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Magdalena Wojcieszak, Nuri Kim & Juan-José Igartua

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Magdalena Wojcieszak

Department of Communication
University of California, Davis

Amsterdam School of Communication Research
University of Amsterdam

Nuri Kim

Wee Kim Wee School of Communication and Information
Nanyang Technological University

Juan-José Igartua

Department of Sociology and Communication
University of Salamanca

Magdalena Wojcieszak (Ph.D., University of Pennsylvania, 2009) is a Professor in the Department of Communication at the University of California, Davis and an Associate Researcher (ERC SG) in the Amsterdam School of Communication Research at the University of Amsterdam. Her research interests include how media use in the current media environment influences people's attitudes, cognitions, and behaviors, especially as related to outgroup attitudes.

Nuri Kim (Ph.D., Stanford University, 2013) is Assistant Professor in the Wee Kim Wee School of Communication and Information at the Nanyang Technological University. Her research interests include intergroup contact theory, deliberation in the context of differences, and narrative persuasion.

Juan-José Igartua (Ph.D., University of the Basque Country, 1996) is a Professor of Media Psychology in the Faculty of Social Sciences, Department of Sociology and Communication, at the University of Salamanca. His research interests include media effects, narrative persuasion, media entertainment theory, health communication, media framing effects, and media and immigration.

Correspondence should be addressed to Magdalena Wojcieszak, University of California, Davis, 468 Kerr Hall, Davis, CA 95626. E-mail: mwojcieszak@ucdavis.edu

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We bridge the theorizing on mediated *and* imagined contact and integrate these two contact forms in one sequence within a single design. We experimentally examine whether (1) encouraging people to imagine a positive intergroup encounter prior to reading a personal story of an outgroup member as well as (2) mediated contact with an outgroup member similar or dissimilar to the ingroup prototype, improve outgroup attitudes. We also test the affective and cognitive mediators through which these effects emerge. Data from four different countries that test attitudes toward four distinct immigrant groups find that although imagined contact and similarity do not consistently improve outgroup attitudes, enhanced interest in the story of an outgroup member and positive emotions mediate the effects from similarity, and – in two countries – from imagined contact. Theoretical and practical implications of the findings are discussed.

Promoting positive interactions between members of different groups is one of the most effective ways to reduce prejudice (Allport, 1954; Pettigrew & Tropp, 2006). Various physical, social, and psychological barriers inhibit meaningful intergroup encounters, however. Addressing these barriers, research suggests that face-to-face interactions are not necessary: merely observing intergroup contact (vicarious contact; Mazziotta, Mummendey, & Wright, 2011), learning that an ingroup member has an outgroup friend (extended contact; Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), imagining a positive intergroup encounters (imagined contact; Crisp & Turner, 2009), or exposure to outgroup members in the media (mediated contact; Park, 2012) also reduce prejudice. Typically, these indirect contact strategies are examined separately despite the recent calls that different strategies be used at the same time and combined in real-world interventions (Vezzali, Hewstone, Capozza, Giovannini, & Wölfer, 2014).

This project contributes to intergroup contact literature in several ways. First, it bridges the theorizing on mediated *and* imagined contact and integrates these two *in one sequence within a single design*. We propose that encouraging people to mentally simulate an intergroup encounter can open people up to a subsequent mediated contact, improving attitudes. Although imagined and mediated contacts are less rich than direct interactions (Harwood, 2010), they entail less effort than direct contact and do not require that opportunities for intergroup contact exist within one's immediate network. As such, they are simple and flexible enough to be implemented in conjunction and testing them together helps us assess whether imagined and mediated contact can indeed build upon each other.

Second, we systematically examine the extent to which similarity of an outgroup member to the ingroup prototype, i.e., a set of attributes that is associated with a group (Hogg & Terry, 2000), influences outgroup attitudes in a mediated contact context. Although contact theory traditionally emphasizes commonality and shared interests or goals as conducive to prejudice reduction

(Allport, 1954), contact may involve outgroup members who vary greatly in terms of how similar they are to the ingroup prototype. Assessing the effects of this variability is thus important. We also test whether the combination of imagined contact and mediated contact with a similar outgroup member will be particularly effective.

Lastly, we attend to the mechanisms through which these effects emerge, namely the cognitive (i.e., interest in the story) and affective (i.e., positive emotions) processes. We propose that imagining contact or reading about a similar outgroup member can trigger both processes, thereby improving attitudes. Only when we know how these effects emerge, can we design interventions that activate the relevant psychological processes.

Whereas most work on mediated contact comes from the US and comparative evidence is lacking, we rely on experimental data from online adult samples from four countries, the UK ($N = 417$), Spain ($N = 400$), Singapore ($N = 390$), and the Netherlands ($N = 395$), who read a story delivered by a stigmatized immigrant. Testing our theoretical predictions across four different national samples and immigrant groups assures that the effects are not due to idiosyncrasies of any particular sample, message, or outgroup alone. Further, we test these effects on three components of outgroup attitudes: cognitive component (i.e., stereotypes), affective component (i.e., outgroup feelings), and behavioral component (i.e., intentions to engage in outgroup contact), to our knowledge the first project to attend to the two indirect contact forms and all three attitudinal components in one design.

MEDIATED AND IMAGINED INTERGROUP CONTACT

Mediated contact, or encountering positive depictions of outgroup members in the media, is an indirect contact form that may comprise an experience analogous to face-to-face encounters (Kanazawa, 2002). How mediated contact is theorized and measured varies greatly, ranging from self-reported or experimentally manipulated exposure to outgroup members through movies (Riggle, Ellis, & Crawford, 1996), fictional shows (Schiappa, Gregg, & Hewes, 2005), documentaries (Joyce & Harwood, 2014), or political programing (Goldman, 2012; Wojcieszak & Azrout, 2016). What these operationalizations share, and what matters to contact theory more broadly, is that the audience gains the understanding of and becomes familiar with an outgroup person, thereby developing more positive outgroup attitudes (see Graf, Paolini, & Rubin, 2014).

This project operationalizes mediated contact as reading a personal story delivered by an outgroup member. This rather minimal contact nonetheless directly involves the self in the interaction, in that the reader interfaces with

the outgroup character and gains insight into his or her feelings and thoughts. Although this contact is asynchronous and text-based, synchronicity and visual cues are not necessary for contact to be meaningful and effective. Reading children's stories depicting outgroups (Cameron, Rutland, Brown, & Douch, 2006) or exposure to online comments of an outgroup member (Kim & Wojcieszak, 2018) improves attitudes. This simple form of mediated contact is also prevalent online when users share their experiences on social media or in news comments (Lee & Jang, 2010).

What can strengthen the effectiveness of mediated contact? We propose that imagined contact can be a precursor to mediated contact and that combining these two flexible indirect contact strategies can be particularly powerful. Imagined contact is a "mental simulation of a social interaction with a member or members of an outgroup category" (Crisp & Turner, 2009, p. 234). Because imagery techniques elicit similar emotional and motivational responses as real experiences, imagining positive contact triggers reactions associated with actual contact and reduces prejudice (Crisp & Turner, 2009). This effect generalizes to the outgroup as a whole, likely because people mentally gain exposure to the outgroup in a positive context (Turner & Crisp, 2010), and especially when group distinctions are salient (Vezzali et al., 2014). Imagined contact has effects on various outcomes, from stereotyping to behavioral intentions, as related to numerous outgroups (see Miles & Crisp, 2014).

Germane to this project, scholars suggest that "imagined contact might be usefully applied *immediately before* an intervention that involves extended or direct contact" (Crisp & Turner, 2009, p. 238 emphasis added). This notion remains untested. We argue that *imagined* contact should enhance the effectiveness of *mediated* contact. Rehearsing a positive intergroup interaction prepares people to engage with the outgroup with an open mind by making people feel more comfortable with, and less apprehensive about, future contact and by reducing anxiety typically associated with intergroup interactions (see Miles & Crisp, 2014). These mental activities can be useful primers, making imagined contact an effective first step before mediated exposure to outgroups. In short, encouraging imagined contact prior to reading a personal story of an outgroup member should open people up to the story and improve attitudes relative to a situation in which no contact is imagined.

