Attributional processes underlying imagined contact effects

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Abstract
Recent research has demonstrated that mentally simulating positive intergroup encounters can promote tolerance and more positive intergroup attitudes. We explored the attributional processes underlying these effects. In our study participants who imagined intergroup contact subsequently reported greater intentions to engage in future contact, a relationship that was mediated by participants' attribution, to themselves, of a more positive attitudinal orientation towards outgroup contact. Consistent with this attributional account, the perspective taken when imagining the encounter qualified this effect. Participants who imagined the encounter from a third-person perspective reported heightened intentions to engage in future contact relative to control participants, while this was not the case when the encounter was imagined from a first-person perspective. These findings suggest that attributional processes are key to observing the benefits that accrue from imagining intergroup contact. We speculate that these attributions may distinguish the approach from extended and actual forms of contact and help researchers to further capitalize on the benefits of mental imagery for improving intergroup relations.

Keywords
imagined contact, intergroup contact, prejudice, attribution

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One of the most successful and influential contributions to social issues research has been Allport's (1954) contact hypothesis. The hypothesis is now a well-specified theory that documents the psychological processes that produce a positive impact from social contact (Brown & Hewstone, 2005; Pettigrew, 1998), an assertion that has been empirically verified in an extensive meta-analysis of over 500 studies (Pettigrew & Tropp, 2006). Recently, indirect contact strategies have emerged as ways of accessing the psychological benefits of contact when actual face-to-face contact is not possible (Turner, Hewstone, Voci, Paolini, & Christ, 2007). We examined whether a new type of indirect contact, *imagined intergroup contact*, could encourage intentions to engage in future contact, and the role played by

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attributional processes in explaining and enhancing these effects.

Imagined intergroup contact

Imagined intergroup contact is "the mental simulation of a social interaction with a member or members of an outgroup category" (Crisp & Turner, 2009, p. 234). There is growing support for the claim that imagined contact has a unique, positive impact on a range of outcomes associated with more positive intergroup relations. For instance, Turner, Crisp and Lambert (2007) found that imagined contact with an outgroup member (in this case an older person or gay man) led to more positive outgroup evaluations, as well as greater perceived outgroup variability. Turner and Crisp (2010) found that imagined contact also improves *implicit* outgroup attitudes. Stathi and Crisp (2008) showed that imagined contact encourages the projection of positive traits to ethnic and national outgroups. Husnu and Crisp (2010b) found that repeatedly imagining contact had a positive impact on intergroup perceptions in Cyprus. Abrams, Crisp, Marques, Fagg, Bedford and Provias (2008) found that imagined contact can even reduce stereotype threat effects.

Imagined contact therefore has positive effects on a range of explicit and implicit attitudinal measures, in a range of different contexts. It is arguable, however, that the greatest value in imagined contact is as a "first step" toward actual contact; a *pre-contact* tool that can enhance intentions to engage in future contact (see Crisp & Turner, 2009; 2010). Our aim was to examine when and why imagined contact can enhance these future contact intentions. Understanding how imagined contact works, and in particular how it works in ways that may differentiate it from existing direct and indirect contact strategies, is critical in taking the technique forward. Only by specifying the underlying theoretical paths that lead from contact strategies to positive outcomes can we implement effective, integrated approaches to improving intergroup relations. For imagined contact, we believe an *attributional* mechanism is key to defining the approach as a distinct, yet complementary, contact-based approach to improving intergroup relations. We outline our theoretical reasoning below.

Attributional processes

Established forms of indirect contact, notably extended contact (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), involve seeing other group members, or close others, engage in intergroup contact, *rather* than the self. Herein lies a key conceptual distinction with imagined contact. Imagined contact is indirect in the sense that no actual contact occurs, but it *does* involve an interaction that takes place between the self and the outgroup (i.e., it is the perceivers *themselves* who are engaging in the contact). In this sense, imagined contact is more similar to actual contact (which also involves the self engaging with the outgroup) than extended contact. More important for the current study, the fact that the envisaged interaction involves the self enables a route to attitude and behavior change that can distinguish imagined from extended contact. Because the self is involved in the imagined interaction, this means that perceivers' awareness and interpretation of their own (imagined) behavior could influence subsequent judgments. To understand the potential impact of self-focus in imagined intergroup interactions, we draw upon research on attribution and self-perception.

