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What is This?

Positive Expectations Encourage Generalization From a Positive Intergroup Interaction to Outgroup Attitudes

Matthew P. Deegan[1]**, Eric Hehman**[2]**, Samuel L. Gaertner**[1]**, and John F. Dovidio**[3]

Abstract

The current research reveals that while positive expectations about an anticipated intergroup interaction encourage generalization of positive contact to outgroup attitudes, negative expectations restrict the effects of contact on outgroup attitudes. In Study 1, when Blacks and Whites interacted with positive expectations, interaction quality predicted outgroup attitudes to a greater degree than when groups interacted with negative expectations. When expectations (Studies 2 and 3) and the actual interaction quality (Study 4) were manipulated orthogonally, negative expectations about the interaction predicted negative outgroup attitudes, regardless of actual interaction quality. By contrast, participants holding positive expectations who experienced a positive interaction expressed positive outgroup attitudes, whereas when they experienced a negative interaction, they expressed outgroup attitudes as negative as those with negative expectations. Across all four studies, positive expectations encouraged developing outgroup attitudes consistent with interaction quality.

Positive intergroup contact generally produces improved intergroup attitudes, even when the conditions for contact specified by contact theory (e.g., equal status, common fate; Allport, 1954) are not fully satisfied (Pettigrew & Tropp, 2006; Pettigrew, Tropp, Wagner, & Christ, 2011). This effect occurs not only for attitudes toward outgroup members directly involved in the contact situation but also generalizes to the outgroup category. However, intergroup contact is not uniformly effective for improving intergroup relations (Pettigrew & Tropp, 2006). The present research investigated one factor, expectations about the intergroup interaction, that can significantly affect the nature of intergroup contact and the impact of that contact on outgroup attitudes.

Expectations profoundly shape intergroup interactions, and thus facilitating more positive expectations can improve interactions (Mallett & Wilson, 2010; Plant, Butz, & Tartakovsky, 2008). Positive expectations reduce intergroup anxiety (Riek, Mania, & Gaertner, 2006). In turn, reduced anxiety can decrease outgroup avoidance, increase desire to interact with outgroup members, and decrease feelings of outgroup hostility (Plant & Devine, 2003). Indeed, improving expectations of interracial interaction can increase the likelihood of developing new cross-race friendships (Mallett

& Wilson, 2010), which, in turn, improves intergroup attitudes (Pettigrew, 1998).

However, negative expectations may play an even more prominent role, undermining the effectiveness of intergroup contact for improving intergroup attitudes. Understanding the influence of expectations on intergroup interactions and outcomes is important because people typically approach intergroup interactions with trepidation and anxiety (Dovidio, Kawakami, & Gaertner, 2002; Mallett, Wilson, & Gilbert, 2008; Shelton & Richeson, 2005). These negative expectations can arouse negative emotions, which shape intergroup attributions and behavior (Plant et al., 2008). Negative expectations produce biases in how people encode outgroup members' behaviors (Maass, Milesi, Zabbini, & Stahlberg,

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1995; Rothbart & John, 1985). For example, negative outgroup behaviors, which are generally consistent with stereotype-based expectations, are encoded more abstractly and with an internal locus of causality (e.g., Jim is stupid). Comparatively, positive outgroup behaviors (e.g., Jim did well on his test), which are usually inconsistent with stereotype-based expectations, are encoded more concretely and with an external locus of causality. Because people seek to confirm rather than disconfirm their expectations, disconfirmation of negative expectations is less likely (Snyder, Tanke, & Berscheid, 1977).

How people process information about their intergroup encounters is particularly important because experiences in intergroup interactions often differ from expectations. For instance, Shelton and Richeson (2005) found that both Whites and Blacks avoid interracial contact because they anticipated rejection of their positive overtures by members of the other group. In reality, both groups welcomed such overtures. While prior research has established the direct impact of expectations on intergroup attitudes and behaviors, the present work investigated the way expectations for intergroup contact moderate the effect of a positive or negaitve intergroup interaction on general outgroup attitudes.

In general, people regard negative information as more diagnostic than positive information about others' character because negative behaviors are typically counter-normative and thus elicit more confident dispositional attributions than positive behaviors (Jones & Davis, 1965; Ybarra, Schaberg, & Keiper, 1999). Therefore, people are less motivated to examine the veracity of negative information and more motivated to test positive expectations in subsequent interactions (Ybarra et al., 1999). For example, after forming positive or negative expectations of an individual, people recalled expectancy-inconsistent behaviors better when they anticipated the interaction to be positive (Ybarra et al., 1999). Specifically, those with a positive expectancy remembered more negative information compared with the amount of positive information remembered by those with negative expectations. Also, when expectations were positive, memory for all traits or behaviors, whether positive, negative, or neutral, was better than when expectations were negative (Ybarra et al., 1999). Thus, positive expectations enhance the use of online, objective information verification when forming an impression of a person, such that positive expectations lead to more accurate impressions (Ybarra et al., 1999).