CONTACT WITH SIMILAR VERSUS DIFFERENT OTHERS

We also examine the similarity between the ingroup audience and the outgroup member involved in the mediated encounter. Although intergroup contact may lead to a discovery of shared values and beliefs (see Pettigrew, 2008) or

"common interests and common humanity" (Allport, 1954, p. 281), it may well fail to do so, instead revealing or highlighting differences in interests, goals, or identity (Oakes, Haslam, & Turner, 1994; Paolini, Harwood, & Rubin, 2010). Because people encounter outgroup members with whom they may or may not have much in common, it is of interest to test the effects of contact with similar versus different others.

We draw on the concept of *similarity to ingroup prototype* and examine its effect in a mediated contact context. Prototypes are sets of attributes that define a group and distinguish it from other groups (Hogg & Terry, 2000) and are considered an "emblematic" set of characteristics of a given social category (Mastro & Kopacz, 2006, p. 309). Prototypes are used as benchmarks when evaluating both oneself and others, such that people are assessed on how closely they embody a group prototype (Hogg & Hains, 1996). In an intergroup context, an outgroup member may be judged based on whether s/he shares some attitudinal, psychological, and behavioral characteristics that are typical of the ingroup. For instance, an immigrant may enjoy the host country's food or be a fan of the host country's national sports team. We argue that mediated contact with an immigrant who embodies the ingroup prototype will improve attitudes.

Several perspectives inform this expectation. The classic similarity-attraction proposition establishes that similarity breeds attraction, such that people like more, rate more highly, and enjoy interacting with similar others more than with dissimilar people (Byrne, 1971). This holds for various kinds of relationships and similarity in terms of some important values (e.g., religion) matters more than similarity in terms of inconsequential matters (e.g., the soap brand one uses; see Griffitt, 1974). More germane here, self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) suggest that people tend to categorize those who are similar to them in some ways as ingroup and those who are different as the outgroup. These categorizations have concrete consequences: people react with more positive affect, think more favorably about, and are more willing to cooperate with the ingroup than the outgroup (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993). These categorizations are also context dependent, such that others can be seen as in- or outgroup depending on some cues (Turner et al., 1987). Building on this idea, the Common Intergroup Identity Model (CIIM; Gaertner & Dovidio, 2000) shows that emphasizing commonalities between the in- and outgroup (i.e., that their members are similar in some ways) minimizes outgroup bias in some contexts (Hornsey & Hogg, 2000).

In fact, research demonstrates that the perceived similarity of outgroup members to an ingroup prototype reduces prejudice. Seeing Black celebrities as similar to a relevant White prototype primed by media exposure leads White undergraduates to report greater attraction toward these celebrities (Mastro, Tamborini, & Hullett, 2005), and perceiving media representations of Blacks

and Latinos as similar to the "White norm" predicts lower stereotyping and increased support for affirmative action among students (Mastro & Kopacz, 2006). We extend this work to mediated contact with generic outgroup members, rather than media figures, and – crucially – we experimentally vary similarity to ingroup prototype to systematically isolate its influence on outgroup attitudes among adult samples.

Two things need to be noted. Similarity can be a double-edged sword. While it is easier to develop liking for similar outgroup members and perceive them as part of an ingroup, those individuals may be seen as atypical, limiting the generalizability of the attitude to the outgroup as a whole (Gaertner et al., 1993; Hewstone & Brown, 1986). Also, emphasizing that an outgroup member is similar to the ingroup could backfire. Because people derive self-esteem from positively distinguishing their group from others, a similar outgroup member could threaten one's distinct identity and exacerbate prejudice (Brown & Lopez, 2001). This effect, however, emerges when the status of the ingroup is low or when people want to reduce identity uncertainty (see Knobloch-Westerwick & Hastall, 2010). Because we test the attitudes of native citizens (with relatively certain and "superior" status) toward immigrants (whose identity is less secure and status lower), similarity should improve attitudes.

In addition to these main effects, we examine whether there is an interaction effect, such that a condition in which people imagine intergroup interaction prior to mediated contact with a similar outgroup member exerts especially strong effects, above and beyond an additive effect of the two. After all, a simulated interaction is controlled by one's imagination (Harwood, 2010) and entails projection, such that imagining positive contact leads one to project positive self-traits onto the imagined partner, making the outgroup seem more similar to themselves (Crisp & Turner, 2009; Stathi & Crisp, 2008). If an outgroup member involved in a subsequent mediated encounter turns out to be similar, then the positive effects of imagined contact should be *stronger* than what we might observe with a dissimilar outgroup. After all, the imagined interaction matches the actual mediated interaction, amplifying the effects. We elsewhere find that this "optimal reception condition," in which one's imagination is trained before mediated exposure to a similar immigrant, has the strongest indirect influence on outgroup attitudes (Igartua, Wojcieszak, & Kim, 2019).

UNDERLYING MECHANISMS

Lastly, we consider two mechanisms through which these effects emerge. We focus on cognitive and affective mechanisms, namely interest in the story shared by an outgroup member and positive emotions. Imagining a positive intergroup

interaction prior to mediated contact should enhance people's interest because it mentally prepares them to consider what they might learn and how they might feel during an interaction (Turner & Crisp, 2010). In other words, imagined contact primes people to think about the outgroup, and this salience can raise interest in personal stories of outgroup members. Also, as aforementioned, imagined contact encourages people to seek out contact and prepares them to engage with outgroups with an open mind (Crisp & Turner, 2009), approach tendencies that indicate increased interest. Imagined contact should also enhance positive emotions. In general, the literature suggests that because imaginative mental states elicit similar responses as real experiences (Dadds, Bovbjerg, Redd, & Cutmore, 1997), imagining a pleasant intergroup encounter can make people feel empathy, hope, or respect (i.e., positive emotions associated with successful direct contact, Pettigrew, 2008). Others also note that positive feelings elicited by the interactive nature of imagined contact could explain its effects (Crisp & Turner, 2009).

The similarity to ingroup prototype should also increase interest in the story shared by an outgroup member. According to self-categorization theory, people are more motivated to engage with communication coming from an ingroup member relative to an outgroup member, and pay more attention to ingroup messages (Kane, 2010; see Greenaway, Wright, Willingham, Reynolds, & Haslam, 2015). The literature on CIIM further theorizes and shows that making superordinate identity salient makes communication from an outgroup equally effective as that from an ingroup (Greenaway et al., 2015). In fact, messages featuring a source similar to the audience are rated as better, stronger, and more relevant than messages featuring distinct sources (Appiah, 2001; Appiah & Liu, 2009; Forehand & Deshpande, 2001), partly because recipients can more easily connect with the experiences of a similar person (De Graaf, 2014). As such, an outgroup protagonist who shares some relevant characteristics with an ingroup should elicit greater interest in his story than an outgroup member who differentiates himself from the ingroup. Also, mediated contact with an outgroup member high in ingroup prototypicality should generate positive emotions because people react to ingroup members with more positive affect, and perceiving sub-group members as part of a common group enhances positive outgroup feelings (Gaertner et al., 1993).

Interest in the story and positive emotions, in turn, should improve outgroup attitudes. Enhanced interest may generate message-consistent attitudes because it enhances attention that one pays to a message, a prerequisite to persuasion (McGuire, 1985). Because, in our project, the story of an outgroup member is favorable toward immigrants, increased interest should improve outgroup attitudes by making people attend to the story carefully. Similarly, positive emotions may lead to more positive outgroup attitudes. On the most basic level, emotions have a spillover effect, such that incidental emotions generated by

external stimuli influence attitudes because people use their affective states as relevant information when making evaluative judgments (i.e., misattribution of affect, Isen, 2001; Schwarz & Clore, 1983). This extends to intergroup contexts. The contact literature suggests that prejudice is influenced by both incidental affect (i.e., emotions generated prior to, and independently of, intergroup context) as well as episodic integral affect (i.e., situationally created transient affective states experienced during a specific intergroup situation; see Paolini, Hewstone, Voci, Harwood, & Cairns, 2006). Because what matters to outgroup attitudes is the emotion itself, we did not specify the target of the emotions, simply predicting that positive emotions experienced in the intergroup context will improve outgroup attitudes.

