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From imagery to intention: A dual route model of imagined contact effects

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Imagined intergroup contact (Crisp & R. Turner, 2009) is a new indirect contact strategy for promoting tolerance and more positive intergroup relations. In this chapter, we review existing research on imagined contact and propose two routes—cognitive and affective—through which it can exert a positive influence on contact-related attitudes and intentions. We first review research that has established the beneficial impacts of imagined contact on intergroup attitudes via reduced intergroup anxiety, supporting its efficacy as an intervention where there exists little or no opportunity for direct contact. We then review more recent research showing that imagined contact not only improves attitudes, but can also enhance intentions to engage in future contact. These studies suggest that contact imagery provides a behavioural script that forms the cognitive basis for subsequent judgements about future contact intentions. Collectively, the findings from this research programme support the idea that imagined contact can complement more direct forms of contact—providing a way of initially encouraging an interest in engaging positively with outgroups before introducing face-to-face encounters. We discuss the implications of these findings for future theory and research, and how they can inform prejudice-reduction interventions seeking to capitalise on the beneficial effects of mental imagery.

Keywords: Imagined contact; Intergroup contact; Prejudice.

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One needs little reminder of the destructive power of prejudice, and most people would agree with the unqualified need to develop interventions that promote tolerance and cooperation between religious, cultural, ethnic, and other groups in society. Allport's (1954) contact hypothesis is the most widely advocated psychological approach to tackling this most pressing of social issues. This chapter is about a new implementation of the contact hypothesis, an implementation that capitalises on the inherent power and flexibility of the approach, and which illustrates how the very concept of contact can embody a positive orientation towards others. Our approach is based on the mental articulation of contact experiences, and the idea that simply *imagining* intergroup contact can elicit more positive intergroup attitudes.

Our initial focus in developing imagined contact was inspired by a simple question: what to do about reducing prejudice when there is no *opportunity* for contact? Empirical research on imagined contact has suggested that it works well as a substitute for actual contact in such contexts (see Crisp & R. Turner, 2009). In this chapter we extend this initial proposition. While imagined contact may be of great use where actual contact is impossible or unlikely, we believe it has wider applicability as a *pre-contact* tool, a means of preparing people to engage with outgroups with a positive and open mind. In other words, where opportunities for contact *do* exist, but remain unrealised, imagined contact might be a critical first step needed to kick-start an interest in engaging positively with outgroups. In what follows we review all existing research on imagined contact; we describe how we came to focus initially on improving intergroup attitudes, and later on enhancing future contact intentions, and how this work has inspired our theoretical model of imagined contact effects. Finally, we discuss the current questions, debates, and issues surrounding imagined contact, and offer suggestions for future research into this new approach to improving intergroup relations.

MENTAL IMAGERY

The benefits of mental imagery for a wide range of psychological and behavioural phenomena have been well documented (Taylor, Pham, Rivkin, & Armor, 1998). Clinicians, coaches, and laboratory-based scientists have all sought to harness the power of imagery to facilitate behavioural and attitudinal change, often with considerable success. For instance, in health psychology, mental imagery has been employed to foster the achievement of health-related goals (Anderson, 1983; Greitemeyer & Würz, 2005) and to improve motor learning in rehabilitation settings (Page, Levine, Sisto & Johnston, 2001). Consumer researchers have employed mental simulation techniques to improve attitudes and facilitate behavioural intentions towards advertised products (Escalas & Luce, 2003, 2004). Clinicians have incorporated mental simulation into cognitive behavioural therapies,

especially in relapse prevention techniques (Holmes, Lang, & Shah, 2009; Marlatt, 1978; Marlatt & Gordon, 1985) or in phobias to modify or replicate images to reduce an image's emotional power (Wolpe, 1958). Personality psychologists have studied how people's visions of their future selves will guide their actions and self-perceptions (Markus & Nurius, 1986) and neuropsychological studies have shown that imagery employs similar neurological mechanisms as memory, emotion, and motor control (Farah, 1989; Kosslyn, Ganis, & Thompson, 2001). The beneficial use of mental simulation in sports settings to improve both performance and motivation has also been documented by athletes such as Tiger Woods (Vealey & Greenleaf, 1998) and is supported by a large body of research (for a meta-analytic review see Feltz & Landers, 1983).

IMAGERY AND ATTITUDE CHANGE

Mental imagery is of considerable importance to a range of psychological domains, yet it has enjoyed no focused attention, until now, in efforts to improve intergroup relations. Central to the proposition that imagined contact can reduce prejudice is the notion that, more generally, imagery can affect attitude change. In the wider literature on mental simulation, there is support for this general proposition. Armitage and Reidy (2008), for instance, found that participants who imagined preparing to donate blood subsequently expressed more *positive attitudes* towards blood donation than participants who imagined an irrelevant behaviour (preparing to get a high mark in their class). In a similar vein, Gregory, Burroughs, and Ainslie (1985) asked participants to imagine a scenario depicting their involvement in an automobile accident or an irrelevant scenario (e.g., going through a lengthy job application process). When contacted later the same evening by a confederate claiming to be conducting a survey on behalf of a consumer advocacy project, participants in the former group expressed more favourable attitudes towards traffic safety laws than those in the latter.

However, the tangible impact of imagery on attitude change is perhaps best demonstrated within the advertising domain. Consumer researchers have demonstrated that imagery-eliciting strategies, such as encouraging viewers to imagine positive scenarios involving themselves and the advertised products, can be used to facilitate more positive attitudinal judgements towards products. Babin and Burns (1997) presented undergraduate business students with advertisements for a fictitious car and an accompanying questionnaire assessing attitudes towards the product. Half of the adverts contained five statements placed throughout the advert, instructing the recipient to "imagine the car in your mind . . .", "imagine it . . .", "hear it . . .", "picture it . . ." and "feel it . . .". The other half contained no such instructions. The results revealed that adverts containing

instructions to imagine the product resulted in more favourable attitudinal judgements than adverts with no imagination instructions. In similar research Escalas (2004) asked participants to view a one-page colour advertisement for a running shoe with a fictitious brand name. Half the adverts contained text encouraging the participant to imagine themselves running in the shoes through a park, while the other half contained no such instructions. Imagery instructions resulted in more favourable brand evaluations than advertisements that did not encourage mental simulation.

The notion that imagery can affect attitudes and perceptions is therefore quite an established principle in a range of domains within social psychology. The effectiveness of these approaches, and their apparent applicability to attitude change in the intergroup domain, led us to develop a new implementation of the contact hypothesis—one that built on emerging work on *vicarious* or *indirect* forms of contact. We called this approach *imagined* intergroup contact.

IMAGINED INTERGROUP CONTACT

One of the most successful and influential contributions to social issues research has been Allport's (1954) contact hypothesis (Harrington & Miller, 1992; Jackson, 1993). 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). Allport originally asserted that maximally positive outcomes will be observed if the contact involves equal status between the groups, common goals, no competition, and institutional support. Pettigrew and Tropp's (2006) meta-analysis of over 500 studies has recently qualified this assertion. We now know that while the above may be facilitating conditions, they are not necessary conditions. There is a fundamental, robust, and positive impact of contact on intergroup attitudes regardless of target group, age group, geographical area or contact setting.

Despite the clear benefits of intergroup contact it can only reduce prejudice when social groups and group members are afforded the *opportunity* to engage in contact (e.g., Phinney, Ferguson, & Tate, 1997; R. Turner, Hewstone, & Voci, 2007b; R. Turner, Hewstone, Voci & Vonofakou, 2008). There are many examples of problematic intergroup relations where few such opportunities exist; and even when diverse groups live in close proximity, communities can remain socially segregated, leading "parallel lives" (Cantle, 2001, p. 10) where little or no meaningful contact is established.

A solution to the lack of opportunity for contact is to establish contact in an *indirect* manner. According to the *extended* contact hypothesis learning that an ingroup member has a close relationship with an outgroup member can vicariously improve one's own attitudes towards the outgroup (Wright,

Aron, McLaughlin-Volpe, & Ropp, 1997). Extended contact has been found to exert a positive impact on attitudes and outgroup stereotyping, via the development of positive attitudinal ingroup norms, similarity to self and reduced anxiety (R. Turner, Hewstone, Voci, Paolini & Christ, 2007c). There are undoubted benefits of extended contact, and situations in which it literally extends the power and scope of the contact hypothesis. Yet it cannot fully solve the opportunity “problem”. While one does not need to engage in contact oneself to reap the benefits, actual contact is still required *somewhere* in one’s wider social network (be it with one’s friend, family member or just another ingrouper). Where segregation defines the relationship between communities, one simply may not know of *anyone* who has anything to do with the outgroup. In short, in highly segregated societies, even extended contact might be in short supply.

We argued that a solution to this problem can be found in the form of imagined intergroup contact, which we defined as “*the mental simulation of a social interaction with a member or members of an outgroup category*” (Crisp & R. Turner, 2009, p. 234). As noted above, there is quite an established focus on the impacts of mental imagery in a range of domains within social psychology. We theorised that imagining intergroup contact could similarly affect intergroup attitudes. When people imagine intergroup contact we theorised that they should engage in conscious (and unconscious) thought that parallels the processes involved in actual intergroup contact. They may, for example, actively think about what they would learn about the outgroup member, how they would feel during the interaction, and how this would influence their perceptions of that outgroup member and the outgroup more generally. In turn, this should lead to more positive evaluations of the outgroup, similar to the effects of face-to-face contact (e.g., Islam & Hewstone, 1993; Paolini, Hewstone, Cairns, & Voci, 2004; Voci & Hewstone, 2003). Our sense was that imagined contact should involve just a short, simple instruction to mentally simulate a positive encounter with a member of a relevant outgroup. The proposition was that imagining such an encounter would have similar effects as the real thing, albeit in a more safe, secure, and less-stressful situation. To provide an initial test of this hypothesis, we therefore developed an instructional set that could be used to experimentally manipulate contact imagery and examined its impact on intergroup attitudes.

IMAGINING INTERGROUP CONTACT CAN IMPROVE INTERGROUP ATTITUDES

In three studies, R. Turner, Crisp, and Lambert (2007a) investigated whether participants (themselves young and heterosexual) who were asked to imagine a positive interaction with an elderly person or a gay man

subsequently expressed lower ingroup bias than participants who did not. We created two sets of instructions, designed to invoke either an imagined intergroup interaction with an outgroup member, or their imagination of something totally unrelated (see the Appendix Table for a summary of all of the imagined contact studies reviewed in this article, which includes details of the task variants used in each study). Participants assigned to the *imagined contact condition* were instructed: "We would like you to take a minute to imagine yourself meeting an elderly stranger for the first time. Imagine their appearance, the conversation that follows and, from what you learn, all the different ways you could classify them into different groups of people." Participants assigned to the *control condition* were asked: "We would like you to take a minute to imagine 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)." In both conditions, participants were given exactly 1 minute to imagine the scene. Participants in the *imagined contact condition* were then instructed to "List the different ways in which you could classify the stranger following the conversation you just imagined", whereas participants in the *control condition* were instructed to simply "List the different things that you saw in the scene you just imagined". This was designed to reinforce the effect of the imagery task. Results revealed, as expected, that while participants showed a significantly greater preference for interacting with a young person than for interacting with an elderly person in the control condition, participants who imagined intergroup contact did not exhibit this ingroup bias.

In Experiment 2 we replicated the findings from Experiment 1 with a control prime condition in which participants were simply asked to think about elderly people. While participants in this prime condition showed a significantly greater preference for interacting with a young person than for interacting with an elderly person, participants who imagined intergroup contact showed reduced intergroup bias. These findings ruled out the possibility that imagining intergroup contact simply primes an outgroup category and leads to a self-regulation process whereby socially desirable responses are elicited.

Experiment 3 provided further support for the benefits of imagined contact by using an alternative measure of bias (based on outgroup evaluations, and outgroup homogeneity) and investigated mediating processes (intergroup anxiety). Male heterosexual participants were asked to imagine contact with a gay man, and to then think about some of the unexpected things they might learn about that person. Participants who spent a few minutes imagining intergroup contact subsequently had a more positive attitude towards gay people in general, and also perceived there to be greater variability among the outgroup, than participants in the control condition.

That imagined contact worked in two intergroup contexts, using two versions of the imagined contact task, gives us confidence that the effects were not limited to a specific intergroup context or a specific type of imagined contact. Experiment 3 also showed that imagined contact has its beneficial effects via one of the same mediational routes demonstrated with actual and extended contact (e.g., Islam & Hewstone, 1993; Paolini et al., 2004; R. Turner et al., 2007c; Voci & Hewstone, 2003): intergroup anxiety explained the positive effects of imagining intergroup contact on outgroup attitudes.

IMAGINING INTERGROUP CONTACT PROMOTES PROJECTION TO OUTGROUPS

Stathi and Crisp (2008) extended our investigation into the impacts of imagined contact by testing whether it leads not only to improved attitudes, but also to greater projection of positive self traits to the outgroup. Projection is a process by which attitudes and traits are attributed to others and can constitute a fundamental “cognitive basis for ingroup favouritism” (Robbins & Krueger, 2005, p. 42; see also Cadinu & Rothbart, 1996). This is because projection of positive self traits to similar others (i.e., the ingroup) is generally stronger for ingroups than outgroups (Clement & Krueger, 2002). Establishing that imagined contact could improve not only intergroup attitudes, but also contributory processes and related constructs, was an important next step in the development of this research. Stathi and Crisp also investigated moderating conditions that might curtail or enhance the effectiveness of imagined contact. Establishing these boundaries and facilitating conditions was also an important endeavour if we were to establish the efficacy of imagined contact as a viable intervention strategy.

