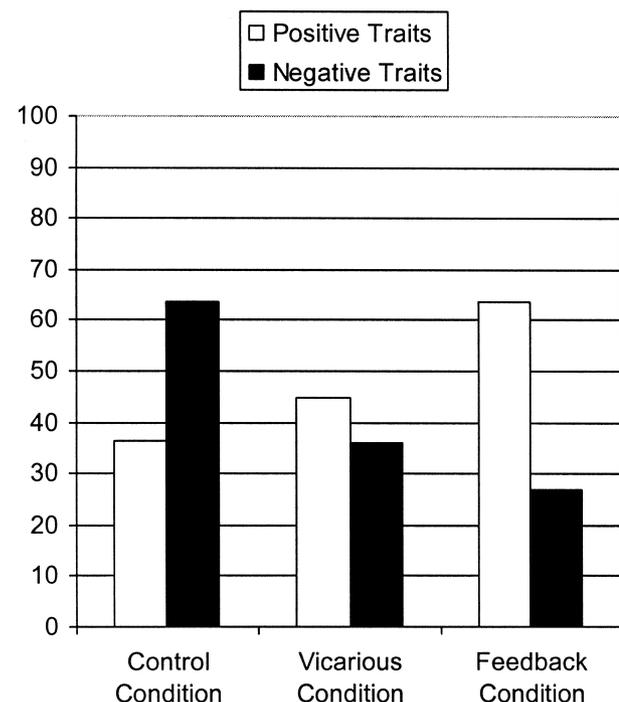


Figure 2. Effect of experimental manipulation on outgroup evaluation.

### Meta-stereotype

A 3 (control vs. vicarious vs. feedback)  $\times$  2 (positive vs. negative characteristics) ANOVA with repeated measures on the last factor was conducted for meta-stereotypes. The ANOVA yielded a main effect of valence  $F(1, 104) = 6.91, p < .01$ . A post-hoc test revealed that participants thought that outgroup members assigned to them more positive than negative characteristics ( $M_s = 52.93, \text{vs. } 44.14$ ),  $t(106) = -2.35, p < .01$ . Furthermore, we found a significant condition by valence interaction,  $F(2, 104) = 12.56, p < .001$ . Participants thought that the percentage of ingroup members assigned positive characteristics by outgroup members was higher in the vicarious condition than in the control condition ( $M_s = 52.39 \text{ vs. } 44.01$ ),  $t(67) = -2.07, p < .05$ . However this percentage increased in the feedback condition ( $M = 62.29$ ), as compared to both the vicarious,  $t(67) = -2.49, p < .01$ , and control conditions,  $t(74) = -5.53, p < .001$ . Similarly, the percentage of negative characteristics supposedly assigned by the outgroup to the ingroup was lower in the vicarious condition than in the control condition ( $M_s = 41.17 \text{ vs. } 56.25$ ),  $t(67) = 2.28, p < .05$ . Additionally, this percentage significantly decreased in the feedback condition ( $M = 34.46$ ), as compared to the control condition,  $t(74) = 3.81, p < .001$ , but not as compared to the vicarious condition,  $t(67) = 1.12, p = .26$ .

### Potential Mediating Effects of Meta-stereotypes

Last, we tested whether participants' meta-stereotype would mediate the effects of our experimental manipulation on outgroup evaluation following Baron and Kenny (1986). The predictor (experimental manipulation) was coded as 0, 1, and 2 for the control, vicarious, and feedback conditions respectively. With respect to the mediation on the positive dimension, the experimental manipulation predicted both outgroup evaluations (the dependent measure)  $\beta = .56, t = 6.96, p < .001$ , and meta-stereotypes (the proposed mediator)  $\beta = .41, t = 4.59, p < .001$ . The mediator also predicted the dependent variable,  $\beta = .53, t = 6.41, p < .001$ . In the regression in which the manipulation and meta-stereotypes

were both included as predictors, the effects of the mediator and the manipulation were also significant,  $\beta = .36, t = 4.42, p < .001$  and  $\beta = .41, t = 5.08, p < .001$  respectively. However, the Sobel test indicated that this reduction was significant,  $z = 3.18, p < .001$ , supporting a partial mediation. Regarding the mediation on the negative dimension, the experimental manipulation also predicted both outgroup evaluations,  $\beta = -.54, t = 6.51, p < .001$ , and meta-stereotypes,  $\beta = -.35, t = 3.81, p < .001$ . The mediator also predicted the dependent variable,  $\beta = .49, t = 5.83, p < .001$ . In the regression, in which the manipulation and meta-stereotypes were both included as predictors, the effects of the mediator and the manipulation were also significant,  $\beta = .35, t = 4.31, p < .001$ , and  $\beta = -.41, t = 5.09, p < .001$ . Moreover, as happened in the positive dimension, the Sobel test indicated that this reduction was significant,  $z = 2.85, p < .01$ , supporting also a partial mediation. Table 2 displays the correlation among all variables.