We argue that properly implemented imagined contact will immerse the perceiver in the encounter and provide a behavioral script that can influence self-perception. Put another way, thinking about our own real (or imagined) behaviors relating to the outgroup can tell us whether we are *the sort of person* who engages in intergroup contact. That our attitudes (including self-perceptions) can be derived from cognitions about our own behavior is well established in classic work in social psychology, and embodied in attributional accounts of self-perception (Bem, 1965, 1967) and cognitive dissonance (Festinger & Carlsmith, 1959). Our proposition is that imagined encounters, like actual encounters, can operate similarly to influence self-perceptions. In the same way

that actual behaviors can form the basis for dispositional attributions, we argue that envisaging oneself taking part in a positive outgroup encounter can form the basis for contact-based self-perceptions. If fact, using one's own behavior as a guide to determining one's attitudes is particularly likely when one has little existing experience in the domain (Chaiken & Baldwin, 1981). Since the lack of intergroup contact experience is one characteristic of negative intergroup relations, it is in such settings where imagining a positive contact experience is most likely to form the basis of a corresponding dispositional inference. Our first hypothesis is therefore that imagining intergroup contact will enhance the extent to which perceivers attribute, to themselves, a positive attitudinal orientation towards outgroup contact, and that these attributions will mediate a positive impact on *future* contact intentions.

Perceptual focus

We expect imagined contact to provide an informational base—a behavioral script—upon which to make inferences about one's own attitudes towards engaging in intergroup contact. If this logic is correct then there is both a further way to confirm our attributional hypothesis, and also test a practical enhancement of the imagined contact task instructions. A rich litany of research on attributional processes tells us there are certain conditions that make dispositional attributions for one's own behavior more prevalent (Frank & Gilovich, 1989; Pronin & Ross, 2006). In particular, actors tend to make *situational* explanations for their own behavior because it is the situation that is most perceptually salient to them (they cannot see themselves in the scene). Observers tend to make *dispositional* attributions for the same actors' behaviors because for them it is the actor that is most perceptually salient (Jones & Nisbett, 1971; Taylor & Fiske, 1975). Correspondingly, it is possible to influence whether a situational or a dispositional attribution is made by changing the participant's perceptual focus. Directing a focus to the participant's own behavior, rather than the situation, will therefore make a dispositional attribution more likely. For instance, Storms (1973) found that when the actor was shown a videotape replay of their own behavior in a discussion, their attributions became less situation-focused. Even placing a mirror in front of the actor can induce a dispositional attribution for one's own behavior (Duval & Wicklund, 1972).

More recent research has shown that visual perspective can also impact the effects of *imagined* behaviors. Vasquez and Buehler (2007) asked students to imagine carrying out an important academic task that they had to perform within the next few weeks. They found that participants asked to imagine this task from a *third-person* perspective reported significantly higher subsequent achievement motivation compared to participants who imagined carrying out the task from a *first-person* perspective. Similarly, Libby, Shaeffer, Eibach and Slemmer (2007) asked respondents to picture themselves voting on the eve of the 2004 US presidential elections. They also instructed participants to use either the first-person or third-person perspective. Participants who pictured themselves voting from the third-person perspective adopted a *stronger* pro-voting attitude correspondent with the imagined behavior.

Consistent with the literature discussed above, adopting a third-person perspective in a simulated setting should therefore favor a dispositional over a situational attribution for one's own (imagined) behavior because it makes the self a more salient judgmental anchor. In a simulated *contact* scenario, a third-person perspective should therefore enhance future contact intentions due to a greater readiness to attribute one's imagined positive contact behavior to one's dispositional tendencies. Our second hypothesis is therefore that following imagined contact the attribution, to the self, of a positive attitudinal orientation towards outgroup contact, and resulting future contact intentions, will be most likely observed when participants are instructed to take a third-person perspective over a first-person perspective in their imagined encounter. Together, our tests of Hypothesis 1 and Hypothesis 2 will respectively provide converging mediational *and* moderational tests of the proposed attributional process model.

Method

Participants

Sixty undergraduates (16 male and 44 female; age $M = 21.44$, $SD = 3.67$) were randomly allocated to one of four conditions in a 2 (imagined scenario: control vs. contact) × 2 (visual perspective: first vs. third) between-subjects design. Participants received course credit for their involvement.