Similarly, it takes longer to make dispositional judgments about favorable compared with unfavorable targets (Lingle & Ostrom, 1979), and people request more information before making decisions about favorable compared with unfavorable targets (Yzerbyt & Leyens, 1991). In addition, positive expectations lead to more engagement in the task of evaluating others (Ybarra et al., 1999). Indeed, it takes more frequent observations of positive behavior to disconfirm negative beliefs than for negative behavior to disconfirm positive beliefs (Rothbart & John, 1985). Thus, with positive expectations, individuals tend to be more engaged, pay more attention, and test their positive expectations more robustly, compared with negative expectations (Ybarra et al., 1999). By contrast, negative expectations prevent people from forming accurate impressions of others, despite the availability of positive information, because people tend to form negative evaluations more quickly, and they are less motivated to test these evaluations, leading to shallower, less careful information processing about individuals (Ybarra, 2002).

The present research extends previous work on interpersonal expectations to the intergroup context, examining the unique role expectations play in influencing intergroup attitudes. Whereas previous research shows that expectations influence immediate interactions in expectation-confirming ways (Snyder et al., 1977), our perspective suggests that the valence of expectations has a more nuanced effect on the generalizability of intergroup contact. Given that positive social expectations generally motivate a careful evaluation of one's beliefs about an individual (Ybarra et al., 1999) and negative expectations produce a narrow focus on negative information (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Gotlib et al., 2004), we proposed that an analogous process may occur at the intergroup level. Specifically, we hypothesized that positive expectations increase sensitivity to both positive *and* negative aspects of an intergroup interaction, leaving participants open to developing either more favorable or more pejorative outgroup attitudes, whereas negative expectations render outgroup attitudes relatively resistant to change.

Study 1 utilized a correlational approach that arranged for cross-race interactions to assess the effects of expectations and evaluations of the interaction on outgroup category attitudes. Study 2 extended this work by experimentally manipulating expectations of an intergroup interaction involving Republicans and Democrats to be positive or negative. Study 3 replicated the previous studies using minimal groups while employing a yoked experimental design intended to permit those with positive and negative expectations to observe the same actual interaction. Finally, Study 4 involved minimal groups and independently manipulated both the expectations and the quality of the intergroup interaction using trained confederates.

Study 1

Study 1, using a correlational approach, examined how expectations and perceived interaction quality jointly predict outgroup attitudes. Same-sex groups of White and Black participants met together to complete a common task. We assessed expectations for the interaction, perceived interaction quality, and outgroup attitudes. Based on previous work on expectations for intergroup interactions (see West & Dovidio, 2012, for a review), we predicted that expectations would have a direct effect on perceived interaction quality because people tend to approach interactions

in expectancy-confirming ways. In addition, our novel primary hypothesis was that expectation valence would moderate the effect of the experienced interaction quality on outgroup attitudes. In particular, because negative expectations encourage a rigid focus on negative information and positive expectations facilitate processing a wider range of information (e.g., Baumeister et al., 2001), we predicted that perceived interaction quality would more strongly predict outgroup attitudes for those with positive expectations.

Method

Participants and design. Sixty-four Black and White undergraduates (40 women) participated for partial course credit met in same-sex sessions (*n* = 16) involving four participants (i.e., two 2-person groups).

Procedure. Following a procedure adapted from Gaertner, Mann, Murrell, and Dovidio (1989), individual participants first met and interacted in small racially homogeneous two-person groups to increase the salience of group membership prior to the four-person intergroup interaction. Thus, Black dyads and White dyads initially reported to different locations and were greeted by different experimenters. Then, both dyads entered a larger room where experimenters "completed paperwork" as participants entered. This initial meeting was intended to alert participants to the race of the members of the other dyad. After approximately 10 s, experimenters led each dyad into smaller rooms for their separate intraracial interaction to further increase the salience of their racial group memberships.

