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Circumventing anxiety during interpersonal encounters to promote interest in contact: An implementation intention approach ☆

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HIGHLIGHTS

- Interest in sustained contact is boosted using implementation intentions.
- Desire for contact is increased without needing to reduce anxiety.
- Effects are found in both laboratory and naturally occurring interactions.
- Interest in contact is maintained over time.

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ABSTRACT

Interactions with new acquaintances are often filled with anxiety that can reduce the desire for long-term contact. The present research tested whether providing participants with implementation intentions ("if–then" plans) that specify how to act when feeling anxious boosted interest in sustained contact and close interpersonal distance. Implementation intentions led to increased interest in sustained contact during anxiety-provoking interactions in the laboratory (Study 1) and daily interracial interactions (Study 2). They also led to closer interpersonal distance in anticipation of interracial interactions (Study 3). Implementation intentions were more effective than forming goal-directed responses (Studies 1, 2, & 3), or not forming a self-regulation strategy (Studies 2 & 3), and were effective over multiple interactions and across time, despite being learned only once (Study 2). Participants across conditions reported similar levels of anxiety, suggesting that promoting an interest in sustained contact can be accomplished without reducing anxiety, but rather, by shielding individuals from the negative effects of anxiety during social interactions.

Introduction

People have a strong desire to form close, meaningful relationships with others (Baumeister & Leary, 1995). To develop social bonds, relationships must evolve past the initial getting-acquainted stage, during which building rapport is pivotal to the success of the relationship (Duncan & Fiske, 1977; Tickle-Degnan & Rosenthal, 1990). However, experiencing heightened levels of anxiety during these interactions can interfere with rapport-building processes, and ultimately hinder relationships from progressing past the getting-acquainted stage.

Social anxiety can heighten sensitivity to rejection-related cues (Heinrichs & Hoffmann, 2001), and is associated with concerns about engaging in undesirable behaviors around others (Liebowitz, Gorman, Fyer, & Klein, 1985). In turn, individuals avoid (Herbert, Rheingold, & Brandsma, 2001; Vorauer, 2001), and disengage from anxiety-provoking encounters (Barlow, Louis, & Hewstone, 2009). Anxiety can also detrimentally affect relations between groups. Anxiety experienced during intergroup (e.g., cross-race) encounters leads to enhanced vigilance to signs of rejection (Vorauer, 2006), avoidance of cross-group interactions (Plant, 2004), and negative intergroup attitudes (Tausch, Hewstone, Kenworthy, Cairns, & Christ, 2007). Thus, the effects of social anxiety on the formation of relationships are widespread and largely negative.

Theoretically and empirically, the dominant approach taken to combat the adverse effects that anxiety has on contact has been an anxiety-reduction approach (e.g., Pettigrew & Tropp, 2008; Voci & Hewstone, 2003). Although well-validated procedures have been established within the clinical domain, particularly for those who suffer from chronically high levels of anxiety (Heeren, Reese, McNally, & Philippot, 2012), within the social psychological domain, strategies designed to reduce anxiety within specific social contexts (e.g., cross-race interactions) may only act as short-term buffers rather than long-

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term solutions (Leary & Kowalski, 1995). Strategies that are successful in reducing anxiety in the long term ultimately require extensive time, cognitive effort, and commitment to ensure success (Beck & Fernandez, 1998; Page-Gould, Mendoza-Denton, & Tropp, 2008).

Although reducing anxiety over the long term can be difficult, recent evidence suggests that individuals can effectively pursue goals when they are shielded from the negative effects of an affective state (e.g., anxiety) that typically blocks goal progress, even if the affective state is not removed (Bayer, Gollwitzer, & Achtziger, 2010). For example, Bayer et al. (2010) found that when participants developed a strategy to shield them from a positive mood that increased the amount of stereotyping they engaged in, they were shielded from the adverse effects of their positive mood without needing to reduce it.

In the present context, we theorized that when individuals possess the goal to have a positive encounter, delineating anxiety as an opportunity to engage in a goal-directed response would shield individuals from anxiety's pernicious effects on the interaction. Anxiety becomes a cue for action and goal-pursuit, rather than a hindrance to progress. Thus, we propose that in contrast to an anxiety-reduction approach, an alternative approach to improving interactions with new acquaintances is to *shield* individuals from their anxiety, thereby allowing them to engage in positive interactions and in turn develop interest in sustained contact. Drawing from research on goal pursuit (Gollwitzer & Sheeran, 2006), in the present research we developed *implementation intention* strategies aimed at facilitating interest in sustained contact when individuals have the goal of engaging in positive interactions, but anxiety interferes with achieving this goal.

Implementation intentions

Implementation intentions are if–then statements in the form of "If situation X arises, then I will do Y!" They specify a situational cue as the "if," which is joined with a goal-directed response as the "then" (Gollwitzer, 1999). If–then plans are generally more effective than goal intentions of "I will do Y!" in helping people strive toward their goals because they specify exactly when and how a goal-directed response should be employed to reach a focal goal.

The goal-directed response of an implementation intention is automatically activated when the cue is perceived, and so individuals need not acknowledge the cue in order for the strategy to be effective (Bayer, Achtziger, Gollwitzer, & Moskowitz, 2009). Moreover, once learned, implementation intentions operate automatically and without conscious intent. For example, individuals who form an implementation intention with anxiety as the cue and feeling confident as the goal-directed response (e.g., "If I feel anxious, then I will tell myself to be confident!") would not need to actively think to themselves "I feel anxious" in order for anxiety to activate feelings of confidence.

Individuals would also not need to actively rehearse the implementation intention in every anxiety-provoking interaction they engage in for the cue to continually activate the goal-directed response. This automaticity makes implementation intentions an optimal strategy for cognitively taxing interactions (e.g., cross-race ones; Trawalter, Richeson, & Shelton, 2009), and interactions in which individuals must focus their attention on making positive impressions, attending to their partner's behaviors, or attending to other goals of the interaction.

An implementation intention that specifies a negative state (such as anxiety) as an opportunity to engage in goal-directed behavior should shield the individual from the negative effects of the cue, but should not necessarily distract the individual from recognizing and experiencing the cue. As another example, a dieter might specify a cue that impairs goal progress as desiring to eat cake, and select the goal-directed response to eat an apple. When the individual walks past, for example, a bakery filled with cakes, the goal-directed response would be activated to eat an apple. The individual would still see the bakery and the cakes because the goal directed response did not specify for the individual to divert attention from the cue (i.e., the cakes in the bakery). Instead, the goal-directed response would shield the individual from the negative effects of this cue that would derail goal progress (e.g., the tempting odor of the cakes).

We propose that a similar process is likely to work with anxiety experienced in interactions with new acquaintances. For example, an individual who forms the implementation intention "If I feel anxious, then I will tell myself to be confident!" would still experience anxiety even after the goal-directed response to feel confident has been activated, because the response was not developed to distract the individual from their anxiety or directly reduce anxiety (e.g., telling oneself to relax; Achtziger, Gollwitzer, & Sheeran, 2008). However, despite the fact that the individual would still experience anxiety, anxiety had been delineated as an opportunity to engage in behavior relevant to making goal-progress, and so the goal-directed response would shield the individual from the impairments that anxiety could have on the interaction (e.g., disengaging from the interaction).

The present research

We examined the effectiveness of implementation intentions for improving interest in contact in three anxiety-provoking interaction contexts. Specifically, we tested these strategies in dyadic interactions in the laboratory (Study 1), daily interracial interactions in the field (Study 2), and anticipated interracial interactions in the laboratory (Study 3). We designed the implementation intentions with anxiety as the cue, and a goal-directed response that was meant to shield participants from their anxiety and help them stay on track toward achieving their overarching goal of having successful interactions. As previously discussed, when an implementation intention specifies behaviors that aid in achieving a focal goal, but not how to directly cope with the experienced cue (e.g., anxiety), individuals are shielded from the negative effects of the cue without reducing it (Bayer et al., 2010). As the goal-directed responses in our implementation intentions did not specify how to *reduce* the cue of anxiety (e.g., deep breathing, telling oneself to relax), but specify instead how to *shield* participants from their anxiety (e.g., directing their attention to the task at hand), we predicted that individuals who learned implementation intentions would not experience less anxiety than those who were only provided with a goal-directed response. Moreover, given that implementation intentions are automatically activated once learned, we hypothesized that they would operate well beyond the first anxiety-provoking interaction to facilitate interest in sustained contact with several different partners, and over time—a hypothesis we tested in Study 2. In sum, our overarching goal consisted of demonstrating the effectiveness of implementation intentions for improving intentions and behaviors related to positive contact in a diversity of anxiety-provoking interaction contexts.