Procedure

Participants entered the laboratory and were given one of two sets of task instructions. Previous research on imagined contact has tested an extensive variety of control conditions. This previous research has ruled out informational load (Turner, Crisp et al., 2007; Experiment 1), stereotype priming (Turner, Crisp et al., Experiment 2), positive affective priming and non-relevant social interaction (Stathi & Crisp, 2008; Experiment 2), and demand characteristics (Turner, Crisp et al., 2007; Turner & Crisp, 2010) as explanations for the imagined contact effect (for a detailed account of task variants see Crisp, Stathi, Turner, & Husnu, 2008). As such we used the standard no-contact control instructions used in previous research. Participants were asked: "I would like you to take a minute 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)."

Participants in the imagined contact condition received the following: "I would like you to take a minute to imagine yourself meeting an *elderly stranger* for the first time. During the conversation imagine you find out some interesting and unexpected things about the stranger." Although previous research has revealed no particular benefits of including the phrase "interesting and unexpected things" (Stathi & Crisp, 2008) we used it here to be consistent with the instructional set that has been most commonly used in imagined contact studies (Turner & Crisp, 2010; Turner et al., 2007; for a detailed account of these task variants see Crisp et al., 2008).

To manipulate the visual perspective in both control and contact conditions participants were additionally instructed the following before they began (alternate condition in parentheses):

> I would like you to picture the scenario from a *first-person (third-person)* visual perspective. With the *first-person (third-person)* perspective you see the event from your own visual perspective *(the visual perspective of an observer)*. That is, you look out at the scene through your own eyes (*you see yourself in the scene from an external viewpoint*).

In each condition, participants were asked to close their eyes and imagine the scene from the perspective assigned to them for one minute. Following Libby et al. (2007), when participants had the image in their mind, they were told to hold it there and respond "yes" or "no" to the following question: "As you're picturing it right now, do you see (yourself in) the scene from the visual perspective you (an observer) would have if the event were actually taken place?" All participants successfully passed this check. Participants completed the dependent measures before being thanked and debriefed.

Dependent measures

To measure the extent to which participants attributed to themselves a positive attitude towards intergroup contact they were asked three questions. Specifically, participants were asked "Thinking about your own attitudes towards contact with elderly people:", "How friendly do you think you are to elderly people?", "In general, how much do you think you enjoy being with elderly people?", and "In general, are you the sort of person who gets on well with elderly people?" (1 = *not at all* to 7 = *very much so)*. These items were averaged to form an index of attribution; $\alpha = .73$).

Adapting Ratcliff, Czuchry, Scarberry, Thomas, Dansereau, and Lord's (1999) behavioral intentions measure, participants were also asked 10 questions regarding possible future interactions with elderly people. Specifically, participants were

asked: "Thinking about the next time you find yourself in a situation where you could interact with an elderly person (e.g., queueing for a bus, with friends in a café, etc.):", "How likely do you think it is that you would strike up a conversation?" (1 = *not at all likely* to 9 = *highly likely*), "How interested would you be in striking up a conversation?" (1 = *not at all interested* to 9 = *highly interested*), "How much do you think you'd like to strike up a conversation?" (1 = *not at all* to 9 = *very much*) and "In general:", "How much do you intend to interact with an elderly person in the future?", "How much do you expect to enjoy interacting with an elderly person in the future?" (both 1 = *not at all* to 7 = *a lot*), "How important do you think it is to learn more about the elderly and the problems they face?" (1 = *not at all important* to 9 = *very important*); "How much time do you think you might spend learning about the problems the elderly face? (1 = *none at all* to 9 = *a lot of time*); "How important do you think interacting with an elderly person is?" (1 = *not at all important* to 9 = *highly important*), and, "How willing would you be to participate in a discussion group that includes both the elderly and the young that will focus on issues of ageism and generational differences?", "How willing would you be to attend a trip to a residential care home to learn more about the elderly?" (both 1 = *not at all willing* to 9 = *very willing*). These items were averaged to form an index of intention; $\alpha = .90$).

Table 1. Primary contrasts tested

	Task			
	Control		Imagined contact	
	First person	Third person	First person	Third person
Hypothesis 1				
Contrast 1	−1	−1	+1	+1
Hypothesis 2				
Contrast 2	−1	+1	0	0
Contrast 3	+1	+1	−2	0
Contrast 4	−1	−1	−1	+3

Table 2. Mean intentions and attributions as a function of imagery task and perspective taken

	Task			
	Control		Imagined contact	
	First person	Third person	First person	Third person
Intentions	5.71 (1.06)	5.99 (1.27)	6.22 (1.33)	7.04 (1.17)
Attributions	5.31 (.64)	5.31 (.79)	5.69 (.75)	6.11 (.76)

Note: Standard deviations are shown in parentheses.