### Sympathy Toward Outgroup Members

As predicted, the ANOVA showed a main effect of the experimental condition,  $F(2,104) = 29.07, p < .001$ . Sympathy toward outgroup members was higher in the feedback condition than either the vicarious condition ( $M_s = 3.46 \text{ vs. } 2.96$ ),  $t(67) = 3.94, p < .001$ , or the control condition ( $M = 2.29$ ),  $t(74) = -6.97, p < .001$ . The difference between the vicarious and control conditions was also significant,  $t(67) = 3.69, p < .001$ .

### Discussion

The present research focuses on the effect of vicarious intergroup contact on the improvement of outgroup and meta-stereotype evaluations as compared to a control condition. In addition, a third condition adding the support of an authority figure to the vicarious intergroup contact condition was tested. The authority provided feedback about evaluations of the ingroup's and the outgroup's performance. In the feedback, the coach explained that both teams

Table 2

*Correlations among Experimental Manipulation, Positive and Negative Meta-Stereotypes, and Positive and Negative Traits Assigned to Outgroup Members*

	2. Positive meta-stereotype	3. Outgroup evaluation. Positive traits	4. Negative meta-stereotype	5. Outgroup evaluation. Negative traits
1. Experimental manipulation	.41**	.56**	-.34**	-.54**
2. Positive meta-stereotype		.53**	-.42**	-.31**
3. Outgroup evaluation. Positive traits			-.27**	-.63**
4. Negative meta-stereotype				.45**
5. Outgroup evaluation. Negative traits				

\* All correlations are significant at  $p < .01$ .

performed equally well in the skill they had been practicing together, which is recognized as one of the most important skills needed to play basketball. Three preliminary studies were carried out previously in order to determine those desirable and undesirable characteristics for a good basketball performance, the task that best demonstrates the application of these characteristics in this specific sport, and the two groups that should be involved in the vicarious intergroup contact scenario. Later, fans of one of the groups selected in one of the preliminary studies participated in the experimental design. We previously showed that the contact situation with or without feedback was evaluated positively, did not produce intergroup anxiety, increased collective self-esteem, and improved sympathy toward outgroup members. As predicted, vicarious intergroup contact improved outgroup and meta-stereotype evaluations as compared with a no contact-control condition. In addition, the positive effects of vicarious intergroup contact significantly increased when it was supported by an authority figure.

Alternative explanation for our results could be that participants in the control group had only information about the quality of the ingroup team (because they are their followers), but almost no information about the quality of the outgroup team. In contrast, participants in the feedback and vicarious conditions had been shown a video of a joined training session of both teams, which provided information about the quality of both the ingroup and the outgroup teams. Thus, the evaluation of the outgroup could change due to the additional information about the qualities of the outgroup. However, the parallel results showing that participants also have an increase in sympathy toward outgroup members in the vicarious condition, and even more in the feedback condition, lead us to rule out such an alternative. Finally, the present research shows that the improvement of outgroup evaluation was partially mediated by changes of shared beliefs that participants have about how outgroup members perceive the ingroup.

In summary, the present paper has three major contributions to social psychological literature in general and to conflict reduction strategies in particular: the utility of vicarious intergroup contact, the role an authority figure plays in support of vicarious intergroup contact, and the function of meta-stereotypes as a mediator on the improvement of outgroup perception. Our first contribution is to take advantage of a vicarious option of intergroup contact that has not been commonly explored. One of the possible explanations of the improvement of the outgroup image without increasing ingroup bias is recategorization. Gómez (2003) showed that fans of two basketball teams that included ingroup and outgroup players in the same inclusive category improved their outgroup image without increasing ingroup bias. However, in the present study a dual identity is made salient by the use of different team jerseys. Category salience may produce less positive attitude toward outgroup members, but if the intergroup contact has

a positive effect, then the generalization of the improvement of the outgroup image will be more successful when dual identity is salient (Gaertner & Dovidio, 2000). In addition, similar to extended contact, vicarious contact has been tested as an interesting tool to improve attitudes toward the outgroup (Cameron et al., 2006; in press; Cameron & Rutland, 2006; Pettigrew et al., 2007), and to reduce intergroup anxiety (Paolini et al., 2004; Pettigrew et al., 2007; Turner et al., 2007).