During this initial interaction, dyads worked on a Winter Survival (Johnson & Johnson, 1975) task for 6 min during which participants are asked to rank order a number of items salvaged from a plane crash in terms of their importance to survival. Then, participants were told they would interact with the other-race dyad they met earlier and asked to report the race of the other group and their expectations for the upcoming interaction on a 1 to 7 scale from *not at all* to *very much* (nine items, five reverse-scored: I expect the interaction in the next room to be Cooperative, Tense [R], Friendly, Competitive [R], Quarrelsome [R], Unpleasant [R], Agreeable, Successful, Annoying [R]; α = .82).

Both groups then entered a larger room and worked together to reach a consensus solution to the Winter Survival task. As motivation, participants were promised that the four-person group with the best solution over the semester would receive US$100.00. Groups were required to reach a consensus within 10 min, and experimenters updated the groups of the time remaining throughout the session. Afterward, participants completed a questionnaire asking about perceived interaction quality (nine items, five reverse-scored: Please describe your impression of the interaction [1 = *not at all* to 7 = *very much*]: Cooperative, Tense [R], Friendly, Competitive [R], Quarrelsome [R],

Unpleasant [R], Agreeable, Successful, Annoying [R]; α = .85). Participants then made group-level evaluations of the outgroup (four items, two reverse-scored: When thinking of [White or Black] people *in general*, how much do you see them as [1 = *not at all* to 7 = *very much*]: Cooperative, Aggressive [R], Friendly, Suspicious [R]; α = .72).

Results

Nine participants who incorrectly identified the race of the group they expected to interact with were removed from analysis (remaining *N* = 55). These data were analyzed using hierarchical linear modeling (HLM) using HLM 6.06 (Raudenbush, Bryk, & Congdon, 2008). Data were collected from participants in four-person sessions and are therefore interdependent. HLM accounts for this shared variance and generates parameter estimates less biased than traditional measures. HLM coefficients are interpreted similar to unstandardized beta weights. In our analyses, we allowed only Level 2 intercepts to vary. For all models, participant race (Black or White) was entered at Level 1 and gender was entered at Level 2. In all models for Study 1, neither participant race nor participant gender produced significant main or interaction effects and were therefore removed from each model, unless explicitly mentioned. The inclusion of these predictors did not alter results.

Expectations and quality. To examine whether perceived interaction quality was influenced by expectations, perceived interaction quality was regressed on the model described above, with the addition of grand-mean centered expected interaction quality as a Level 1 predictor. This model explained 14% of the Level 1 variance in perceived interaction quality.[1] As predicted, expected interaction quality predicted perceived interaction quality (γ = 0.335, *SE* = 0.123, *p* = .010, 95% confidence interval [CI] = [0.094, 0.576]), suggesting that participants' expectations had a direct effect on their perceptions of how well the interaction proceeded. Participants with more favorable expectations of the interaction reported more positive interaction quality. Overall, participants experienced a positive interaction (*M* = 6.42, *SD* = 0.623) on a 1 to 7 scale.

Outgroup attitudes. We predicted that for individuals expecting a more positive interaction, evaluations of the outgroup category would be more sensitive to their perceptions of interaction quality. Thus, perceived interaction quality should predict outgroup attitudes to a greater degree for participants holding positive than negative expectations. We regressed outgroup category attitudes on the model described above, with the addition of grand-mean centered expected interaction quality, perceived interaction quality, and their multiplicative interaction term as Level 1 predictors. This model explained 17% of the Level 1 variance and 95% of the Level 2 variance in outgroup attitudes. Results supported our hypothesis.
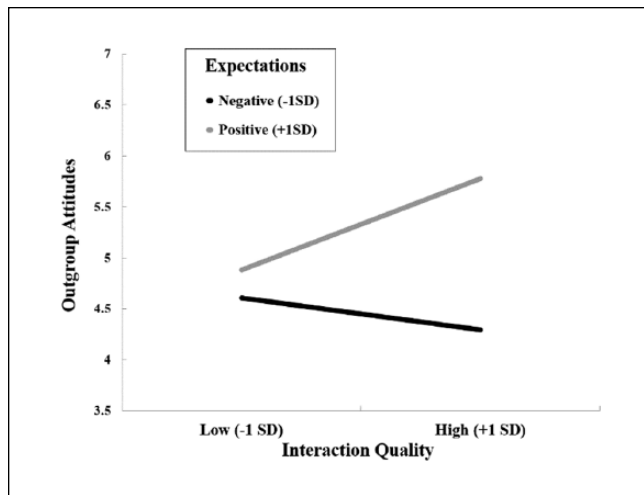
Figure 1. Expected quality and perceived quality interact to predict outgroup attitudes for Black and White participants.

