



The Effect of the Valence of Imagined Contact with Immigrants on Adolescents' Stereotype Content: The Importance of Perceived Typicality

Andreea A. Constantin*, Isabel Cuadrado, and Lucía López-Rodríguez

University of Almería, Department of Psychology and Centre for the Study of Migrations and Intercultural Relations (CEMyRI) (Spain)

Título: El efecto de la valencia del contacto imaginado con inmigrantes sobre el contenido de los estereotipos de los adolescentes: la importancia de la tipicidad percibida.

Resumen: En dos estudios, hemos examinado el efecto de la valencia del contacto intergrupar imaginado sobre el contenido de los estereotipos que mantienen los adolescentes españoles hacia inmigrantes ecuatorianos y marroquíes considerando el papel moderador de la tipicidad percibida y el origen étnico sobre este efecto. El Estudio 1 ($N = 133$) mostró que, solo para los marroquíes, cuando el compañero de interacción se percibía muy típico, los marroquíes se percibían más morales y sociables después de un contacto positivo imaginado que después de uno negativo. En contraste, cuando el compañero de interacción se percibía como atípico, los marroquíes se percibían más morales y sociables después de una interacción imaginada negativa que después de una positiva. El Estudio 2 ($N = 113$) reprodujo, en líneas generales, estos hallazgos, y confirmó el mayor efecto del contacto imaginado negativo sobre los estereotipos. Solo cuando el contacto imaginado era negativo y el compañero de interacción se percibía como típico, el contacto alteraba las percepciones de los adolescentes y disminuía la sociabilidad percibida de los marroquíes. Nuestros hallazgos ponen de manifiesto la dependencia del contexto del efecto de la valencia de contacto, así como la importancia de la tipicidad percibida para la generalización de sus efectos sobre el contenido de los estereotipos.

Palabras clave: Valencia del contacto. Contenido de los estereotipos. Tipicidad percibida. Inmigrantes devaluados.

Abstract: Across two studies, we examined the effect of imagined intergroup contact valence on Spanish adolescents' stereotype content of Ecuadorian and Moroccan immigrants considering the moderator role of perceived typicality and ethnic origin on this effect. Study 1 ($N = 133$) showed that, only for Moroccans, when the interaction partner was perceived as highly typical, Moroccans were perceived as more moral and sociable after an imagined positive contact than after a negative one. In contrast, when the interaction partner was perceived as atypical, Moroccans were perceived as more moral and sociable after a negative imagined interaction than after a positive one. Study 2 ($N = 113$) broadly replicated these findings and confirmed the stronger effect of negative imagined contact on stereotypes. Only when the imagined contact was negative and the interaction partner was perceived as typical, contact altered adolescents' perceptions and impaired Moroccans' perceived sociability. Our findings highlight the context-dependency of the effect of contact valence and the importance of the perceived typicality for the generalization of its effects on stereotype content.

Keywords: Contact valence. Stereotype content. Perceived typicality. Devalued immigrants.

Introduction

Multicultural societies can suppose a true challenge for promoting and maintaining positive intergroup relations, therefore, it is important to know how children and adolescents perceive different ethnic outgroups and also how can this perception be altered to improve interethnic relations. In this regard, a recent meta-analysis (Beelmann & Heinemann, 2014) showed that interventions based on direct intergroup contact were among the most promising programs to reduce prejudice and promote positive outgroup attitudes during childhood and adolescence.

Drawing on recent literature on social perception (Fiske, Cuddy, Glick, & Xu, 2002) and intergroup contact (Barlow et al., 2012; Pettigrew & Tropp, 2006), this work examines the effect of imagined contact valence on adolescents' stereotype content of morality, sociability and competence of two immigrant groups from Spain: the Ecuadorians (E), a valued group, and the Moroccans (M), a devalued group (López-Rodríguez, Cuadrado, & Navas, 2013; 2017).

Children and adolescents' stereotype content

The stereotype content model (SCM; Fiske et al., 2002) is one of the most prolific models addressing social perception (Cuddy et al., 2009). According to SCM, people build their social perception accounting for two basic and universal dimensions: warmth and competence. Warmth (e.g., warm, friendly) has a primary diagnostic role in social perception and is related to the perception of others' intentions, whereas competence (e.g., competent, intelligent) informs about others' capacity to pursue their intentions.

Recently, some scholars (Leach, Ellemers, & Barreto, 2007; López-Rodríguez et al., 2013) have shown that a three-dimensional model of stereotype content, distinguishing between the morality and sociability content of warmth, had a better fit than the traditional bi-dimensional one. Accordingly, we will distinguish between morality and sociability as sub-dimensions of warmth.

Some studies (Cuadrado, López-Rodríguez, & Constantin, 2020; Study 1; Vauclair, Rodrigues, Marques, Esteves, Cunha, & Gerardo, 2018) have confirmed children's and adolescents' use of stereotype content dimensions to evaluate different social groups (e.g. elderly). Their results have shown that, as children get older and reach adolescence, their outgroup evaluations of stereotype content mirror those of adults (e.g., Vauclair et al., 2018) and influence their

* Correspondence address [Dirección para correspondencia]:

Andreea A. Constantin. University of Almería, Department of Psychology and Centre for the Study of Migrations and Intercultural Relations (CEMyRI), Ctra Sacramento s/n, La Cañada de San Urbano, 04120, Almería, (Spain). E-mail: ac125@ual.es

(Article received: 30-07-2020; reviewed: 28-07-2021; accepted: 28-07-2021)

behavioural intentions toward ethnic outgroups (Cuadrado et al., 2020).

However, to our knowledge, only a few studies addressed the relevance of morality versus sociability content for intergroup relations during adolescence (e.g., Constantin & Cuadrado, 2020; Cuadrado et al., 2020). In this line, Constantin and Cuadrado (2020) confirmed the better fit of the three-dimensional model of stereotype content compared to the traditional bi-dimensional one when adolescents evaluated immigrant groups. Relatedly, Cuadrado et al. (2020; Study 1) have found that adolescents' morality stereotypes of a devalued immigrant group had a positive indirect effect on adolescents' helping intentions toward this group. These findings underline the importance of stereotype content, especially morality, in promoting positive intergroup behaviour during adolescence and emphasise the need for finding strategies to promote positive stereotype content evaluations and counter negative ones.