Results and discussion

We chose contrast analysis as our strategy as it is recommended in hypothesis-driven research (Judd & McClelland, 1989) for allowing a powerful and clear test of specific and complex effects (see Rosenthal, Rosnow, & Rubin, 2000). All contrasts tested can be found in Table 1 and means and standard deviations for all measures can be found in Table 2.

Hypothesis 1: Attribution and intention

Hypothesis 1 was that imagining intergroup contact would increase intentions to engage in future contact by enhancing the attribution, to oneself, of positive attitudes towards outgroup contact (attributions).[1] We first tested a contrast reflecting a main effect of imagery task for both dependent measures: control/1st person (−1) vs. control/3rd person (−1) vs. contact/1st person (+1) vs. contact/3rd person (+1). As predicted, on the index of intentions to engage in future contact this contrast was significant, $t(56) = 2.49$, $p = .016$ (control $M = 5.85$, imagined contact $M = 6.63$). Similarly, on the index of attributions this contrast was significant, $t(56) = 3.09$, $p = .003$ (control $M = 5.31$, imagined contact $M = 5.90$). Mediational analysis was computed to assess whether the effect of imagined contact on intentions was mediated by attributions. The pathway between the predictor (Contrast 1) and future contact intentions was significant, $\beta = .306$, $p = .017$. The contrast also predicted the mediator,

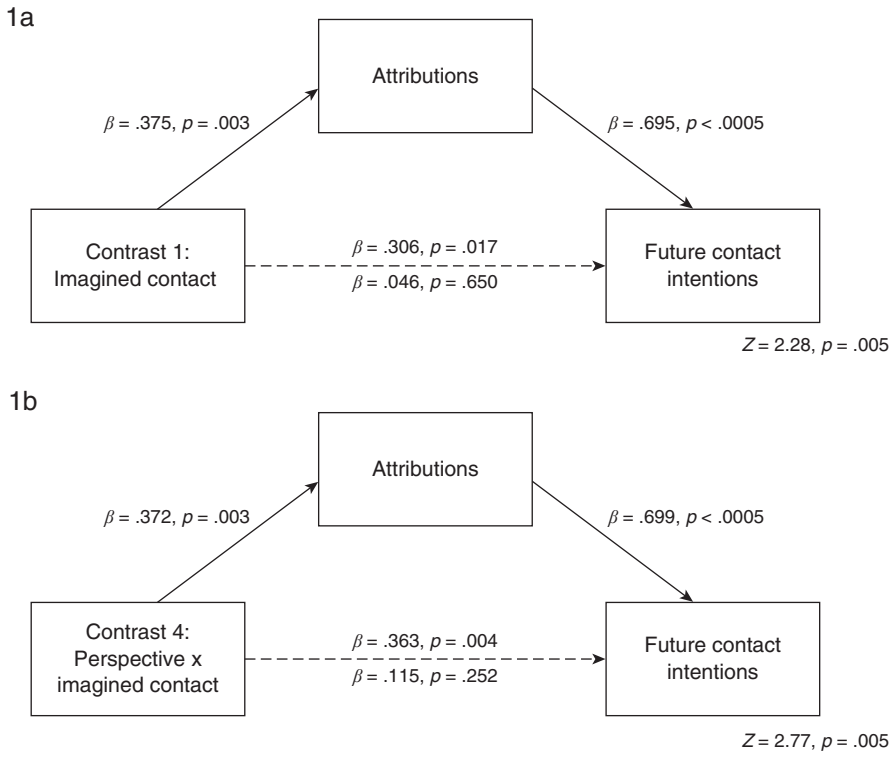

Figure 1. Mediational model of the role of attributions in explaining the effects of imagined contact on future contact intentions for (a) control vs. imagined contact (top panel) and (b) perspective x imagined contact interaction (bottom panel).

attributions, $\beta = .375$, $p = .003$. The path between attributions and intentions controlling for the predictor was significant, $\beta = .695$, $p < .0005$. Controlling for the mediator the significant relationship between Contrast 1 and intentions was eliminated, $\beta = .046$, $p = .650$. A Sobel Test was significant, $Z = 2.28$, $p = .005$. As predicted, the impact of imagined contact on future contact intentions was mediated by the attribution, to oneself, of positive attitudes towards outgroup contact (see Figure 1a).