Study 1

Structured games are a well-established method for developing closeness between new acquaintances in laboratory settings (e.g., Fraley & Aron, 2004; Page-Gould et al., 2008; Reis et al., 2010). In Study 1, unacquainted dyad members participated in a structured game in the laboratory that helped partners become acquainted, while simultaneously eliciting feelings of anxiety. Specifically, participants took turns signing and guessing American Sign Language (ASL) words with an interaction partner. Rather than seeing their partner's hands during the task, participants felt their partner's hand within an enclosed box—a task that prior research has found to be highly anxiety-provoking (Koslov, Page-Gould, & Mendes, in preparation).

In developing the goal-directed response for the implementation intention, we reasoned that a response that directs participants to focus on the task itself when feeling anxious would allow them to maintain a positive interaction. Specifically, rather than anxiety "bleeding into" participants' interpersonal perceptions and behaviors (Christensen, Stein, & Means-Christensen, 2003), it would be directed at the task. Consistent with past research on implementation intentions (e.g., Bayer et al., 2010), we compared the implementation intention to a strategy in which we only provided participants with the goal-directed response to focus on the task. This condition allowed us to test whether simply providing participants with the goal-directed response would be sufficient to shield them from their anxiety and boost interest in contact. We hypothesized that when individuals are only provided with the goal-directed response, they would not know *when* to engage in the response, and therefore would not be shielded from their anxiety that impairs the interaction. Thus, we predicted that the implementation intention would lead to greater interest in sustained contact than would a strategy solely containing the goal-directed response.

Study 1 included both same-race and cross-race dyads. Although initial cross-race encounters are often more anxiety-provoking than are same-race ones (Toosi, Babbitt, Ambady, & Sommers, 2011), these differences are attenuated when the interaction is highly structured and contains clear behavioral guidelines or "scripts" of how to act (Avery, Richeson, Hebl, & Ambady, 2009; Babbitt & Sommers, 2011). Although the ASL task is anxiety-provoking, it is also highly structured and has clear behavioral guidelines. The highly structured nature of the interaction should reduce race-based discomfort and concerns about appearing prejudiced (Avery et al., 2009; Babbitt & Sommers, 2011), and the main source of anxiety for participants in both same- and cross-race interactions should be the ASL task. As such, we hypothesized that participants in both types of dyads should experience similar levels of anxiety.

We reasoned that if cross- and same-race dyads indeed do not experience different levels of anxiety during the task, then the implementation intention (in comparison to only having the goal-directed response) would boost interest in sustained contact for all participants, as all participants would need to be shielded from the task-induced anxiety that impairs the interaction. Conversely, if cross-race dyads experience more anxiety than do same-race ones during the ASL task, then we would expect the implementation intention to be more effective than solely having the goal-directed response for participants in cross-race dyads, but not for same-race dyads. Participants in cross-race dyads would need to be shielded from their anxiety to boost interest in contact, and those in same-race dyads would not.

Method

Participants

Seventy females (35 dyads) were recruited from New York City through Craigslist (a classified advertisement website) for a study on "getting to know new people" and paid $20 for their participation (16 Black, 6 Latina, 47 White, one Non-White multiracial; 15 cross-race dyads, 20 same-race dyads). All participants were initially unacquainted.

Procedure

All items were measured using a 1 (*not at all*) to 7 (*very much*) scale. Upon arrival, participants completed a demographics questionnaire and a baseline measure of anxiety. They indicated the extent to which they felt *anxious*, *awkward*, *uncomfortable*, and *nervous* ($\alpha = .84$; items drawn from Pearson et al., 2008; West, Shelton, & Trail, 2009). They were then told that the study concerned how people learn different forms of communication, such as sign language. They were given an overview of the procedure (see above) and shown a photograph of two individuals engaging in the ASL task.

Strategy formation. After the description of the study, both partners were assigned to one of two strategy conditions: goal-only ($n = 19$ dyads, 7 cross-race dyads, 12 same-race dyads) or implementation intention ($n = 16$ dyads, 8 cross-race dyads, 8 same-race dyads). In both conditions, dyad members independently memorized strategies to use during their interaction. Those in the goal-only condition formed the strategy: "I will focus on the task at hand!" Those in the implementation intention condition formed the strategy: "If I start to feel anxious, then I will focus on the task at hand!" Consistent with past research (e.g., Mendoza, Gollwitzer, & Amodio, 2010), participants read their respective strategy three times using inner speech, and then wrote it out from memory. This process ensured that participants were mentally engaged while forming and rehearsing their strategy.

ASL task. Dyad members sat at a table facing each other. On the table was a box with holes cut out of each side. Participants were given an ASL alphabet guide and list of words to sign. They each put one hand in the box and took turns signing words to each other and guessing the words signed to them. The task continued for 6 min, after which participants were taken to separate rooms. They then reported their feelings of anxiety during the task (*anxious*, *awkward*, *uncomfortable*, and *nervous*, $\alpha = .84$; items drawn from Pearson et al., 2008; Stephan et al., 2002) and their interest in sustained contact with their partner (*I would like to become friends with this person*, *I liked this person*, *I would want another interaction with this person*, $\alpha = .77$; items drawn from Mallett, Wilson, & Gilbert, 2008; Pearson et al., 2008).

Results

Initially, we examined whether the patterns of effects differed between Blacks, Latinas, and multiracial participants within cross-race interactions. No differences were found, and so all non-Whites were treated as minorities. We also examined whether there were main effects of race of the participant (White vs. minority), and race of the partner (White vs. minority), and whether they interacted with strategy type. However, no significant main effects or interactions of these variables were found for any outcome variables (*ps* from .12 to .66), and so for parsimony sake, we only present results that include the main effect of racial composition of the dyad (same-race or cross-race; referred to as dyad race), strategy type, and the interaction between dyad race and strategy type.[1,2]

Anxiety

Data for dyad members' pre-and-post-interaction anxiety were independent (Intraclass r for pre-interaction anxiety $= .15$, $SE = .17$, $p = .36$; Intraclass r for post-interaction anxiety $= -.16$, $SE = .17$, $p = .33$). As such, we treated the individual as the unit of analysis for anxiety (see Kenny, Kashy, & Cook, 2006).

Anxiety marginally increased from baseline to post-interaction, $t(69) = 1.90$, $p = .06$ ($M_{diff} = .03$, $SE = .15$), for all participants. Increases in anxiety did not differ as a function of strategy type, dyad race, or their interaction (*ps* = .84, .52, and .09, respectively). Participants were moderately anxious during the interaction ($M = 2.77$, $SD = 1.46$ across conditions), and there were no main effects of strategy type, dyad race, or their interactions (*ps* from .55 to .83) on post-interaction anxiety. Thus, anxiety increased equally for all participants from baseline to post-interaction, and no differences were found in post-interaction anxiety as a function of condition or dyad race.

Interest in sustained contact

For interest in sustained contact, dyad members' were non-independent (Intraclass $r = .29$, $SE = .16$, $p = .068$), and so data were

[1] Including the interactions between participant race (White vs. minority), partner race (White vs. minority), and strategy condition did not affect the results reported herein.

[2] Anxiety—pre- and post-interaction—and interest in contact were negatively, although not significantly, correlated (*rs* = −.07 and −.17, *ps* = .57 and .16, for pre-and-post interaction anxiety, respectively). Pre- and post-interaction anxiety were significantly correlated ($r = .630$, $p < .001$).

analyzed using multilevel modeling treating dyad as unit of analysis (see Kenny et al., 2006; note that this method can yield fractional degrees of freedom, which are computed using the Satterthwaite method). A main effect of strategy type emerged, $t(31) = -2.66, p = .01, d = .58$.[3] Participants who formed the implementation intention were more interested in interacting with their partner in the future ($M = 5.47$, $SE = .16$) than were those who only held the goal to focus on the task ($M = 4.78$, $SE = .14$). The main effect of dyad race and the interaction between condition and dyad race were not significant ($ps = .79$ and .72, respectively).[4]

Study 1 summary

Participants in the implementation intention condition reported a greater desire to interact with their partners in the future than did participants who only formed the goal-directed response to focus on the task. Importantly, participants who formed the implementation intention did not experience lower levels of anxiety relative to those who only formed the goal-directed response. These results provide initial support for our theorizing that implementation intentions shield individuals from the detrimental effect of anxiety on interest in sustained contact, without decreasing it.