Intergroup contact and SCM

Novel research provides evidence of the beneficial effects of both direct (e.g., Kotzur, Schäfer, & Wagner, 2019) and indirect positive contact (e.g., Brambilla, Ravenna, & Hewstone, 2012) on stereotype content. For example, Kotzur et al. (2019) found that positive direct contact with an asylum seeker improved warmth and competence stereotype content, emotions and behaviour toward this group. Likewise, Brambilla et al. (2012) showed that positive imagined intergroup contact changed the stereotype content assigned to different immigrant groups. These authors found an improvement in the evaluation of the lowest-rated dimension of stereotype content of the assessed groups. However, these studies did not distinguish between morality and sociability as sub-dimensions of warmth. Furthermore, only a few studies (e.g., Cameron, Rutland, Turner, Holman-Nicolas, & Powell, 2011) examined the effect of positive imagined contact on stereotype content during early developmental stages. Thus, to cover these gaps, we will experimentally test the effect of positive imagined contact on the three dimensions of stereotype content in the context of interethnic relations during adolescence. We expect positive contact to improve adolescents' evaluation of the stereotype content dimensions, especially for the dimension with the lowest ratings.

Most research on intergroup contact has focused on positive contact, but intergroup relations entail both positive and negative interactions. Relatedly, some authors (e.g., Barlow et al., 2012) emphasise the need to deepen our understanding of negative contact and its effects on outgroup prejudice and intergroup relations. Therefore, we will also investigate the effect of negative imagined contact on adolescents' stereotype content.

Negative intergroup contact

Early findings on the effect of contact valence on intergroup attitudes have revealed that negative contact has more

influence on outgroups' evaluations than positive contact. In two studies, Barlow et al. (2012) found that, compared to positive contact, the effect of negative contact on different measures of ethnic prejudice was stronger and more robust. The relation between negative contact and increased levels of prejudice was stronger than the relation between positive contact and reduced levels of outgroup prejudice. A growing body of research has confirmed these findings (e.g., Aberson, 2015), however, no study has yet considered the different dimensions of stereotype content. We add to the current knowledge by examining and comparing the effect of negative and positive imagined contact on adolescents' stereotype content of different ethnic groups.

We expect adolescents' evaluations of immigrants' stereotype content to be more positive after a positive than after a negative imagined interaction with an ethnic outgroup member. Furthermore, imagining a positive interaction with an outgroup member should improve adolescents' evaluations of the stereotype content assigned to the immigrants, whereas a negative imagined interaction should impair them.

Boundary conditions of contact valence

From the stereotype change perspective, the basic generalization hypothesis (McIntyre, Paolini, & Hewstone, 2016) asserts that assimilation is the default cognitive operation of the individual-to-group generalization process and its direction would be in the direction of the information provided about the exemplar. This meta-analysis also revealed that the magnitude of the generalization was contingent on the perceived typicality of the exemplar, moderately atypical outgroup members leading to larger generalizations effects than the highly atypical ones, while typical members would enhance previous outgroups stereotypes. Likewise, Brown and Hewstone (2005) evidenced that generalized positive effects of positive contact were stronger for higher (vs. lower) perceived typicality of the interaction partner. Additionally, Paolini, Harwood and Rubin (2010) found that negative contact increased the salience of outgroup membership more than positive contact, which would explain the stronger effect of negative intergroup contact on attitudes toward outgroups. Another meta-analysis (Paolini & McIntyre, 2019) further revealed that the distinct effect of positive and negative intergroup contact on attitudes toward outgroups is contingent on intergroup settings. In their own words "bad is stronger than good in negative stigmatizing intergroup contexts and good is stronger than bad in positive, admired contexts" (p. 51). Relatedly, some authors (e.g., López-Rodríguez et al., 2013) have found that immigrants receive specific evaluations depending on their ethnic origin.

Based on these findings, we will examine the moderator role of perceived typicality on the relationship between contact valence and stereotype content. We will also analyse the moderator role of the ethnic origin in this relation considering a valued and a devalued immigrant group in Spain.

The present research

Our main aim is to examine the effect of imagined contact valence on Spanish adolescents' stereotype content of morality, sociability and competence of a valued (Ecuadorian) and a devalued (Moroccan) immigrant group.

To achieve our purpose, we used the imagined contact paradigm (Turner, Crisp, & Lambert, 2007). Although imagined contact has a weaker effect than direct contact on outgroup evaluations, it can be implemented in settings where direct intergroup contact is not possible. Furthermore, its beneficial effects have been proved across a wide range of prejudice measures, groups and intergroup settings (Miles & Crisp, 2014). We also contemplate the boundary conditions of the effect of contact valence by examining the moderator role of the perceived typicality of the interaction partner (Harwood, Joyce, Chen, Paolini, Xiang, & Rubin, 2017) and its ethnic origin in this relationship.

Our work contributes to the current literature in four ways. First, although the relationship between intergroup contact and outgroup prejudice has been widely examined, few studies contemplate models of social perception that address the specificity of prejudice (but see, Brambilla et al., 2012; Kotzur et al., 2019). Second, unlike previous work on intergroup contact and current models of social perception, we consider both positive and negative contact. Third, we focus on adolescents since studies regarding the effect of intergroup contact and stereotype content during this stage are scarce (Cameron et al., 2011), they do not consider negative contact and they do not distinguish between morality and sociability sub-dimensions of warmth content. Fourth, we explore the boundary conditions of the effect of imagined contact valence.

Considering the revised literature, for both groups, we expect that positive compared to negative contact will promote better evaluations of outgroups' stereotype content (H1). Likewise, we expect that positive contact will improve the evaluations of the adolescents regarding the stereotype content of the outgroups, while negative contact will worsen these evaluations (H2). We further expect that the effect of contact valence on stereotype content will be moderated by the perceived typicality of the interaction partner (H3). In turn, this interaction effect will be contingent on the ethnic origin of the interaction partner (H4).

Our predictions were tested in two studies². In Study 1, we focused on traditionally valued (Ecuadorians) and devalued (Moroccans) immigrants from the Spanish context (e.g., López-Rodríguez et al., 2013; 2017; López-Rodríguez, Navas, Cuadrado, Coutant & Worchel, 2014). In Study 2, we tested the findings of Study 1 only for the Moroccan group while considering a different control condition (Turner et al., 2007).