We found a significant main effect of expected interaction quality ($\gamma = 0.623$, $SE = 0.189$, $p = .002$, 95% CI = [0.253, 0.993]), suggesting that more positive expectations elicited more favorable outgroup attitudes. Although we found no main effect of perceived interaction quality on outgroup attitudes ($\gamma = 0.235$, $SE = 0.176$, $p = .190$, 95% CI = [−0.110, 0.580]), we did unexpectedly find an interaction with participant gender ($\gamma = 0.692$, $SE = 0.262$, $p = .013$, 95% CI = [0.178, 1.21]). Simple slopes revealed that for males, perceived interaction quality predicted outgroup attitudes ($\gamma = 0.928$, $SE = 0.194$, $t = 4.78$, $p < .001$); no such effect was present for females ($\gamma = 0.236$, $SE = 0.176$, $t = 1.34$, $p = .190$). As predicted, we found a reliable interaction between expected interaction quality and perceived interaction quality ($\gamma = 0.685$, $SE = 0.169$, $p < .001$, 95% CI = [0.354, 1.02]). This statistically significant interaction is of the most theoretical significance because it represents a test of our central hypothesis that, for cross-race interactions, positive expectations will lead to more positive outgroup evaluations than negative expectations (see Figure 1).

As predicted, decomposing the interaction revealed that for participants with *positive* expectations (+1 *SD*), perceived interaction quality predicted outgroup attitudes ($\gamma = 0.723$, $SE = 0.272$, $t = 2.66$, $p = .012$). However, participants with relatively negative expectations for the interaction (−1 *SD*) showed a marginally significant negative relationship between perceived interaction quality and outgroup attitudes ($\gamma = −0.252$, $SE = 0.131$, $t = −1.92$, $p = .065$), suggesting that negative expectations may have inhibited any positive effect of outgroup contact (see Figure 1).

We originally predicted that participants with positive expectations for intergroup interactions would be sensitive to both positive and negative aspects of the intergroup interaction. Our results, however, suggest that for participants who perceived their interactions to be relatively negative, positive expectations did not lead to worse evaluations of the outgroup compared with negative expectations. For participants who perceived the interaction to proceed negatively (−1 *SD*), there was no difference between participants with positive (+1 *SD*) or negative expectations (−1 *SD*; $\gamma = 0.196$, $SE = 0.182$, $t = 1.08$, $p = .289$). Therefore, positive expectations led the participants to generalize their positive, but not negative, contact experiences, whereas negative expectancies limited the generalization of positive experiences.

Discussion

The overall pattern of results is consistent with our predictions. First, as expected, for both Blacks and Whites, participants with more positive expectations experienced their intergroup encounter more positively. Second, the impact of experienced interaction quality on outgroup attitudes was moderated by whether the initial expectations of the interracial interaction were positive or negative. Specifically, interaction quality predicted outgroup attitudes for those with positive expectations but not for those with negative expectations. This result supports our hypothesis that negative expectations would limit generalization from positive contact to outgroup attitudes. Notably, participants generally had a positive contact experience ($M = 6.42$, $SD = 0.623$). Despite the generally positive contact participants experienced, those approaching the interaction with relatively negative expectations did not generalize this contact from perceived interaction quality to outgroup attitudes.

Study 1 thus demonstrated support for the two hypothesized ways that expectations can affect intergroup relations—both initially in predicting interactions consistent with the expectations and also in moderating the generalizability of the effects of contact, particularly the benefits of positive contact, on outgroup attitudes. However, we acknowledge that even though expectations, perceived quality of contact, and outgroup attitudes were assessed sequentially across time, causal inferences are limited by the correlational design. More definitive evidence for the hypothesized dynamics requires a direct manipulation of intergroup expectations. Study 2 pursues this approach and considers a different domain of intergroup relations involving political affiliation rather than race.

Study 2

In Study 2, a two-person group of Democrats and a two-person group of Republicans participated in an intergroup interaction in a two-level (expectations: negative, positive) design. In contrast to the correlational approach of Study 1, we manipulated expectations about an intergroup interaction by providing positive or negative feedback, purportedly from the other group, before an intergroup interaction. We expected that perceived interaction quality would predict

outgroup attitudes for participants with positive expectations but not for participants with negative expectations.

Method

Participants and design. One hundred and four participants (64 women) met in same-sex sessions (n = 20) of four participants per session in a two-level (expectations: positive, negative) between-subjects design. In Study 2 and all subsequent studies, sample size was based on the effect sizes found in Study 1.