Outgroup Attitudes

We test these effects on three components of outgroup attitudes: cognitive component (i.e., stereotypes), affective component (i.e., outgroup feelings), and behavioral component (i.e., intentions to engage in the future outgroup contact) (Duckitt, 2003). These are consistent with the work on dimensions of attitudes more broadly, which identifies cognitive, affective, and behavioral responses to objects (Eagly & Chaiken, 1993). Cognitive responses are perceptions of and ideas about the object, such as associations between the object and various attributes. In turn, affective responses include feelings, moods, and emotions experienced in relation to the object. Lastly, the behavioral responses include behavioral inclinations, intentions, and actions with respect to the object (Fishbein & Ajzen, 1975).

Within the cognitive component, this project focuses on stereotypes, or beliefs about characteristics of a group of people (McGarty, Yzerbyt, & Spears, 2002). Because stereotypes function as expectancies about groups, they may bias individual behavior and reinforce prejudice. In turn, the affective component "may be the most critical component of prejudiced attitudes" (Duckitt, 2003, p. 563), with some scholars suggesting that prejudice should be conceptualized specifically as negative outgroup affect (Fiske, 1998) and others showing that emotions are crucial in intergroup relations (e.g., Mackie, Devos, & Smith, 2000; Stephan & Stephan, 2000). We study how people feel toward the outgroup. Further, intention to engage in the future contact and/or to behave negatively or positively toward outgroup members matters because intentions predict actual behaviors (Ajzen, 1985), which (in the intergroup context) can lead to active discrimination or improved intergroup relations. Although these components are connected, in that they all tap an overarching concept of outgroup attitudes, each is consequential to intergroup relations and theorized as a separate consequence of indirect contact (Vezzali, Giovannini, &

Capozza, 2010). Studying these outcomes is relevant theoretically and practically, and also allows us to test the extent to which imagined contact and similarity influence these distinct components.

OVERVIEW AND HYPOTHESES

This project has four objectives. We first examine whether giving people instructions to imagine intergroup contact prior to mediated contact improves outgroup attitudes. Second, we test whether a visually and textually created similarity of an outgroup member to an ingroup prototype (i.e., mediated contact with an immigrant who shares the interests, tastes, and sentiments of the native audience) has stronger effects than contact with an otherwise identical immigrant whose interests, tastes, and sentiments are based on his national origin (i.e., low similarity). We also test the interaction between these two factors. Lastly, we examine the underlying processes, expecting that imagined contact and similarity will work through an enhanced interest in the story and positive emotions. We treat mediated contact as a constant (i.e., all subjects read a story of an outgroup member), and manipulate imagined contact and similarity in order to identify the facilitating conditions of mediated contact. We first predict the main effects:

H1: People who imagine intergroup contact will report lower stereotypes (*H1a*), warmer outgroup feelings (*H1b*), and greater behavioral intentions (*H1c*) than those who do not imagine intergroup contact.

H2: People exposed to an outgroup member who is similar to ingroup prototype will report lower stereotypes (*H2a*), warmer outgroup feelings (*H2b*), and greater behavioral intentions (*H2c*) than those exposed to a dissimilar outgroup member.

H3: The effects of imagined contact will be especially pronounced when outgroup member is similar to the ingroup prototype, as compared to when the outgroup member is dissimilar, in reducing stereotypes (*H3a*), generating warmer outgroup feelings (*H3b*), and increasing behavioral intentions (*H3c*).

We also advance mediational hypotheses:

H4: Imagined contact will enhance interest in the story, thereby reducing stereotypical perceptions (*H4a)*, generating warmer outgroup feelings (*H4b*), and increasing behavioral intentions (*H4c*).

H5: Imagined contact will enhance positive emotions, thereby reducing stereotypical perceptions (*H5a*), generating warmer outgroup feelings (*H5b*), and increasing behavioral intentions (*H5c*).

H6: Outgroup member's similarity to ingroup prototype will enhance interest in the story, thus reducing stereotypical perceptions (*H6a*), generating warmer outgroup

feelings (*H6b*), and increasing intentions to engage in future outgroup contact (*H6c*).

H7: Outgroup member's similarity to ingroup prototype will enhance positive emotions, thus reducing stereotypical perceptions (*H7a*), generating warmer outgroup feelings (*H7b*), and increasing intentions to engage in future outgroup contact (*H7c*).

METHODS

Four experiments were conducted in the United Kingdom (UK; $N = 417$), Singapore ($N = 392$), Spain ($N = 400$), and the Netherlands (NL; $N = 392$).[1] Given our interest in immigrant outgroups, the samples only included people who themselves and whose parents were born in the UK, Spain, and the Netherlands, or – in Singapore – who were citizens of the country. Participants were drawn from diverse opt-in online panels of professional polling organizations (*Survey Sampling International* in the UK, *Research Now* in Singapore, and *Qualtrics* in Spain and the Netherlands). In order for the samples to approximate the general populations, quotas on age and gender, and – in the UK and Singapore – on education were set. In the UK, the sample was 50.4% male with a mean age of 42. In Singapore, the sample was 51.5% male, with 30% being between 20 and 34 years old (35–44, 25.5%; 45–54, 22%; 55–64, 18%; older than 65 years, 4%). In Spain, the sample was 50% male with a mean age of 40. The Dutch sample was 49.7% male, with a mean age of 41.

Design and Procedure

All four studies followed the same procedure. Participants first completed a pretest that measured socio-demographics, immigration-related attitudes, modern racism, among other variables (Authors, 2018), and were then randomly assigned to one of the four conditions: 2 (imagined contact) x 2 (similarity to ingroup prototype). First, half of the sample received instructions to imagine intergroup contact, and the other half received instructions to imagine an outdoor scene (control group). These instructions appeared on the screen for 2 minutes. Afterward, participants were randomly assigned to one of the two

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[1] The Spanish Ministry of Science, Innovation and Universities, which financed the project, issued the approval for the project (*"Narrative tools to reduce prejudice. Effects of similarity, imagined contact, empathy and narrative voice;"* CSO2015-67611-P). Data collection for Singapore was approved by Institutional Review Board of Nanyang Technological University (IRB-2015-11-023).

similarity conditions: half engaged in mediated contact with a similar outgroup member (i.e., read a story delivered by an immigrant similar to the ingroup prototype), and half engaged in mediated contact with a dissimilar outgroup member (i.e., read a nearly identical story by a dissimilar immigrant), as detailed below. After reading, the posttest was administered.

A different immigrant group was selected for each country, based on data as to which group was most disliked in the countries studied. Participants in the UK engaged in contact, imagined and mediated, with a Pakistani immigrant; a Chinese immigrant was the outgroup member for the Singaporean sample; a Moroccan immigrant for the Spanish sample, and a Polish immigrant for the Dutch sample.[2] The stimuli and questionnaires were developed in the language of each country (Spanish, Dutch, and English for both the UK and Singapore).

Imagined Contact.   Following standard manipulations (Husnu & Crisp, 2010), subjects in the imagined contact condition in the UK and Singapore read the following instructions: "You will read a short story, in which a person shares his experiences related to living in the UK/Singapore. Before reading the story, we would like you to spend the next 2 minutes imagining yourself meeting a Pakistani/Chinese immigrant for the first time. Imagine that during the encounter, you find out some interesting and unexpected things about the person." The control group read: "You will read a short story, in which a person shares his experiences related to living in the UK/Singapore. Before reading the story, we would like you to spend the next 2 minutes imagining an outdoor scene. 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?)."

Because the amount of detail regarding the context of the imagined interaction enhances effects (see meta-analysis Miles & Crisp, 2014), in Spain and the Netherlands, we used elaborated imagined contact manipulations. Participants were told "You will read a short story, in which a person shares his experiences related to living in Spain/The Netherlands. Before reading the story, we would like you to spend the next 2 min imagining yourself meeting a Moroccan/Polish immigrant for the first time. *While imaging this think specifically of when (e.g., next Thursday) and where (e.g., the bus stop) this conversation might occur.*

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[2] In the UK, "a majority of Britons tend to think that Pakistani migrants are not integrating well into British society. The trait most commonly associated with people from a Pakistani background is that they keep to their own" (see https://yougov.co.uk/news/2013/06/24/british-attitudes-its-pakistani-diaspora/). In Singapore, the influx of mainland Chinese immigrants has raised ire among some Singaporeans, who see Chinese immigrants as disrespectful, competing for scarce resources, and lacking allegiance to Singapore (Jacobs, 2012; Lee, 2016; Liu, 2014). In turn, Spaniards are overwhelmingly negative toward Moroccan immigrants (D'Ancona & Martínez, 2015, p. 258). Lastly, data from the Netherlands suggest that the Dutch report greater social distance toward the Poles than toward Muslim immigrants (Wojcieszak & Azrout, 2016).