² The studies were approved by the authors' University Ethical Committee and schools' boards. Informed consent was obtained from both participants and their parents or legal tutors.

Study 1

In this study, we examined the effect of contact valence on adolescents' stereotype content of Ecuadorians and Moroccans. We further examined the moderator role of the perceived typicality of the interaction partner and its ethnic origin on this relation (Paolini & McIntyre, 2019).

Method

Participants and design

Spanish adolescents ($N = 133^3$, $M_{age} = 15.14$, $SD = 1.09$; 50.4 % girls) were randomly assigned to one of the six experimental conditions of a 3 (Contact valence: positive vs. negative vs. control) \times 2 (Group: Ecuadorians vs. Moroccans) between-subjects design.

Procedure

Pencil and paper booklets were designed for each experimental condition. Adolescents were told that they were participating in a study regarding their social perception of several social groups and were informed about their rights. Next, they were presented with the experimental imagined contact or control task (Crisp & Turner, 2009; Husnu & Crisp, 2010). In the *contact conditions*, the instructions were as follows:

“We would like you to take 2 minutes to imagine that you meet Luis-Antonio/Ahmed [Blanca/Habiba⁴] for the first time and you start a conversation. Luis-Antonio/Ahmed [Blanca/Habiba] is an/a Ecuadorian/Moroccan adolescent who has recently arrived in Spain. When you imagine this interaction, please think of when (e.g., last Wednesday, yesterday) and where (e.g., bus stop, a park in your neighbourhood) your encounter takes place. Imagine that your interaction is positive, relaxed and pleasant/negative, tense, and unpleasant.

In the *control condition*, the instructions were the following: “We would like you to take two minutes to imagine you are walking in the outdoors. Try to imagine aspects of the scene about you (e.g., is it a beach, a forest, are there trees, hills, what's on the horizon?)”. To reinforce the effect of the imagery task, in all conditions participants were given 3 minutes to write down aspects of the imagined scene. Finally, participants rated the perceived typicality of the interaction partner and the stereotype content of the evaluated outgroup. In the negative contact condition, to counteract potential negative

³ An a priori power analysis for a MANOVA special effects and interactions conducted with G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) suggested a minimum sample of 113 participants to detect a medium effect size, $f^2 = .063$, with an alpha = .05 and power = .80.

⁴ Participants' sex and the imagined character sex were matched.

effects, participants were engaged in a positive imagined contact task. Lastly, participants were thanked and debriefed.

Measures

The booklet included the following measures:

For the *manipulation check*, participants rated how pleasant was the imagined experience (Brambilla et al., 2012).

To assess *the perceived typicality*⁵ of the imagined character, adolescents had to indicate to what degree the imagined character bears resemblance to the members of his ethnic group.

The stereotype content was assessed with nine items adapted by López-Rodríguez et al. (2013) from Leach et al. (2007). Three items (honest, sincere and trustworthy, $r_{ET/MT} = .83/.79$) assessed morality, three items (likeable, warm and friendly, $r_{ET/MT} = .78/.81$) were used for sociability and three items (intelligent, capable and competent, $r_{ET/MT} = .68/.66$) assessed competence.

The ratings on all the measures were recorded in 5-points Likert scale items (1 = *not at all*, 5 = *very much*).

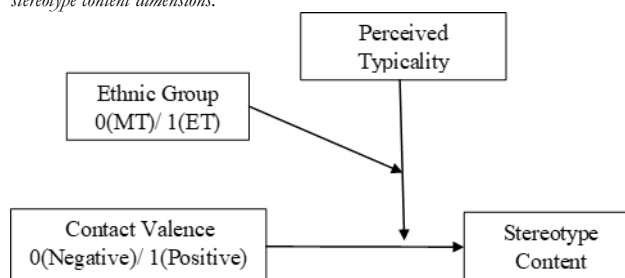
Data analysis

The internal consistency of the measured variables was assessed with the Spearman-Brown corrected mean split-half correlation coefficient. Two factorial 3 (Contact valence: positive vs. negative vs. control) \times 2 (Group: Moroccans vs. Ecuadorians) between-subjects ANOVA assessed the effect of the manipulation on the pleasantness of the imagined interaction and the perceived typicality of the interaction partner. A 3 (Contact valence: positive vs. negative vs. control) \times 2 (Group: Moroccans vs. Ecuadorians) between-subjects MANOVA examined the effect of the contact valence and the ethnic group on the stereotype content dimensions.

We tested the effect of the three-way interaction of contact valence, ethnic group and perceived typicality on the stereotype content dimensions using Model 3 of the PROCESS v 3.0 macro for SPSS (Hayes, 2018). Concretely, we checked if the moderation effect of perceived typicality on contact's valence effect on stereotype content dimensions depends on the ethnic origin of the out-group (Figure 1). The significant three-way interaction⁶ was examined with simple slopes analysis using the pick-a-point technique (Hayes, 2018) considering low, moderate and high levels⁷ of perceived typicality.

Figure 1

Three-way interaction model of contact valence, ethnic group and perceived typicality on the stereotype content dimensions.



Results

Manipulation check

A main effect of contact valence, $F(2, 124) = 73.88, p < .001, \eta_p^2 = .54$, was found. In the imagined negative contact condition, the experience was perceived as less pleasant ($M = 1.87, SD = 0.76$) than in the imagined positive contact ($M = 4.00, SD = 0.65$) and in the control conditions ($M = 3.71, SD = 1.17$) (all $p_s < .001$). No differences were found between positive imagined contact and control conditions ($p = .485$). No other significant effects were found ($p > .05$).

Effects on perceived typicality

The analysis revealed a main effect of contact valence, $F(1, 83) = 20.63, p < .001, \eta_p^2 = .20$. The imagined character was perceived as more typical of his/her ethnic group when the interaction was positive ($M = 3.60, SD = 0.97$) than when it was negative ($M = 2.60, SD = 1.16$). No main effect of the ethnic group was found, $F(1, 83) = 0.09, p = .762, \eta_p^2 = .01$. However, a significant contact valence \times ethnic group interaction was found, $F(1, 83) = 7.74, p = .007, \eta_p^2 = .09$. Post-hoc analysis revealed that in the *positive* imagined contact condition, the Ecuadorian character was perceived as more typical of his/her ethnic group compared to the Moroccan character ($p = .035$). No between groups differences were found in the negative contact condition ($p = .077$). Furthermore, the Ecuadorian imagined character was perceived as more typical in the positive contact condition than in the negative one ($p < .001$) (Table 1). No differences were found for the Moroccan character between the positive and negative contact conditions ($p = .20$).