Procedure. Similar to Study 1, two 2-person groups were scheduled for separate locations. During a mass-pretesting session, participants reported their political affiliation. Two "Democrats" and two "Republicans" were scheduled to meet in different laboratory cubicles. Each group of participants was immediately led to a small room without encountering the other group. Participants were informed that they shared a political affiliation (i.e., Republicans or Democrats) with their partner. Participants then worked together on a team-building activity, the Fallout Shelter task (Klein & Willerman, 1979), for 5 min. This task involved a scenario in which participants imagined a fallout shelter without enough supplies for everyone and participants must choose which people will be cast out of the shelter (e.g., an 80-year-old physician).

Upon completion, participants were informed they would soon be working on another task with members of the other political party and that each group would first have an opportunity to evaluate the other group's solution to the Fallout Shelter task. Participants then received a bogus solution purportedly from the other group and evaluated it on four dimensions (1 = *unacceptable* to 8 = *excellent*: Creative, Thoughtful, Effective, Overall Summary). Participants received bogus feedback from the other dyad about their two-person group's solution based on these same dimensions. In the positive expectations condition, participants received positive feedback, whereas in the negative expectation condition, participants received negative feedback. Participants then reported their expectations of the upcoming interaction (six items, three reverse-scored: I expect the interaction in the next room to be [1 = *not at all* to 7 = *very much*]: Cooperative, Tense [R], Friendly, Competitive [R], Quarrelsome [R], Pleasant; α = .86) as a manipulation check. To explore the unique effect of expectations beyond any additional influence positive or negative feedback might have on affect, participants also completed the 20-item Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988).

Next, both groups entered another room and together reached consensus on a second problem, the Winter Survival task. Participants worked on this task for 10 min and then reported perceived interaction quality using the same measure as Study 1 (nine items, α = .88) and outgroup attitudes using the same adjectives as Study 1 (four items, α = .76).

Results

Fifteen participants (eight from the positive condition and seven from the negative condition) were removed from analysis due to knowing one or more participant(s) in the other group prior to the experiment (remaining N = 89). We again used HLM using an approach similar to Study 1. As in Study 1, we hypothesized for participants in the positive expectation condition that ratings of perceived interaction quality would predict outgroup attitudes, whereas for those in the negative expectation condition, perceived interaction quality would not predict these attitudes. All models included dummy-coded Political Party at Level 1, and at Level 2, dummy-coded expectation condition and dummy-coded gender. Gender and political party produced no significant main or interaction effects and were therefore removed from models in Study 2. Including these variables did not alter results.

Expectations and quality. We first examined whether positive or negative feedback about the small group solution led participants to expect a positive or negative interaction, respectively, by regressing expected interaction quality on our model. Our manipulation was successful: Participants receiving positive feedback had more positive expectations of the upcoming interaction (M = 5.39, SD = 0.839) than those receiving negative feedback (M = 3.83, SD = 0.814; γ = −1.53, SE = 0.190, p < .001, 95% CI = [−1.90, −1.16]). This model explained 91% of the Level 2 variance in expected interaction quality.

Next, we examined whether expectation condition had a direct effect on perceived interaction quality by regressing perceived interaction quality on our model. This model explained 17% of the variance in perceived interaction quality. Results indicated, as predicted, that expectation condition predicted perceived interaction quality (γ = 0.464, SE = 0.229, p = .054, 95% CI = [0.015, 0.913]), whereby participants in the positive expectations condition perceived the interactions more positively (M = 5.84, SD = 1.01) than participants in the negative expectations condition (M = 5.40, SD = 0.878). An additional analysis, with self-reported expected interaction quality as a Level 1 predictor, further supports this notion, with expected interaction quality reliably predicting perceived interaction quality (γ = 0.293, SE = 0.099, p = .004, 95% CI = [0.099, 0.487]). Participants with more favorable expectations reported experiencing more positive interactions.

We also examined the effects of the feedback manipulation on affect. We analyzed positive affect and negative affect separately, as recommended for the PANAS, and we also combined them with appropriate reverse-scoring to produce a single measure. The expectation manipulation did not have an effect on overall affect (γ = 0.022, SE = 0.056, p = .699, 95% CI = [−0.088, 0.132]) or negative affect (γ = −0.177, SE = 0.118, p = .147, 95% CI = [−0.054, 0.408]). For

positive affect, there was a marginal effect ($\gamma = -0.211$, $SE = 0.118$, $p = .087$, 95% CI = [-0.442, 0.020]), but in the opposite direction than expected: Positive affect was somewhat higher in the negative expectations condition ($M = 2.82$, $SD = 0.604$) than in the positive expectations condition ($M = 2.60$, $SD = 0.606$, on a 1-5 scale).