Stathi and Crisp (2008; Experiment 1) initially tested whether *minorities* would be more resistant to the benefits of imagined contact than majorities using a sample of two ethnic groups in Mexico: Mestizos (the ethnic majority group) and Indigenous people (the ethnic minority group). Tropp and Pettigrew’s meta-analysis (2005) revealed that, overall, the relationship between contact and prejudice is weaker among minority groups than among majority groups. This is consistent with the idea that minority groups tend to experience more anxiety at the thought of intergroup contact than majorities (Plant & Devine, 2003). As such, there were good reasons to expect imagined contact to be less effective in changing intergroup perceptions of minority versus majority groups. The results confirmed this hypothesis. Majority group members projected more positive self-traits to the outgroup following positive imagined contact than did minority group members.

In Experiment 2 Stathi and Crisp (2008) examined the moderating role of ingroup identification (with British students) on imagined contact effects (attitudes towards French students). Higher ingroup identifiers have a

tendency to psychologically protect their ingroup by differentiating themselves from relevant outgroups (see Ellemers, Spears, & Doosje, 2002). For example, higher (but not lower) identifiers differentiate themselves from outgroups *even more* under conditions designed to promote common goals and a sense of shared identity (Crisp & Beck, 2005; Crisp, Stone, & Hall, 2006a). Given this, it seems reasonable that the effects of imagined contact might have a less-pronounced impact on higher compared to lower identifiers. Results confirmed this hypothesis. We found that imagined contact was more successful at promoting projection for participants who did not identify strongly with their national ingroup. This is not to say that imagined contact cannot be successfully applied to highly identifying group members. Rather, that educators and policy makers intending to implement such interventions should recognise that different approaches to promoting positive relations might mean different things to different people (for a discussion of these issues, particularly focused on high ingroup identification and the need to tailor interventions accordingly, see Crisp, Walsh, & Hewstone, 2006b; Stone & Crisp, 2007; R. Turner & Crisp, 2010a).

In Experiment 3 Stathi and Crisp offered a way of countering the contact-resisting effects of higher identification on the imagined contact task (again the ingroup was British students, but here the outgroup was international students). Given that for higher identifiers the “collective” self is typically more pronounced than the “personal” self (J. Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), encouraging a shift in focus from the collective to the *personal* self may facilitate the effects of contact-based interventions. We primed a personal level of construal by asking people to generate positive personal characteristics before imagining intergroup contact (based on a method of making personal identity salient used by Haslam, Oakes, Reynolds, & J. Turner, 1999). Consistent with the above theorising, imagined contact promoted more positive outgroup perceptions when the personal, versus collective, self was salient (see Figure 1). Relating this finding back to Experiment 1, we proposed that a similar, pre-contact task could also enhance the effectiveness of imagined contact for minority group members, who are also sometimes found to perceive contact with different groups as identity threatening (Stephan, Diaz-Loving, & Duran, 2000). In sum, if the personal self is activated prior to the application of the intervention, identity threat associated with the thought of intergroup interaction may be mitigated and the bias-reducing effects of imagined contact can be realised.

IMAGINING INTERGROUP CONTACT CAN COUNTER STEREOTYPE THREAT EFFECTS

Stathi and Crisp’s (2008) findings illustrated the centrality of the self-concept in imagined contact effects, but also suggested some intriguing possibilities

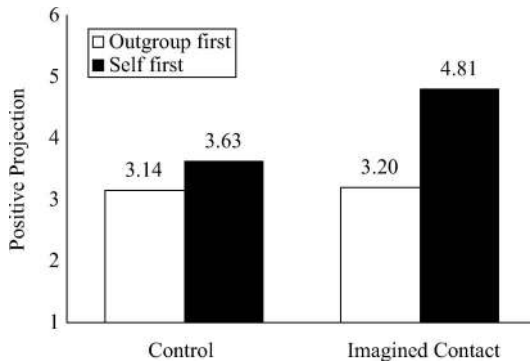


Figure 1. Projection of positive self-traits to the outgroup as a function of imagined contact and self-salience (Stathi & Crisp, 2008, Experiment 3).

for the wider applicability of the approach. In particular we believed that it might offer a potentially new way of tackling pervasive social problems to do with self-stereotyping, specifically relating to *stereotype threat*.

Stereotype threat can be defined as being at risk of confirming that a negative stereotype of one's group applies to oneself. It is experienced as a self-evaluative threat that can have disruptive effects (Steele, 1997). The defining example is the finding that African American college students exhibited poorer intellectual performance when reminded of the cultural stereotype that Black people were supposedly intellectually inferior to White people (Steele, 1997). However, the effect can be elicited under a wide range of conditions, not just the comparison with a group who are believed to perform better in the relevant domain. These include making identity salient (simply completing one's race or gender on a questionnaire; e.g., Shih, Pittinsky, & Ambady, 1999; Shih, Sanchez, & Ho, 2010), heightening the apparent diagnosticity of the test (stating that the test is a reliable and valid measure of ability in the relevant domains, e.g., Steele & Aronson, 1995) or solo status (situations in which one believes one is the only representative of a stereotyped group; e.g., Sekaquaptewa, Waldman, & Thompson, 2007). The effect can also be observed in a wide range of domains. These range from the depressed maths performance of female students when they have been compared with male students (compared to when they have not; see Crisp, Bache & Maitner, 2009a; Rosenthal & Crisp, 2006; Rosenthal, Crisp & Suen, 2007; Schmader, 2002; Spencer, Steele & Quinn, 1999) to the athletic performance of White participants when compared to Black participants (J. Stone, Lynch, Sjomeling, & Darley, 1999).

Abrams et al. (2008) investigated the effectiveness of imagined contact in one of these domains where stereotype threat has been found to have a negative impact. Research with older people has found that self-stereotyping

affects a range of cognitive abilities consistent with the stereotype that cognitive performance declines with age (Hess, Hinson & Statham, 2004; Levy, 1996). The application of imagined contact to this domain was based on the premise that intergenerational contact is generally limited (Hagestad & Uhlenberg, 2005) and that actual contact has been found to reduce threat effects in older people through reduced anxiety (Abrams, Eller, & Bryant, 2006). Abrams et al. (2008, Experiment 2) hypothesised that imagined contact would serve a protective function for older people exposed to contexts where they might otherwise suffer performance decrements. In their study 84 participants ($M = 72$ years, all participants were over 60 years old) were required to imagine either meeting a young stranger or an outdoor scene (control imagination task) followed by the threat manipulation used by Abrams et al. (2006). The dependent variable was test performance, operationalised by scores on a set of 24 mathematics questions.

The analysis revealed that performance in the threat + imagined contact condition did not differ significantly from baseline (no threat + no imagination task). Importantly, performance in the threat only (no imagined contact) condition was significantly worse than performance in both the threat + imagined contact condition and the baseline condition, supporting the idea that imagined contact is able to mitigate the stereotype threat effect. Compared to baseline performance there was also significantly higher test-related performance anxiety in the threat + imagined contact condition, but performance anxiety here was lower than in the threat only condition, and the difference in anxiety mediated performance across conditions. In sum, imagined *intergenerational* contact mitigated age-related stereotype threat and maintained performance at levels similar to baseline (compared to performance exhibited under stereotype threat without prior imagined contact). The effect was mediated, as in R. Turner et al. (2007a), by reduced anxiety (although in this case *performance* anxiety). This finding also opened up a potentially fruitful theoretical integration between psychological approaches that have focused on reducing stereotype threat, and psychological approaches to reducing prejudice (see Crisp & Abrams, 2008).

IMAGINING INTERGROUP CONTACT CAN REDUCE IMPLICIT INTERGROUP BIAS

Although by now there were compelling reasons to be confident about the efficacy of the imagined contact task, a lingering concern was to do with *demand characteristics*. Participants may be responding more positively in the imagined contact conditions because they have guessed the rationale of the experiment and behave in accordance with the perceived expectations of the experimenter. The preceding studies had taken steps to rule out this possibility. For instance, R. Turner et al. (2007a) showed that in post

experimental debriefing participants were not able to guess the experimental hypothesis. Furthermore, the use of a between-participants design in all of these studies makes a demand explanation less likely. However, to address this issue convincingly we needed to show that imagined contact can reduce *implicit* prejudice. Given that it is more difficult to control responses on implicit measures than on explicit measures, observing an impact of imagined contact on an implicit measure of response time should go some way to ruling out this demand characteristics explanation.

There are also additional benefits of examining the impact of imagined contact on implicit attitudes. Whereas explicit attitudes are conscious, deliberative, and controllable (and are usually captured by traditional self-report measures), implicit attitudes are unintentionally activated by the mere presence (actual or symbolic) of an attitude object, and are therefore less likely to be influenced by social desirability than are explicit measures. If we were able to show imagined contact effects on implicit attitudes, which are thought to be more difficult to change than explicit attitudes (Wilson, Lindsey, & Schooler, 2000), this would considerably strengthen confidence in the efficacy of imagined contact. Showing an impact on implicit attitudes is also important because while explicit attitudes are associated with deliberative behaviours, implicit measures are associated with more subtle, indirect and spontaneous *non-verbal* behaviours (e.g., McConnell & Leibold, 2001). These behaviours associated with implicit attitudes are the subtle bastions of prejudice, maintaining biases in even overtly egalitarian societies. Of equal importance, if imagined contact can reduce negative non-verbal behaviour, it may help to produce smoother, more successful face-to-face encounters with outgroup members in the future.

So why might we expect imagined contact to result in more positive implicit attitudes? When a person imagines intergroup contact, they are mentally gaining greater exposure to the outgroup. This imagined exposure should exert a direct influence on implicit attitudes, as it does with actual contact and implicit attitudes in intergroup contexts (R. Turner et al., 2007b; see also Crisp, Hutter, & Young's, 2009b, investigation of mere *intergroup* exposure) and more generally in attitude research (Fazio & Olson, 2003). Exposure to the outgroup may be particularly likely to directly produce more positive *implicit* outgroup attitudes. Dasgupta and Asgari (2004), for example, found that participants exposed to pictures and biographies of famous women leaders were subsequently more likely to associate women with leadership qualities on a measure of implicit gender bias.

We undertook two experiments to investigate the effects of imagined contact on implicit outgroup attitudes (R. Turner & Crisp, 2010b). In Experiment 1 female undergraduate students were randomly allocated to either the imagined contact condition or a control condition. Following the

imagined contact task, participants completed a measure to assess their explicit outgroup attitude. They were asked to indicate how they felt about elderly people, in general, on six 7-point semantic-differential scales taken from Wright et al. (1997) (cold–warm, suspicious–trusting, positive–negative, friendly–hostile, respect–contempt, and admiration–disgust). Finally, participants were asked to complete a measure of *implicit* intergroup bias, for which we used the implicit association test (IAT, Greenwald, McGee, & Schwartz, 1998). We used a young–elderly version of the IAT, in which participants were required to simultaneously categorise target stimuli (typical young names like Brad, Zack, and Lucy, and typical older names such as Cyril, Arthur, and Mildred) and attribute stimuli (positive words like smile and paradise, and negative words like slime and pain) which appeared one at a time on the computer screen (see R. Turner et al., 2007b, for a detailed description of the IAT). The raw IAT data were transformed using the Greenwald, Nosek, and Banaji (2003) improved scoring algorithm, which recommends that practice and test trials are included in the analysis; trials that have latencies greater than 10,000 ms are removed from analyses and participants who have more than 10% of trials with any latencies less than 300 ms are removed. A difference score between latencies for attitude-congruent trials (speed of correctly classifying stimuli as “pleasant or young” and “unpleasant or old”) and attitude-incongruent trials (speed of correctly classifying stimuli as “pleasant or elderly” and “unpleasant or young”) was then computed. The final IAT measure is a standardised score (D). A positive score on the IAT indicates intergroup bias, a positive implicit attitude towards the in-group relative to the out-group.

We expected that young participants would show faster reaction times when required to categorise young names and positive words with one key, and elderly names and negative words with the other, than when required to categorise young names and negative words with one key and elderly names and positive words with the other. In line with predictions, participants in the imagined contact condition showed more positive explicit attitudes towards the elderly than participants in the control condition, while on the implicit measure participants in the imagined contact condition were less biased than participants in the control condition (see Figure 2).

In Experiment 2 we examined the potential benefits of imagined contact for improving attitudes towards Muslims. There are 1.6 million Muslims in the UK (2.8% of the British population), making it the largest minority religious group in the country. Unfortunately, there has been an increase in Islamophobia in the UK in recent years (e.g., MORI, 2003), and there is an enduring negative stereotype in the UK that Muslims do not want to integrate with other sections of the community (BBC Online 2005, 2006). Countering negative attitudes towards the Muslim community in the UK is therefore a

pressing social issue. We also aimed to address some potential criticisms of the design used in Experiment 1. In Experiment 1 we measured explicit attitudes prior to implicit attitudes. To rule out the possibility that the reporting of explicit attitudes influenced the subsequently measured implicit attitudes we therefore measured *only* implicit attitudes in Experiment 2.

A total of 40 undergraduate students, who were not of Muslim faith, were randomly allocated to either the imagined contact condition or a control condition. The procedure was identical to Experiment 1 except in the following ways. In the *imagined contact condition* participants were asked: “We would like you to spend the next 2 minutes imagining yourself meeting someone who is a Muslim for the first time. Imagine that the interaction is relaxed, positive, and comfortable” (as we discuss later on, we now advocate *this* version of the imagined contact task as the most refined variant to use in future research). In the *control condition* participants were asked: “We would like you to spend 2 minutes thinking about Muslims”. These changes to the imagination and control tasks enable us to confirm first that it is imagining a positive encounter, rather than imagining an unexpected or atypical outgroup member, that has a positive impact. Second, it enables us to check that the effect of the manipulation on implicit attitude is not simply due to outgroup priming. We used a Muslim – non-Muslim version of the IAT, which was identical to the measure used in Experiment 1, except that typical young and older names were replaced with typical British Muslim names (e.g., Mohammed, Fatima, Yusra) and British non-Muslim names (for this we used biblical names, e.g., Matthew, Luke, Eve). The categories for classifying these names were “Muslim” and “Not Muslim”.