Effects on stereotype content

A multivariate main effect of the ethnic group was found, Pillai's Trace = .150, $F(3, 125) = 7.35, p < .001, \eta_p^2 = .15$. Univariate analysis revealed that the ethnic origin of the interaction partner affected the perceptions of groups' morality, $F(1, 127) = 8.36, p = .005, \eta_p^2 = .06$, and sociability, $F(1, 127) = 19.68, p < .001, \eta_p^2 = .134$. As expected, post-hoc comparisons showed that Ecuadorians were perceived as more moral ($M = 3.41, SD = 0.75$) and sociable ($M =$

⁵ For the control condition, the perceived typicality of the interaction partner was not measured, since the task did not involve imagining a member of the outgroup. Therefore, the analyses that involve this variable only considered negative and positive contact conditions.

⁶ The continuous variable of the interaction term was mean centred to avoid collinearity issues (Aiken & West, 1991).

⁷ The values considered were the 16th, 50th, and 84th percentiles.

3.90, $SD = 0.72$) than Moroccans ($M = 3.00$, $SD = 0.87$, $p = .005$; $M = 3.30$, $SD = 0.86$, $p < .001$, respectively). No effect was found for the competence dimension, $F(1, 127) = 0.49$, $p = .49$, $\eta_p^2 = .004$.

A multivariate main effect of contact valence was also found, Pillai's Trace = .101, $F(6, 252) = 2.24$, $p = .04$, $\eta_p^2 = .05$. Univariate analysis revealed that contact valence only affected immigrants' perceived sociability, $F(2, 127) = 3.19$, p

= .044, $\eta_p^2 = .05$. Post-hoc comparisons showed that, across ethnic origin, immigrants were perceived as more sociable after a positive imagined contact than after a negative imagined contact ($p = .044$) (Table 1). No significant differences were found between control conditions and positive or negative contact (all p 's > .05). No multivariate interaction effect was found ($p = .905$).

Table 1

Means and standard deviations of the measured variables in each condition and group. Study 1.

	Positive Contact		Negative Contact		Control	
	ET	MT	ET	MT	ET	MT
Morality	3.16 (0.78)	3.18 (0.84)	3.24 (0.72)	3.03 (0.88)	3.39 (0.71)	2.82 (0.87)
Sociability	4.04 (0.61)	3.53 (0.93)	3.67 (0.79)	3.06 (0.92)	4.00 (0.69)	3.3 (0.66)
Competence	3.96 (0.72)	3.90 (0.78)	3.71 (0.60)	3.69 (0.83)	3.69 (0.57)	3.53 (0.53)
Typicality	3.95 (0.91)	3.26 (0.92)	2.32 (1.09)	2.87 (1.18)	-	-
N	19	24	22	23	21	24

Note. The response scale ranged from 1 (not at all) to 5 (very much).

Three-way interaction analysis

The three-way interaction term (contact valence \times typicality \times ethnic group) was significantly related with the perception of morality, $\Delta R^2 = .09$, $F_{CIG}[1, 79] = 7.68$, $p = .007$,

and sociability, $\Delta R^2 = .19$, $F_{CIG}[1, 79] = 19.09$, $p < .001$, of the outgroups. The three-way interaction was not significant for the competence dimension, $\Delta R^2 = .04$, $F_{CIG}[1, 79] = 2.34$, $p = .131$ (Table 2).

Table 2

Coefficients of the moderated moderation models. Study 1.

	Morality Model				Sociability Model			
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	2.93 [2.65, 3.21]	0.14	20.66	< .001	2.94 [2.67, .21]	0.14	21.76	< .001
Contact	0.19 [-.25, .63]	0.22	0.84	.405	0.46 [.08, .83]	0.19	2.40	.019
Typicality	-0.49 [-.83, -.17]	0.17	-2.99	.004	-0.58 [-.89, -.27]	0.16	-3.69	< .001
Contact \times Typicality	0.96 [.48, 1.43]	0.24	3.99	< .001	1.34 [.96, 1.75]	0.20	6.82	< .001
Ethnic Group	0.25 [-.24, .74]	0.25	1.02	.311	0.77 [.44, 1.14]	0.34	2.46	.016
Contact \times Ethnic Group	0.37 [-.27, 1.01]	0.32	1.14	.257	0.04 [-.66, .73]	0.40	0.10	.924
Typicality \times Ethnic Group	0.42 [-.06, .89]	0.24	1.74	.085	0.63 [.08, 1.18]	0.27	2.27	.025
Contact \times Typicality \times Ethnic Group	-1.01 [-1.74, -.28]	0.37	-2.77	.007	-1.61 [-2.34, -.87]	0.37	-4.37	< .001
R^2	.26				.47			

Note. All coefficients are unstandardized.

The two-way interaction between contact valence and typicality was found for Moroccan immigrants, $B = 0.95$, $F[1, 79] = 15.90$, $p < .001$, but not for Ecuadorian immigrants, $B = -0.05$, $F[1, 79] = .04$, $p = .841$.

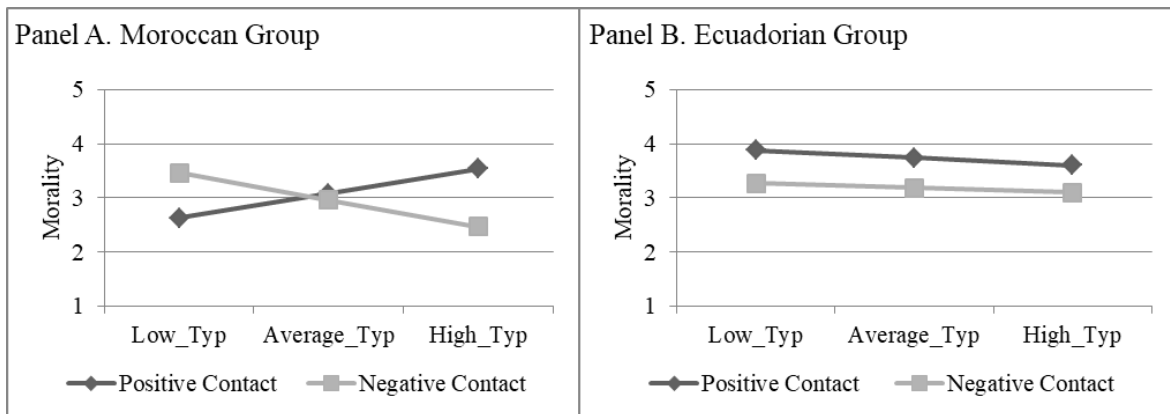
The data displayed in Figure 2 (Panel A) show that when the interaction partner is perceived as a highly typical Moroccan, the perceived morality of the Moroccan group is significantly higher after an imagined positive contact than after an imagined negative contact with him/her, $B = 1.08$ (0.28), $t(86) = 3.81$, $p < .001$. In contrast, when the interaction part-