Although individuals often experience greater discomfort in cross- than same-race interactions, the anxiety-provoking ASL task resulted in equal levels of anxiety for both types of dyads from baseline to post-ASL-task. It is possible that participants did not construe race as being central to the ASL task because the task was highly structured. Participants were given clear roles (i.e., signing or guessing letters) and received specific behavioral goals. In other words, the instructions may have acted as behavioral scripts for how to act in the interaction, which would reduce race-based discomfort and concerns about appearing prejudiced (Avery et al., 2009; Babbitt & Sommers, 2011). As such, participants would not experience differential amounts of anxiety in cross- and same-race interactions because the main source of anxiety for both types of interactions was the ASL task, rather than the race of the interaction partner. In turn, participants in same- and cross-race dyads benefited equally from the implementation intention that targeted this anxiety.

Additionally, participants did not experience differential levels of anxiety depending on the strategy that they formed prior to the interaction. This finding is consistent with research examining the use of implementation intentions to shield individuals from negative states (Bayer et al., 2010), and is likely due to the fact that the goal-directed response was not crafted to distract the individual from recognizing and experiencing their anxiety. As previously mentioned, it is likely that the anxiety that participants experienced came from the task itself, and so directing participants to focus on the task when anxious would not distract them from recognizing their anxiety about the task.

Study 1 demonstrated that implementation intentions facilitate interest in sustained contact in anxiety provoking interactions. In Study 2, we sought to move beyond the context of a highly structured laboratory task and expand the ecological validity of our strategy through testing implementation intentions in naturally-occurring and unstructured interactions that induce anxiety. Specifically, we examined the effectiveness of implementation intentions for promoting interest in contact in cross-race interactions where race is highly salient and of central focus to the interactions.

Study 2

Forming relationships across group boundaries begins with the motivation to engage in cross-group contact (Pettigrew & Tropp, 2006; West, 2011). Although in the US individuals generally possess the goal to engage in positive interracial interactions (Richeson & Shelton, 2007), intergroup anxiety can prompt efforts to avoid and disengage from these interactions (Plant & Devine, 2003). For example, even individuals who experience relatively high levels of intergroup contact and are strongly motivated to have positive interracial interactions are often concerned about appearing prejudiced (Goff, Steele, & Davies, 2008; Vorauer & Turpie, 2004), which can lead them to experience anxiety that impairs the quality of cross-race interactions (Pettigrew & Tropp, 2008; Shelton, Richeson, Salvatore, & Trawalter, 2005; Shelton, West, & Trail, 2010). Additionally, Whites' lay theories concerning how to facilitate the development of positive interracial interactions often backfire and lead to uncomfortable interactions (Apfelbaum & Sommers, 2009), which can decrease the desire for sustained intergroup contact.

Given that implementation intentions are most effective when individuals are striving toward a goal (Gollwitzer & Sheeran, 2006), in Study 2, we geared the implementation intention toward improving interracial interactions among a sample of participants who experience frequent cross-race contact and who are likely strongly motivated to engage in positive interracial interactions (Goff et al., 2008; Vorauer & Turpie, 2004). In particular, we developed an implementation intention that targets anxiety as a cue that interferes with the goal of having positive cross-race encounters. Given the unstructured nature of these encounters, we did not provide participants with a goal-directed response that was task specific, as in Study 1. Rather, we reasoned that experiencing anxiety could be delineated as an *opportunity* to engage in a response that would facilitate positive interactions (Adriaanse, Gollwitzer, de Ridder, de Wit, & Kroese, 2011). Lacking confidence regarding how to act or think in initial interactions is more prevalent in cross-race than in same-race encounters (Vorauer, 2006). A lack of confidence in how to act is especially prevalent among individuals concerned with how they are perceived in interracial interactions, such as Whites who are worried about appearing prejudiced (Vorauer & Turpie, 2004), or minorities concerned with being perceived negatively or treated unfairly (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002; Shelton & Richeson, 2005). Thus, we selected the goal-directed response of "feeling confident." We hypothesized that pairing this response with the cue of anxiety would improve the quality of participants' encounters and boost interest in future interactions. Further, we hypothesized that providing participants solely with the goal-directed response to feel confident during interracial interactions would not lead to greater interest in contact because, consistent with Study 1, participants would not know *when* to enact this goal-directed response.

We built upon Study 1 in three additional ways. First, we included a condition in which participants were not provided with a strategy. Given that Americans are generally motivated to have positive interracial interactions (Richeson & Shelton, 2007), they often possess and utilize lay theories of how to develop and maintain positive interracial interactions (Apfelbaum & Sommers, 2009). Thus, a no-strategy control condition allowed us to test whether the implementation intention was more effective than participants' own strategies for facilitating positive

[3] Because dyad was unit of analysis, Cohen's *d* was computed using Kenny et al.'s (2006) correction for the intraclass correlation (see Chapter 3).

[4] An additional multivariate multilevel model was estimated in which post-interaction anxiety and interest in sustained contact were analyzed within the same model (see Goldstein, 1999, and West, 2013, for a description of this analytic strategy). This method estimates the within-person and between-dyad members' residual correlations between anxiety and interest in sustained contact. At the level of the fixed effects, we included the main effects of strategy type, dyad race, and an additional dichotomous variable, referred to as outcome, which distinguishes between anxiety and interest in sustained contact. All interactions between these three variables were included. Results for this model were consistent what is reported in the main text. Anxiety and interest in sustained contact were not significantly correlated within-person ($p = .58$), or between dyad members ($p = .92$). An interaction between strategy type and outcome was found, $t(41) = -11.32$, $p = .01$, indicating that the main effect of strategy type was significant for interest in sustained contact, $t(32.1) = -2.81$, $p = .008$, but not significant for post-interaction anxiety ($p = .22$). No other significant main effects or interactions were found ($ps > .33$).

intergroup encounters. As in Study 1, we also predicted that participants in the implementation intention condition would not experience less anxiety than participants who only received the goal-directed response or did not receive a strategy. Second, to test the longevity of the implementation intention strategy, participants completed a follow-up study approximately one year after forming their respective strategy in which they reported on two new cross-race encounters. Importantly, participants were not reminded of their implementation intention or goal-only strategy at this time. Given that implementation intentions become automatic once learned, we reasoned that even one year later, participants would continue to demonstrate greater interest in sustained contact in the implementation intention condition relative to the other two conditions.

Third, to examine whether the implementation intention strategy is effective beyond facilitating interest in sustained contact, we measured participants' attitudes toward racial out-group members one year after forming their respective strategy using feeling thermometers. In comparison to measures that explicitly ask participants whether they endorse negative statements about outgroup members (e.g., McConahay, 1986), previous research has utilized feeling thermometers as a less reactive measure of outgroup attitudes that is less inclined to activate concerns about appearing prejudiced (e.g., Hugenberg & Bodenhausen, 2004; Inbar, Pizarro, & Bloom, 2012). Over time, positive cross-race encounters facilitate the development of more positive attitudes toward racial outgroup members (Amir, 1969; Pettigrew & Tropp, 2006). Additionally, positive affect toward racial outgroup members in turn generates a further desire to engage in future interracial contact (Dovidio, Esses, Beach, & Gaertner, 2004; Esses & Dovidio, 2002). As such, we reasoned that individuals who formed the implementation intention would feel more positively toward a host of different racial outgroup members, relative to participants in the other two conditions, even one year after having formed the strategy.

Method

Participants

Thirty-nine females from New York City (24 White, 12 Black, 3 Latina; *M* age = 24) were recruited through Craigslist for a study on everyday interactions. They were paid $30 for their participation.