In line with predictions, participants who imagined contact with a Muslim were less biased than participants in the control condition who simply thought about Muslims, see Figure 2. Indeed, while participants in the control condition showed implicit ingroup-favouring bias, this bias was eliminated in the imagined contact condition and participants actually showed outgroup favouritism. It is likely that the skew of this effect reflects the testing of different target groups in our two experiments (Elderly in Experiment 1, Muslims in Experiment 2). However, the IAT D-scores are relative measures, and what is important is that we obtained the predicted *reduction* in implicit bias in both experiments. Observing outgroup bias also suggests an interesting caveat to the imagined contact effect. In the next part of this article, we argue that imagined contact should not only promote more positive evaluations of outgroups, but also a greater *interest* in, and positive inclination towards, *engaging* in intergroup contact (Crisp & R. Turner, 2009; see also Husnu & Crisp, 2010a). It is therefore possible that, for a short time, imagined contact promotes a *greater* preference for outgroupers (and outgroup contact) than for ingroupers, as a positive contact norm becomes temporarily hyper-accessible.

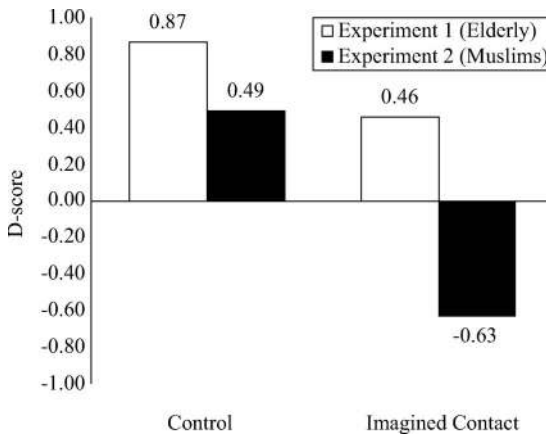


Figure 2. IAT-D scores (R. Turner & Crisp, 2010b).

FROM IMAGERY TO INTENTION

The studies reviewed so far had established the positive impacts of imagined contact for both explicit (R. Turner et al., 2007a) and implicit (R. Turner & Crisp, 2010) intergroup attitudes, projection of positive traits to outgroups (Stathi & Crisp, 2008), and reductions in negative self-stereotyping (Abrams et al., 2008; see also Crisp & Abrams, 2008). These investigations had been driven by the question of what to do when there was little or no opportunity for contact. In other words, where actual contact was not possible could imagined contact offer some substitute? The answer from these studies has been a clear “yes”. At this point, however, we began to wonder whether the benefits of imagined contact could extend beyond situations where contact was impossible or unlikely. It may be that imagined contact has value not only as a substitute for existing interventions, where the lack of opportunity for contact makes them unviable, but as a *facilitating* component of integrated intervention packages. In other words, we began to think of imagined contact as a potential *pre-contact* tool, a way of preparing people for *actual* contact, getting them ready to engage with outgroups with a positive and open mind. It may therefore be that where opportunities for contact *do* exist, but remain unrealised, imagined contact might be an important first step needed to kick-start an interest in engaging positively with outgroups. As such, we turned our attention to whether imagining intergroup contact could not only improve intergroup attitudes, but also enhance *intentions* to engage in future actual contact. Returning to the wider literature on mental simulations we found that there was, indeed, an a priori case for pursuing this hypothesis.

IMAGERY, INTENTION AND BEHAVIOUR

There are a number of studies that have demonstrated impacts of imagery on varied indices of behavioural intention. For instance, Anderson (1983) found that after imagining themselves performing the various tasks, participants rated themselves as more *likely* to engage in the activities and expressed greater *intentions* to do so than those who had not engaged in a relevant imagery task. Ratcliff et al. (1999) directed undergraduate students either to think about the reasons why people should find studying enjoyable (e.g., learn new things, make better grades, boost self-confidence) or to *imagine* the actions that people might take up to make studying more enjoyable (e.g., create a comfortable atmosphere, study with a friend, reward oneself). Imagining actions elicited more positive behavioural intentions towards studying than did thinking about reasons. In a study using similar methodology, Ten Eyck, Labansat, Gresky, Dansereau, and Lord (2006) found that simulation enhanced intentions to a greater extent than did thinking about reasons for a range of beneficial activities (e.g., dieting, studying, and exercising).

Several studies have demonstrated that mental simulation can also increase intention-related constructs such as self-efficacy and self-confidence. Landau, Libkuman, and Wildman (2002) found that participants who imagined themselves lifting a heavy object were subsequently more likely to believe that they could lift heavier weights. Similarly, Jones, Bray, Mace, MacRae, and Stockbridge (2002) found imagery to impact on levels of self-efficacy in female novice climbers. Feltz and Riessinger (1990) found that participants who underwent an imagery programme reported higher performance expectations, and actually performed better, on a muscular endurance task.

Other studies have shown that mental simulation can have a direct impact on both behavioural intentions and actual behaviours. Sherman and Anderson (1987) attempted to reduce psychotherapy dropout rates at an outpatient clinic using a scripted imagination procedure administered at the intake session. Those who imagined staying in therapy sessions both reported an increased expectancy of staying in therapy and were less likely to subsequently drop out. Rivkin and Taylor (1999) asked participants to think of an ongoing stressful event in their lives that was potentially controllable in the future. Results showed that participants who engaged in a simulation designed to control the stressful event reported more positive affect, greater intentions to accept the reality of the problem and, importantly, reported using more active, problem-focused coping strategies relative to control participants. Knudstrup, Segrest, and Hurley (2003) found that mentally simulating a job prior to an actual interview led to better performance compared to the control condition as rated by

interviewer's willingness to employ the candidate. Finally, in the sports psychology literature meta-analytic reviews indicate that while physical practice continues to be a superior method for improving motor skills, employment of mental practice is significantly more beneficial for performance than no practice at all, and the combination of mental and physical practice can be maximally effective to sharpen skills (Driskell, Copper, & Moran, 1994; Feltz & Landers, 1983; Hinshaw, 1991).

In sum, the wider literature on mental imagery illustrates its impact on a range of measures of, or related to, behavioural intention, as well as actual behaviour. These demonstrations are evidenced in a range of applied settings include those related to health, clinical, and occupational practice, and consumer and sports psychology. Given its theoretical significance and applied relevance, there is therefore a good basis for predicting that mental simulation *in contact settings* could help prepare people for acting out contact-relevant behaviours. Establishing such a relationship would have important implications. It would suggest that imagined contact can play a *preparatory* role in integrated interventions to reduce prejudice—a means of encouraging an interest in, and intention to engage in, future contact. If substantiated, the idea that imagined contact can foster future contact intentions will argue for its inclusion as the “first step” in programmatic interventions that gradually move from more distal forms of contact (imagined) to more proximal (extended contact) to finally behavioural implementation (actual contact; see Crisp & R. Turner's, 2009, characterisation of interventions based on this “continuum of contact”). In the next section we review our most recent studies that have provided support for this notion that imagining intergroup contact can enhance intentions to engage in future contact.

IMAGINING INTERGROUP CONTACT FOSTERS FUTURE CONTACT INTENTIONS

Husnu and Crisp (2010a) provided an initial test of the hypothesis that imagined contact can enhance intentions to engage in future contact. In their study 33 British non-Muslim undergraduate students were asked to imagine contact with a British Muslim, or were allocated to a typical control scenario used in previous research on imagined contact. In the experimental condition participants were instructed: “I would like you to take a minute to imagine yourself meeting a British Muslim for the first time. During the conversation imagine you find out some interesting and unexpected things about the stranger.” Participants in the control condition were asked: “We would like you to take a minute to imagine you are walking in the outdoors. Imagine three specific things that you experience in the scene.” To reinforce the impact of the manipulation participants were asked to write down what they imagined after the minute-long imagery task.

In order to measure intentions to engage in future contact participants were asked to respond to four items. These were adapted from Ratcliff et al.'s (1999) measure of behavioural intentions. Participants were asked questions such as "How much do you intend to interact with British Muslims in the future?" (1 = *not at all*, to 9 = *very much*), "How much time do you think you might spend learning about Islam in the future?" (1 = *none at all*, to 9 = *a lot of time*). On this composite measure of intentions participants who imagined contact subsequently reported greater intentions to engage in future actual contact ($M = 5.93$) than did participants in the control condition ($M = 4.69$). These results provided preliminary evidence that imagined contact can enhance intentions to engage in future contact.

ELABORATION ENHANCES THE IMAGINED CONTACT EFFECT

The studies of mental imagery discussed above have principally invoked the notion of *script availability* to explain the observed effects. A mental script is the cognitive representation of a sequence of behaviours (Schank & Abelson, 1977). Just as people have scripts for a wide range of everyday scenarios (queuing, parking, eating in a restaurant) we have argued that they can have *intergroup contact scripts*. Furthermore, we hypothesised that these contact scripts can be based on imagined, as well as actual, encounters.

This hypothesis is based on a great deal of established work on availability effects. The idea is that when an individual imagines a scenario in which they perform a particular action, a behavioural script will be formed and stored in memory. Once a script has been formed and activated (through imagery) it can influence one's expectations and intentions, interpretations of immediate events as well as one's behaviour in the situation (Anderson, 1983). Subsequently, when the individual is asked to make a judgement about intention, or perform the behaviour, the script will be available for use (Anderson, 1983; Anderson & Godfrey, 1987; see also Carroll, 1978). These ideas are based on the *availability heuristic* (Tversky & Kahneman, 1973), which describes the ease with which one can "bring to mind" a psychological concept, whether that be an event, issue, person, or object (Sherman & Anderson, 1987). This work shows that a wide range of judgements and beliefs are influenced by the cognitive availability of relevant information (e.g., Ross, Lepper, & Hubbard, 1975). Correspondingly research has confirmed that once a behavioural script has been formed (through imagining the scenario) it influences one's expectations and intentions because it is a cognitively available source of diagnostic knowledge that can be used to make the judgement about one's own intentions (Anderson, 1983; see also Gregory, Cialdini, & Carpenter, 1982; Wilson & Capitman, 1982).

In Experiment 2 of Husnu and Crisp (2010a) we sought to establish support for this underlying script availability mechanism. We did this in two ways, first by measuring vividness of the imagined scenario—which has been used in the literature on mental simulation as an indication of script availability—and second by experimentally manipulating the nature of the imagined contact task in a way that should theoretically produce effects consistent with the proposed mechanism.

Vividness has been a key focus of research on mental imagery (Marks, 1999). It is defined as “a combination of clarity and liveliness. The more vivid an image, therefore, the closer it approximates an actual percept” (Marks, 1972, p. 83) and, according to McKelvie (1995), vivid visual imagery has characteristics resembling the real scenario in that it is generally clear, bright, sharp, detailed, and lively. It has been argued that anything that enhances the vividness of the imagined scenario should lead to stronger intentions because it is indicative of a concrete, cue-rich, and therefore *available* behavioural script (Anderson, 1983). As such, the vividness of the imagined scenario is a good indication of how available the formed script will be when participants come to make judgements about behavioural intention.

In order to measure the *vividness* of the imagined scenarios participants were asked the degree to which the image was: *faint–vivid*; *fuzzy–clear*; *dim–bright*; *vague–sharp*; *dull–lively*; *simple–detailed* on bipolar scales ranging from 1 to 9. To measure intentions to engage in future contact participants were asked to complete Ratcliff et al.’s (1999) measure of behavioural intentions. In this study we also measured mediators and outcome measures from previous imagined contact studies (particularly R. Turner et al., 2007a). Our measure of *intergroup anxiety*, adapted from Stephan and Stephan (1985), asked participants to rate the extent to which in a future encounter with a British Muslim they would feel: *awkward*; *suspicious*; *angry*; *embarrassed*; *calm* (R); *annoyed*; *irritated*; *frustrated*; *anxious*; *tense*; *furious*; *comfortable* (R); *relaxed* (R); *confident* (R); *hostile*, all from 1 (*not at all*) and 7 (*very much*) (items marked R were reverse coded). To measure outgroup attitudes we again used Wright et al.’s (1997) scale.

To provide a comparison between experimental conditions that were more, or less, conducive to forming a more available contact script, we also developed an elaborated variant of the standard imagined contact instructions. Gollwitzer (1993) has shown that forming a certain type of intention, an *implementation intention*, increases the likelihood that the intention will be translated into actual behaviour. Implementation intentions take the form: “I intend to do y when situation x arises.” In an implementation intention, an anticipated future situation (opportunity) is linked to a certain goal-directed behaviour. It is assumed that the mental representation of the situation becomes highly activated and more easily available. This heightened availability is assumed to make it easier

to detect and attend to the critical situation in the surrounding environment. Numerous studies have confirmed the benefits of implementation intentions for goal achievement. Examples can be found relating to health-promotion (breast self-examination; Orbell, Hodgkins, & Sheeran, 1997), vitamin supplement intake (Sheeran & Orbell, 1999), and academic report writing (Gollwitzer & Brandstatter, 1997). Although the research on implementation intentions has focused on the intention-behaviour link, if the underlying mechanism is enhanced script availability the same principles should apply to the imagery-intention link that was of primary interest to us. We therefore adapted a manipulation of implementation intentions in an attempt to show that uplifts in intention would be observed following the instruction to form an *elaborated* imagined contact scenario.

Implementation intentions take the form of specifying *when* and *where* the relevant actions should be executed, so we used a similar method to increase the elaboration of the imagined scenario. Participants assigned to the elaborated imagined contact condition received the following modified instructions:

I would like you to take a minute to imagine yourself meeting a British Muslim 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. During the conversation imagine you find out some interesting and unexpected things about the stranger.