ner is perceived as atypical, the perceived morality of the Moroccan group is significantly higher after an imagined negative contact than after an imagined positive contact, $B = -0.93$ (0.37), $t(86) = -2.27$, $p = .026$. The effect of contact valence on the Moroccan groups' perceived morality was not significant when the perceived typicality of the interaction partner was average, $B = 0.12$ (.22), $t(86) = 0.53$, $p = .597$.

For the Ecuadorians (Figure 2, Panel B), the effect of contact valence on morality was not significant ($p > .05$) regardless of the perceived typicality of the interaction partner.

Figure 2

The conditional relationship between imagined contact valence and morality at low, average, and high levels of perceived typicality for the Moroccan group (Panel A) and the Ecuadorian group (Panel B). Study 1.



Similarly, the effect of contact valence on the perceived sociability of the immigrant groups was also moderated by the perceived typicality of the interaction partner for the Moroccan group, $B = 1.36$, $F[1, 79] = 46.45$, $p < .001$, but not for the Ecuadorians, $B = -0.25$, $F[1, 79] = 0.65$, $p = .421$.

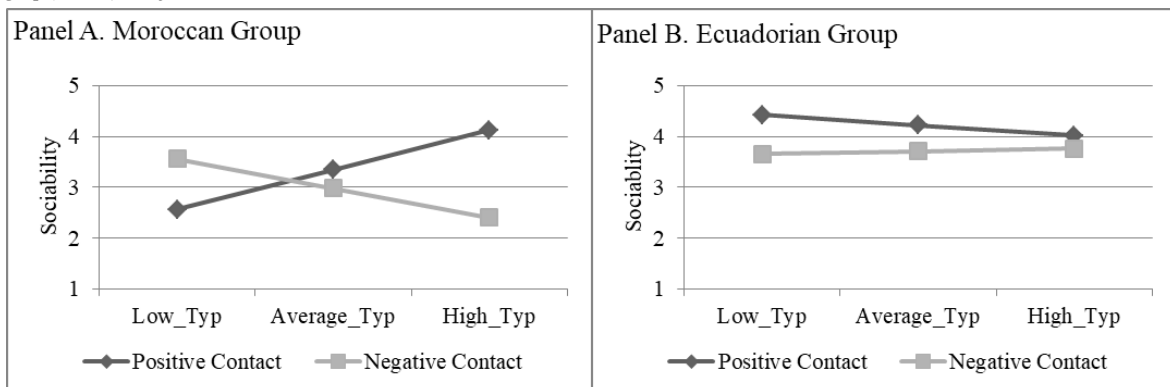
As presented in Figure 3 (Panel A), when the Moroccan interaction partner was perceived as highly typical, the perceived sociability of the Moroccan group was significantly higher after a positive contact than after a negative contact, $B = 1.72$ (0.26), $t(86) = 6.64$, $p < .01$. In contrast, when the Moroccan interaction partner was atypical, a negative inter-

action with him/her significantly improved the perceived sociability of the Moroccan group compared to a positive interaction, $B = -0.99$ (0.30), $t(86) = -3.39$, $p = .001$. When the typicality of the Moroccan interaction partner was average, the effect of contact valence on the Moroccans' perceived morality was not significant, $B = 0.36$ (0.19), $t(86) = 1.90$, $p = .061$.

For the Ecuadorians (Figure 3, Panel B), the effect of imagined contact valence on the group's perceived sociability was not significant ($p > .05$) regardless of the perceived typicality of the interaction partner.

Figure 3

The conditional relationship between imagined contact valence and sociability at low, average, and high levels of perceived typicality for the Moroccan group (Panel A) and the Ecuadorian group (Panel B). Study 1.



Discussion

Our results indicate that both the valence of intergroup contact and the ethnic origin of the interaction partner influenced adolescents' stereotype content regarding the rated outgroups. The ethnic origin of the evaluated group influenced ratings of both morality and sociability, showing that, across contact conditions, Ecuadorians were better valued than Moroccans (López-Rodríguez et al., 2013). Contact valence only affected adolescents' sociability ratings, positive

contact being related to higher perceived sociability of the immigrant groups compared to negative contact, thus confirming H1. However, H2 was not supported given that no differences were found with the control condition.

Regarding the boundary conditions of contact valence, our expectations were confirmed (H3). In line with previous findings (e.g., McIntyre et al., 2016), we encountered that the effect of intergroup contact depended on the perceived typicality of the interaction partner and affected the content of the perceived morality and sociability of the targeted out-

groups. Furthermore, this effect was contingent on the ethnic origin of the immigrant group (H4) as it only occurred for the Moroccan group. Moroccans were perceived as more moral and sociable when adolescents imagined a positive contact with a highly typical Moroccan peer compared to when they experienced a negative contact with the same character.

This effect was reversed when the interaction partner was perceived as atypical. Moroccans were perceived as more moral and sociable by the adolescents imagining a negative contact with an atypical member, compared to those experiencing a positive contact with an atypical Moroccan. Although negative contact is expected to increase prejudice and worsen attitudes toward outgroups (Barlow et al., 2012), our findings show that negative compared to positive contact might have beneficial effects on the stereotypes about outgroups as long as the interaction partner is perceived as atypical.