Hypothesis 2: Perspective taken

We expected the meditational model outlined above to be qualified by the visual perspective taken in the imagined encounter. Specifically, Hypothesis 2 was that taking a third- (but not first-) person perspective in the imagined encounter would reveal heightened attribution of positive attitudes towards outgroup contact, and future contact intentions, relative to the control conditions. To test this hypothesis we used a set of Helmert contrasts. This technique involves computing three orthogonal contrasts that incrementally test theoretically predicted differences across the four treatment means. The order for all contrasts was: control/first-person vs. control/third-person vs. contact/first-person vs. contact/third-person. Contrast 2 was −1, +1, 0, 0; Contrast 3 was +1, +1, –2, 0; Contrast 4 was −1, −1, −1, +3. Support for the hypothesis that imagining positive contact from a third-person perspective will produce greatest subsequent intentions to engage in future contact is indicated if Contrasts 2 and 3 are non-significant, but

Contrast 4 is significant. This pattern of contrast significance would indicate that, as predicted, taking a third-person perspective enhances attributions and intentions to engage in future contact relative to all other combinations of imagery and perspective.

On the index of intentions Contrast 2 was non-significant, $t(56) = .635$, $p = .528$. In other words, there was no difference between first- and third-person perspectives in the control condition (*M*s = 5.71 and 5.99 respectively). Contrast 3 was also non-significant, $t(56) = -.959$, $p = .341$. In other words, the two control condition means did not differ from mean intentions in the imagined contact / first-person perspective condition ($M = 6.22$). Finally, Contrast 4 was significant, $t(56) = 2.95$, $p = .005$. Participants who imagined contact with an elderly stranger from a third-person perspective reported greater intentions to engage in future contact with the elderly compared to all other conditions, $M = 7.04$.

For attributions Contrast 2 was non-significant, $t(56) < .005$, $p = 1.00$. In other words there was no difference between first- and third-person perspectives in the control condition (*M*s = 5.31 and 5.31 respectively). Contrast 3 was also non-significant, $t(56) = -1.62$, $p = .111$. In other words, the two control means did not differ from mean attributions in the imagined contact / first-person perspective condition ($M = 5.69$). Finally, Contrast 4 was significant, $t(56) = 3.07$, $p = .003$. Participants who imagined contact from a third-person perspective reported heightened attribution, to oneself, of positive contact attitudes compared to all other conditions, $M = 6.11$.[2]

Mediational analysis was computed to assess whether the effect of visual perspective on future contact intentions was mediated by attributions. Contrast 4 was therefore the predictor, attributions the mediator, and intentions the outcome. According to our theoretical model imagining contact from a third-person perspective should enhance future contact intentions because it places the (imaginary) spotlight on the self, making a dispositional attribution more likely. The pathway between the predictor (Contrast 4) and future contact intentions was significant, $\beta = .363$, $p = .004$. Contrast 4 also predicted the mediator, attributions, $\beta = .372$, $p = .003$. The path between attributions and intentions controlling for the predictor was significant $\beta = .669$, $p < .0005$. Controlling for the mediator the significant relationship between Contrast 4 and intentions was eliminated, $\beta = .115$, $p = .252$. A Sobel Test was significant, $Z = 2.77$, $p = .005$. As predicted, the impact on intentions of taking a third-person perspective in the imagined contact task was mediated by the heightened attribution, to the self, of a positive attitudinal orientation towards outgroup contact (see Figure 1b).[3]

General discussion

In this study we tested an attributional processing account of imagined contact effects. On the basis of well-established social cognitive models of self-perception we made two predictions. First, that following imagined contact heightened self-attribution of positive attitudes towards contact would mediate future contact intentions. Second, that this attributional model would be most likely observed when participants were instructed to imagine the encounter from a third-person perspective. This is because, consistent with attribution theory, actions are perceived as more reflective of one's character when seen (or imagined) from a third-person perspective (that is, when the attentional spotlight is on the self). The results supported both these hypotheses. Participants reported heightened intentions to engage in actual future contact after they imagined an intergroup encounter, an effect that was mediated by heightened attribution, to oneself, of a positive attitudinal orientation towards intergroup contact. Furthermore this mediational model was most reliably observed when participants were instructed to imagine the encounter from a third-person perspective.