Method

Upon arrival, participants learned that the study concerned how people feel during daily interactions. Participants first completed a questionnaire about their contact with members of different racial groups. All participants reported engaging in daily contact with people of a different race, which is unsurprising as interracial interactions are a common occurrence in urban areas such as New York City. Thus, all participants passed initial screening.

Strategy formation. Participants were randomly assigned to one of three conditions: implementation intention ($n = 13$), goal-only ($n = 13$), or no-strategy ($n = 13$). All participants were instructed that they would report on cross-race interactions with strangers or casual acquaintances throughout the week using an online diary method.

Participants in the no-strategy condition did not receive any further instructions. Those in the goal-only and implementation intention conditions then formed their respective strategy and imagined using it in a cross-race interaction. Participants in the goal-only condition formed the strategy "During the interaction I will tell myself 'I can be confident'"! Participants in the implementation intention condition formed the strategy "If I start to feel uncomfortable during the interaction, then I will tell myself 'I can be confident'"! As in Study 1, and consistent with past research (e.g., Mendoza et al., 2010), participants who either formed the implementation intention or the goal-only strategy repeated their strategy three times using inner speech, and then wrote it down from memory.

Initial online diary surveys. Twenty-four hours later, participants completed their first online questionnaire. They reported on two interracial interactions that had occurred within the past 24 h, after they had left the lab. Participants were instructed only to report on interracial interactions with those whom they were previously unacquainted or minimally acquainted, and only for interactions that lasted a minimum of two minutes. Participants completed an additional three diary surveys —one every 48 h—for a total of four diary surveys. In total, participants reported on eight interracial interactions. This method is similar to that employed by Mallett et al. (2008), who had 38 participants report on one intergroup interaction per day over a course of five days.

Follow-up survey. One year after completing the initial diary surveys, participants were contacted to complete a follow-up survey in which they reported on two additional interracial actions that had occurred within the past 48 h. Prior to completing the follow-up survey, participants were neither reminded of any details about the study nor explicitly informed that the survey was a follow-up to the previous diary surveys they had completed. Thirty-five participants (21 White, 12 Black, 2 Hispanic; 89.7% of the original sample) responded to the survey, and one participant did not provide information on a second interaction. At the conclusion of the study, participants were extensively debriefed.

Measures

Unless otherwise noted, all items were measured on 1 (*not at all*) to 7 (*very much*) scales. All items were measured for each of the ten interactions.

Characteristics of the interaction partner and context. Participants described their interactions in an open-ended format, and answered several questions regarding the partner and the interaction (see Tables 1 and 2 for a list of all characteristics). All variables reported in Tables 1 and 2 were adjusted for in the analyses reported for the first set of interactions (i.e., the initial eight interactions). We report the results for the adjusted analyses of the two follow-up interactions in Footnote 9.

As cross-race interactions are often status discrepant (Riordan & Ruggiero, 1980), we coded for possible status differences in the interactions to rule out the possibility that the interaction partner's status, and not race, could be driving any observed effects. Two trained research assistants read the open-ended descriptions of the interactions that participants provided and coded whether a status discrepancy existed in the interaction or not. The information that participants provided both about themselves and their interaction partner contained details that allowed raters to easily code whether there was a status discrepancy in the interaction (e.g., the context of the interaction, the occupation of the interaction partner). Disagreements between coders were extremely rare, and if a disagreement did emerge, raters discussed the discrepant opinions until coming to an agreement. If a status difference did exist in the reported interaction, raters coded whether the participant or the interaction partner was higher status. An example of an interaction in which a status difference did emerge is a participant interacting with their new landlord. An example of an interaction in which a status difference did not emerge is a participant interacting with their new neighbor. As seen in Table 2, there was a status difference between the participant and the partner for about half of the reported interactions.

Table 1
Characteristics of interaction partners in initial interactions for Study 2.

Race	Gender	Estimated age	American	Accent	Knew partner[a]
White—23%	Female—50%	$M = 33.29$	Yes—75%	Yes—37%	$M = 1.32$
Non-White—77%	Male—50%	$SD = 9.86$	No—25%	No—63%	$SD = .55$

[a] Participants indicated how well they knew their interaction partner prior to the interaction (1 = *not at all*; 7 = *very well*).

Table 2
Characteristics of the initial interactions for Study 2.

Status difference	Participant higher status[a]	Length of interaction (min)	Time before reporting on interaction[b]	Who initiated interaction[c]
Yes—49% No—51%	Yes—72% No—28%	$M = 30.60$ $SD = 75.60$	$M = 14.0$ $SD = 12.51$	$M = 4.11$ $SD = 1.78$

[a] Whether the participant was higher status when a status difference existed in the interaction, as coded by trained research assistants.
[b] Amount of time in hours that occurred between the interaction and the online questionnaire.
[c] Who initiated the interaction (1 = *entirely the other person*; 4 = *both myself and the other person*; 7 = *entirely myself*).

Anxiety and interest in sustained contact. Participants reported on their anxiety (same items as Study 1; $\alpha = .85$) and interest in sustained contact (*I enjoyed the interaction with this person*, *I would want another interaction with this person*, *I would want to learn more about this person*; $\alpha = .92$) for each interaction.

Demand effect check. Given that participants were aware that the study was about cross-race contact, to ensure that any effects observed were not due to a demand effect of the manipulation, at the end of the initial surveys, participants completed a single item measure: "The researchers wanted me to have successful interracial interactions." No differences were found on this variable as a function of strategy type, $p = .37$ ($M = 4.74$).

Outgroup feeling thermometers. Participants who completed the follow-up survey reported their attitudes toward the racial groups that constitute the most populous groups within the US: Whites, Blacks, Asians, and Hispanics (U.S. Census Bureau, 2011). Participants reported their attitudes using feeling thermometers that ranged from 0 (*extremely cold*) to 100 (*extremely warm*).

Results

Analysis strategy

All together, participants reported on 312 interactions in the initial diary surveys. Thirty interactions were removed from analyses: 28 were removed because participants reported a score of three or higher on the acquaintance measure,[5] and two were removed because participants reported on a same-race interaction, leaving 282 interactions to be analyzed. Multilevel data were analyzed using the PROC MIXED procedure in SAS to adjust for non-independence of observations within time point and across time points. A two-level crossed model was estimated that allowed for the correlation of errors within the two interactions within a given questionnaire, and across the four questionnaires (see West, 2013, for a full description of the analysis strategy). We initially examined whether condition interacted with race of the participant and the partner to determine if the effectiveness of the strategies differed for White and minority participants, and for interactions with Whites or minorities. As none of these interactions were significant, they were removed from analyses.

Preliminary analyses for anxiety and interest in contact revealed one effect of strategy type for Questionnaire 1 (i.e., the first two interactions), and a second, different effect of strategy type for Questionnaires 2, 3, and 4. Thus, we created a variable called time in which questionnaire was treated as a dichotomous variable: (Questionnaire 1 = −1; Questionnaires 2–4 = 1.) There were neither significant differences among Questionnaires 2, 3, and 4 for anxiety or interest in sustained contact (*p*s from .25 to .69), nor were there differences in the effects of strategy type among these three questionnaires (*p*s from .31 to .80), demonstrating that the effect of condition did not change over time from Questionnaires 2 through 4.

We report the effects for models that include all characteristics of the interaction partner and context, as listed in Tables 1 and 2. However, we note that results are consistent without including these variables as covariates in the models.[6]

Anxiety. Consistent with hypotheses, no main effects of strategy type, $F(2, 35.2) = 2.76$, $p = .08$, $d = .21$, time ($p = .89$), or the strategy type × time interaction ($p = .11$), were found (M anxiety for implementation intention, goal-only, and no strategy at Time 1 = 2.16, 2.35, and 2.37; *SE*s = .25, .22, .24, respectively; at Times 2–4 = 1.96, 2.75, and 2.07; *SE*s = .13, .13. and .13, respectively). Thus, there were no within-person changes in anxiety, and participants felt equally anxious across conditions.