In sum, the findings of this study show that contact valence only affected the perceived morality and sociability of the outgroups and that this effect is contingent on the perceived typicality of the interaction partner and its ethnic origin. However, the control condition used in this study did not involve imagining an outgroup member, so it did not allow us to assess the perceived typicality of an immigrant group member in absence of contact and to compare the moderated effects of contact valence considering baseline evaluations of the outgroup in absence of contact. Therefore, we cannot warrant that the effects we found reveal an improvement or impairment of adolescents' stereotypes. Study 2 was designed to test the findings of Study 1 accounting for this limitation.

Study 2

In Study 2, we used a different no-contact control condition in which participants were asked to think about an outgroup member (Turner et al., 2007). This control condition allowed us to test if the valence of imagined contact will improve or impair adolescents' stereotypes about the targeted group. Given that the interaction effects were found only for Moroccans, the devalued group, we only focused on this immigrant group and on the dependent variables affected by the interaction effects in Study 1, that is, morality and sociability.

Method

Participants and design

Spanish adolescents ($N = 113$, $M_{age} = 14.43$, $SD = 0.80$; 52.2 % girls) were randomly assigned, following a between-subjects design, to one of three experimental conditions:

positive contact ($n = 38$), negative contact ($n = 39$) or control ($n = 36$)⁸.

Procedure

The same procedure as in Study 1 was followed, but the instructions for the control condition were the following: "During the next 5 minutes, please think about an immigrant adolescent of Moroccan origin. While thinking about this person, please describe freely and write down everything that comes to your mind regarding this person".

Measures

The same items as in Study 1 were used to measure morality ($r = .86$) and sociability ($r = .87$).

Data analysis

Two one-way between-subjects ANOVAs tested the effect of the contact valence manipulation on the perceived pleasantness of the imagined experience⁹ and the perceived typicality of the imagined partner. A between-subject MANOVA examined the effect of the contact valence on morality and sociability stereotypes.

To test the effect of contact valence \times perceived typicality interaction on the stereotype content dimensions, we performed a two-way interaction analysis using Model 1 of the PROCESS v 3.0 macro for SPSS (Hayes, 2018). We followed the same steps and attended to the same considerations regarding mean-centring and simple slope analysis as in Study 1.

Results

Manipulation check

The analysis revealed that the participants perceived the interaction less pleasant in the negative contact condition ($M = 1.77$, $SD = 0.71$) than in the positive contact condition ($M = 3.82$, $SD = 0.65$), $F(1, 75) = 174.57$, $p < .001$, $\eta_p^2 = .70$.

Effects on perceived typicality and stereotype content

The analysis revealed a main effect of the contact valence, $F(2, 109) = 4.25$, $p = .017$, $\eta_p^2 = .07$. The imagined character was perceived as more typical of his/her ethnic group in the control condition ($M = 3.61$, $SD = 0.14$) compared to the negative contact condition ($M = 3.05$, $SD = 0.14$). No differences were found between positive contact

⁸ An a priori power analysis for a MANOVA global effects conducted with the program G*Power 3.1 (Faul et al., 2009) suggested a minimum sample of 116 participants to detect a medium effect size ($f^2 = .063$) with an alpha = .05 and power = .80.

⁹ The control condition did not allow to measure the pleasantness of the imagined situation as the task did not involve an *interaction* with another person. Therefore, this analysis considered only negative and positive contact conditions.

($M = 3.22$, $SD = 0.14$) and negative contact or control conditions (all p 's $>.05$).

Regarding stereotype content, no multivariate effect of contact valence was found, Pillai's Trace = .061, $F(4, 220) = 1.73$, $p = .145$, $\eta_p^2 = .03$.

Two-way interaction analysis

To enable the comparison with the results in Study 1, we first considered only positive and negative imagined contact conditions. Next, we repeated the analysis considering contact valence as a multicategorical variable. Indicator coding system was used to code contact valence conditions. The control condition was defined as the reference category.

Positive vs. negative imagined contact. The moderation analysis revealed that the interaction of contact valence \times typicality significantly affected adolescents' perception of the morality, $\Delta R^2 = .12$, $F_{CIG}[1, 72] = 5.14$, $p = .026$, and the sociability, $\Delta R^2 = .16$, $F_{CIG}[1, 72] = 9.09$, $p = .004$, of the Moroccans.

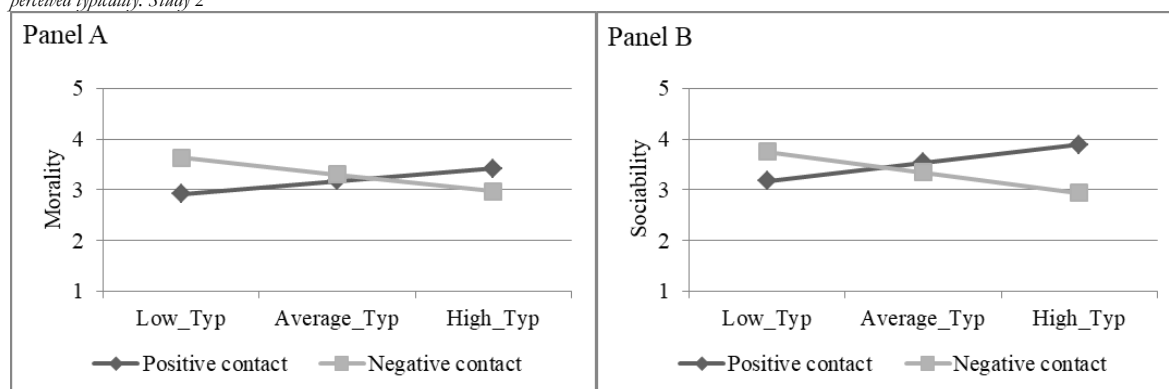
The effect of contact valence on the perceived morality of the Moroccan group was moderated by the perceived typicality of the interaction partner, $B = 0.59$ (0.26), $t(75) =$

2.27, $p = .026$. The data displayed in Figure 4 (Panel A) show that when the interaction partner was perceived as atypical, the Moroccan immigrants group was considered as more moral after a negative imagined contact than after a positive imagined contact, $B = -0.73$ (0.29), $t(75) = -2.52$, $p = .014$. The effect of contact valence on Moroccans' perceived morality was not significant for moderate typicality of the interaction partner, $B = -0.14$ (0.15), $t(75) = -0.92$, $p = .363$, or high, $B = 0.45$ (0.31), $t(75) = 1.44$, $p = .154$.