Imagine that the interaction is positive, relaxed, and comfortable. It may help to close your eyes while imagining the conversation" (the text in italics was added to elicit elaboration, Husnu & Crisp, 2010). The control received the same instructions as the control group in the UK and Singapore, with a sentence added: "It may help to close your eyes while imagining the outdoor scene." It is worth noting that the first set of instructions is typically used to elicit positive contact even though nothing about the positive nature of the contact is explicitly mentioned, unlike in the second set of instructions (see Miles & Crisp, 2014).

Similarity to Ingroup Prototype.   Mediated contact was operationalized as reading a personal story, in which an outgroup member shares his first-hand experiences and thoughts. Eight different stories were constructed, two for each country. In each message, a Pakistani/Chinese/Moroccan/Polish immigrant shares his experiences living in the UK/Singapore/Spain/the Netherlands (see the Appendix). In each, an immigrant man identified by his first name (popular names in those countries were selected) describes various aspects related to living in the host country, his family and employment situation, social life, fluency in the language, and sense of belonging. He also describes discrimination he himself experienced.

To manipulate the immigrant's similarity to ingroup prototype, we altered some parts of the story and kept the rest constant. In the high similarity condition, the protagonist emphasized feeling British/Singaporean/Spanish/Dutch (vs Pakistani/ Chinese/Moroccan/Polish in the low similarity condition), mentioned that his business employs workers from the host country (vs from his homeland), that his friends are mainly host country natives (vs from his home country), that his favorite food is a British/Singaporean/Spanish/Dutch dish (vs Pakistani/Chinese/Moroccan/ Polish), that he usually speaks to his children in English/Spanish/Dutch (vs Urdu/ Chinese/Arabic/Polish), reads mainly newspapers from the host country (vs home country), and that he identifies with the host country (vs the home country) culture. The text was accompanied by a photograph of the protagonist in his room, with the flag of the host country (vs his home country) on a wall.[3] We checked whether the manipulation worked. In the UK and Singapore, participants rated how similar they perceived the outgroup member to be using one item (1 = I have nothing in common with him; he is very different from me, 7 = I have many things in common with him; he seems a lot like me). In Spain and the Netherlands, participants rated similarity

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[3] Pilot studies were run in the UK and Singapore to select the photographs. Students (UK $n = 27$; Singapore $n = 50$) assessed three photographs of Pakistani/Chinese men in terms of how attractive, pleasant, honest, friendly, and threatening (reverse-coded) (from 0 to 10) they considered the men to be. The photo with the highest ratings was selected. Pilot studies in Spain in the Netherlands were not conducted. Because subjects across conditions see the same photo, the differences by conditions cannot be possibly attributable to the photos selected.

using two items ("How much do you think you have in common with him," $1 =$ nothing, $7 =$ a lot; "To what extent do you think he is like you," 1 not at all, $7 =$ very much), which were averaged (Pearson's $r = .77$, $ps < .001$). Similarity to ingroup prototype manipulation was successful (UK $M_{high} = 4.34$, $M_{low} = 3.23$, $t(415) = -7.08$; Singapore $M_{high} = 3.74$, $M_{low} = 2.93$, $t(390) = -4.93$; Spain $M_{high} = 4.48$, $M_{low} = 3.36$, $t(398) = -6.98$; NL $M_{high} = 3.79$, $M_{low} = 3.24$, $t(390) = -3.40$, $ps < .001$). Following past studies, the posttest did not include manipulation check for imagined contact (Stathi & Crisp, 2008; Vezzali et al., 2010).

Measures

The question wording for all the items is presented in the Appendix; descriptive statistics and reliability indices for all final measures are presented in Table 1.

Relative Outgroup Stereotyping. Stereotyping was assessed in the UK and Singapore only; parallel measure of the cognitive attitudinal component is missing for Spain and the Netherlands. Participants rated the extent to which they agree or disagree (1 = strongly disagree, 7 = strongly agree) that immigrants from Pakistan/China and also native British/Singaporean are intelligent, honest, generous, selfish (reverse coded), friendly, competent, good, and hardworking (Wojcieszak & Garrett, 2018). These items were averaged into reliable scales. The final measure was a difference score that subtracted the scores for the native population from the immigrants' scores to account for the fact that some people generally have more stereotypical perceptions of both the in- and out-group.

Outgroup Feelings. To measure the affective component of outgroup attitudes, participants across the four samples rated their feelings towards Pakistani/Chinese/Moroccan/Polish immigrants on a feeling thermometer scale (0 = very cold feelings, 100 = very warm feelings). **Intentions to engage in future outgroup contact**. Participants were asked how interested they would be in engaging in three kinds of interactions with a Pakistani/Chinese/Moroccan/Polish immigrant (e.g., "striking up a conversation;" 1 = Not at all interested, 7 = Very interested; Crisp & Husnu, 2011). The three items were averaged.

Interest in the Story. The first mediator was measured by asking participants to assess how strongly they agreed (1 = strongly disagree, 7 = strongly agree), with four statements (e.g., "I was motivated to read this message," "I was very interested in this message"). **Positive emotions**. The second mediator was assessed by asking participants to what extent the story made them feel enthusiastic, hopeful, and happy

TABLE 1
Descriptive Statistics for Main Variables

	UK		Singapore		Spain		Netherlands	
	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)
Relative Outgroup Stereotyping	-	-0.27 (1.09)	-	-0.67 (1.04)	-	-	-	-
Outgroup Feelings	-	49.32 (24.34)	-	46.89 (22.26)	-	52.52 (27.24)	-	57.99 (24.54)
Behavioural Intentions	.80	4.32 (1.35)	.77	3.96 (1.22)	.88	4.54 (1.38)	.85	4.04 (1.38)
Interest in the Story	.89	5.23 (1.11)	.88	4.53 (1.09)	.89	5.17 (1.18)	.90	4.97 (1.27)
Positive Emotions	.89	3.00 (1.42)	.87	2.69 (1.33)	.91	3.71 (1.57)	.89	3.49 (1.50)

(1 = not at all, 7 = very much; Wojcieszak, Bimber, Feldman, & Stroud, 2016). These were averaged.[4]

Analytical Strategy

Because the dependent variables were correlated,[5] we ran a Multivariate Analysis of Variance (MANOVA) model to estimate the overall multivariate effects of the two experimental factors and their interaction. In addition, because our dependent variables have been analyzed separately (e.g., Gómez, Tropp, & Fernández, 2011; Mazziotta et al., 2011; Swart, Hewstone, Christ, & Voci, 2011), and – although correlated – represent different outcomes, we ran univariate ANOVA models to study the effects of imagined contact (*H1a-c*), similarity to ingroup prototype (*H2a-c*), and their interaction (*H3a-c*) on the cognitive, affective, and behavioral components of outgroup attitudes (see Huberty & Morris, 1989). To examine whether interest in the story and positive emotions mediate these effects (*H4a-c – H7a-c*), we used PROCESS macro (Hayes, 2013; Model 4). We tested the direct and indirect effects from each condition while controlling for the other condition, and including both mediators side by side. Both independent variables were dummy coded such that imagined contact condition and high similarity condition were coded as 1, and low similarity and no imagined contact condition were coded as 0. Given that we have clear directional hypotheses, we report one-tailed tests for the univariate analysis and 90% confidence intervals using 1,000 bootstrapped samples for the PROCESS models.

RESULTS

We checked whether random assignment to conditions worked. Randomization was successful with regards to age and gender in all countries, except the UK, where low similarity group was significantly older than the high similarity

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[4] Although discrete emotions may vary in terms of appraisal or arousal (Nabi, 1999), we take a dimensional approach (Marcus, 1988), focusing on positively valenced emotions in general (e.g., Gaertner et al., 1993 on aggregating distinct emotions in the intergroup context). We re-estimated the models with each emotion as a separate mediator. Some emotions exerted stronger effects than others, yet the pattern was similar (results available upon request).