Interest in contact. There was no main effect of strategy type ($p = .45$) or time ($p = .59$). However, a strategy type × time interaction emerged, $F(2, 92) = 29.81$, $p < .001$, $d = 1.12$. For Questionnaire 1, participants who formed an implementation intention did not significantly differ in their interest in contact from those who did not form a strategy, $F(1, 89) = .40$, $p = .53$, but did significantly differ from those who held the goal-only strategy, $F(1, 83.3) = 5.56$, $p = .01$, $d = .49$. As shown in Fig. 1, for Questionnaire 1, participants who held the goal to feel confident experienced more interest in contact than those who formed the implementation intention. However, this pattern of effects reversed for the remaining three questionnaires. As shown in Fig. 1, for Questionnaires 2–4, participants who formed the implementation intention experienced *greater* interest in sustained contact with their partners than did those in the goal-only condition, $F(1, 31) = 5.68$, $p = .02$, $d = .49$, and those in the no strategy condition, $F(1, 32.8) = 14.58$, $p < .001$, $d = .79$. There was no significant difference between participants in the goal-only condition and those in the no strategy condition for Questionnaire 1 ($p = .37$) or Questionnaires 2–4 ($p = .40$).[7,8]

[5] Keeping these twenty-eight excluded interactions in the analysis did not change the results.

[6] Not including the covariates in the model, for anxiety, a strategy type × time interaction was found, $F(2, 108) = 3.26$, $p = .04$. At time 1, participants in the implementation intention condition were not significantly different from those in the goal only or no strategy conditions, *p*s = .86 and .26, respectively. At times 2–4, participants in the goal only condition were significantly more anxious than those in the implementation intention condition, $t(44.2) = -1.33$, $p = .015$, but not significantly different from those in the control condition, $p = .19$. For interest in contact, a strategy type × time interaction was found, $F(2, 100) = 28.47$, $p < .0001$. At time 1, participants in the implementation intention condition were significantly lower in interest in contact than those in goal only condition, $t(89.5) = 2.56$, $p = .01$, but not participants in the no strategy condition, $p = .66$. At times 2–4, participants in the implementation intention condition were significantly higher in interest in contact than those in the goal only condition, $t(35) = -1.99$, $p = .053$, and the no strategy condition, $t(36.2) = -3.50$, $p = .001$.

[7] Anxiety and interest in sustained contact were significantly negatively correlated, on average, across questionnaires ($r = -.22$, $p < .01$).

[8] Consistent with Study 1, we estimated an additional multivariate multilevel model in which anxiety and interest in sustained contact were analyzed within the same model. As in Study 1, we included the main effect of a new variable, referred to as outcome, to distinguish between anxiety and interest in sustained contact at the level of the fixed effects. Anxiety and interest in sustained contact were significantly, negatively correlated within person ($p = .009$). The outcome × strategy type interaction was not significant ($p = .44$). However, results indicated a significant three-way outcome × strategy type × time interaction, $F(2, 376) = 23.49$, $p < .001$. Consistent with what is reported in the main text, the strategy type × time interaction was significant for interest in sustained contact, $F(2, 302) = 36.01$, $p < .001$, but not for anxiety ($p = .19$). For interest in sustained contact, for Questionnaire 1, the implementation intention condition was not significantly different from the control condition ($p = .57$) or the goal-only condition ($p = .17$). However, for Questionnaires 2–4, participants in the implementation intention condition experienced more interest in contact than those in the control condition, $F(1, 35.3) = 9.63$, $p = .004$, and those in the goal-only condition, $F(1, 34.7) = 5.77$, $p = .03$.

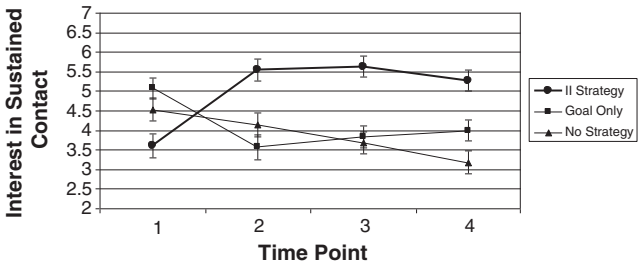

Fig. 1. Study 2 means and standard errors for interest in contact as a function of time point and strategy type (II = Implementation Intention).

One year later. We tested the prediction that participants in the implementation intention condition (vs. the goal-only strategy and no strategy conditions) would continue to demonstrate improved interest in sustained contact and more positive intergroup attitudes, one year after participants had initially formed the strategy.

Anxiety and interest in contact. For interest in sustained contact and anxiety, we conducted separate 3 (Strategy Type: Implementation Intention, Goal Intention Only, No Strategy) × 2 (Interaction: First Reported, Second Reported) repeated measures ANOVAs with the first factor treated as between-subjects and the last factor as within-subjects.

For interest in sustained contact, only the main effect of strategy type was significant, $F(2, 31) = 6.07, p = .006, \eta^2_p = .28$ (all other Fs $\leq .27$, ps $\geq .64$). Participants who formed an implementation intention reported greater interest in sustained contact with their cross-race interaction partners ($M = 4.82$, $SE = .34$) than did participants who only formed a goal ($M = 3.67$, $SE = .33$; $t(31) = 2.45$, $p = .02$, $d = .88$) or did not form a strategy ($M = 3.20$, $SE = .34$; $t(31) = 3.38$, $p = .002$, $d = 1.21$). For anxiety, no significant effects were found, Fs $\leq .92$, ps $\geq .41$ (M anxiety across conditions and interactions $= 2.81$, $SD = 1.47$). Thus, participants who formed implementation intentions (vs. a goal or no strategy) one year prior had greater interest in sustaining contact with their cross-race interaction partners even a year after they had formed the strategy, but there was not an effect of strategy type on anxiety experienced during the interactions.[9,10]

Intergroup attitudes. Lastly, we tested the prediction that participants who formed the implementation intention would have more positive attitudes toward racial outgroup members one year after forming their strategy. Outgroup feeling thermometer scores were highly correlated and reliable. For White participants, correlations among attitudes toward Blacks, Hispanics, and Asians ranged from $r(19) = .82$–91, and $\alpha = .95$. For Black participants, correlations among attitudes toward Whites, Hispanics, and Asians ranged from $r(10) = .78$–80, and $\alpha = .90$. We did not have enough Hispanic participants ($n = 2$) to assess correlations among outgroup feeling thermometer scores. To create a score of attitudes toward racial outgroup members, we averaged participants' feeling thermometer scores for racial outgroups. For example, for White participants, we averaged together their feeling thermometer scores for attitudes toward Blacks, Asians, and Hispanics; and for Black participants, we averaged their attitudes toward Whites, Asians, and Hispanics.

We conducted a one-way ANOVA with strategy type as the independent variable and the outgroup feeling thermometer score as the dependent variable. There was a marginal main effect of strategy type, $F(2, 32) = 2.84$, $p = .07$, $\eta^2_p = .15$, indicating that participants who formed an implementation intention expressed marginally more positive outgroup attitudes ($M = 75.65$, $SE = 4.80$) than participants who only formed a goal ($M = 63.31$, $SE = 4.60$; $t(32) = 1.86$, $p = .07$, $d = .66$), and significantly more positive attitudes than participants who did not form a strategy ($M = 60.72$, $SE = 4.60$; $t(32) = 2.24$, $p = .03$, $d = .79$). Participants who formed the goal-only strategy and those who did not form a strategy did not differ in their outgroup feeling thermometer scores ($p = .69$). In sum, the benefits of the implementation intention strategy expand beyond interest in sustained cross-group contact and facilitate the development of positive attitudes toward racial outgroup members.

Study 2 summary

Consistent with our hypotheses, participants who formed an implementation intention in Study 2 did not experience lower levels of anxiety across time, nor did they experience different levels of anxiety compared to those in the goal-only and no-strategy conditions. However, the implementation intention was more successful at promoting interest in sustained contact relative to the other two conditions, although its effects were not immediate. Rather, for the first set of interactions, participants who formed the implementation intention reported *less* interest in future intergroup contact than participants who only formed the goal to feel confident. By the second set of interactions, however, this effect reversed, such that participants who formed the implementation intention (vs. goal-only or no strategy) reported greater interest in contact, which was sustained over the remaining interactions—an effect that we return to in the general discussion. Additionally, when participants' interest in sustained contact was measured approximately one year after having formed their respective strategy, participants who formed the implementation intention (vs. the goal-only strategy or no strategy) still reported a greater desire for sustained cross-race contact, demonstrating the longevity of the implementation intention approach for promoting interest in contact with one's specific interaction partners. Importantly, participants did not need to be reminded of the implementation intention strategy, demonstrating the utility of this method for improving social encounters in contexts in which it is not feasible or practical to have participants go through the rehearsal and memorization stages of the implementation intention procedure a second time.