Likewise, the effect of contact valence on the sociability dimension was moderated by the perceived typicality of the interaction partner, $B = 0.77$ (0.25), $t(75) = 3.02$, $p = .004$ (see Figure 4, Panel B). When the interaction partner was perceived as a highly typical member of the Moroccan group, the perceived sociability of this group was higher in the positive contact than in the negative contact condition, $B = 0.96$ (0.28), $t(75) = 3.41$, $p = .001$. The effect of imagined contact valence on the perceived sociability of the Moroccan group was not significant for a moderately typical, $B = 0.19$ (0.18), $t(75) = 1.05$, $p = .297$, or atypical interaction partners, $B = -0.58$ (0.34), $t(75) = -1.69$, $p = .094$.

Figure 4

The conditional relationship between imagined contact valence and the perceived morality (Panel A) and sociability (Panel B) of the Moroccan group at low, moderate, and high levels of perceived typicality. Study 2



Positive and negative imagined contact vs. control. The two-way interaction did not affect Moroccans' perceived morality, $\Delta R^2 = .07$, $F_{CIG}[2, 106] = 2.59$, $p = .078$. However, a significant contact valence \times perceived typicality interaction effect was found for the perceived sociability of the Moroccans, $\Delta R^2 = .10$, $F_{CIG}[2, 106] = 4.56$, $p = .012$ (Table 3).

Only for adolescents that perceived the interaction partner as a typical Moroccan, contact valence affected the perceived sociability of the Moroccan group, $F(2, 106) = 5.81$, $p = .004$. Specifically, imagining a negative contact with a typical Moroccan compared to just thinking about a Moroccan (control condition) resulted in lower levels of the perceived sociability of the Moroccan group, $B = -0.60$ (0.29), $t(111) = -2.06$, $p = .041$ (see Figure 5). However, no effects were found for an atypical or a moderately typical Moroccan interaction partner.

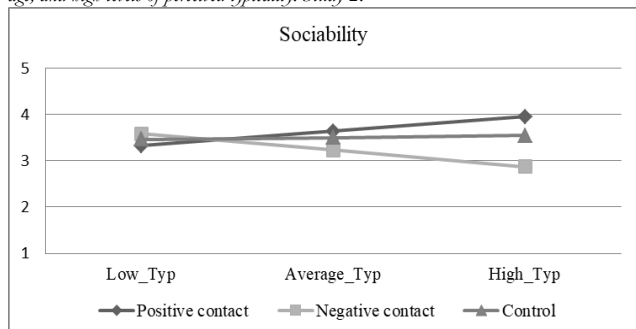
Table 3

Coefficients of the two-way interaction model for the sociability dimension. Study 2.

	Sociability Model			
	<i>b</i> [95% CI]	SE	<i>t</i>	<i>p</i>
Intercept	3.50 [3.19, 3.80]	0.15	22.78	< .001
X1	-0.27 [-.67, .13]	0.20	-1.35	.178
X2	0.14 [-.26, .53]	0.20	0.68	.496
Typicality	0.05 [-.34, .43]	0.19	0.25	.806
X1 \times Typicality	-0.45 [-1.01, .10]	0.28	-1.62	.109
X2 \times Typicality	0.32 [-.18, .80]	0.25	1.27	.207
R ²		.35		

Note. All coefficients are unstandardized. X1: Negative contact vs. Control; X2: Positive contact vs. Control.

Figure 5
The conditional relationship between imagined contact valence and sociability at low, average, and high levels of perceived typicality. Study 2.



Discussion

This study aimed to replicate the findings of Study 1 considering a control condition that allowed assessing the perceived typicality of a Moroccan immigrant peer in absence of contact. Thus, we could examine whether the variations prompted by the valence of the imagined contact in adolescents' ratings regarding the morality and sociability of the Moroccans were significantly different from their evaluations of the outgroup in absence of contact.

In general, the findings of Study 2 showed that the manipulation of the valence of imagined contact did not affect adolescents' perception of the morality and sociability of the Moroccans. However, the moderated effects of positive and negative contact on morality and sociability stereotypes were in line with current literature on individual-to-group-generalization (McIntyre et al., 2016) and broadly replicated the findings of Study 1. Compared to positive contact, negative contact led to better evaluations of Moroccans' perceived morality when the interaction partner was perceived as atypical, and to worse evaluations of Moroccans' sociability when the interaction partner was perceived as typical. These findings indicate that negative contact could not lead to such negative results as long as the interaction partner is not presented as a typical member.

Further analyses indicate a stronger effect of negative contact (Paolini & McIntyre, 2019). As expected (H2), negative contact led to negative evaluations. This effect was found only for the sociability dimension and only when the imagined interaction occurred with a typical outgroup member. Only for those adolescents that imagined a negative interaction and considered the interaction partner as a typical Moroccan, the perceived sociability of the Moroccan group was impaired.

General discussion

The main objective of the present work was to examine the effect of positive and negative imagined intergroup contact on adolescents' stereotype content of Ecuadorian and Moroccan immigrants. We also explored the boundary conditions of this relation by testing the interaction effect of the

contact valence with the perceived typicality of the contact partner and the moderation of this effect by the ethnic origin of the immigrant groups.

The first study showed that adolescents' stereotypes toward the immigrant groups were affected by both their ethnic origin and the valence of their interaction with a member of these outgroups. In line with previous work (e.g., López-Rodríguez et al., 2013), adolescents perceived Ecuadorians as more moral and sociable than Moroccans across contact conditions. Also, across ethnic groups, a positive (vs. negative) contact experience resulted in higher levels of perceived sociability of the outgroups.

Moderation analyses further shed some light regarding these results. In keeping with findings on individual-to-group-generalization (e.g., Brown & Hewstone, 2005; Paolini & McIntyre, 2019), in our study, a three-way interaction qualified the relation between contact valence and adolescents' stereotype content of the immigrant outgroups. The effect of imagined contact valence on adolescents' stereotypes depended on the perceived typicality of the interaction partner and its ethnic origin. Whereas for the Ecuadorians the effect of contact valence was independent of the perceived typicality of the interaction partner, for Moroccans the effect of contact valence on adolescents' stereotype content toward this group was contingent on the perceived typicality of the interaction partner. In Study 1 we also found that negative contact could prompt better evaluations compared to positive contact under certain circumstances, but they did not warrant the improvement of adolescents' stereotypes of the Moroccan group.