[5] Bartlett's tests of sphericity suggest significant correlations among variables (UK $\chi^2(5) = 3985$; Singapore $\chi^2(5) = 3600$; Spain $\chi^2(2) = 2045$; Netherlands $\chi^2(2) = 1866$, all ps < .001). In fact, there were significant, positive correlations between stereotypes and feelings (UK $r = .522$; Singapore r = .482), t stereotypes and behavioral intentions (UK $r = .422$; Singapore $r = .349$), and feelings and behavioral intentions (UK $r = .683$; Singapore $r = .568$; Spain $r = .664$; Netherlands $r = .595$ all ps < .001).

group (M_{low} = 43.28, M_{high} = 40.03, p = .014). Because the difference was not substantial, we did not control for age for consistency with other countries (controlling for age yields nearly identical results).

Main Effects (H1, H2) and Interaction Effect (H3)

MANOVA assessing the multivariate effects of experimental conditions on the set of three dependent variables found that none of the effects was significant for imagined contact (UK Wilks' λ = .99, p = .143; Singapore Wilks' λ = .99, p = .345; Spain Wilks' λ = 1.00, p = .927; NL Wilks' λ = .99, p = .699). Likewise, an outgroup member's similarity to the ingroup prototype did not have any multivariate effects (UK Wilks' λ = .99, p = .595; Singapore Wilks' λ = .99, p = .331; Spain Wilks' λ = .99, p = .225; NL Wilks' λ = .99, p = .166). The same was the case for the interaction effect (UK Wilks' λ = .99, p = .427; Singapore Wilks' λ = .99, p = .903; Spain Wilks' λ = .99, p = .419; NL Wilks' λ = .99, p = .291).

Although the multivariate effects were non-significant, we examined the univariate effects separately (Huberty & Morris, 1989; see also Ramasubramanian, 2013 for this approach). Table 2 presents the condition means, effect sizes, and test statistics for all countries; the test statistics and eta squares are reported in the text. The first set of hypotheses predicted that imagined contact prior to mediated contact would improve attitudes. This prediction was supported in the UK only. Relative to those asked to imagine an outdoor scene, those who imagined intergroup contact perceived Pakistani immigrant less stereotypically ($F_{(1, 413)}$ = 3.23, p = .037, Partial η^2 = .008), reported warmer feelings ($F_{(1, 413)}$ = 4.46, p = .018, Partial η^2 = .011), and had greater intentions to engage in future contact ($F_{(1, 413)}$ = 3.73, p = .027, Partial η^2 = .009). In Singapore, those who imagined contact with a Chinese immigrant perceived Chinese immigrants less stereotypically ($F_{(1, 388)}$ = 3.50, p = .031, Partial η^2 = .009), but did not develop warmer feelings ($F_{(1, 388)}$ = 1.16, p = .141, Partial η^2 = .003) or greater contact intentions ($F_{(1, 388)}$ = 0.66, p = .209, Partial η^2 = .002). There were no effects of imagined contact in Spain (feelings: $F_{(1, 396)}$ = 0.12, p = .364, Partial η^2 < .001; intentions: $F_{(1, 396)}$ = 0.01, p = .462, Partial η^2 < .001) or the Netherlands (feelings: $F_{(1, 388)}$ = 0.17, p = .341, Partial η^2 < .001, intentions: $F_{(1, 388)}$ = 0.71, p = .201, Partial η^2 = .002). In sum, imagined contact improved all the components of outgroup attitudes in the UK (*H1a-c* supported), the cognitive component in Singapore (*H1a* supported), and had no effects in the other two countries (*H1a-c* rejected).

The second prediction was that an outgroup member's similarity to ingroup prototype will lower stereotypes (*H2a*), generate warmer outgroup feelings (*H2b*), and enhance intentions to engage in future contact (*H2c*). In the UK, there were no significant mean differences between the conditions (stereotypes $F_{(1, 413)}$ = 0.88, p = .174, Partial η^2 = .002; feelings $F_{(1, 413)}$ = 0.04, p = .426, Partial η^2 < .001;

TABLE 2
Group Means by Condition and ANOVA Results on the Effect of Imagined Contact and
Similarity to Ingroup Prototype on Three Dimensions of Attitudes by Country

	UK	Singapore	Spain	Netherlands
Relative Outgroup Stereotyping				
Imagined Contact				
Imagined contact	−0.17	−0.57	-	-
Control	−0.37	−0.77	-	-
Partial η^2	.008	.009	-	-
p	.037	.031	-	-
Similarity				
High	−0.22	−0.66	-	-
Low	−0.32	−0.68	-	-
Partial η^2	.002	.000	-	-
p	.174	.425	-	-
Imagined Contact x *Similarity*				
Partial η^2	.000	.000	-	-
p	.374	.453	-	-
Outgroup Feelings				
Imagined Contact				
Imagined contact	51.82	48.11	53.01	58.50
Control	46.82	45.68	52.06	57.49
Partial η^2	.011	.003	.000	.000
p	.018	.141	.364	.341
Similarity				
High	49.55	47.57	54.21	60.34
Low	49.09	46.22	50.86	55.65
Partial η^2	.000	.001	.004	.009
p	.426	.275	.112	.029
Imagined Contact x *Similarity*				
Partial η^2	.006	.000	.003	.002
p	.595	.340	.128	.174
Behavioral Intention				
Imagined Contact				
Imagined contact	4.45	4.01	4.55	4.10
Control	4.20	3.91	4.54	3.98
Partial η^2	.009	.002	.000	.002
p	.027	.209	.462	.201
Similarity				
High	4.39	4.08	4.66	4.10
Low	4.27	3.84	4.42	3.98
Partial η^2	.002	.01	.008	.003
p	.186	.027	.041	.152
Imagined Contact x *Similarity*				
Partial η^2	.003	.001	.004	.006
p	.122	.252	.105	.058

Note. Cell entries are group means unless otherwise noted. *p* Values are based on one-tailed test of difference.

intentions $F_{(1, 413)} = 0.80$ $p = .186$, Partial $\eta^2 = .002$). In Singapore and Spain, similarity enhanced future contact intentions, consistent with *H2c* (Singapore $F_{(1, 388)} = 3.77$, $p = .027$, Partial $\eta^2 = .01$; Spain $F_{(1, 396)} = 2.99$, $p = .041$, Partial $\eta^2 = .008$) and had no effect on stereotypes (Singapore $F_{(1, 388)} = 0.04$, $p = .425$, Partial $\eta^2 < .001$) or feelings (Singapore $F_{(1, 388)} = 0.36$, $p = .275$, Partial $\eta^2 = .001$; Spain $F_{(1, 396)} = 1.48$, $p = .112$, Partial $\eta^2 = .004$). In the Netherlands similarity generated warmer feelings toward Polish immigrants, supporting *H2a* ($F_{(1, 388)} = 3.60$, $p = .029$, Partial $\eta^2 = .009$) while showing no effects on future contact intentions ($F_{(1, 388)} = 1.08$, $p = .152$, Partial $\eta^2 = .003$).

None of the interaction effects was significant for any of the dependent variables in the countries examined (see Table 2). *H3* is not supported; imagined contact effects, when they emerged (UK, partially for Singapore), were consistent across the similarity conditions.
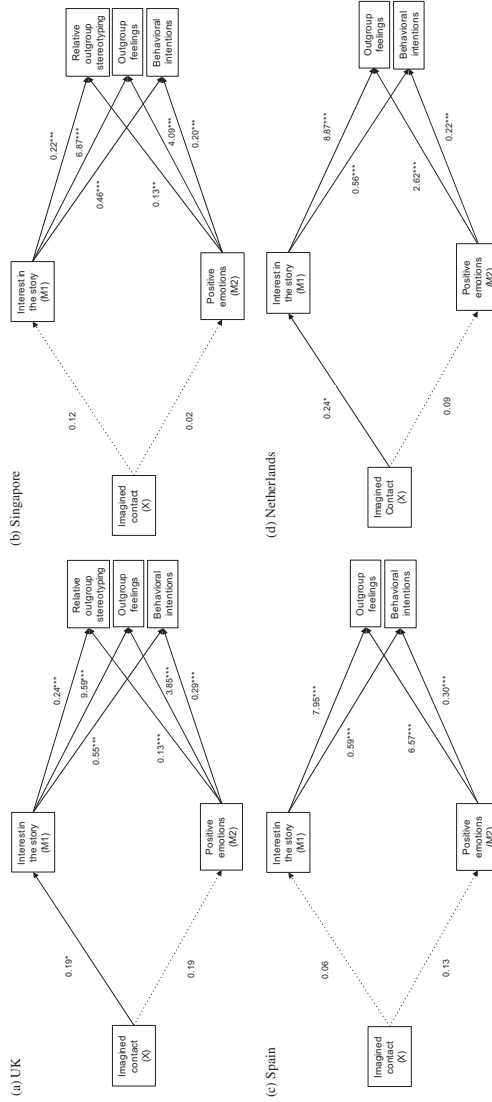
Indirect Effect of Imagined Contact on Out-Group Attitudes (H4, H5)

PROCESS model 4 tested the cognitive (interest in the story) and affective (positive emotions) mechanisms as mediators from imagined contact and similarity to outgroup attitudes. We present indirect effects below, plot the significant pathways in Figure 1, and summarize indirect effects in Table 3.