Limits and lacunae

We note that while our focused contrast analysis supported our predictions, if one restricted the analysis to the imagined contact condition on its

own (i.e., without including a comparison with the control conditions), the difference between the third- and first-person perspectives approached significance for intentions and to a lesser extent for attributions (see note 2). While significant differences here could have produced a cleaner story, we do not believe this comparison is critical, and in fact might be expected to be weaker than the more important within-perspective comparisons with relevant imagery controls (represented by the Helmert contrasts used above). This is because we also predicted (and found) a strong main effect of the imagery task, which likely contributed to the marginal differences noted above; but this is also a firm endorsement of the power of imagined contact, and the basic efficacy of the attributional model we propose.

Conversely, one could argue that imagining contact from a first-person perspective should have (but did not) significantly increased future contact intentions compared to both control conditions (Contrast 3). One might argue that the absence of a difference here is inconsistent with previous research that has revealed a positive impact of imagined contact irrespective of perspective taken. However, this assumes that typical imagined contact instructions invariably focus perceivers on the first-person perspective; in fact there is no evidence for this "first-person default". Rather, it seems most likely that without instructions to adopt one perspective over another participants will construe the imagined interaction from whatever perspective is most chronically or contextually salient to them (which could be either a first- or third-person perspective). What our findings demonstrate is that where perspective can be guided, or is likely to be a factor in the imagined scenario, directing participants to take a third-person perspective is likely to be more effective than taking a first-person perspective.

Theoretical implications

These findings illustrate the value in combining research on social cognition with contact theory when developing interventions to promote more positive intergroup relations. Given the nature of simulated contact strategies, it is likely that attributional processes play an important role in understanding their effectiveness. Our study provides some clear pointers in this regard, as well as underscoring the continuing importance of specifying the theoretical processes underlying imagined contact effects. Our study offers meditational evidence for the key role of attributional processes in explaining imagined contact effects. However, it also offers moderational evidence. We found that a third-person perspective more reliably demonstrated the proposed attributional model compared to a first-person perspective (relative to control conditions featuring the same perspective instructions but a non-relevant scenario). The finding that manipulating conditions that should theoretically enhance the predicted effects did so provides convergent evidence for the proposed underlying process (a so-called "moderation-of-process" approach, Spencer, Zanna, & Fong, 2005).

Extended and imagined contact Imagined contact is an indirect contact strategy in that it does not involve actual direct contact with outgroup members. In this, it is similar to *extended* contact (Wright et al., 1997). With extended contact, participants learn about an ingroup member behaving positively towards an outgroup member, apparently reflecting positive regard, something that has been shown to result in more positive outgroup attitudes. An important endeavor for future research is differentiating the unique and common impacts of imagined and extended contact. This is important because if the similarities and differences between these two types of intervention can be identified, it will help practitioners to target interventions in intergroup contexts where they will be most likely to benefit intergroup relations. We suggest several ways in which future research could explore the similarities and differences between these two types of indirect contact.

First, imagined contact may be more susceptible to interference from previous negative contact experiences than extended contact. If an individual has previously experienced negative

contact, it may be difficult to overcome these memories and imagine a positive encounter. An advantage of extended contact is that it is likely that vicarious positive experiences will be a more powerful antidote to negative experiences than imagined positive experiences. This is because, while both imagined and extended contact are indirect, the very boundary condition that defines extended contact (i.e., the requirement for some actual contact somewhere in one's social network) is also the thing that makes it more concrete in terms of mental representation.

Second, people who highly identify with the ingroup are more likely to adopt the characteristics and norms of the ingroup (Hall & Crisp, 2008; Haslam, Oakes, Turner, & McGarty, 1995). Extended contact (but not imagined contact) operates, in part, via an ingroup norm mechanism (Turner, Hewstone, Voci, & Vonofakou, 2008), because it involves a focus on how other ingroup members react to the outgroup. Extended contact should therefore be particularly effective at reducing prejudice among people who are either chronically or temporarily highly committed to the ingroup, for whom group norms are particularly influential. In contrast, because ingroup norms are less likely to play a role in driving the effects of imagined contact high identification is not likely to have these positive impacts. In fact, research has shown higher identification to *reduce* the effectiveness of imagined contact under some conditions (Stathi & Crisp, 2008).