Study 2 replicated the findings of Study 1 regarding the Moroccan group and also clarified that imagined contact modified adolescents' evaluations only when it was negative and only when the interaction partner was perceived as typical. Furthermore, this effect occurred only for the sociability dimension. Moroccans' perceived sociability was impaired when adolescents imagined a negative contact with a typical Moroccan peer. Although in general our expectations were met, some findings were unexpected or only partially confirmed our predictions.

First, as shown in Study 2, only negative contact impaired adolescents' stereotypes of Moroccans' sociability, whereas positive contact did not improve adolescents' stereotypes. The lack of effect of positive contact indicates a stronger effect of negative contact (Paolini et al., 2010). Additionally, the fact that this effect occurs only for the devalued immigrant group, provides support to recent literature (Paolini & McIntyre, 2019) arguing for a stronger effect of negative contact for stigmatized groups.

Second, although positive versus negative contact was associated with higher ratings of sociability (Study 1), intergroup contact did not alter adolescents' stereotypes of Ecuadorians. Brambilla et al. (2012) found similar results regarding the effect of positive imagined contact on the stereotypes toward a valued immigrant group in Italy. However, in our study, neither positive nor negative contact effects were

found. Ecuadorians are considered by Spaniards as more similar to natives compared to other immigrant groups (López-Rodríguez et al., 2017). It is possible that the higher perceived intergroup similarity affected the perceived group boundaries and reduced the category salience needed for the generalization of contact effects (Brown & Hewstone, 2005). Future research should account for the role of perceived intergroup similarity and its interplay with different factors that might affect a person's perceived fit to a category (e.g., perceived typicality) in the relation between contact valence and the stereotypes about outgroups.

Third, across both studies, our results indicate that under low typicality conditions, negative contact may enhance Moroccans perceived morality more than positive contact in the same circumstances. The findings of Study 1 showed that Moroccans were perceived as a devalued group (López-Rodríguez et al., 2013), thus, although the contact situation is negative, an atypical (positive) exemplar would be inconsistent with adolescents' view of the Moroccans. When the information provided by an exemplar is inconsistent with the image of the group, people adjust their group evaluations in the direction of the provided information (Kunda & Oleson, 1979). Our findings seem to suggest that the positivity of the imagined character is assimilated, and the outgroup evaluation is adjusted in the direction predicted by the assimilation hypothesis.

Bless, Schwarz, Bodenhausen and Thiel (2001) have shown that the information provided by atypical members was assimilated into the group's judgement and attenuated stereotypes about the target group when the exemplar's category membership was made salient. Additionally, some scholars (e.g., Paolini et al., 2010) have shown that negative (vs. positive) contact increments category salience more and that higher salience facilitates individual-to-group-generalization (Brown & Hewstone, 2005). It is possible that the imagined negative contact made salient the interaction partner membership and acted as a catalyst facilitating the assimilation of the positive traits of the atypical contact partner into the group's image. Nonetheless, how people balance the valence of the contact situation and the perceived valence of the interaction partner could be an interesting avenue for future research.

Fourth, our findings (Study 2) partially support previous research regarding the potential of imagined contact to reshape the evaluations of stereotype content (Brambilla et al., 2012). However, unlike their results showing the positive effects of positive contact, our findings reveal that only negative contact with a typical member of the group modified the stereotypes by impairing the perceived sociability of the Moroccans. No effect was found for positive contact or on the morality dimension. A recent meta-analysis (Miles & Crisp, 2014) indicates that the effects of (positive) imagined contact on attitudes toward ethnic groups could sometimes be non-significant. Additionally, our results are in consonance with recent literature (Paolini & McIntyre, 2019) showing that, for devalued groups, negative contact has a stronger effect on

outgroup attitudes than positive contact. Together, both aspects, the type of contact and the stronger effect of negative contact for stigmatized groups, could explain the lack of effect of positive contact for this group.

The effect found for sociability and the lack of effect on morality in Study 2 may be related to the way these two basic dimensions are used by adolescents. Although morality is the main diagnostic dimension of social perception for adults, during adolescence interpersonal interactions and socialization acquire greater importance (Brown & Larson, 2009). This specific developmental aspect of adolescence and the fact that intergroup contact implies socialization might have directed adolescents' attention toward and made them focus more on sociability over morality aspects.

We are further aware that our work has some shortcomings that could be improved in future studies. First, we used explicit measures of stereotype content; therefore, social desirability could have influenced the response of our participants. Future studies could use implicit measures of stereotype content or measure social desirability to control for its possible influence.

Relatedly, our task allowed participants to decide the settings of their contact experience. Some studies (e.g., Bekhuis, Ruiters, & Coenders, 2013) have shown that the effect of positive and negative contact varies across social settings: The effect of positive compared to negative direct contact on attitudes toward ethnic outgroups is less predictive in unstructured settings (e.g., neighbourhood). Thus, future studies should account for the effect of different types of settings of the imagined contact.

All things considered, across two studies we provided evidence about the context-dependency of the generalization of positive and negative contact effects (1), the boundary conditions in which negative (vs. positive) contact could promote better evaluations of outgroups stereotypes (2), and the conditions under which adolescents' stereotype could be altered (3). From a theoretical standpoint, these findings extend current literature as they experimentally examine the relationship between intergroup imagined contact and specific stereotype content (1) considering positive and negative contact simultaneously (2), as well as the boundary conditions of positive and negative contact effects (3). Moreover, we explore these relations during adolescence, a developmental stage of crucial importance for the development and prejudice reduction (4).

Our findings also have practical implications. They draw attention to the importance of monitoring the valence of intergroup experiences especially when these experiences involve a member of a devalued outgroup. They also provide useful information regarding the conditions in which this type of experiences generalize their negative effects on the image of the outgroup and impair adolescents' stereotypes. Negative contact will damage the image of the outgroup when the outgroup member involved in the interaction is typical of his/her group. Therefore, to avoid this outcome, the interaction partner should be presented as an atypical

member of his/her outgroup. It should be considered that a negative contact with a single individual does not lead people necessarily to a more negative evaluation of the whole outgroup when the member with whom they have had such experience is not recognized as typical of their group. Mass media and political discourses might recognize the power of typicality and the generalization process.

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