When it comes to indirect effects from imagined contact, interest in the story was a significant mediator in the UK and the Netherlands. Imagining an interaction with a Pakistani immigrant enhanced interest, leading to lower stereotypes, warmer feelings, and greater intentions to engage in contact, resulting in significant indirect effects (see Table 3 for the coefficients and confidence intervals). Similarly, those Dutch who imagined an interaction with a Pole reported greater interest in the story, which elicited warmer feelings and greater contact intentions, leading to significant indirect effects. In Spain and Singapore, there were no significant indirect effects via the cognitive route. *H4a-c* were only supported in the UK and the Netherlands. When it comes to positive emotions, there were no indirect effects whatsoever, and this null pattern is consistent across all the countries (*H5a-c* not supported).

## Indirect Effect of Similarity on Outgroup Attitudes (H6, H7)

Parallel PROCESS models analyzed the mediating effects from similarity to ingroup prototype (see Figure 2). There was a significant indirect effect from similarity to all outcomes through the cognitive route in all four countries (see Table 3). Mediated contact with a similar outgroup member enhanced interest in his story, which in turn, decreased stereotypes, generated warmer feelings, and led to greater intentions to engage in future contact. This resulted in a significant

FIGURE 1 Indirect effects of imagined contact by country.
Note. Models only show hypothesized pathways. Solid lines indicate significant pathways based on one-tailed tests and dotted lines indicate non-significant pathways. *p < .05, **p < .01, ***p < .001.

TABLE 3
The 90% Confidence Intervals of the Indirect Effects of Imagined Contact and Similarity to Ingroup Prototype on Three Dimensions of Attitudes through Story Interest and Positive Emotions

	UK	Singapore	Spain	Netherlands
Mediator: Interest in the story				
Imagined contact → Interest in story → Relative outgroup stereotyping	[0.01, 0.13]	[−0.01, 0.08]	-	-
Imagined contact → Interest in story → Outgroup feelings	[0.04, 3.61]	[−0.32, 2.31]	[−1.21, 1.91]	[0.33, 4.22]
Imagined contact → Interest in story → Behavioural intentions	[0.02, 0.22]	[−0.03, 0.14]	[−0.74, 0.16]	[0.02, 0.26]
Similarity → Interest in story → Relative outgroup stereotyping	[0.00, 0.10]	[0.02, 0.12]	-	-
Similarity → Interest in story → Outgroup feelings	[0.30, 3.91]	[0.77, 3.33]	[0.78, 4.09]	[0.13, 3.67]
Similarity → Interest in story → Behavioral intentions	[0.01, 0.21]	[0.05, 0.22]	[0.05, 0.29]	[0.00, 0.24]
Mediator: Positive emotions				
Imagined contact → Positive emotions → Relative outgroup stereotyping	[0.00, 0.08]	[−0.03, 0.03]	-	-
Imagined contact → Positive emotions → Outgroup feelings	[−0.04, 1.75]	[−0.95, 0.79]	[−0.92, 2.30]	[−0.33, 1.02]
Imagined contact → Positive emotions → Behavioral intentions	[−0.01, 0.13]	[−0.04, 0.04]	[−0.03, 0.11]	[−0.03, 0.08]
Similarity → Positive emotions → Relative outgroup stereotyping	[0.03, 0.12]	[0.03, 0.11]	-	-
Similarity → Positive emotions → Outgroup feelings	[0.95, 3.21]	[1.06, 3.40]	[5.73, 11.41]	[0.71, 3.00]
Similarity → Positive emotions → Behavioral intentions	[0.08, 0.22]	[0.05, 0.17]	[0.28, 0.51]	[0.08, 0.21]
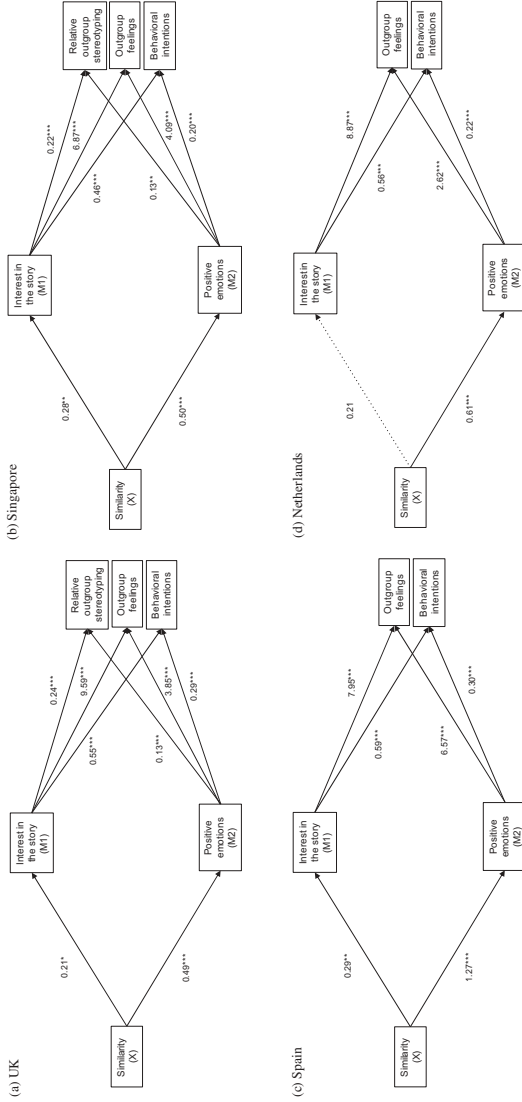
FIGURE 2 Indirect effects of similarity to ingroup prototype by country.
Note. Models only show hypothesized pathways. Solid lines indicate significant pathways based on one-tailed tests and dotted lines indicate non-significant pathways. *p < .05, **p < .01, ***p < .001.

mediation from similarity via interest on stereotyping and contact intentions; see Table 3). *H6a-c* were supported.

We find the same pattern of significant indirect effects from similarity through the emotional route. In all countries, similarity enhanced positive emotions, which – in turn – led to lower stereotypes, warmer outgroup feelings, and greater future contact intentions. Thus, the indirect effects from similarity through positive emotions on stereotyping and contact intentions were all significant. Thus, *H7a-c* were supported.

DISCUSSION

To our knowledge, this project was the first to combine two simple and yet powerful forms of indirect contact – imagined *and* mediated contact – in one sequence of events. It examined whether imagined contact enhances the effects of subsequent mediated contact, here operationalized as exposure to a personal story of an out-group member. We also tested whether mediated contact with an outgroup member who is similar to versus dissimilar to the ingroup prototype matters. Lastly, we attended to the cognitive (i.e., interest in the story) and affective (i.e., positive emotions) processes explaining these effects, and applied our work to the conse-quential domain of attitudes toward stigmatized immigrants.

The results, based on data from four countries and as related to four immi-grant groups offer some noteworthy findings. Despite the expectations, encoura-ging people to imagine intergroup interaction prior to a mediated intergroup encounter did not consistently reduce prejudice. Imagined contact improved all three components of outgroup attitudes in the UK only, lowered stereotypes in Singapore, and had no effects in Spain or the NL. Because the imagined contact manipulations were not the same across the four countries, we cannot directly compare these effects or explain the differences. Nevertheless, it is noteworthy that although elaboration in imagined contact instructions should powerfully enhance imagined contact effects (Miles & Crisp, 2014), precisely the two countries where we used the elaborate instructions yielded insignificant results. It is unclear why imagined contact worked in the UK only and why the elaborate instructions did not work. Although we expected that contact effects would emerge across the countries, these effects may depend on the nature of the immigrant group, preexisting attitudes and sentiments toward the outgroups in a given society, or other idiosyncrasies in social contexts that were not accounted for in the project. Future studies comparing various instructions across different national samples would add to the imagined contact literature.