Outgroup attitudes. We then regressed outgroup attitudes on the model described above, with the addition of a grand-mean centered perceived interaction quality as a Level 1 predictor. We again anticipated that perceived interaction quality would predict outgroup attitudes for those participants with positive expectations, whereas perceived interaction quality would be unrelated to outgroup attitudes for those with negative expectations. This model explained 4% of the Level 1 variance and 38% of the Level 2 variance in outgroup attitudes. There was no main effect of expectation condition ($\gamma = 0.184$, $SE = 0.202$, $p = .387$, 95% CI = [-0.580, 0.212]). As predicted, we found a main effect for perceived interaction quality ($\gamma = 0.387$, $SE = 0.114$, $p = .001$, 95% CI = [0.164, 0.610]) on outgroup attitudes. Also as predicted, dummy-coded expectation condition interacted with perceived interaction quality to predict outgroup attitudes ($\gamma = -0.376$, $SE = 0.208$, $p = .076$, 95% CI = [-0.784, 0.032]), replicating Study 1, although the effect was marginally significant (see Figure 2).

Decomposition of this interaction showed effects in the predicted directions, consistent with Study 1. In the positive expectation condition, perceived interaction quality predicted outgroup attitudes ($\gamma = 0.387$, $SE = 0.112$, $t = 3.41$, $p < .001$), whereas in the negative expectation condition, perceived interaction quality was unrelated to outgroup attitudes ($\gamma = 0.012$, $SE = 0.174$, $t = 0.068$, $p = .946$). This indicates that perceived interaction quality predicted outgroup category attitudes for participants entering an interaction with positive expectations, suggesting generalization of contact effects. Furthermore, lack of a relationship between interaction quality and outgroup attitudes for participants with negative expectations suggests no generalization of contact for those participants.

Similar to Study 1, for participants who perceived the interaction to proceed negatively (-1 SD), there was no difference between participants within the positive or negative expectation condition ($\gamma = 0.179$, $SE = 0.255$, $t = 0.704$, $p = .484$). This suggests that positive expectations may not lead to worse outgroup attitudes if the interaction goes poorly, because when the interaction went poorly, participants were no more likely to generalize that more negative experience to the outgroup when they had positive—compared with negative—expectations.

Because our feedback manipulation intended to influence intergroup expectations could also influence participants' affect, in a supplementary analysis, we added measures of positive and negative affect as predictors to the model. Our predicted effects occurred independent of affect participants
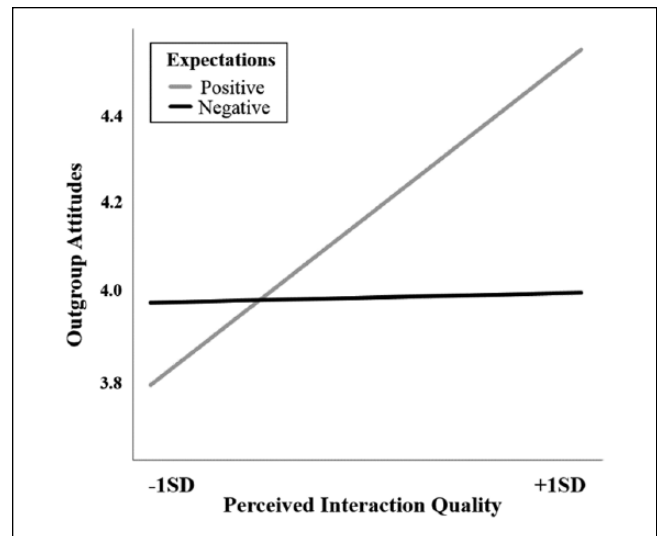

Figure 2. Study 2: Two-way interaction between expectation condition (negative or positive) and perceived interaction quality.

experienced following feedback from the other group. Positive affect did not predict outgroup attitudes ($\gamma = 0.269$, $SE = 0.214$, $p = .215$, 95% CI = [-0.150, 0.688]), but participants who reported more negative affect in response to the other group's feedback subsequently reported more negative outgroup attitudes ($\gamma = -0.765$, $SE = 0.290$, $p = .011$, 95% CI = [-1.33, -0.197]). Of primary relevance to our hypotheses, this analysis yielded the anticipated main effect of perceived interaction quality ($\gamma = 0.343$, $SE = 0.111$, $p = .003$, 95% CI = [0.125, 0.561]) on outgroup attitudes, and the interaction between perceived interaction quality and expectation condition becomes statistically significant ($\gamma = -0.544$, $SE = 0.190$, $p = .006$, 95% CI = [-0.916, -0.172]). These findings indicate that expectations moderate the generalizability of contact above and beyond the influence of affective responses to the feedback manipulation intended to shape expectations.