We hypothesised that elaborated imagined contact would create a more vivid (and therefore available) behavioural contact script and so enhance future contact intentions. Furthermore, consistent with the above theorising, we predicted that the impact of elaboration on intentions would be mediated by reported vividness of the imagined scenario. The elaborated instructions should therefore have a greater impact on intentions because they create a more vivid, cue-rich simulation that makes the imagined behaviour subsequently more available at the judgemental phase.

A total of 60 British non-Muslim undergraduate students were randomly allocated to either the imagined contact or the elaborated imagined contact condition. The study revealed that significantly greater intentions to engage in future contact were reported by participants in the elaborated imagined contact condition compared to the standard imagined contact condition. Outgroup attitudes were also significantly more positive following elaborated imagined contact compared to standard imagined contact. Consistent with expectations, participants reported that the scenario they imagined was significantly more vivid in the elaborated imagined contact condition compared to the standard imagined contact condition. Participants also reported significantly less intergroup anxiety in the elaborated

TABLE 1
Vividness, anxiety, intentions and attitudes (Husnu & Crisp, 2010a, Experiment 2)

	<i>Task</i>			
	<i>Imagined Contact</i>		<i>Elaborated Imagined Contact</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Intentions	4.26 _a	1.76	5.90 _b	1.12
Attitudes	6.95 _a	1.64	7.82 _b	1.67
Vividness	4.69 _a	1.75	6.07 _b	1.46
Anxiety	2.79 _a	.86	2.29 _b	.83

Note. Within rows means with different subscripts differ significantly at $p < .05$.

imagined contact condition compared to the standard imagined contact condition (see Table 1).

Mediational analyses revealed two pathways to enhanced intentions following elaborated (vs standard) imagined contact. The first pathway showed that elaborated imagined contact predicted greater vividness of the imagined scenario, and that vividness predicted intentions while controlling for imagined contact. The second pathway worked via anxiety and attitudes. Imagined contact reduced anxiety, and anxiety predicted attitudes in line with previous research by R. Turner et al. (2007; but here showing that anxiety is further reduced using the elaborated instructional set). Finally, there was a direct positive relationship between attitudes and intentions while controlling for all the other mediators (see Figure 3).

The findings indicated the existence of two routes from imagery to intentions: a cognitive (i.e., vividness) pathway and an affective (i.e., anxiety) pathway. The impact of imagined contact on intentions was mediated both by outgroup attitudes (preceded by intergroup anxiety) and by the reported vividness of the imagined scenario (consistent with social cognitive research on script availability).

PRIOR CONTACT ENHANCES THE VIVIDNESS OF IMAGINED CONTACT

Husnu and Crisp (2010a) sought a further way of testing the script availability hypothesis. We reasoned that the vividness of an imagined contact encounter would be influenced by the extent of participants' prior actual contact experiences. The more experience a person has had with outgroup contact, the more information would be available to them when constructing the imagined scenario, leading to a more vivid simulation. We therefore predicted that vividness would mediate the relationship between

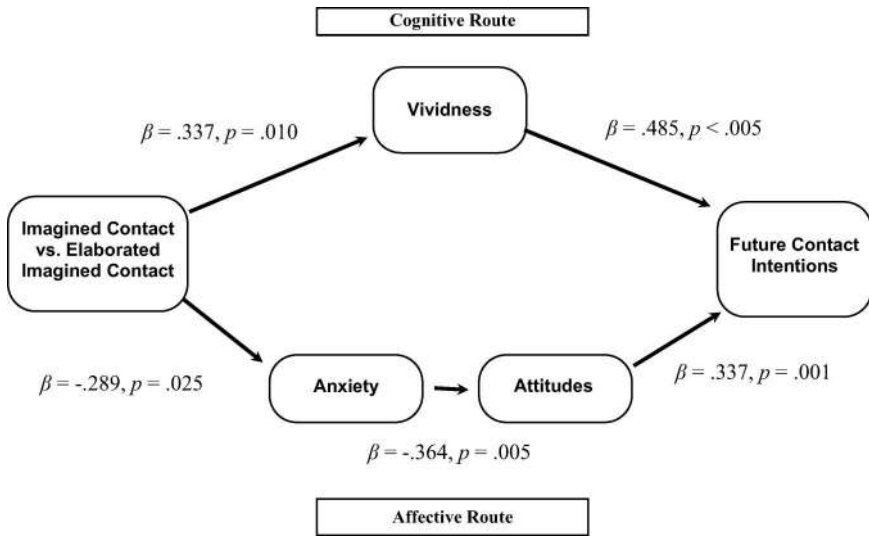


Figure 3. Two routes from imagined contact to future contact intentions (Husnu & Crisp, 2010a; Experiment 2).

prior contact and intentions to engage in future contact following imagined contact. In other words, imagining contact would lead to greater intentions to engage in contact amongst those who have prior actual contact experience, *because* they will be able to envisage more vivid simulated encounters. If substantiated, such findings would add converging support for the idea that the vividness of imagined contact scenarios is key to enhancing future contact intentions.

At the start of the experiment described in the preceding section, participants were asked: “How many British Muslims do you know?”, “In everyday life, how often do you encounter British Muslims?”, “In everyday life, how frequently do you interact with British Muslims?”, and “In everyday life, how much contact do you have with British Muslims?” on a scale from 1 (*none*) to 7 (*a lot*). To determine the quality of contact participants were asked to characterise their contact with British Muslims based on the following adjectives: *superficial–deep*; *natural–forced*; *unpleasant–pleasant*; *competitive–cooperative*; *intimate–distant* on bipolar scales ranging from 1 to 7.

We constructed a composite measure of quality \times quantity of prior actual contact that has been commonly used in previous research (e.g., Voci & Hewstone, 2003) and carried out a mediational analysis to examine the role of vividness in explaining the prior contact–future intentions relationship. In step 1 the pathway between prior contact and intentions to engage in future contact was significant. In step 2 prior contact also

predicted vividness. In step 3 the path between vividness and intentions was significant while controlling for prior contact. Controlling for vividness the significant relationship between prior contact and intentions became non-significant. This supports the hypothesis that prior contact can have a positive impact on post-imagined contact intentions because it affords greater vividness to the simulated encounter. Although prior contact predicted outgroup attitudes, there was a weaker impact on anxiety ($p = .184$). One might have expected prior contact to predict anxiety here, as in much previous cross-sectional contact research. However, anxiety here was measured after an intervening imagined contact task, which might explain the weaker impact of prior contact on anxiety that we observed.

In sum, independent of the type of imagined contact task (standard or elaborated), the extent of participants' prior contact was positively related to the vividness of the scenario they imagined, which also mediated intentions. This suggests that while imagined contact is well suited as an intervention in contexts characterised by very low levels of contact (where imagined contact is better than none), the more actual contact participants have had, the greater the impact of imagery on intentions. This finding is consistent with what we know about mental imagery and vividness: existing memories of contact serve to enrich any imagined scenario (providing they are positive), with concurrent benefits for future behavioural intentions.

RECALL REFLECTS IMAGINED CONTACT SCRIPT AVAILABILITY

Anderson (1983) argued that increasing the vividness of an imagined scenario enhances intentions because it represents a strengthening of the *memory* of the imagined scenario. This is important because a strong memory provides the available script needed to enhance judgements about intentions. Correspondingly research has confirmed that once a behavioural script has been formed (through imagining the scenario) it influences one's expectations and intentions because it is an available source of diagnostic knowledge that can be used to make the judgement about one's own intentions (Anderson, 1983; see also Gregory et al. 1982; Wilson & Capitman, 1982). There is also direct empirical support for the link between vividness and recall. In a study in which autobiographical memories were randomly selected for recall (Brewer, 1988) the reported vividness of those memories was significantly related to their memorability and the accuracy of recall (see also Lynn, Shavitt, & Ostrom, 1985; White, 1989).

Using a design similar to that described above, Husnu and Crisp (2010a; Experiment 3) sought direct evidence that instructing participants to form a more elaborate imagined contact scenario would result in a more available contact script. Specifically, we expected participants imagining a more

elaborate imagined contact scenario to report easier and quicker recall of the imagined scenario a day later compared to participants in the standard imagined contact condition. Therefore 60 undergraduate students were randomly allocated to a standard versus elaborated imagined contact condition (with an elderly stranger) and asked to return to the laboratory the following day to rate the availability of the imagined scenario. We found that those participants instructed to imagine an elaborate imagined contact scenario reported that recalling the scenario was “easier” and “quicker” ($M = 6.60$) than those instructed to imagine the standard contact scenario ($M = 6.11$).

CONVERGING EVIDENCE FOR SCRIPT AVAILABILITY

As well as the evidence provided by Husnu and Crisp (2010a), we have also sought to test the script availability hypothesis using a range of different experimental designs and measures. First, we examined the impact of repetition. Anderson (1983) argued that if script availability was responsible for the impact of imagery on intentions, then repeatedly imagining the scenario should result in enhanced intentions (this is what he found). Husnu and Crisp (2010b) adopted a similar design. We asked Turkish Cypriots to imagine a positive encounter with a Greek Cypriot. In both imagined contact conditions participants received the elaborated instructions used by Husnu and Crisp (2010a; Experiment 2). However, relative to a no-contact control condition, we asked participants to imagine a positive encounter twice, either with the same outgroup member, in the same location *or* with a different outgroup member, in a different location. We found that elaborated imagined contact (compared to the control condition) led to enhanced future contact intentions in both repeated imagined contact conditions, but that contextually diverse imagined contact was the more powerful approach. Contextually homogeneous contact, although having an equal effect on intentions as diverse contact, was not so reliably differentiated from the control condition ($p = .09$ vs $p = .03$).

Second, we examined the effects of closing one's eyes on the effectiveness of the imagined contact task. Closing one's eyes has been found to enhance the vividness of mental imagery ability in neuroimaging studies (Marx et al., 2003, 2004) and has been associated with greater subjective reported vividness of imagined scenarios (Narchal & Broota, 1988). It should therefore provide a simple, straightforward boost to the efficacy of imagined contact, if the proposed script availability mechanism is a key underlying mechanism. Husnu and Crisp (2011; Experiment 1) asked participants to imagine contact with an elderly stranger with their eyes either shut or open. Intentions to engage in future contact were significantly greater in the imagined contact / eyes closed condition than the imagined contact / eyes

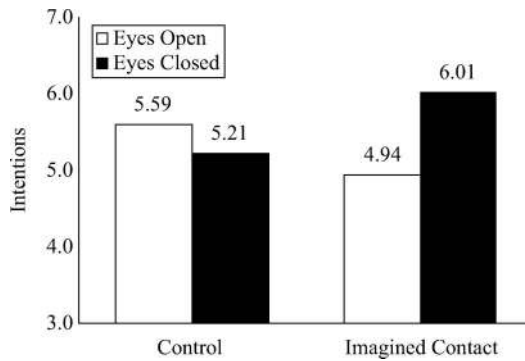


Figure 4. Future contact intentions as a function of imagined contact and eyes shut/open (Husnu & Crisp, 2011; Experiment 1).

open condition. In contrast, in the control condition eyes closed or eyes open made no difference (see Figure 4). This pattern of data makes sense since enhancing visual focus through closing one's eyes would only enhance intentions when what was imagined was relevant for the intergroup focus of the dependent measure (although we note the absence of a main effect of imagery task here).

Finally, Husnu and Crisp (2011; Experiment 2) used the elaboration instructions outlined above and assessed the impact of imagery on *likelihood* estimates of future contact. Undergraduate participants were asked: "How many elderly people do you know now?" and "How many elderly people do you think you might know in 5 years time?". We reasoned that if elaborated imagined contact helps create a more vivid, cue-rich script upon which to draw when making likelihood estimates, then these participants would predict having more outgroup friends in the future. The findings revealed no difference between simple and elaborated imagined contact for the number of outgroup members known now. However, in 5 years' time participants estimated that they would have a higher number of outgroup acquaintances in the elaborated imagined contact condition compared to the simple imagined contact condition (see Table 2).

META-COGNITION AND SCRIPT AVAILABILITY

Further converging evidence that script availability helps explain the positive impact of imagined contact on intentions comes from a study by Crisp and Husnu (in press). Crisp and Husnu assessed the *meta*-cognitive consequences of script availability for future contact intentions. If imagined contact enhances intentions because it creates an available behavioural script, participants should be *aware* of how available that contact script is. This

TABLE 2
 Mean estimations of current and future outgroup acquaintances (Husnu & Crisp, 2011, Experiment 2)

	<i>Task</i>			
	<i>Imagined Contact</i>		<i>Elaborated Imagined Contact</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Number of outgroupers known currently	6.54 _a	11.60	7.89 _a	7.87
Predicted number outgroupers known in 5 years	8.55 _a	9.15	13.39 _b	11.87
Predicted increase in outgroupers known	1.92 _a	5.34	5.50 _b	6.19

Note. Within rows means with different subscripts differ significantly at $p < .05$.

meta-cognitive awareness should be reflected in judgements of how tolerant they themselves are. Furthermore, conditions that specifically direct the focus of the behavioural script towards *the self* should magnify this self-perception effect. These predictions are based on classic work on attribution theory.

Based on the actor-observer effect (Jones & Nisbett, 1971), actors tend to make *situational* explanations for their own behaviour 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 actor's behaviours because for them it is the actor who is most perceptually salient (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 behaviour, 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 behaviour in a discussion, their attributions became less situation focused. This means that the perceiver's perspective should make a difference when imagining intergroup contact. Some prior research offers a priori support for this assertion.

Libby, Shaeffer, Eibach, and Slemmer (2007) instructed students to use either a first-person or third-person perspective when picturing themselves voting on the eve of the 2004 elections in the US. It was found that picturing voting from the third-person perspective made it more likely that participants would subsequently actually go out and vote. Moreover, those instructed from a third-person perspective stated that they would be significantly more likely to vote in the election. The findings suggest that actions are perceived to be more a function of the actor's character when viewed from an observer's perspective than when viewed from the actor's perspective, since the salience of the self changes the focus in each situation (Libby et al., 2007). Crisp and Husnu (in press) hypothesised that if imagining intergroup contact

enhances script availability, then perceivers' meta-cognitive judgements as to their own tolerance should reflect this availability, and this should also mediate future contact intentions. Furthermore, directing the perceivers' focus in the imagined encounter on to the self, rather than the situation, should make this dispositional attribution even more apparent.