The positive benefits of implementation intentions also impacted attitudes toward several different racial outgroups that comprise a dominant portion of the US population—Blacks, Latinos, Whites, and Asians. Using feeling thermometers, participants who formed an implementation intention reported marginally more positive attitudes toward these particular racial outgroup members than participants who solely formed the goal or did not form a strategy. Together, the findings of Studies 1 and 2 provide initial support for a simple and effective strategy for improving interest in contact toward specific cross-race interaction partners and increasing positive attitudes toward racial outgroup members.

In Study 3, we sought to extend the findings of Studies 1 and 2 by providing further cross-methodological support for the effectiveness of implementation intentions. Extending beyond a self-report measure of interest in contact, we collected a behavioral measure of closeness that conceptually and theoretically aligns with self-reported interest in contact—physical distance (Goff et al., 2008). In addition, we sought to examine whether implementation intentions work to improve interracial interactions before they even begin, during the expectancy stage. Given that expectations about cross-race interactions largely affect the success (or failure) of the interactions (Shelton, Richeson, & Vorauer, 2006; Vorauer, Main, & O'Connell, 1998), it is important to address

[9] Adjusting for the variables reported in Tables 1 and 2 did not affect the results reported. For interest in contact, a main effect of strategy condition was still found, $F(2, 27.98) = 4.61$, $p = .02$. Additionally, participants experienced greater interest in contact when there was no status difference in the interaction, $F(1, 50.14) = 5.11$, $p = .03$, and when the interactions occurred closer in time to when participants reported on them, $F(1, 53.58) = 4.99$, $p = .03$. For anxiety, the main effect of strategy condition remained non-significant with the covariates in the model ($p = .49$).

[10] Anxiety and interest in contact were significantly, negatively correlated, $r = -.58$, $p < .001$. As such, we estimated an additional multivariate multilevel model in which anxiety and interest in sustained contact from the follow-up study were analyzed within the same model using the same strategy as reported in Footnote 8. The main effect of condition remained significant for interest in contact, $F(2, 31.8) = 5.62$, $p = .008$, and remained non-significant for anxiety ($p = .52$).

whether implementation intentions begin shaping interactions during the expectancy stage by fostering the desire for interpersonal closeness during the interaction. Thus, we aimed to provide evidence that implementation intentions shape interpersonal behaviors that set the stage for positive interracial interactions to occur.

Study 3

In Study 3 we examined an important behavioral consequence of helping individuals circumvent the anxiety and discomfort they experience during interracial interactions—physical distance. Individuals who experience greater anxiety during interactions increase interpersonal distance between themselves and others (Aiello, DeRisi, Epstein, & Karlin, 1977; Brady & Walker, 2011). Within the context of cross-race encounters in particular, this anxiety often leads individuals to desire and create greater interpersonal distance (Goff et al., 2008; Word, Zanna, & Cooper, 1974). For example, Goff et al. (2008) found that Whites who experienced anxiety about an anticipated interracial interaction in which they were concerned (vs. not concerned) about being viewed as racist placed chairs farther apart when setting up for the interaction. In other words, they set up the chairs in a way to create more interpersonal distance from their interaction partner. Importantly, reducing the amount of interpersonal distance during cross-race interactions facilitates a smooth interaction and communicates interest in developing rapport and becoming close with one's interaction partner (Henderson-King & Nisbett, 1996; Kawakami, Phills, Steele, & Dovidio, 2007; Word et al., 1974). Thus, creating an environment that enhances interpersonal closeness before an interracial interaction begins sets the stage for the development of a positive future interaction (Goff et al., 2008; Kawakami et al., 2007; Word et al., 1974).

Given the theoretical importance of close interpersonal distance for shaping the quality of cross-race encounters, in Study 3, we examined whether participants who were provided with an implementation intention that specified a goal-directed response to feel confident upon experiencing anxiety would create an environment that enhances interpersonal closeness in anticipation of an interracial interaction, compared to those who were only provided with a goal, or no strategy. Specifically, we examined the amount of interpersonal distance participants created between themselves and a partner prior to an anticipated interaction by having participants set up a pair of chairs.

Because we examined the effects of the implementation intention on physical distance in an anticipated interaction, we had participants practice their respective strategies while learning individuating information about their interaction partner. Specifically, participants employed their respective strategy while watching a video of their expected interaction partner disclose why they are a good friend. This methodology created a task in which participants were able to practice their respective strategy while also learning information about their partners, other than basic demographic information, on which they could justifying their choice of interpersonal distance. In the absence of individuating information about a cross-race interaction partner (e.g., when individuals only know their partner's race), individuals (Whites in particular) often attempt to appear non-prejudiced by displaying outgroup favoring biases (e.g., reporting liking minorities more than Whites; Mendes & Koslov, 2013; Vanman, Paul, Ito, & Miller, 1997). As such, we reduced the possibility that participants would deliberately place the chairs closer together to appear non-biased (and so increased the likelihood that our measure of distance captures a genuine desire for interpersonal closeness) by providing participants with personalized information about their partners on which they could justify their choice of interpersonal distance.

As in Study 2, we provided participants with an implementation intention that targeted the cue of anxiety as interfering with the development of a positive cross-race interaction, and the goal-directed response of feeling confident. We predicted that when participants experience anxiety while watching their partner's video, those who had formed an implementation intention would experience the desire to learn more about their partner (i.e., desire more interpersonal closeness). As such, we predicted that participants who formed the implementation intention would create greater interpersonal closeness than participants who solely formed the goal to feel confident because the goal-only strategy does not delineate when feeling confident would improve attitudes about the interaction. Additionally, we predicted that participants who were not provided with a strategy would create greater interpersonal distance in anticipation of an interaction than participants provided with an implementation intention.

Method

Participants

Seventy-one undergraduate students (60 female; 32 White, 4 Black, 4 Hispanic, 25 Asian, 4 Multiracial, and 2 “other race” reported) were recruited from New York University's participant pool. Thirty-five additional participants completed the experiment but were excluded from analyses for the follow reasons: 20 did not believe they would actually take part in an interaction or did not believe that the interaction partner was real, seven failed to follow instructions, two recognized the actor in the video, and six placed the chairs a distance apart that was 3 SD above the mean.

Materials

We created four videos of actors speaking pre-rehearsed scripts about why they make a good friend. There were four actors total (White male, White female, Black male, and Black female). We filmed four actors so that participants could be assigned to watch a video with an actor who was the same-sex but a different race from them. To standardize the videos across actors, videos were recorded in the same cubicle in which the participant completed the experiment, all actors wore the same plain t-shirt, and actors repeated the same one-minute script about why they were a good friend.

Procedure

An experimenter greeted participants and took them to a cubicle to complete the experiment. Participants were informed that they would take part in a study concerning how people make impressions of new acquaintances. Participants were told they would be interacting with a person recruited from Craigslist to ensure that their partner would be a new acquaintance.

After signing an informed consent, participants completed an “Information about Me” sheet where they reported their gender, race, and age. The experimenter explained that the participant's partner would also complete the sheet and that they would exchange sheets to learn about one another before interacting. Participants were also told that after they and their partner read one another's information sheets, they would each make a video explaining to their partner why they make a good friend. The experimenter explained that the participant's partner was currently on another floor and so would need to go to that floor in order to obtain the partner's information sheet. To fill the time in the experimenter's absence, participants were given a packet of questions that they would supposedly be discussing during the interaction.

The experimenter left for several minutes to ostensibly collect the partner's information sheet. Upon returning, the experimenter handed the participant an information sheet that matched the participant's age and gender, but not their race. Specifically, all participants thought that they would be interacting with a person of a different race. White participants expected to interact with a Black partner, and non-White participants expected to interact with a White partner. Thus, participants expected to interact with a partner who was a different race but the same age and gender.