Discussion

Study 2 provides experimental evidence that positive expectations elicit generalization, whereas negative expectations do not. While participants expecting a more positive interaction rated interactions more positively, these expectations also shape the degree and direction of generalizability to outgroup attitudes. Participants entering an intergroup interaction with positive expectations were open to changing their outgroup evaluation to be consistent with the quality of the interaction, particularly when the interaction proceeded positively. By contrast, perceived interaction quality had no effect on outgroup attitudes for those with negative expectations, no matter how well the interaction itself proceeded.

It is notable that given the contentious political relations between Republicans and Democrats in the United States, experimentally manipulated positive expectations would

make attitudes toward the political outgroup malleable enough to improve with a positive intergroup interaction. Therefore, these results provide support for our hypotheses; nevertheless, preexisting attitudes about the political party outgroups could have affected our results. Likewise, positive and negative expectations were a Level 2 between-subject variable and may have led to qualitative differences in the interactions participants observed. Therefore, in Study 3, we examined the effect of expectations on evaluations of fictitious groups, and we designed the study to eliminate differences in actual interactions that participants in the positive and negative expectation conditions experienced.

Study 3

In Study 3, fictitious groups were utilized to eliminate the influence of any preexisting intergroup biases. To control for objective differences in the interaction, we implemented a yoked design whereby one group in each session would receive the positive expectation manipulation and the other would receive the negative expectation manipulation. So, in each session, participants in both conditions experienced an identical intergroup interaction, but with different expectations. Participant ratings of this interaction thus reflect the effect of the expectation manipulation rather than differences in the interactions when both groups expected positive or negative expectations.

In a two-level (expectations: negative, positive) yoked experimental design, we manipulated expectations in the same way as Study 2, except within the same session we attempted to provide one dyad with positive expectations and the other dyad with negative expectations prior to their interaction. We anticipated replicating Study 2 in that participants expecting a positive interaction would be more sensitive to the interaction quality when evaluating the generalized outgroup compared with those expecting a negative interaction. This hypothesis would be supported by a statistical interaction between expectation condition and perceived interaction quality on outgroup attitudes.

Method

Participants and design. Eighty White undergraduates (48 women) participated for partial course credit, in same-sex sessions (*n* = 20) of four participants per session in a two-level (expectations: positive, negative) between-subjects yoked design.

Procedure. Similar to Study 1, two groups of two participants each were scheduled in separate locations around a central lab. Identical to Study 2, each group of participants was immediately led to a small room without encountering the other group. Participants were informed that based on information collected during a pre-testing session at the beginning the semester, they had been identified as either "Global"

thinkers, those tending to solve problems by seeing the larger picture, or "Analytic" thinkers, those who focus on the smaller details of a problem, and that the purpose of the study was to compare their answers with the other type of thinkers. The two-person groups then worked in separate rooms on the Winter Survival task (see Study 1) for 5 min.

Then, as in Study 2, participants were informed they would soon be working on another task with two outgroup members (Global, Analytic thinkers). Also as in Study 2, participants were informed that before this activity, each group would have an opportunity to evaluate the other group's solution to the Winter Survival task. Valence of evaluative feedback was manipulated in the same way as Study 2. Unlike Study 2, in each session, one group received positive feedback, and the other group received negative feedback. Therefore, in each session, one group expected a positive interaction, whereas the other expected a negative interaction, allowing the actual interactions to be identical for dyads with different expectations. Following receipt of the feedback, participants then reported their expectations (six items, three reverse-scored: I expect the interaction in the next room to be [1 = *not at all* to 7 = *very much*]: Cooperative, Tense [R], Friendly, Competitive [R], Quarrelsome [R], Pleasant; α = .83), as a manipulation check.

Next, both groups then entered another room and worked together on a Fallout Shelter task to foster group discussion (see Study 2). Participants worked on this task for 10 min, following which they completed the same measure of perceived interaction quality utilized in Study 1 (nine items, α = .87) and a measure of perceptions of Global and Analytical thinkers in general (four items; α = .76).