A total of 60 undergraduate students were allocated to conditions in which they were asked to imagine a control scene or positive contact with an elderly stranger from either a first-person perspective (i.e., "*see the event through your own eyes*") or a third-person perspective (i.e., "*see the event from an external viewpoint*"). Intentions were measured, as was the extent to which participants attributed—to themselves—a positive orientation towards outgroup contact (e.g., "In general, are you the sort of person who gets on well with elderly people?", 1 = *not at all* to 7 = *very much*). As expected, perspective made no difference in the non-relevant control condition. However, imagining intergroup contact from a third-person perspective enhanced future contact intentions to a greater extent than imagining the encounter from a first-person perspective (see Figure 5).

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. Mediation analysis supported this prediction (Figure 6). As predicted, the impact on intentions of taking a third-person perspective in the imagined contact task was mediated by participants' attribution, to themselves, of a positive orientation towards outgroup contact. These findings are consistent with the notion that cognitively available 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).

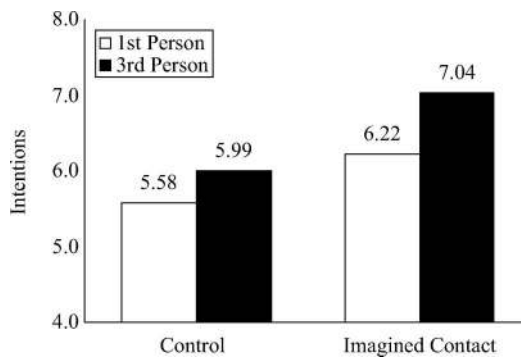


Figure 5. Future contact intentions as a function of imagined contact and visual perspective (Crisp & Husnu, in press).

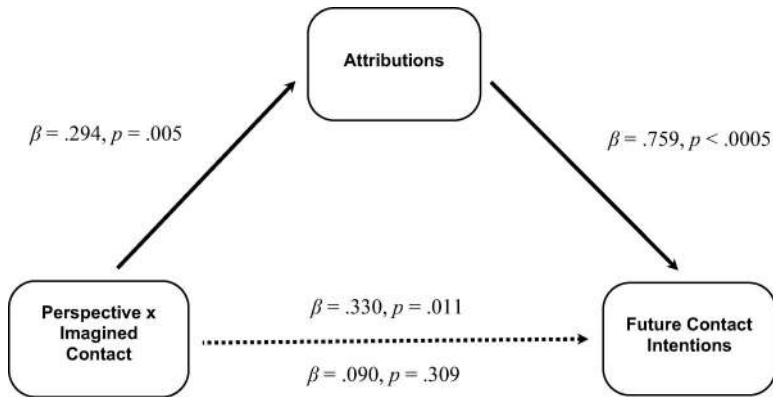


Figure 6. Mediation model of the impact of perspective taken on future contact intentions via attribution of a positive contact orientation to the self (Crisp & Husnu, in press).

A DUAL ROUTE MODEL OF IMAGINED CONTACT EFFECTS

The research reviewed in this article has demonstrated the effectiveness of imagined contact for improving outgroup attitudes and enhancing contact intentions towards a diverse range of groups. These include British Muslims (Husnu & Crisp, 2010a; R. Turner & Crisp, 2010b), the elderly (Abrams et al., 2008; Husnu & Crisp, 2010a, 2010b; R. Turner et al., 2007a), gay men (R. Turner et al., 2007a), indigenous people and Mestizos (Stathi & Crisp, 2008), Greek Cypriots (Husnu & Crisp, 2010b), and French nationals and international students (Stathi & Crisp, 2008). We have argued that collectively this research supports the central proposition in this article: That as well as improving intergroup attitudes, imagined contact offers a way of fostering enhanced intentions to engage in actual intergroup contact. Furthermore, the research reviewed supports the assertion that there are two psychological routes leading from imagined contact to behavioural intention (illustrated most clearly in Figure 3). The first route is via attitudes and much of this route is well established from our earlier studies of attitudinal impacts of imagined contact (R. Turner et al., 2007a; R. Turner & Crisp, 2010b; Stathi & Crisp, 2008), particularly the mediating role of anxiety (R. Turner et al., 2007a; see also Abrams et al., 2008). Our later research supports the second proposed route from imagery to intention via the formation of a cognitively available contact script (Crisp & Husnu, in press; Husnu & Crisp, 2010a, 2010b, 2011), and offers some support for the further link between attitudes and intention (Husnu & Crisp, 2010a). In this final section we summarise the support gleaned for this “dual route” model,

discuss alternative routes, limitations of the current work, the practical potential of imagined contact, and future possible research questions.

The cognitive route: Script availability

Our review of research on imagined contact supports the contention that there are two routes through which imagined contact has a positive impact on intentions to engage in future contact: affective (through reduced anxiety and improved attitudes; Abrams et al., 2008; Husnu & Crisp, 2010a; R. Turner et al., 2007a) and cognitive (through more vivid, cue rich, and accessible behavioural scripts; Husnu & Crisp, 2010a, 2010b, 2011). The latter route can also be reflected in meta-cognitions, whereby script availability enhances intentions through the dispositional attribution of a positive outgroup orientation (Crisp & Husnu, in press).

We particularly highlight the emerging evidence for the script availability mechanism, a new theoretical route through which imagined contact can foster future contact intentions. Based on the evidence reviewed above we can conclude that imagining intergroup contact, like a range of mental imagery techniques, in a variety of domains, has an impact on intentions to engage in actual contact because it helps people form a behavioural script upon which to base intentions and behaviour. The existence of such scripts is supported by the observation of effects on behavioural intentions (Husnu & Crisp, 2010b), subjective reports of the vividness of the imagined scenario (Husnu & Crisp, 2010a), likelihood estimates that the behaviour will take place (Husnu & Crisp, 2011), subjective ratings of ease of recall of the imagined scenario (Husnu & Crisp, 2010a), and meta-cognitive judgements concerning one's own levels of tolerance (Crisp & Husnu, in press).

This theoretical model is aligned with much research in the more general literature on mental simulation, which strengthens our confidence that it reflects a substantive and important new approach to improving intergroup relations. Placing imagined contact in the context of this existing, extensive literature also helps to address scepticism about the efficacy of imagined contact (see e.g., Bigler & Hughes, 2010). Are we really saying that pervasive negative attitudes and behaviours, like prejudice and discrimination, can be changed through the simply use of mental imagery? We have responded to these points in detail elsewhere (Crisp & Turner, 2010), particularly stressing that, like any effective strategy for improving intergroup relations, imagined contact will need to be incorporated into longer-term interventions: it is certainly not a "one shot" solution. Perhaps, however, the most powerful rebuttal to scepticism about imagined contact effects is the fact that there already exists the extensive literature (highlighted by this review) that has established the capacity for imagery to change attitudes, intentions, and behaviours—with effects ranging from the promotion of healthy dietary and

exercise behaviours, through to enhancing performance in sports, to clinical treatment of phobias. Seen in the context of this established work, the proliferation of imagery techniques to the contact domain seems logical, timely, and prudent.

The affective route: Links to the theory of planned behaviour

Our research has highlighted two routes from imagery to enhanced future contact intentions: cognitive via script availability, and affective via anxiety and attitude change. We acknowledge, though, that while we show the imagery–anxiety–attitudes link in several studies, in only one do we demonstrate that attitudes affect intentions (Husnu & Crisp, 2010a, Experiment 2). However, there are good reasons to be confident of this link from research on the *theory of planned behaviour* (TPB; Ajzen, 1985, 1989; see also Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1974). The TPB was developed to account for the processes by which people consciously decide to engage in specific actions. It states that behavioural intentions are the most proximal determinant of behaviour, and that three factors converge to predict behavioural intentions. The first factor is *attitudes*. Attitudes are determined by one's beliefs about the consequences of performing the behaviour and one's evaluation of the possible consequences of performing the behaviour. The second factor is *subjective norms*. Subjective norms are determined by the perceived expectations of significant others and one's own motivation to comply with these expectations. The third factor is *perceived control*, which is determined by one's perception of how easy or difficult it is to perform the behaviour. According to the model these three factors combine in an interactive way to determine *behavioural intention*, which in turn determines behaviour (although perceived behavioural control can also directly influence behaviour). A number of studies have shown support for the predictive validity of the TPB in predicting health behaviour, exercise, choice of travel mode, and eating habits (see Ajzen & Fishbein, 2005) and meta-analyses have supported the predicted routes to intention and behaviour (e.g., Ajzen, 1991; Godin & Kok, 1996). Although imagined contact work has typically measured attitudes towards the group *as a whole*, rather than specific behaviours (as in much TPB work), we believe this relationship does hold in intergroup contexts (see, for example, Viki, Culmer, Eller, & Abrams, 2006, who found that attitudes in general predicted greater intentions to cooperate with the outgroup). In our research on imagined contact we have established imagery's impact on attitudes, and in one study we have shown that attitude change resulting from imagined contact affects intentions. Nonetheless, future research is needed to confirm the link between attitudes changed via imagined contact and future contact intentions. It will also be interesting and useful to further explore the relevance of the TPB, and

the multiple routes to behavioural intention that it specifies, in future elaborations and investigations of imagined contact effects.

OTHER ROUTES?

While we have focused on two distinct routes to enhanced intentions, our preceding discussion of the TPB highlights the fact that there will be other pathways that fall within this broad cognitive/affective distinction, or that even take an entirely different route. We also acknowledge that cognitive mediators like vividness could also impact on affective mediators like anxiety. In considering what other routes there may be it is useful to look to research on mediators of *actual* intergroup contact.

Pettigrew (1997, 1998) has emphasised the role of affect in intergroup contact situations (see also Tropp & Pettigrew, 2005). Correspondingly, we have focused on anxiety as a key affective mediator of imagined contact effects and this is consistent with much existing actual contact research. Intergroup anxiety has consistently been found to be negatively associated with the contact experience, whereas reduction of anxiety is found to enhance the promotion of positive contact effects and generalisation of positive feelings towards the outgroup as a whole (Islam & Hewstone, 1993; Paolini et al., 2004; Voci & Hewstone, 2003; see also Pettigrew & Tropp, 2008). However, Pettigrew has also suggested that *positive* emotions generated after optimal contact (especially in cross-group friendships) have a crucial role in promoting positive attitudes towards outgroup members. Such positive emotions can include empathy and its *cognitive* component, perspective taking. Harwood, Hewstone, Paolini, and Voci (2005) found that perspective taking was the most powerful mediator of the relationship between contact with grandparent and attitude towards the elderly. Similarly, Hewstone, Cairns, Voci, Hamberger, and Niens (2006) examined the role of intergroup contact between Catholics and Protestants in Northern Ireland and found that contact with outgroup friends was positively associated with perspective taking, which was also among the strongest positive predictors of forgiveness. Other cognitive mechanisms that may underlie both imagined and actual contact effects include increased inclusion of the other in the self (IOS; Aron, Aron, & Smollan, 1992), an important psychological mechanism through which extended contact improves outgroup attitudes (see Wright et al., 1997). Finally, Tropp and Bianchi (2006) demonstrated the importance of valuing diversity for promoting intentions to engage in contact between majority and minority groups. They showed that valuing diversity predicts contact intentions among majority group members. In the case of minority group members, however, it is the outgroup's perceived value of diversity that predicts intentions for contact.

QUESTIONS FOR FUTURE RESEARCH

While we believe the extant work has established the efficacy of imagined contact as a viable intervention for promoting more positive intergroup relations, there are of course many unanswered questions. For instance we have, in line with the extant literature on imagery, invoked the notion of script availability to account for the process through which imagined scenarios come to influence future judgements and behaviour. Availability is a concept that embodies subjective awareness of the ease with which concepts (or scripts) can be brought to mind. Our methodology has been tailored accordingly: we assess subjective ratings of vividness, likelihood estimates, reports of ease-of-retrieval, and meta-cognitive ratings of self-perceived tolerance. However, a theoretically related concept is script *accessibility*, which can be differentiated from availability by the extent to which behavioural scripts *pre-consciously* influence intentions and behaviour. To test whether contact scripts become more accessible after imagined contact, future research could employ implicit methodologies to assess if-x-then-y type rules as in the implementation intention literature (Aarts, Dijksterhuis, & Midden, 1999; Webb & Sheeran, 2004).

There is also potential to integrate the research with the wider literature on attitudes and intentions. According to Heckhausen and Gollwitzer (1987) people move closer to making a change decision by engaging in what they refer to as certain “mentations”. They suggest individuals try to achieve a pre-decisional state of mind by weighing the desirability and feasibility of the goal being considered or they may start to plan the implementation of the change decision not yet made, thereby creating a post-decisional state of mind. They devised a phase model of action (the Rubicon model), which regards decisions as voluntary acts that propel the individual from a pre-decisional or deliberative state of mind (weighing) to a post-decisional or implemental state of mind (willing). Our dual route model of imagined contact effects places the individual in a full-blown post-decisional or implemental state of mind (“mentation”). In the elaborate imagined contact scenario used by Husnu and Crisp (2010a) we ask individuals to imagine the implementation of the contact scenario (we ask them to imagine the “when” and the “where” of the contact scenario). This is similar to a study devised by Gollwitzer, Heckhausen, and Ratajczak (1990) investigating pre-decisional and post-decisional states of mind. The authors found that a post-decisional exercise of imagining implementations led to greater readiness to make a change decision, and this effect was mediated by forming implementation intentions. Similarly in our study, participants imagining an elaborate imagined contact scenario reported enhanced intentions towards future contact that were mediated by script availability.