Third, although there are important differences between the approaches, there is also a common mechanism that provides a powerful point of synthesis. Extended contact involves observing the successful behavior of another person, reducing fears and inhibitions about future contact (e.g., Turner, Crisp, et al., 2007, Turner, Hewstone, et al., 2007) and imagined contact similarly reduces intergroup anxiety (Abrams et al., 2008; Husnu & Crisp, 2010a; Turner, Crisp et al., 2007). Reduced anxiety should make participants feel more positive and comfortable about the prospect of actual contact, and both imagined and extended contact should therefore increase the likelihood that intergroup contact will be instigated. Moreover, when an intergroup encounter occurs, the interaction is likely to run more smoothly, be more successful, and therefore improve intergroup attitudes further.

Fourth, an interesting aspect of the current research is that adopting a third-person perspective in imagined contact brings it closer to the mental experience of extended contact (where one is *de facto* taking a third-person perspective on a contact scene, just one that involves an ingroup member, not the self). In fact, one could argue, according to self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), that especially when ingroup membership is salient, observing an ingroup member's behavior is somewhat akin to observing one's own behavior, psychologically speaking. Would imagined contact from a third-person perspective yield stronger effects than extended contact from a third-person perspective (on account of greater self-involvement—it's *you* who's doing the contact in imagined contact)? We suspect this will likely depend upon the strength of ingroup identification.

On the other hand, one could argue that extended contact yields stronger effects than imagined contact because it is based on *real* experience. Yet, this is also extended contact's drawback relative to imagined contact: actual contact is still required *somewhere* in one's wider social network (be it with one's friend, family member or just another ingroup member). Imagined contact, while likely weaker in comparison, requires no experience, actual or vicarious. It is conceivable, for instance, that someone can imagine a positive encounter with an outgroup member having never had any experience of contact oneself, or never having known anyone else who has had any experience of contact. In fact, a lack of experience is precisely the condition under which real—or imagined—behaviors are most likely to form the basis of dispositional attributions (Chaiken & Baldwin, 1981).

Finally, the support offered for the key role of attributional process in imagined contact effects

is also important because it suggests ways in which imagined contact can be distinguished from actual contact. While it is likely that actual contact can also elicit a meta-cognitive awareness of one's own attitudes relating to outgroup contact, only imagined contact offers the opportunity to easily enhance this route through instructions to take different visual perspectives. That said, the study raises the possibility that recording intergroup interactions and then playing them back to the interaction participants will also enhance the impact of actual contact (through the same meditational mechanisms outlined above, and reminiscent of Storm's, 1973, classic study). Ultimately we would argue that imagined contact offers greatest control and flexibility in taking advantage of this attributional mechanism (well-specified imagined intergroup interactions are arguably less prone to "going wrong"). However, if actual contact interventions can be adapted to take advantage of the attributional mechanism highlighted in this research, this will represent a further benefit of imagined contact: as a generative tool for new theoretically-informed elaborations of existing contact strategies. Further exploring these distinctions and differentiations will be an important endeavor for future research.

Outgroup perspective-taking Although manipulation checks were employed to ensure participants were imagining contact from the specified perspective (third versus first) one possibility in the third-person perspective condition is that participants saw themselves through the outgrouper's eyes, an example of "perspective-taking". Research on perspective-taking has shown that actively considering a target's perspective—putting yourself "in their shoes"—produces feelings of empathy and sympathy, leading to the perspective taker offering greater assistance to the target person (Batson, 1991; Galinsky, Wang & Ku, 2005). Perspective-taking has also been associated with decreased stereotyping and bias through increased positive evaluations of the outgroup (Galinsky & Moskowitz, 2000). It might therefore be the case that perspective-induced empathy, perhaps in conjunction with enhanced positive contact attributions, helps to heighten future contact intentions. While we believe heightened empathy may well be an outcome associated with imagined contact, we think it unlikely that our instructions to take a third-person perspective resulted in participants taking the outgroupers' perspective. First, our instructions were very clear to participants in the third-person perspective condition. They were instructed to "see the event from the visual perspective of *an observer"* (the outgroup member was involved in the event, and was not an observer). Second, all participants in the third-person condition correctly passed a manipulation check asking them "As you're picturing it right now, do you see the scene from the visual perspective you (an observer) would have if the event were actually taken place?" This again reinforced the third-person perspective (versus the outgroup perspective). That said, while we do believe there are key differences between (outgroup) perspective taking, and taking a third-person perspective, the two approaches have some important similarities and we suspect there would be much to be learned from studies taking an integrated perspective and exploring the concerted effects of these interventions.