Strategy formation. After reading their partner's information sheet, participants were told that they would watch their partner's video concerning why he or she is a good friend, and would then make their own video. They were also told that their partner was randomly assigned to create his/her video first. Participants were then randomly assigned to one of three conditions: implementation intention (n = 25), goal-only (n = 24), or no strategy (n = 22). Participants in the no strategy condition did not receive any further instructions. Participants in the goal-only and implementation intention conditions were asked to use their strategies while watching the video of their partner. Participants in the goal-only condition read the strategy "I will tell myself 'I can be confident'!" Participants in the implementation intention condition read the strategy "If I start to feel uncomfortable, then I will tell myself 'I can be confident'!" As in Studies 1 and 2, participants who formed the implementation intention or the goal-only strategy repeated the strategy three times using inner speech, and then wrote it down from memory.

Good friend video and anxiety about interaction. To increase the credibility of the interaction partner being real, the experimenter plugged a flash drive into the participant's computer and opened a video that the partner had ostensibly just recorded. After watching the video, participants made their own video in which they talked for 1 min about how they are a good friend. Participants believed their partner would watch their video prior to the interaction. After making their video, participants reported how anxious they felt about the upcoming interaction using 1 (*not at all*) to 7 (*very much*) scales (same items as Studies 1 and 2; α = .94).

Desire for interpersonal closeness. After making their video, participants were taken to a separate room for the interaction. Two chairs were stacked in the corner of the room. Following the procedure of Goff et al. (2008), the experimenter feigned frustration that the room was not set up for the interaction and stated that another experimenter had just used the room. The experimenter explained that they needed to check on the participant's interaction partner and would appreciate if the participant set up the chairs for the interaction. The experimenter explained that the participant could set up the chairs however they preferred, but that the chairs should be facing each other and should not be moved once they are set up so the experimenter could calibrate the cameras for filming the interaction. Participants were given one minute to set up the chairs. The experimenter then returned and measured the distance between the chairs (in inches) using a standard tape measure. To maintain measurement consistency, the distance was measured between two pieces of tape that had been placed under the front edge of the seat of each chair. Participants waited in the room while the experimenter measured the distance between the chairs. Lastly, participants were thanked, informed that no interaction would take place, and debriefed on the purpose of the study.

Results

Chair distance

We predicted that participants who formed the implementation intention strategy would place the chairs closer together than participants who formed the goal-only strategy or did not form a strategy. We conducted a 3 (Strategy Type: Implementation Intention, Goal-Only, and No Strategy) × 2 (Participant Race: White, Non-White) ANOVA with distance placed between the chairs as the dependent variable. The analysis revealed a main effect of strategy type, $F(2, 65) = 3.78$, $p = .03$, $\eta^2_p = .10$. As shown in Fig. 2, participants who formed the implementation intention placed the chairs closer together than did participants who formed the goal-only strategy, $t(65) = 2.08$, $p = .04$, $d = .51$, or did not form a strategy, $t(65) = 2.57$, $p = .01$, $d = .64$. Participants who solely formed the goal and those who did not form a strategy did not differ in the distance they placed between the chairs ($p = .62$). Neither the main effect of participant race ($p = .14$), nor the interaction effect between strategy type and participant race ($p = .28$), were significant. In sum, regardless of participants' race, those who formed the implementation intention strategy set up the chairs closer together in anticipation of a the cross-race interaction than did participants who solely formed the goal or did not form a strategy.

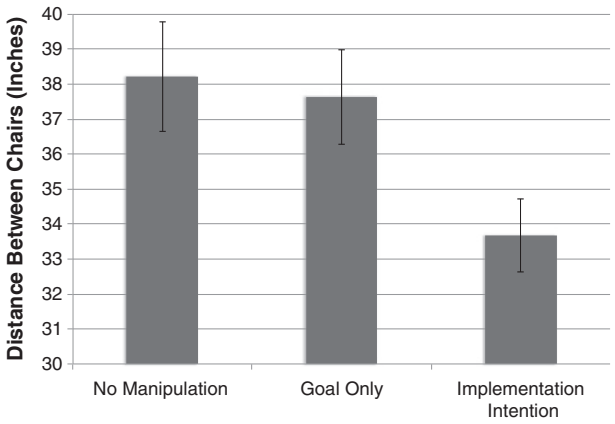

Fig. 2. Study 3 means and standard errors for distance placed between chairs as a function of strategy type.

Anxiety about anticipated interaction

We predicted that participants who formed the implementation intention strategy would not feel less anxious about the upcoming interaction than participants who formed the goal-only strategy or did not form a strategy.[11] We conducted a 3 (Strategy Type: Implementation Intention, Goal-Only, and No Strategy) × 2 (Participant Race: White, Non-White) ANOVA with anxiety as the dependent variable. Neither the main effect of strategy type ($p = .33$), nor the interaction effect between strategy type and participant race ($p = .37$), was significant. The main effect of participant race was marginally significant, $F(1, 63) = 2.92$, $p = .09$, $\eta^2_p = .04$, such that racial minorities reported feeling marginally more anxious about the interaction than Whites (M anxiety experienced across racial groups and conditions = 3.15, $SD = 1.67$). Additionally, the amount of anxiety participants experienced about the upcoming interaction was not associated with the distance they placed between the chairs, $r(67) = -.17$, $p = .16$. Thus, participants who formed the implementation intention did not experience less anxiety about the anticipated interaction than participants who solely formed the goal or did not form a strategy.

Study 3 summary

Consistent with our predictions, participants who formed an implementation intention did not experience less anxiety about the anticipated interaction than participants who solely formed a goal or did not form a strategy. However, as predicted, participants who formed the implementation intention did place the two chairs closer together in anticipation of the interaction than participants in the other conditions. Additionally, participants' race did not moderate the effect of strategy type on the distance placed between the chairs, suggesting that Whites and racial minorities benefitted equally from the implementation intention. These findings extend Studies 1 and 2 through showing that implementation intentions effectively promote behaviors that facilitate the development of positive interracial interactions with new acquaintances.

Interestingly, we note that we did not find a significant correlation between anxiety and interpersonal distance, across all three conditions.

[11] Two participants chose not to indicate how anxious they felt about the anticipated interaction.

It may be that the implementation intention weakened the association between anxiety and interpersonal distance by altering participants' desire for interpersonal closeness without changing the amount of anxiety they experienced about the anticipated cross-race interaction. While we do not possess the statistical power needed to directly examine this idea in the present research, future research could more fully test this idea in the present context (i.e., chair distancing), as well as in other contexts in which the relationship between barriers to goals (e.g., anxiety) and behavioral outcomes that facilitate the attainment of those goals (e.g., distance) is established within the literature.

General discussion

In three studies, we found that implementation intentions promoted interest in sustained contact with new acquaintances (Studies 1 and 2), increased interpersonal closeness in anticipation of an interaction (Study 3), and resulted in marginally more positive attitudes toward outgroup members (Study 2). Additionally, the positive effects of implementation intentions on interest in sustained contact occurred in both same-race (Study 1) and cross-race interactions (Studies 1–3), and extended over time (Study 2).

Implementation intentions did not reduce anxiety experienced during interactions in any context, which is consistent with recent research suggesting that implementation intentions can effectively shielded participants from negative affective states without needing to distract participants from the states or reduce the states (Bayer et al., 2010). It is interesting to note that beginning at the second set of interactions for Study 2, there was a non-significant trend for participants who formed the goal-only strategy to experience greater anxiety than those in the no strategy and implementation intention conditions. These findings not only demonstrate that the effects of implementation intentions on interest in contact over time did not replicate for anxiety, but also suggest that those in the goal-only condition demonstrated a rebound effect after the first set of interactions—that is, they became more anxious. We also note that differences in anxiety did not occur across strategy conditions in the one-year follow up. Additionally, there was no effect of strategy condition on anxiety in either Study 1 or 3. As such, it is possible that when implementation intentions are initially formed, they provide a boost in working to mitigate the experience of anxiety in cross-race encounters that are relatively unstructured. Although we can only speculate as to why this marginal trend might have occurred, which appears to be driven by the goal-only condition, we believe it raises an interesting question for future research.

Throughout the studies, we employed a diversity of interaction contexts and used two different types of implementation intentions. We next discuss each of these topics in turn, offer suggestions for why these differences might have contributed to the pattern of effects observed in each study, and integrate our findings across the studies.