Exploring the applicability of pre- and post-decisional mindsets for imagined contact effects will be an interesting focus for future work.

Finally, we acknowledge other work that is developing complementary imagery-based techniques for improving intergroup attitudes (see Hodson, Choma, & Costello, 2009) or adopting imagined contact to answer key questions in contact theory (e.g., see West, Holmes, & Hewstone, in press, a study of how imagining positive contact can reduce prejudice against people with schizophrenia when supplemented with additional imagery instructions; see also Harwood, Paolini, Joyce, Rubin, & Arroyo, in press, a study of secondary transfer effects using imagined contact). One other potential current issue concerns generalisation of positive attitude change from individual group members to the outgroup as a whole. Our studies of imagined contact show *de facto* generalisation from individual outgroup members featured in the imagined scenario to the outgroup as a whole (as we have always assessed attitude change, and intentions, towards different group members, or the outgroup category). However, no study has yet investigated the differing degrees to which different imagery tasks may engender such generalisation.

RECOMMENDED INSTRUCTIONAL SET

It is useful to reflect on the range of variants of the imagined contact instructional set outlined in the Appendix Table. Distilling the key elements from the range of task variants suggests that to see the benefits of imagined contact requires two central components. First is the need to run through a mental script of an interaction (thinking, in contrast, of just an outgroup member in the absence of any simulated interaction has no positive effects on attitudes). Second is the positive tone of the interaction. We know that a positive tone is important for actual contact, and it is the same for imagined contact (to safeguard against negative stereotypes unduly influencing the envisaged encounter). Indeed, with no specified evaluative tone imagined contact could simply result in an imagined *negative* interaction, which would have a correspondingly negative impact on attitudes.

Control conditions are also critical to experimental investigations of imagined contact. We initially used the following instructions in order to create a pleasant scene (akin to a positive interaction), but with no reference to groups: “We would like you to take a minute to imagine an outdoor scene. Try to imagine aspects of the scene (e.g., is it a beach, a forest, are there trees, hills, what’s on the horizon).” Mindful that this might not control for more generalised positive effects of social interaction *per se*, in research we discuss below we also used a version simulating positive social interaction with a non-relevant group (i.e., a positive interaction with a non-relevant stranger versus a positive interaction with a relevant stranger;

Stathi & Crisp, 2008, Experiment. 2). This rules out positive affect arising from generalised social interaction as an explanation for imagined contact effects. As we discussed above, the use of varied control conditions has ruled out informational load (R. Turner et al., 2007a; Experiment 1), stereotype priming (R. Turner et al., 2007a; Experiment 2), and positive affective priming and non-relevant social interaction (Stathi & Crisp, 2008; Experiment 2) as alternative explanations for the effects of imagined contact. Empirically we have also shown that imagined contact works better when it is positive compared to neutral (Stathi & Crisp, 2008; Experiment 1; see also West et al., in press, who found that directing participants to imagine a positive encounter led to imagined scenarios characterised by higher quality contact, as coded by independent coders).

We also note that previous research has sometimes included the phrase “imagine that you find out some interesting and unexpected things about the stranger” (R. Turner et al., 2007a; Experiments 2 and 3) or “interesting and positive things” (Stathi & Crisp, 2008; Experiments 1 and 3), but sometimes not (Stathi & Crisp, 2008, Experiment 2). We have found this phrase to make no difference to the effectiveness of the imagined contact instruction. R. Turner et al. (2007a, Experiment 1) also included the phrase “Imagine their appearance, the conversation that follows and, from what you learn, all the different ways you could classify them into different groups of people.” It has been noted that this could produce a multiple categorisation effect (Crisp & Hewstone, 2007), so we would not advocate using this version in future investigations. Rather we advocate the following instruction as the most refined version of the task, which captures the two key elements—(1) *simulation* and (2) a *positive tone*—without possible confounds: “We would like you to take a minute to imagine yourself meeting [an outgroup] stranger for the first time. Imagine that the interaction is positive, relaxed and comfortable.” However, this is not to say that changing the instructional set has no impact; on the contrary, as we reported above, the paradigm lends itself to the exploration of task variants that can have targeted impacts on specific outcome measures (see Crisp, Stathi, Turner, & Husnu, 2008, for a discussion; and as demonstrated in the elaborated task variants’ impacts on script availability used by Husnu & Crisp, 2010a, 2010b, 2011).

LINKS BETWEEN DIRECT, EXTENDED, AND IMAGINED CONTACT

Imagined contact is a form of indirect contact, and in this it has much in common with *extended* contact. According to the extended contact hypothesis learning that an ingroup member has a close relationship with an outgroup member can vicariously improve one’s own attitudes towards

the outgroup (Wright et al., 1997). Extended contact has been found to exert a positive impact on attitudes and outgroup stereotyping via the development of positive attitudinal ingroup norms, similarity to self and reduced anxiety (R. Turner et al., 2007a). An important line of future research concerns a direct comparison of imagined contact and extended contact.

First, while extended and imagined contact are both “indirect” in that they do not require actual contact between the perceiver and the outgroup, there is a fundamental distinction between the approaches: while one does not need to engage in contact oneself to reap the benefits of extended 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). In contrast, imagined contact requires no experience, actual or vicarious. It is, for instance, conceivable 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. Of course, in such contexts one must be careful that imagined contact is not principally based on negative outgroup stereotypes (which are more likely to inform imagined encounters where there is no basis for actual experience). In such contexts there is a greater need to ensure that imagined contact is properly structured and instructed so as to ensure a positive imagined encounter (see Stathi & Crisp, 2008; also West et al., in press). Nonetheless, in highly segregated settings one simply may not know of *anyone* who knows an outgroup member, and in these situations imagined contact might be the most viable strategy.

Second, one might also expect imagined contact to have a more powerful impact than extended contact because imagined contact involves the *self*, and attitudes based on personal experiences tend to be stronger, more accessible, and more persistent than those based on second-hand experience (Fazio, Powell, & Herr, 1983). However, imagined contact may also be more susceptible to interference from previous negative contact experiences. 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 grounded in actual experience (and therefore overall more powerful).

Third, imagined and extended contact may also be distinct in terms of their underlying mechanisms, particularly regarding their impact on perceptions of *ingroup norms*. In extended contact, participants learn about

an ingroup member behaving positively towards an outgroup member, apparently reflecting positive regard. This positive model constitutes an ingroup norm that uniquely mediates extended contact, but not actual contact (R. Turner et al., 2008). This is because extended contact involves a perceptual focus on another ingroup member, while actual contact does not. In actual contact the perceiver is focused on the outgroup, and has no ingroup “model” from which to derive a behavioural norm. Since the instructional set used in imagined contact, like actual contact, focuses participants on the outgroup, it is likely that ingroup norms will be unaffected. This highlights a similarity between *actual* and imagined contact that extended contact does not share: the mental simulation of one’s *personal* engagement with the outgroup.

IMAGINED CONTACT AS PREPARATION FOR CONTACT

In an earlier article outlining the concept of imagined contact we (Crisp & R. Turner, 2009, p. 231) noted:

We do not advocate imagined contact as a replacement for existing interventions . . . Rather, we assert that the value in imagined contact is in its ability to encourage people to seek out contact, to remove inhibitions associated with existing prejudices, and to prepare people to engage outgroups with an open mind. We argue that imagined contact could be highly effective as a first step on the route towards reconciliation and reduced prejudice, on a *continuum of contact* that provides a road map for the use of multiple contact strategies in improving intergroup relations.

We reiterate this sentiment here. Imagined contact should not be seen as a “one-shot” solution to the problem of prejudice but rather a *first step* on the road to more positive intergroup relations. We believe it has much to offer *in combination* with existing contact strategies. For instance, for groups at early stages of co-existence there may be high segregation and little opportunity, or inclination, for contact. At this point in relations *imagined* contact may be the only viable intervention to help encourage attitude change and intentions to engage in preliminary contact (or at least to ensure that when that contact does occur, it does so with open minds and a reasonable chance of success). At intermediate stages when boundaries have begun to permeate, and some positive interactions initiated, *extended* contact will work well to reinforce the impact of isolated (but known) contact encounters. Increasing extended contact may then lead to a cascade of positive interactions, along with all the benefits associated with *actual* intergroup contact. The research reviewed in this chapter provides empirical support for this idea, and reinforces the view that imagined contact may

prove highly useful as a “first step strategy”, laying the groundwork for subsequent and more tangible, extended and actual contact strategies.

CONCLUSIONS

Gordon Allport described social psychology as “an attempt to understand and explain how the thought, feeling and behaviour of individuals are influenced by the actual, *imagined*, or implied presence of others” (1985, p. 3; emphases added). Imagined contact embodies this sentiment, and the research we reviewed above testifies to the idea that imagery’s power can extend beyond clinical, sports, or commercial contexts to efforts to improve and enhance prospects for positive intergroup relations. Research on imagined contact has suggested that it works well as a substitute for actual contact where opportunities for contact are scarce, or highly limited. In this article we have argued that its usefulness may extend beyond such contexts, to where opportunities for contact exist, but remain unrealised. The reviewed research supports the notion that imagined contact can serve an important preparatory function, reducing intergroup anxiety, improving intergroup attitudes, and fostering an interest in, and intention to engage in, future actual contact. Where opportunities for contact exist, but remain unrealised, imagined contact may therefore be an important first step to initiating processes that will, in time, lead to more harmonious intergroup relations.

REFERENCES

- Aarts, H., Dijksterhuis, A., & Midden, C. (1999). To plan or not to plan: Goal achievement or interrupting the performance of mundane behaviours. *European Journal of Social Psychology, 29*, 971–979.
- Abrams, D., Crisp, R. J., Marques, S., Bedford, L., Provias, D., & Fagg, E. (2008). Threat inoculation: Experienced and imagined intergenerational contact prevents stereotype threat effects on older people’s math performance. *Psychology and Aging, 23*, 934–939.
- Abrams, D., Eller, A., & Bryant, J. (2006). An age apart: Effects of intergenerational contact and stereotype threat on performance and intergroup bias. *Psychology and Aging, 2*, 691–702.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behaviour* (pp. 11–39). Heidelberg, Germany: Springer.
- Ajzen, I. (1989). Attitude structure and behavior. In A. R. Pratkanis, S. J. Breckler, & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 241–274). Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes, 50*, 179–211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall.
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracón, B. T. Johnson, & M. P. Zanna (Eds.), *The handbook of attitudes* (pp. 173–221). Mahwah, NJ: Lawrence Erlbaum Associates Inc.

- Allport, G. W. (1954). *The nature of prejudice*. Oxford, UK: Addison-Wesley.
- Allport, G. W. (1985). The historical background of social psychology. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (Vol. I, 3rd ed., pp. 1–46). New York: Random House.
- Anderson, C. A. (1983). Imagination and expectation: The effect of imagining behavioural scripts on personal intentions. *Journal of Personality and Social Psychology*, *45*, 293–305.
- Anderson, C. A., & Godfrey, S. S. (1987). Thoughts about actions: The effects of specificity and availability of imagined behavioural scripts on expectations about oneself and others. *Social Cognition*, *5*, 238–258.
- Armitage, C. J., & Reidy, J. G. (2008). Use of mental simulations to change theory of planned behaviour variables. *British Journal of Health Psychology*, *13*, 513–524.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*, 596–612.
- Babin, L. A., & Burns, A. C. (1997). Effects of print ad pictures and copy containing instructions to imagine on mental imagery that mediates attitudes. *Journal of Advertising*, *26*, 33–44.
- BBC Online (2005). *Analysis: UK at ease with Islam?* Retrieved 13 December 2006 from: <http://news.bbc.co.uk/1/hi/uk/4139402.stm>
- BBC Online (2006). *Parallel lives?* Retrieved 6 October 2006 from: http://www.bbc.co.uk/lancashire/content/articles/2006/11/21/parallel_lives_feature.shtml
- Bigler, R. S., & Hughes, J. M. (2010). Reasons for skepticism about the efficacy of simulated contact interventions. *American Psychologist*, *65*, 131–132.
- Brewer, W. F. (1988). Memory for randomly sampled autobiographical events. In U. Neisser & E. Winograd (Eds.), *Remembering reconsidered: Ecological and traditional approaches to the study of memory* (pp. 21–90). New York: Cambridge University Press.
- Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 37, pp. 255–343). San Diego, CA: Academic Press.
- Cadinu, M. R., & Rothbart, M. (1996). Self-anchoring and differentiation processes in the minimal group setting. *Journal of Personality and Social Psychology*, *70*, 661–677.
- Cantle, T. (2001). *Community cohesion: A report of the independent review team*. Home Office, London. Retrieved May 2008 from http://www.homeoffice.gov.uk/dpcs/community_cohesion.pdf
- Carroll, J. S. (1978). The effect of imagining an event on expectations for the event: An interpretation in terms of the availability heuristic. *Journal of Experimental Social Psychology*, *14*, 88–96.
- Clement, R. W., & Krueger, J. (2002). Social categorization moderates social projection. *Journal of Experimental Social Psychology*, *38*, 219–231.
- Crisp, R. J., & Abrams, D. (2008). Improving intergroup attitudes and reducing stereotype threat: An integrated contact model. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 19, pp. 242–284). Hove, UK: Psychology Press.
- Crisp, R. J., Bache, L. M., & Maitner, A. T. (2009a). Dynamics of social comparison in counter-stereotypic domains: Stereotype boost, not stereotype threat, for women engineering majors. *Social Influence*, *4*, 171–184.
- Crisp, R. J., & Beck, S. R. (2005). Reducing intergroup bias: The moderating role of ingroup identification. *Group Processes and Intergroup Relations*, *8*, 173–185.
- Crisp, R. J., & Hewstone, M. (2007). Multiple social categorization. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 39, pp. 163–254). Orlando, FL: Academic Press.
- Crisp, R. J., & Husnu, S. (in press). Attributional processes underlying imagined contact effects. *Group Processes and Intergroup Relations*.