Future contact intentions In this study the primary dependent measure was intentions to engage in future contact. Exploring the impact of imagined contact on behavioral intentions is important because they are the most proximal psychological determinant of actual behavior. They represent our strivings to attain a goal or desire, and where that goal is increased contact, this will have a positive impact on intergroup relations. Research on the theory of planned behavior (Ajzen & Fishbein, 1980) has consistently found behavioral intentions to be more directly and strongly predictive of a range of behaviors than general attitudes (e.g., Albarracin, Johnson, Fishbein & Muellerleile, 2001). Examining the effects of imagined contact on a wider range of outcome measures, and not only intentions, but actual behavior, will be an important endeavor for future research.

Practical implications

There are important practical implications of these findings. Practitioners might, quite reasonably, adapt the imagined contact paradigm so that greater attention is focused on the imagined outgrouper (i.e., what they are wearing, what they are saying, etc.). On the face of it, this might seem like a sensible strategy: it would help immerse the participant in the task. However, our data suggest that this would be a mistake, as it would focus the participant on the outgroup member (the situation) rather than promoting a focus on their own behavior. This would make a dispositional attribution less likely, and make the task less effective at promoting future contact intentions. This is not to say that researchers and practitioners should not develop the task to be more immersive, just that when immersive approaches are used, they should be accompanied by social cognitive techniques that retain a focus on the participants' own behavior. In the above example, for instance, participants could be asked to focus on the detail of what the outgrouper is wearing or saying, but from a third-person perspective that ensures they also "see" themselves interacting in the scene. There may also be other ways of promoting greater immersion without inadvertently pulling a focus from the self, for instance simulating an entirely new set of intergroup relations (see Hodson, Choma & Costello's 2009 notion of "alien-nation"). Exploring the importance of immersion in simulated contact settings will be an important focus for future research.

Notes

1 The correlation between attributions and intentions was $r\,(60) = .712$, $p < .0005$.

2 We chose Helmert contrasts because it ensures that our contrast tests were orthogonal (unrelated), while also testing the effects of imagery and perspective relative to the control conditions. However, some readers might be interested in simple comparisons within conditions. Planned *t*-tests revealed that for intentions there was no difference as a function of perspective in the control condition, $t(56) = .635$, $p = .528$, while in the imagined contact condition a third-person perspective yielded greater intentions than a first-person perspective, a difference that approached significance, $t(56) = 1.86$, $p = .068$. Furthermore, while intentions were not significantly higher in the imagined contact compared to the control condition when taking a first-person perspective, $t(56) = 1.15$, $p = .256$, they were when taking a third-person perspective, $t(56) = 2.37$, $p = .021$. For attributions there was no difference as a function of perspective in the control condition, $t(56) < .005$, $p = 1.00$, while in the imagined contact condition a third-person perspective yielded greater intentions than a first-person perceptive, a difference that approached significance, $t(56) = 1.57$, $p = .123$. Furthermore, while attributions were not significantly higher in the imagined contact condition compared to the control condition when taking a first-person perspective, $t(56) = 1.40$, $p = .166$, they were when taking a third-person perspective, $t(56) = 2.36$, $p = .026$. In addition, although we advocate the use of planned contrast analysis in hypothesis driven research (Rosenthal et al., 2000), some readers might also be interested in the more exploratory ANOVA interaction effects for the test of Hypothesis 2. For intentions, $F(1, 56) = .748$, $p = .391$; for attributions, $F(1, 56) = 1.23$, $p = .272$.

3 The analysis presented included only the significant contrast, Contrast 4, as a predictor. However, we also carried out an analysis in which we entered Contrasts 2, 3, and 4 as simultaneous predictors. This analysis made no difference to the significant paths in the mediational model: Contrast 4 – intentions ($\beta = .363$, $p = .005$); Contrast 4 – attributions ($\beta = .372$, $p = .003$); attributions – intentions while controlling for Contrast 4 ($\beta = .673$, $p < .0005$); Contrast 4 – intentions while controlling for attributions ($\beta = .113$, $p = .264$). Sobel $Z = 2.78$, $p = .005$.

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