Following Pettigrew and Tropp's (2006) finding that the support of an authority figure is one of the most important factors of the contact hypothesis, our second main contribution is that feedback provided by an authority figure improved outgroup evaluation and meta-stereotype perception, and this change is significant as compared with mere vicarious intergroup contact. This is an interesting and efficient tool to improve the positive effect of simple vicarious contact. In addition, the feedback provided by the authority may have avoided social competition. Social Competition (Turner, 1975) refers to the process by which individuals, once categorized and identified within groups, tend to compare themselves with members of other categories on the available valued dimensions, trying to achieve positive distinctiveness. The feedback consisted in stating that both teams performed equally well in an important dimension of the task. The strength of an authoritative statement may have precluded social competition, and on the other hand, may have provided the opportunity of a social comparison with positive effects for social identity. If there is a context where social competition is salient by nature, then it is in the sport domain, specifically team sports. In this domain, social competition is salient by the players and by the fans. Although the contact hypothesis already made this aspect salient, affirmation of positive qualities of the groups by an authority figure as a way of showing this support has not been tested before. It also would be possible to see the effect of this strategy in areas outside the sport domain, as in that of political intergroup relations, or in work teams belonging to different organizations. One may expect that it would be particularly useful in situations in which an intergroup conflict has been solved, and as a first step showing the new intergroup climate. In the same line it would be applicable to situations in which a merging of two groups has taken place and a new superordinate category is now shared by both groups. In addition, vicarious intergroup contact supported by an authority figure is a way of uncertainty reduction that affects the positive effects of contact. This process has already been pointed out as an important mechanism to consider in intergroup relations (see Hogg, 2000; Lee, 2001).

Finally, findings about the mediating role that meta-stereotypes play on the improvement of outgroups perception suggest that this may be an interesting line of research to focus on in the near future and increase the number of mediators already identified for direct contact (Brown &

Hewstone, 2005; Eller & Abrams, 2003; 2004; Pettigrew, 1998; Viki et al., 2006), and also for extended contact (Gómez et al., 2007; Paolini et al., 2004; Pettigrew et al., 2007; Turner, Hewstone, & Voci, 2007). The relation between an improvement in the meta-stereotype and an improvement in outgroup image seems to support the idea of manipulating the meta-stereotype in order to improve intergroup relations (Gómez & Rodríguez-Bailón, 2000). There are antecedents in the area of interpersonal attraction showing that any indication that we are liked by another person elicits positive feelings toward this person (Frey & Tropp, 2006), which support our suggestion.

### Limitations

Although the strategies used might be applied to different contexts, the primary limitation of the present research is that the context of our task involves cooperation, but the general sport context and other circumstances involve competition. The second restriction is that the groups involved in the context have similar status. Testing the influence of vicarious intergroup contact and support from an authority figure in groups with different status would be an interesting way of deepening the present findings. Furthermore, a not unimportant criticism that could be argued is that the present research shows that an improvement of outgroup perceptions and meta-stereotypes was found for fans, but not for players, who were the actors of the intergroup contact. However, the literature about preventing violence in sports is usually focused on the fans (see Gómez, 2007 for a review). The reason is quite obvious: most conflicts are produced between the followers instead of the players. Finally, we should recognize that sometimes it could be difficult or even impossible to prepare this kind of vicarious intergroup contact. But, in our modest opinion, the present research clearly demonstrates the utility of using vicarious intergroup contact as a strategy to improve intergroup relations via television, education at school, etc.

### General Discussion

According to our predictions, vicarious intergroup contact in general and the addition of an authority figure in particular, improved outgroup and meta-stereotype perceptions. Following previous findings, vicarious intergroup contact has been tested as an efficient tool for improving outgroup evaluations and for reducing outgroup bias. However, more importantly, the support provided by an authority figure in the vicarious intergroup contact facilitated an increase in the positive effects produced by the simple vicarious intergroup contact. Finally, the present research has shown that changing the perceptions that people have of others, might also change the perceptions people think others have of them. In fact, the improvement of outgroup

evaluations is partially mediated by changes in the perceptions that people think others have of the ingroup. Despite the present limitations described above and some others that could be illustrated, the present findings demonstrate that positive vicarious intergroup contact in general, and being supported by an authority figure in particular, has encouraging applications in social psychology. Their effects on prejudice reduction and decreasing perceived outgroup bias suppose interesting and promising strategies to diminish discrimination and to weaken the way people think they are discriminated by others.

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