- Crisp, R. J., Hutter, R. R. C., & Young, B. (2009b). When mere exposure leads to less liking: The incremental threat effect in intergroup contexts. *British Journal of Psychology*, *100*, 133–149.
- Crisp, R. J., Stathi, S., Turner, R. N., & Husnu, S. (2008). Imagined intergroup contact: Theory, paradigm, and practice. *Personality and Social Psychology Compass*, *2*, 1–18.
- Crisp, R. J., Stone, C. H., & Hall, N. R. (2006a). Recategorization and subgroup identification: Predicting and preventing threats from common ingroups. *Personality and Social Psychology Bulletin*, *32*, 230–243.
- Crisp, R. J., & Turner, R. N. (2009). Can imagined interactions produce positive perceptions? Reducing prejudice through simulated social contact. *American Psychologist*, *64*, 231–240.
- Crisp, R. J., & Turner, R. N. (2010). Have confidence in contact. *American Psychologist*, *65*, 133–135.
- Crisp, R. J., & Turner, R. N. (in press). Imagined intergroup contact: Refinements, debates and clarifications. In G. Hodson & M. Hewstone (Eds.), *Advances in intergroup contact*. Hove, UK: Psychology Press.
- Crisp, R. J., Walsh, J., & Hewstone, M. (2006b). Crossed categorization in common ingroup contexts. *Personality and Social Psychology Bulletin*, *32*, 1204–1218.
- Dasgupta, N., & Asgari, S. (2004). Seeing is believing: Exposure to counterstereotypic women leaders and its effects on the malleability of automatic gender stereotyping. *Journal of Experimental Social Psychology*, *40*, 642–658.
- Driskell, J. E., Copper, C., & Moran, A. (1994). Does mental practice enhance performance? *Journal of Applied Psychology*, *79*, 481–491.
- Ellemers, N., Spears, R., & Doosje, B. (2002). Self and social identity. *Annual Review of Psychology*, *53*, 161–186.
- Escalas, J. E. (2004). Imagine yourself in the product: Mental simulation, narrative transportation, and persuasion. *Journal of Advertising*, *33*, 37–48.
- Escalas, J. E., & Luce, M. F. (2003). Process vs. outcome thought focus and advertising. *Journal of Consumer Psychology*, *13*, 246–254.
- Escalas, J. E., & Luce, M. F. (2004). Understanding the effects of process-focused versus outcome-focused thought in response to advertising. *Journal of Consumer Research*, *31*, 274–285.
- Farah, M. (1989). The neural basis of mental imagery. *Trends in Neuroscience*, *12*, 395–399.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, *54*, 297–327.
- Fazio, R. H., Powell, M. C., & Herr, P. M. (1983). Toward a process model of the attitude–behavior relation: Accessing one’s attitude upon mere observation of the attitude object. *Journal of Personality and Social Psychology*, *44*, 723–735.
- Feltz, D. L., & Landers, D. M. (1983). The effects of mental practice on motor skill learning and performance: A meta-analysis. *Journal of Sport Psychology*, *5*, 271–351.
- Feltz, D. L., & Riessinger, C. A. (1990). Effects of in vivo emotive imagery and performance feedback on self-efficacy and muscular endurance. *Journal of Sport and Exercise Psychology*, *12*, 132–143.
- Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and multiple behavioral criteria. *Psychological Review*, *8*, 59–74.
- Godin, G., & Kok, G. (1996). The theory of planned behaviour: A review of its applications to health related behaviours. *American Journal of Health Promotion*, *11*, 87–98.
- Gollwitzer, P. M. (1993). Goal achievement: The role of intentions. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 4, pp. 141–185). Chichester, UK: Wiley.
- Gollwitzer, P. M., & Brandstatter, V. (1997). Implementation intentions and effective goal pursuit. *Journal of Personality and Social Psychology*, *73*, 186–199.
- Gollwitzer, P. M., Heckhausen, H., & Ratajczak, H. (1990). From weighing to willing: Approaching a change decision through pre- or postdecisional mentation. *Organizational Behavior and Human Decision Processes*, *45*, 41–65.

- Greenwald, A. G., McGee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*, 1464–1480.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the implicit association test: An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*, 197–216.
- Gregory, W. L., Burroughs, W. J., & Ainslie, F. M. (1985). Self-relevant scenarios as an indirect means of attitude change. *Personality and Social Psychology Bulletin, 11*, 435–444.
- Gregory, W. L., Cialdini, R. B., & Carpenter, K. M. (1982). Self-relevant scenarios as mediators of likelihood estimates and compliance: Does imagining make it so? *Journal of Personality and Social Psychology, 43*, 89–99.
- Greitemeyer, T., & Würz, D. (2005). Mental simulation and the achievement of health goals: The effect of goal difficulty. *Cognition, Imagination, and Personality, 25*, 239–251.
- Hagestad, G. O., & Uhlenberg, P. (2005). The social separation of old and young: A root of ageism. *Journal of Social Issues, 61*, 343–360.
- Harrington, H. J., & Miller, N. (1992). Research and theory in intergroup relations: Issues of consensus and controversy. In J. Lynch, C. Modgil, & S. Modgil (Eds.), *Cultural diversity and the schools* (pp. 159–178). London: Falmer.
- Harwood, J., Hewstone, M., Paolini, S., & Voci, A. (2005). Grandparent–grandchild contact and attitudes towards older adults: Moderator and mediator effects. *Personality and Social Psychology Bulletin, 30*, 770–786.
- Harwood, J., Paolini, S., Joyce, N., Rubin, M., & Arroyo, A. (in press). Secondary transfer effects from imagined contact: Group similarity affects the generalisation gradient. *British Journal of Social Psychology*.
- Haslam, S. A., Oakes, P. J., Reynolds, K. J., & Turner, J. C. (1999). Social identity salience and the emergence of stereotype consensus. *Personality and Social Psychology Bulletin, 25*, 809–818.
- Heckhausen, H., & Gollwitzer, P. M. (1987). Thought contents and cognitive functioning in motivational vs. volitional states of mind. *Motivation and Emotion, 11*, 101–120.
- Hess, T. M., Hinson, J. T., & Statham, J. A. (2004). Explicit and implicit stereotype activation effects on memory: Do age and awareness moderate the impact of priming? *Psychology and Aging, 19*, 495–505.
- Hewstone, M., Cairns, E., Voci, A., Hamberger, J., & Niens, U. (2006). Intergroup contact, forgiveness, and experience of “The Troubles” in Northern Ireland. *Journal of Social Issues, 62*, 99–120.
- Hinshaw, K. E. (1991). The effects of mental practice on motor skill performance: Critical evaluation and meta-analysis. *Imagination, Cognition and Personality, 11*, 3–35.
- Hodson, G., Choma, B. L., & Costello, K. (2009). Experiencing Alien-Nation: Effects of a simulation intervention on attitudes towards homosexuals. *Journal of Experimental Social Psychology, 45*, 974–978.
- Holmes, E., Lang, T., & Shah, D. (2009). Developing interpretation bias modification as a “cognitive vaccine” for depressed mood: Imagining positive events makes you feel better than thinking about them verbally. *Journal of Abnormal Psychology, 118*, 76–88.
- Husnu, S., & Crisp, R. J. (2010a). Elaboration enhances the imagined contact effect. *Journal of Experimental Social Psychology, 46*, 943–950.
- Husnu, S., & Crisp, R. J. (2010b). Imagined intergroup contact: A new technique for encouraging greater inter-ethnic contact in Cyprus. *Peace & Conflict: Journal of Peace Psychology, 16*, 97–108.
- Husnu, S., & Crisp, R. J. (2011). Enhancing the imagined contact effect. *Journal of Social Psychology, 151*, 113–116.

- Islam, M. R., & Hewstone, M. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, *19*, 700–710.
- Jackson, J. W. (1993). Contact theory of intergroup hostility: A review and evaluation of the theoretical and empirical literature. *International Journal of Group Tensions*, *23*, 43–65.
- Jones, E. E., & Nisbett, R. E. (1971). The actor and the observer: Divergent perceptions of the causes of behaviour. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behaviour* (pp. 79–94). New York: General Learning Press.
- Jones, M. V., Mace, R. D., Bray, S. R., MacRae, A. W., & Stockbridge, C. (2002). The impact of motivational imagery on the emotional state and self-efficacy levels of novice climbers. *Journal of Sport Behaviour*, *25*, 57–73.
- Kosslyn, S. M., Ganis, G., & Thompson, W. L. (2001). Neural foundations of imagery. *Nature Reviews Neuroscience*, *2*, 635–642.
- Knudstrup, M., Segrest, S. L., & Hurley, A. E. (2003). The use of mental imagery in the simulated employment interview situation. *Journal of Managerial Psychology*, *18*, 575–591.
- Landau, J. D., Libkuman, T. M., & Wildman, J. C. (2002). Mental simulation inflates performance estimates for physical abilities. *Memory & Cognition*, *30*, 372–379.
- Levy, B. (1996). Improving memory in old age through implicit self-stereotyping. *Journal of Personality and Social Psychology*, *71*, 1092–1107.
- Libby, L. K., Shaeffer, E. M., Eibach, R. P., & Slemmer, J. A. (2007). Picture yourself at the polls: Visual perspective in mental imagery affects self-perception and behaviour. *Psychological Science*, *18*, 199–201.
- Lynn, M., Shavitt, S., & Ostrom, T. M. (1985). Effects of pictures on the organization and recall of social information. *Journal of Personality and Social Psychology*, *49*, 1160–1168.
- Marks, D. F. (1972). Individual differences in the vividness of visual imagery and their effect on function. In P. W. Sheehan (Ed.), *The function and nature of imagery* (pp. 83–108). New York: Academic Press.
- Marks, D. F. (1999). Consciousness, mental imagery and action. *British Journal of Psychology*, *90*, 567–585.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*, 954–969.
- Marlatt, G. A. (1978). Craving for alcohol, loss of control, and relapse: A cognitive-behavioural analysis. In P. E. Nathan, G. A. Marlatt, & T. Loberg (Eds.), *Alcoholism: New directions in behavioural research and treatment*. New York: Plenum.
- Marlatt, G. A., & Gordon, J. R. (1985). *Relapse prevention: Maintenance strategies in addictive behaviour change*. New York: Guilford Press.
- Marx, E., Deuschländer, A., Stephan, T., Dieterich, M., Wiesmann, M., & Brandt, T. (2004). Eyes open and eyes closed as rest conditions: Impact on brain activation patterns. *NeuroImage*, *21*, 1818–1824.
- Marx, E., Stephan, T., Nolte, A., Deuschländer, A., Seelos, K. C., Dieterich, M., et al. (2003). Eye closure in darkness animates sensory systems. *NeuroImage*, *19*, 924–934.
- McConnell, A. R., & Leibold, J. M. (2001). Relations among the implicit association test, discriminatory behaviour, and explicit measures of racial attitude. *Journal of Experimental Social Psychology*, *37*, 435–442.
- McKelvie, S. J. (1995). The VVIQ and beyond: Vividness and its measurement. *Journal of Mental Imagery*, *19*, 197–252.
- MORI. (2003). *British views on immigration*. London: MORI.
- Narchal, R., & Broota, K. D. (1988). Sex differences in vividness of visual imagery under eyes open and eyes closed conditions. *Journal of Mental Imagery*, *12*, 81–88.
- Orbell, S., Hodgkins, S., & Sheeran, P. (1997). Implementation intentions and the theory of planned behaviour. *Personality and Social Psychology Bulletin*, *23*, 953–962.

- Page, S. J., Levine, P., Sisto, S., & Johnston, M. (2001). A randomized, efficacy and feasibility study of imagery in acute stroke. *Clinical Rehabilitation, 15*, 233–402.
- Paolini, S., Hewstone, M., Cairns, E., & Voci, A. (2004). Effects of direct and indirect cross-group friendships on judgements of Catholic and Protestants in Northern Ireland: The mediating role of an anxiety-reduction mechanism. *Personality and Social Psychology Bulletin, 30*, 770–786.
- Pettigrew, T. F. (1997). Generalised intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin, 23*, 173–185.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology, 49*, 65–85.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751–783.
- Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922–934.
- Phinney, J. S., Ferguson, D. L., & Tate, J. D. (1997). Intergroup attitudes among ethnic minority adolescents: A causal model. *Child Development, 68*, 955–969.
- Plant, E. A., & Devine, P. G. (2003). The antecedents and implications of interracial anxiety. *Personality and Social Psychology Bulletin, 29*, 790–801.
- Ratcliff, C. D., Czuchry, M., Scarberry, N. C., Thomas, J. C., Dansereau, D. F., & Lord, C. G. (1999). Effects of directed thinking on intentions to engage in beneficial activities: Actions versus reasons. *Journal of Applied Social Psychology, 29*, 994–1009.
- Rivkin, I. D., & Taylor, S. E. (1999). The effects of mental simulation on coping with controllable stressful events. *Personality and Social Psychology Bulletin, 25*, 1451–1462.
- Robbins, J. M., & Krueger, J. I. (2005). Social projection to ingroups and outgroups: A review and meta-analysis. *Personality and Social Psychology Review, 9*, 32–47.
- Rosenthal, H. E. S., & Crisp, R. J. (2006). Reducing stereotype threat by blurring intergroup boundaries. *Personality and Social Psychology Bulletin, 32*, 501–511.
- Rosenthal, H. E. S., Crisp, R. J., & Suen, M-W. (2007). Improving performance expectancies in stereotypic domains: Task relevance and the reduction of stereotype threat. *European Journal of Social Psychology, 37*, 586–597.
- Ross, L., Lepper, M. R., & Hubbard, M. (1975). Perseverance in self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal of Personality and Social Psychology, 32*, 880–892.
- Schank, R. C., & Abelson, R. P. (1977). *Scripts, plans, goals, and understanding*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Schmader, T. (2002). Gender identification moderates stereotype threat effects on women's math performance. *Journal of Experimental Social Psychology, 38*, 194–201.
- Sekaquaptewa, D., Waldman, A., & Thompson, M. (2007). Solo status and self-construal: Being distinctive influences racial self-construal and performance apprehension in African American women. *Cultural Diversity and Ethnic Minority Psychology, 13*, 321–327.
- Sheeran, P., & Orbell, S. (1999). Implementation intentions and repeated behaviours: Enhancing the predictive validity of the theory of planned behaviour. *European Journal of Social Psychology, 29*, 349–369.
- Sherman, S. J., & Anderson, C. A. (1987). Decreasing premature termination from psychotherapy. *Journal of Social and Clinical Psychology, 5*, 298–312.
- Shih, M. J., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Psychological Science, 10*, 80–83.
- Shih, M. J., Sanchez, D. T., & Ho, G. C. (2010). Costs and benefits of switching among multiple social identities. In R. J. Crisp (Ed.), *The psychology of social and cultural diversity* (pp. 62–84). Oxford, UK: SPSSI-Blackwell.

- Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype threat and women's math performance. *Journal of Experimental Social Psychology, 35*, 4–28.
- Steele, C. A., & Aronson, J. (1995). Stereotypes threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797–811.
- Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist, 52*, 613–629.
- Stathi, S., & Crisp, R. J. (2008). Imagining intergroup contact promotes projection to outgroups. *Journal of Experimental Social Psychology, 44*, 943–957.
- Stephan, W. G., Diaz-Loving, R., & Duran, A. (2000). Integrated threat theory and intercultural attitudes: Mexico and the United States. *Journal of Cross-Cultural Psychology, 31*, 240–249.
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues, 41*, 157–175.
- Stone, C. H. & Crisp, R. J. (2007). Superordinate and subgroup identification as predictors of intergroup evaluation in common ingroup contexts. *Group Processes and Intergroup Relations, 10*, 493–513.
- Stone, J., Lynch, C. I., Sjomeling, M., & Darley, J. M. (1999). Stereotype threat effects on black and white athletic performance. *Journal of Personality and Social Psychology, 77*, 1213–1227.
- Storms, M. D. (1973). Videotape and the attribution process: Reversing actors' and observers' points of view. *Journal of Personality and Social Psychology, 27*, 65–175.
- Taylor, S. E., & Fiske, S. T. (1975). Point-of-view and perceptions of causality. *Journal of Personality and Social Psychology, 32*, 439–445.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the imagination: Mental simulation, self-regulation, and coping. *American Psychologist, 5*, 429–439.
- Ten Eyck, L. L., Labansat, H. A., Gresky, D. M., Dansereau, D. F., & Lord, C.G. (2006). Effects of directed thinking on intentions to engage in beneficial activities: Idea generation or mental simulation? *Journal of Applied Psychology, 36*, 1234–1262.
- Tropp, L. R., & Bianchi, R. A. (2006). Valuing diversity and interest in intergroup contact. *Journal of Social Issues, 62*, 553–551.
- Tropp, L. R., & Pettigrew, T. F. (2005). Relationships between intergroup contact and prejudice among minority and majority status groups. *Psychological Science, 16*, 951–957.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, UK: Basil Blackwell.
- Turner, R. N., & Crisp, R. J. (2010a). Explaining the relationship between ingroup identification and intergroup bias following recategorization: A self-regulation theory analysis. *Group Processes and Intergroup Relations, 13*, 251–261.
- Turner, R. N., & Crisp, R. J. (2010b). Imagining intergroup contact reduces implicit prejudice. *British Journal of Social Psychology, 49*, 129–142.
- Turner, R. N., Crisp, R. J., & Lambert, E. (2007a). Imagining intergroup contact can improve intergroup attitudes. *Group Processes & Intergroup Relations, 10*, 427–441.
- Turner, R. N., Hewstone, M., & Voci, A. (2007b). Reducing explicit and implicit prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of Personality and Social Psychology, 93*, 369–388.
- Turner, R. N., Hewstone, M., Voci, A., Paolini, S., & Christ, O. (2007c). Reducing prejudice via direct and extended cross-group friendship. In W. Stroebe & M. Hewstone. (Eds.), *European review of social psychology* (Vol. 18, pp. 212–255). Hove, UK: Psychology Press.
- Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A test of the extended contact hypothesis: The mediating role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology, 95*, 843–860.

- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207–232.
- Vealey, R. S., & Greenleaf, C. A. (1998). Seeing is believing: understanding and using imagery in sport. In J. M. Williams (Eds.), *Applied sport psychology: Personal growth to peak performance*. Mountain View CA: Mayfield.
- Viki, G. T., Culmer, M. J., Eller, A., & Abrams, D. (2006). Race and willingness to cooperate with the police: The roles of quality of contact, attitudes towards the behaviour, and subjective norms. *British Journal of Social Psychology*, 45, 285–302.
- Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice towards immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, 6, 37–52.
- Webb, T. L., & Sheeran, P. (2004). Identifying good opportunities to act: Implementation intentions and cue discrimination. *European Journal of Social Psychology*, 34, 407–419.
- West, K., Holmes, E. A., & Hewstone, M. (in press). Enhancing imagined contact to reduce prejudice against people with schizophrenia. *Group Processes and Intergroup Relations*.
- White, R. T. (1989). Recall of autobiographical event. *Applied Cognitive Psychology*, 3, 127–135.
- Wilson, T. D., & Capitman, J. A. (1982). Effects of script availability on social behaviour. *Personality and Social Psychology Bulletin*, 8, 11–19.
- Wilson, T. D., Lindsey, S., & Schooler, T. Y. (2000). A model of dual attitudes. *Psychological Review*, 107, 101–126.
- Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford, CA: Stanford University Press.
- Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross- group friendship and prejudice. *Journal of Personality and Social Psychology*, 73, 73–90.

APPENDIX

Imagined contact studies (2007–2010)

<i>Author</i>	<i>Experiment</i>	<i>Participants</i>	<i>Conditions</i>		<i>Mediator/ Moderator</i>	<i>Dependent Measure</i>
			<i>Experimental</i>	<i>Control</i>		
Turner, Crisp, & Lambert (2007)	Experiment 1	28 M/F students (young)	We would like you to take a minute to imagine yourself meeting an elderly stranger for the first time. Imagine their appearance, the conversation that follows and, from what you learn, all the different ways you could classify them into different groups of people.	We would like you to take a minute to imagine 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).		Ingroup preference
	Experiment 2	24 M/F students (young)	As Experiment 1	We would like you to spend a minute thinking about the elderly.		Ingroup preference
	Experiment 3	27 M students (heterosexual)	Please spend the next five minutes imagining that you are talking to a gay man that has sat next to you on the train. You spend about thirty minutes chatting until you reach your stop and depart the train. During the conversation you find out some interesting and unexpected things about him.	Please spend the next five minutes imagining that you are on a three day hiking trip in the south of England. During the trip you arrive unexpectedly at a secluded bay.	Intergroup anxiety	Outgroup evaluation, Outgroup variability

(continued)

APPENDIX (Continued).

Author	Experiment	Participants	Conditions		Mediator/ Moderator	Dependent Measure
			Experimental	Control		
Stathi & Crisp (2008)	Experiment 1	94 M/F students (Indigenous, Mestizos)	Please spend five minutes imagining that you speak to a Mestizo [<i>Indigenous person</i>] who has sat next to you in the bus. You spend about 30 minutes chatting until you reach your stop and depart the bus. During the conversation you find out some interesting and positive things about them. Please list the things you found out about them.	Please spend five minutes imagining that you speak to a Mestizo [<i>Indigenous person</i>] who has sat next to you in the bus. You spend about 30 minutes chatting until you reach your stop and depart the bus. Please list the things you found out about them.	Majority/ Minority status	Self-outgroup positive trait overlap
			Experiment 2	64 M/F students (British)	Please spend the next five minutes imagining that you are talking to a French person who has sat next to you in a party. You spend some time chatting about several things. Please answer the following questions concerning the person you met. Please spend five minutes imagining that you speak to an international student who has sat next to you on the train. You spend about 30 minutes chatting until you reach your stop and depart the bus. During the conversation you find out some interesting and positive things about them. Please list the things you found out about them.	Please spend the next five minutes imagining that you are talking to someone who has sat next to you in a party. You spend some time chatting about several things. Please answer the following questions concerning the person you met. Please spend the next three minutes imagining that you are in a furniture shop containing lots of different types of furniture. Please list the different types of furniture you might see.
	Experiment 3	98 F students (British students)	Please spend five minutes imagining that you speak to an international student who has sat next to you on the train. You spend about 30 minutes chatting until you reach your stop and depart the bus. During the conversation you find out some interesting and positive things about them. Please list the things you found out about them.		Self salience	Projection of positive traits

(continued)

APPENDIX (Continued).

<i>Author</i>	<i>Experiment</i>	<i>Participants</i>	<i>Conditions</i>			<i>Mediator/ Moderator</i>	<i>Dependent Measure</i>
			<i>Experimental</i>	<i>Control</i>			
Abrams et al. (2008)	Experiment 2	84 M/F (senior citizens)	We would like you to take one minute to imagine yourself meeting a young stranger for the first time. Imagine their appearance, the conversation that follows and, from what you learn, all the different ways you could classify them into different groups of people.	We would like you to take a minute to imagine 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?).	Intergroup anxiety	Math test (stereotype threat)	
Turner & Crisp (2009)	Experiment 1	25 F students (young)	We would like you to spend the next two minutes imagining yourself meeting an elderly stranger for the first time. Imagine that during the encounter, you find out some interesting and unexpected things about the person.	We would like you to spend the next two 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).		Implicit attitudes	
	Experiment 2	29 M/F students (non-Muslim)	We would like you to spend the next two minutes imagining yourself meeting someone who is a Muslim for the first time. Imagine that the interaction is relaxed, positive, and comfortable.	We would like you to spend two minutes thinking about Muslims.		Implicit attitudes	

(continued)

APPENDIX (Continued).

Author	Experiment	Participants	Conditions		Mediator/ Moderator	Dependent Measure
			Experimental	Control		
Husnu & Crisp (2010a)	Experiment 1	33 M/F students (non-Muslim)	I would like you to take a minute to imagine yourself meeting a British Muslim stranger for the first time. During the conversation imagine you find out some interesting and unexpected things about the stranger.	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 as beach, forest, are there trees, what's on the horizon		Future contact intentions
			<p>Experiment 2</p> <p>60 M/F students (non-Muslims)</p> <p><i>Elaborated Imagined Contact:</i> I would like you to take a minute to imagine yourself meeting a British Muslim stranger for the first time. While imagining this think specifically of when (e.g. next Thursday) and where (e.g. the bus stop) this conversation might occur. During the conversation imagine you find out some interesting and unexpected things about the stranger</p> <p><i>Simple Imagined Contact:</i> I would like you to take a minute to imagine yourself meeting a British Muslim stranger for the first time. During the conversation imagine you find out some interesting and unexpected things about the stranger.</p>	Vividness of mental imagery, Intergroup anxiety, Outgroup attitudes, Prior contact	Future contact intentions, Outgroup evaluation	
	Experiment 3	60 M/F students (young)	<p><i>Elaborated Imagined Contact:</i> I would like you to take a minute to imagine yourself meeting an elderly stranger for the first time. While imagining this think specifically of when (e.g. next Thursday) and where (e.g. the bus stop) this conversation might</p>	<p><i>Simple Imagined Contact:</i> 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.</p>		Ease of retrieval

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APPENDIX (Continued).

Author	Experiment	Participants	Conditions		Mediator/ Moderator	Dependent Measure
			Experimental	Control		
Husnu & Crisp (2010b)		90 M/F adults (Turkish Cypriots)	<p>occur. During the conversation imagine you find out some interesting and unexpected things about the stranger</p> <p><i>Elaborated Imagined Contact:</i> I would like you to take a minute to imagine yourself meeting a Greek Cypriot for the first time. While imagining this think specifically about when (e.g. next Thursday) and where (e.g. Ledra Palace) this conversation might occur. During the conversation imagine you find out some interesting and unexpected things about the stranger</p>	<p>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)</p>	Repetition/ Contextual diversity	Future contact intentions
Husnu & Crisp (2011)	Experiment 1	75 M/F students (young)	<p><i>Elaborated Imagined Contact:</i> 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. While imagining this think specifically of when (e.g. next Thursday) and where (e.g. the bus stop) this conversation might occur.</p>	<p><i>Simple Imagined Contact:</i> 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.</p>		Likelihood estimates of future contact

(continued)

APPENDIX (Continued).

Author	Experiment	Participants	Conditions		Mediator/ Moderator	Dependent Measure
			Experimental	Control		
Crisp & Husnu (in press)	Experiment 2	43 M/F students (young)	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. Please make sure that you imagine the scenario with your <i>eyes open (eyes closed)</i> .	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).	Eyes open vs. closed	Future contact intentions
			I would like you to take a minute to imagine yourself meeting an <i>elderly stranger</i> for the first time. During the conversation imagine you find out some interesting and unexpected things about the stranger. I would like you to picture the scenario from a <i>first-person (third-person)</i> visual perspective. With the <i>first-person (third-person)</i> perspective you see the event from your own visual perspective (<i>the visual perspective of an observer</i>). That is, you look out at the scene through your own eyes (<i>you see yourself in the scene from an external viewpoint</i>).	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). I would like you to picture the scenario from a <i>first-person (third-person)</i> visual perspective. With the <i>first-person (third-person)</i> perspective you see the event from your own visual perspective (<i>the visual perspective of an observer</i>). That is, you look out at the scene through your own eyes (<i>you see yourself in the scene from an external viewpoint</i>).	Visual perspective, Attributions	Future contact intentions

Note. M = male, F = female, students = undergraduate students, adults = any participant not a student. All studies were carried out in the laboratory, and adopted a between-subjects design.