Diversity of interaction contexts

The context of the interactions varied across the three studies. Participants either interacted while completing a highly structured task in the lab (Study 1), anticipated a structured interaction in the lab (Study 3), or engaged in unstructured interactions in the field (Study 2). Examining the effects of implementation intentions in both controlled laboratory settings and unstructured interactions in the field provides methodological convergence that implementation intentions are effective at promoting interest in sustained contact over a wide variety of situations and interactions.

The fact that Studies 1 and 3 were conducted in structured interactions in the lab and Study 2 examined unstructured interaction in the field may help explain why implementation intentions were immediately effective at promoting interest in contact in Studies 1 and 3 but were not effective until the second set of reported interactions in Study 2. In Studies 1 and 3, participants might have immediately employed the strategy that the experimenter provided to them when taking part in the interaction or preparing for the interaction, given that their interactions (or anticipated interactions) occurred immediately after forming the strategy. Conversely, when interacting in unstructured interactions in the field during Study 2, participants may have been more inclined to rely on their own lay strategies for coping with anxiety and facilitating positive cross-race interactions (Apfelbaum & Sommers, 2009), given that a significant amount of time lapsed between forming the strategy and engaging in the first interaction. Participants' conscious strategies might have subverted the positive effects of the implementation intention, at least initially.

A second difference between Studies 1 and 3 and Study 2 is that participants in Study 2 were selected because they experienced a large amount of previous intergroup contact and were likely quite motivated to have positive interracial encounters. As such, participants in Study 2 were likely motivated to employ their own strategies for how to engage in positive cross-race interactions, at least for the first set of encounters. However, to the extent that participants' conscious strategies are ineffective and cognitively depleting (both for themselves and their interaction partners; Holoien & Shelton, 2011; Richeson & Shelton, 2003; Shelton et al., 2010), they would eventually be replaced with the implementation intention that does not require cognitive resources to activate feelings of confidence. In other words, the implementation intention initially competed with participants' own ineffective strategies for having a positive interracial interaction, but eventually won out. Furthermore, providing some participants solely with the goal-directed response to feel confident (i.e., those in the goal-only condition) may have elicited an additional boost in experiencing positive feelings during cross-race interactions. However, as this initial boost was not continually reaffirmed and likely wore off over time, simply having the goal-directed response to feel confident was ineffective at *maintaining* interest in sustained contact. Thus, implementation intentions were effective in boosting interest in sustained contact across a variety of interaction contexts, but the amount of time needed before implementation intentions display positive effects will likely vary according to the structure of the interaction.

In the present research, we did not directly examine whether the interaction context or participants' conscious strategies impacted the effectiveness of implementation intentions and can only speculate that these factors explain—at least in part—why the pattern of effects in Study 2 differ from the pattern found in Studies 1 and 3. Nevertheless, we believe that examining whether these factors influence how implementation intentions facilitate interest in social contact is an interesting and important direction for future research.

Diversity of implementation intentions

We employed implementation intentions with two different goal-directed responses to boost interest in sustained contact. Participants in Study 1 formed an implementation intention in which the goal-directed response directed them to focus on the task at hand, whereas participants in Studies 2 and 3 formed a goal-directed response that directed them to feel confident in the interactions. For each implementation intention, we tailored the goal-directed response to be most effective for the context that the strategy would be used in. We used a task facilitating implementation intention in Study 1 because the anxiety that participants experienced was derived from the ASL task (rather than the interaction partner). However, in Studies 2 and 3, the anxiety was more "partner based" than "task based." In other words, the anxiety experienced was in reference to their actual or anticipated cross-race interaction. As previously discussed, lacking confidence of how to act in a cross-race interaction greatly impairs the interaction (Vorauer & Turpie, 2004). As such, in the context of unstructured cross-race interactions, we opted to provide participants with a goal-directed response directing them to feel confident in the interaction. Employing implementation intentions with two different goal-directed responses that

were successful in different situations suggests that tailoring implementation intentions to the context in which they will be used may be necessary for ensuring their effectiveness. While we did not directly test this idea, we believe it is a fruitful avenue for future research.

Nevertheless, there are other types of implementation intentions that may have similarly been effective at promoting interest in sustained contact. First, an implementation intention that was created to reduce anxiety in the interaction might have similarly been effective in increasing interest in sustained contact (Achtziger et al., 2008; Stern, Cole, Gollwitzer, Oettingen, & Balcetis, 2013). However, as previously discussed, reducing anxiety over extended periods of time is a challenging task, especially in interracial interactions. As such, we expect that an implementation intention that directly targets the reduction of anxiety may be less effective at improving interactions with new acquaintances. A second possible alternative implementation intention is one that directs individuals to ignore a distracting influence (e.g., "If I feel anxious, then I will ignore my anxiety!"). These types of implementation intentions enhance task performance when participants are motivated to perform well (Gollwitzer & Schaal, 1998). However, previous work has also shown that implementation intentions with negated goal-directed responses (e.g., "If I feel anxious, then I will *not* focus on my anxiety!") can lead to rebound effects where the cue becomes highly accessible and the individual engages in behaviors that undermine goal progress (Adriaanse, van Oosten, de Ridder, de Wit, & Evers, 2011). Thus, it is possible that some implementation intentions meant to distract individuals from a negative state actually exacerbate the adverse effects of the state. For example, in the present context, this type of implementation intention would make participants feel *more* anxious and *less* desirous of future contact. However, we recognize that, if properly specified, an implementation intention could distract individuals from anxiety, reduce the anxiety, and boost interest in contact.

Taken together, the present research demonstrates that implementation intentions employing a diversity of goal-directed responses can facilitate the development of interest in sustained contact. Further examining which goal-directed responses of implementation intentions are most effective for boosting interest in contact, as well as under what conditions they are most effective, is an interesting avenue for future research.

Conclusion

In sum, our results demonstrate several key findings concerning these simple "if–then" plans. First, implementation intentions facilitated interest in contact within same- and cross-race interactions for both Whites and ethnic/racial minorities. Second, despite only being consciously learned once, these strategies became internalized and continued to operate over multiple interactions. Third, demonstrating their generalizability, implementation intentions were effective across different interaction contexts, whether it was a highly stressful, constrained task, as in Study 1, anticipated cross-race interactions in Study 3, or everyday interactions that were more variable in their context, as in Study 2.

In addition to the ideas discussed above, there are several additional avenues for future research. First, in the present research we chose to examine the benefits of implementation intentions in *situations* that induce anxiety (i.e., the sign language task in Study 1 and cross-race interactions in Studies 2 and 3). However, implementation intentions are also likely effective at facilitating interest in contact for individuals who experience *dispositionally* higher levels of social anxiety. Additionally, the benefits of implementation intentions for socially anxious individuals are likely not limited to interaction contexts. For example, recent evidence suggests that implementation intentions effectively curb negative performance evaluations among individuals who experience dispositionally higher levels of social anxiety (Webb, Ononaiye, Sheeran, Reidy, & Lavda, 2010). Thus, examining the benefits of implementation intentions both in anxiety provoking situations and for people who experience dispositionally higher levels of anxiety is a generative path for future research.

Second, future research should examine the effects of implementation intentions on interpersonal processes that are related to interest in contact and are important for rapport-building during initial interactions, such as empathic accuracy, or the ability to read one's partner's thoughts, feelings, and intentions. Understanding one's partner's relationship intentions is just as important for facilitating positive intergroup relations as improving one's own interest in forming relationships (Shelton & Richeson, 2005). By circumventing anxiety, those who learn implementation intentions may have more cognitive resources to attend to their partners' behaviors, which could improve empathic accuracy during anxiety-provoking encounters and ultimately foster the development of positive relationships (Ickes, 1993).

Third, the present work shows promise for circumventing emotions in other social contexts. Researchers can tailor implementation intentions to different social contexts in which automatic associations between emotions and behavioral responses are difficult to override using deliberative strategies. For example, in close relationships, anxiously-attached individuals experience motivational ambivalence regarding closeness to their partners, in part because feelings of rejection interfere with developing closeness (Mikulincer, Shaver, Bar-On, & Ein-Dor, 2010). An implementation intention that specifies rejection as the cue in an "if–then" statement and provides a goal-directed response that is in-line with the focal goal of developing feelings of closeness might prove effective at improving relational outcomes for these individuals. Overall, implementation intentions appear to play a promising role for helping people overcome their social anxiety to develop new and meaningful relationships.

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