Also, mediated contact with an immigrant who shared the interests, tastes, or sentiments of the national audience, embodying the ingroup prototype, did not

consistently improve attitudes. We suspect that the lack of effects may be due to subtyping. Generalization from individual encounters is facilitated if an outgroup member is seen as typical of his/her social group, and – conversely – the effects are limited if the outgroup member is subtyped as atypical (Hewstone & Brown, 1986). If the similar immigrant was seen as unrepresentative, his ability to change attitudes toward the overall group may have been limited. Our project cannot test this notion, and the fact that the perceived typicality of the outgroup member was not measured is an important limitation, as noted below. We also speculate that the fact that similarity effects did not emerge across countries may be related to the idea of distinctiveness. In countries, in which the host society strives to maintain its separate identity or feels threatened by the influx of immigrants, an increase in similarity may signal the loss of ingroup distinctiveness and produce aversive effects. In some cases, attitudes improve most when similarities, as well as differences of outgroup members, are highlighted together (Dovidio, Gaertner, & Saguy, 2008), and some past work suggests that people do not always want others to converge to their ingroup prototype (Ma, Atwell Seate, & Joyce, 2017), a sentiment, which may be especially true in the context of immigrants.

These inconsistent and weak effects could lead one to conclude that neither imagined contact prior to mediated contact nor mediated contact with an outgroup member similar to the ingroup prototype are effective. Yet we believe that this conclusion would be premature. Attending to the underlying mechanisms, this project finds some promising effects. For the British and the Dutch participants, imagined contact improved outgroup attitudes by enhancing interest in the story shared by the outgroup member. Imagined contact did not work through positive emotions, however. This null indirect effect was surprising, given that positive emotional states influence judgments in general (Schwarz & Clore, 1983) and outgroup attitudes in particular (Paolini et al., 2006). This null effect may be due to the problem with the manipulations. We used standard instructions asking subjects to imagine either contact with an immigrant or a nature scene (Husnu & Crisp, 2010). Although a nature scene is a meaningful control for imagined contact (because it is not related to outgroups), it can also elicit positive emotions, causing the insignificant differences between the two conditions.[6] Also, this null effect may be due to the fact that we measured positive emotions only at the posttest, after mediated contact took place. Because everybody was exposed to the story, the

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[6] Our data indeed show that positive emotion levels were indistinguishable between the imagined contact and control conditions in all countries: UK ($M_{Control}$ = 2.91, SD = 1.35, $M_{Imagined\ contact}$ = 3.09, SD = 1.48, $t_{(415)}$ = −1.34, p = .182), Singapore ($M_{Control}$ = 2.68, SD = 1.35, $M_{imagined\ contact}$ = 2.71, SD = 1.32, $t_{(390)}$ = −0.18, p = .858), Spain ($M_{Control}$ = 3.63, SD = 1.53, $M_{Imagined\ contact}$ = 3.79, SD = 1.61, $t_{(398)}$ = −1.01, p = .312), and the Netherlands ($M_{Control}$ = 3.44, SD = 1.45, $M_{Imagined\ contact}$ = 3.53, SD = 1.56, $t_{(390)}$ = −0.59, p = .554).

differences in reported emotions should be due to imagined, not mediated, contact. Yet the effects could have been stronger had we measured emotions immediately after imagined contact. Further, it needs to be noted that most work on imagined contact tests empathy as the key affective mediator that may be more strongly influenced by imagined contact than by a nature scene (in that empathy and imagined contact both relate to people). It is possible that – had we measured empathy – the indirect effects through the affective route would have emerged. This possibility invites future studies that examine which specific emotions elicited by imagined contact have the power to change attitudes.

In turn, similarity to ingroup prototype exerted considerable indirect effects. The data support the theoretical model, in which mediated contact with a similar outgroup member works through both cognitive and emotional route. Those who encountered an immigrant embodying the ingroup prototype were more interested in his story and experienced more positive emotions than those who read a story delivered by an immigrant who differentiated himself from the native audience. Enhanced interest and positive emotions, in turn, improved attitudes, indirect paths that emerged for all attitudinal outcomes and across all four samples. We conclude that mediated contact with a similar outgroup member improves some components of outgroup attitudes directly *and also* through cognitive and affective routes, and it does so more consistently than imagining intergroup contact prior to mediated contact. It is crucial to emphasize that the relatively consistent patterns of indirect effects emerged across countries and immigrant groups, offering the first cross-country evidence on the effectiveness of imagined contact and similarity in the context of mediated outgroup contact.

Limitations

The project has several key limitations. First, we did not examine imagined contact effects *absent* mediated contact. Given the interest in assessing the situations in which mediated contact is most effective, the design did not include a condition that manipulated imagined contact *without* subsequent exposure to a story of an outgroup member. As such, we can draw conclusions about whether imagined contact enhances mediated contact effects, but not about whether imagined contact works independently of mediated contact. Given the robust evidence supporting imagined contact effects (e.g., Crisp & Turner, 2009), the fact that this manipulation did have consistent effects may suggest that something about the mediated contact situation may have interfered with or minimized potential benefits from imagined interactions. This possibility is of theoretical importance as it suggests that it is *not* the case that encouraging people to imagine contact automatically enhances the effects of other contact forms, as we had hoped, and may also imply that the nature of subsequent

contact moderates the effectiveness of imagined contact. This may happen because subsequent (mediated) contact may expose people to an outgroup member who is inconsistent with what they had imagined, offering time for imagined contact effects to decay, or overriding these effects altogether. Because most prior work manipulates imagined contact and measures attitudes immediately after (see, Miles & Crisp, 2014), this possibility remained untested. Future work should focus on identifying the conditions in which imagined contact is an effective prelude to other contact forms, strengthening their effectiveness, and when some contact forms thwart imagined contact effects altogether.

Also, the posttests only assessed the extent to which the outgroup member was perceived as similar to the participant. It would have been beneficial to assess whether the outgroup member was seen as similar to the outgroup as a whole. This would have allowed us to examine whether the effects from similarity emerge only among those who see the immigrant as representative of the aggregate group. In a related vein, the posttests should have asked whether people saw the immigrant as similar to the national prototype (e.g., in terms of lifestyle or cultural background), as similarity effects may be stronger when people categorize the outgroup member as close to their ingroup. Future studies extending the concept of outgroup's similarity to ingroup prototype should assess these perceptions.

Furthermore, we acknowledge the small effects sizes detected. These may be due to the fact that it is very hard to influence outgroup attitudes in general and toward stigmatized immigrant groups in particular. Relatedly, the imagined contact and similarity treatments may not have been sufficiently strong to generate more pronounced effects. Even though the effects are small, it needs to be emphasized that they emerged during a one-shot experiment and in a challenging context. Demonstrating these effects in this context is quite telling.

It needs to be noted that it is difficult (if not impossible) to disentangle similarity to ingroup prototype from assimilation in the tested context. Portraying an immigrant as similar to the native audience also means that this immigrant is well assimilated and – as such – less threatening and more competent (Van Osch & Breugelmans, 2012). In that case, similarity effects may be driven solely by the fact that a similar immigrant is seen as assimilated. Because assimilation is the preferred acculturation strategy by prejudiced individuals (Rojas, Navas, Sayans-Jiménez, & Cuadrado, 2014), the strongest effects from similarity should emerge among those who oppose immigrants and among the strongly conservative subjects. Post-hoc analyses that included these factors as moderators did not find significant moderating effects (results available from the authors), giving us some assurance that it is a similarity to ingroup prototype and not assimilation that drives the effects.

Lastly, it cannot be determined which factor in the mediated contact exerted effects. We tested the effects of a package of a story, the outgroup member, and the photo, and any investigation of mediated contact runs into the problem of potential conflation. After all, such contact necessarily involves a concrete person, his/her experiences, and other uncontrolled factors. This project operationalized mediated contact as exposure to a story of an outgroup member (rather than to shows or movies featuring an outgroup), allowing for greater control over those other factors and for a systematic manipulation of similarity to ingroup prototype. Disentangling the effects of other factors will be a challenging task for future work.

Despite these limitations, this project adds to the research on indirect intergroup contact. Scholars have suggested that – due to their flexible nature – various contact strategies "can be utilized in combination with the other strategies to produce a cascade of positive and mutually reinforcing effects" (Vezzali et al., 2014, p. 379). Especially imagined contact has been proposed as an effective "primer" (Crisp & Turner, 2009). We tested these notions, showing that combining two simple strategies, imagined and mediated contact, may not be as effective as one may expect.

The characteristics of mediated contact itself, or portraying the outgroup as sharing some similarities with the ingroup, may matter more. Granted, neither factor worked consistently; rather their effects emerged primarily through enhancing people's interest in a story (for similarity and imagined contact) and through positive emotions (especially similarity). These findings have practical implications, suggesting that similarity to ingroup prototypes can be applied to some mediated contexts, such as short stories delivered by outgroup members. Granted, positive mediated contact is not common in the "real life," as minorities are typically depicted in negative light in mainstream media (e.g., Ter Wal, 2002). As such, interventions based on our results could help combat prejudice that results from negative media depictions of minorities. Given that antipathy toward various outgroups has grown to troubling levels in many countries, research that examines which specific indirect contact forms and through which routes influence people's reactions to outgroups is pressing. We hope that these findings will not only stimulate further studies and theorizing on imagined and mediated contact, but also offer guidelines for practitioners working on social cohesion.

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ORCID

Juan-José Igartua http://orcid.org/0000-0002-9865-2714

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APPENDIX

TABLE A1
Experimental Manipulation Sample (UK)

UNITED KINGDOM

Low similarity to ingroup prototype (480)

My name is Ali, I am from Pakistan, I have been living in the UK for 10 years and I feel Pakistani. I'll tell you my story. Because working conditions in my country were not very good, I came to the UK to obtain a better future for my family. I worked many years in construction as a labourer, then as a waiter in a restaurant and, right now, I have a small business in which I have three employees. All are Pakistani, by the way. The Pakistani are very hardworking, more than the Brits.

In these ten years I have managed to bring my family, my wife and two children. I feel good living in the UK although my friends are mostly Pakistani. We meet over the weekends and always eat biryani, typical Pakistani dish and my favourite food. With my children I almost always speak Urdu and they also have more Pakistani than British friends. Also, I speak English quite badly and I almost always read Pakistani newspapers. In short, I feel Pakistani.

High similarity to ingroup prototype (475)

My name is Ali, I am from Pakistan, I have been living in the UK for 10 years and I feel British. I'll tell you my story. Because working conditions in my country were not very good, I came to the UK to obtain a better future for my family. I worked many years in construction as a labourer, then as a waiter in a restaurant and, right now, I have a small business in which I have three employees. All are British, by the way. The Brits are very hardworking, more than the Pakistani.

In these ten years I have managed to bring my family, my wife and two children. I feel good living in the UK and my friends are mostly British. We meet over the weekends and always eat fish and chips, my favourite food. With my children I almost always speak English and they also have more British than Pakistani friends. Also, I speak English quite well and almost always read British newspapers. In short, I feel British.

In these ten years I have managed to bring my family, my wife and two children. I feel good living in the UK and my friends are mostly British. We meet over the weekends and always eat fish and chips, my favourite food. With my children I almost always speak English and they also have more British than Pakistani friends. Also, I speak English quite well and almost always read British newspapers. In short, I feel British.

Despite living in the UK for so long, sometimes I feel rejected. I remember several occasions, but two things in particular have caused me pain. First, I have heard, over and over again, that "immigrants take jobs away from the Brits." And it's not true, because when I arrived, the Brits did not want to work in construction. Furthermore, while working as a labourer I was always exploited by my bosses. And if I protested, they answered that those were the conditions (working for up to 12 hours a day, for example), and if I did not like it, I knew where the door was … I think that the Brits should know that many immigrants are exploited. British Government should monitor and persecute this type of exploitation.

Also, many Brits say that immigrants are criminals. I've noticed that, in the subway, people get away from me when they hear my accent, as if they thought I will rob them. I do not understand why this rejection toward immigrants is so strong. In my opinion, the public should be reminded through information campaigns that immigrants are the same as the Brits in many ways. Also, in schools, children should be taught to be more tolerant of immigrants.

Despite living in the UK for so long, sometimes I feel rejected. I remember several occasions, but two things in particular have caused me pain. First, I have heard, over and over again, that "immigrants take jobs away from the Brits." And it's not true, because when I arrived, the Brits did not want to work in construction. Furthermore, while working as a labourer I was always exploited by my bosses. And if I protested, they answered that those were the conditions (working for up to 12 hours a day, for example), and if I did not like it, I knew where the door was … I think that the Brits should know that many immigrants are exploited. British Government should monitor and persecute this type of exploitation.

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Yes, I was born in another country. But here I pay my taxes and work hard to support my family and give them the best, like any Pakistani parent wants for their children. My decision to come to the UK was positive for me, my family and I also think I'm contributing something positive to the UK. Even though I live in the UK, I want to return to Pakistan one day, I identify with the Pakistani culture, its food, and the colours of its flag. That's why I would like my children to grow up in Pakistan.

TABLE A1
(*Continued*)

UNITED KINGDOM

Yes, I was born in another country. But here I pay my taxes and work hard to support my family and give them the best, like any British parent wants for their children. My decision to come to the UK was positive for me, my family and I also think I'm contributing something positive to the UK. Even though I am Pakistani, I want to live in the UK, I identify with the British culture, its food, and the colours of its flag. That's why I would like my children to grow up in the UK.

TABLE A2
Question Wording and Descriptive and Reliability Statistics for Main Variables

	UK		Singapore		Spain		Netherlands	
	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)
Relative Outgroup Stereotyping								
(1) Please indicate the extent to which you agree or disagree that the [Pakistani/Chinese] immigrant protagonist in the story you have read is: Intelligent; Honest; Generous; Selfish (reverse coded); Friendly; Competent; Good; Hardworking	.93	4.44 (1.05)	.90	3.89 (.93)	-	-	-	-
(2) Please indicate the extent to which you agree or disagree that [British/Singaporean] people in general are: Intelligent; Honest; Generous; Selfish (reverse coded); Friendly; Competent; Good; Hardworking	.89	4.70 (.86)	.85	4.56 (.73)	-	-	-	-
Subtracted Index [(1) – (2)]	-	-0.27 (1.09)	-	-0.67 (1.04)	-	-	-	-
Outgroup Feelings								
On a scale from 0 to100, where 0 represents "very cold feelings" and 100 "very warm feelings," please rate how you feel about the following groups: [Pakistani/Chinise/Moroccan/Polish]	-	49.32 (24.34)	-	46.89 (22.26)	-	52.52 (27.24)	-	57.99 (24.54)

(Continued)

TABLE A2
(Continued)

	UK		Singapore		Spain		Netherlands	
	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)	Cronbach's α	M (SD)
Behavioural Intentions	.80	4.32 (1.35)	.77	3.96 (1.22)	.88	4.54 (1.38)	.85	4.04 (1.38)
Thinking about the next time you find yourself in a situation where you could interact with a recent immigrant from [Pakistan/China/Morocco/Poland] (e.g., queuing for a bus, with friends in a café, etc.): "How interested would you be in striking up a conversation?"								
"Learning more about these immigrant groups, and participating in a discussion that includes those immigrants on issues of discrimination"								
"Participating in a discussion that includes those immigrants on issues of discrimination"								
Interest in the Story	.89	5.23 (1.11)	.88	4.53 (1.09)	.89	5.17 (1.18)	.90	4.97 (1.27)
"I was motivated to read this message"								
"I was very interested in this message"								
"I paid interest in this message"								
"I read this message closely"								
Positive Emotions	.89	3.00 (1.42)	.87	2.69 (1.33)	.91	3.71 (1.57)	.89	3.49 (1.50)
Thinking back to the text you read, to what extent did it make you feel one or more of the following emotions: "Enthusiastic" "Hopeful" "Happy"								

Note. All responses were recorded on a 1 to 7 scale unless otherwise noted.