Results

Again using HLM, for all models we entered dummy-coded expectation condition (expectations: negative, positive) at Level 1 and gender at Level 2. Unless explicitly stated, gender produced no significant effects and was therefore removed from models in Study 2. The inclusion of gender did not alter results. As a manipulation check, we examined whether positive or negative feedback about the small group solution led participants to expect a positive or negative interaction, respectively. Regressing expected interaction quality on our model indicated that our manipulation was successful: Participants receiving positive feedback had more positive expectations of the upcoming interaction (*M* = 5.59, *SD* = 0.710) than those receiving negative feedback (*M* = 3.93, *SD* = 0.873; γ = 1.66, *SE* = 0.186, *p* < .001, 95% CI = [1.30, 2.02]). This model explained 57% of the Level 1 variance in expected interaction quality.

Next, we regressed perceived interaction quality on our model. As predicted and confirming that our yoked design indeed controlled for a direct effect of expectations on interaction quality, there was no effect of expectation condition on perceived interaction quality (γ = 0.228, *SE* = 0.160, *p* =
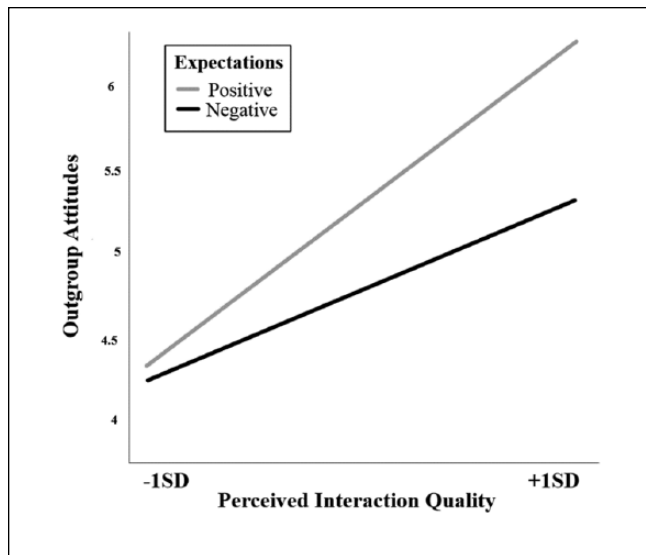
Figure 3. Study 3: Two-way interaction between expectation condition (negative or positive) and perceived interaction quality.

.123, 95% CI = [−0.086, 0.542]). Perceived interaction quality was generally positive across all conditions ($M = 6.01$, $SD = 0.759$). We also tested a model including group membership to determine whether both groups had a similar perception of the interaction. The results indicated that there was no main effect for group membership (Analytic, Global thinkers) or Group membership × Expectation interaction in perceived interaction quality.

Outgroup attitudes. We predicted that positive expectations would encourage generalization, whereas negative expectations would inhibit it. Thus, like in Studies 1 and 2, we hypothesized that ratings of perceived interaction quality would interact with expectation condition to predict outgroup attitudes. Therefore, we regressed outgroup category attitudes on our statistical model, including grand-mean centered perceived interaction quality and the Expectation condition × Perceived interaction quality multiplicative interaction term as Level 1 predictors. This model explained 44% of the Level 1 variance in outgroup attitudes. We found a main effect for expectation condition ($\gamma = 0.486$, $SE = 0.192$, $p = .014$, 95% CI = [0.110, 0.862]) and a main effect for perceived interaction quality ($\gamma = 0.684$, $SE = 0.204$, $p = .001$, 95% CI = [0.284, 1.08]). As predicted, expectation condition interacted with perceived interaction quality to predict outgroup attitudes ($\gamma = 0.553$, $SE = 0.219$, $p = .014$, 95% CI = [0.101, 0.959]), replicating Studies 1 and 2 (see Figure 3). The simple slopes showed that perceived interaction quality predicted outgroup attitudes in the positive expectation condition ($\gamma = 1.24$, $SE = 0.126$, $t = 9.82$, $p < .001$). Consistent with our hypothesis, this relationship was of lesser magnitude in the negative expectation condition ($\gamma = 0.684$, $SE = 0.204$, $t = 3.35$, $p = .002$).

As with Studies 1 and 2, when perceived interaction quality was low (−1 *SD*), there was no difference between the negative expectations and the positive expectations conditions ($\gamma = 0.067$, $SE = 0.241$, $t = 0.279$, $p = .781$). Therefore, our hypothesis that positive expectations would lead to greater generalization of negative contact, in addition to positive contact, was not supported. This pattern again suggests that positive expectations encourage generalization of positive contact to improve intergroup attitudes but generalize no differently than negative expectations when the contact situation is less amiable.

Discussion

Study 3 provides further support for our hypotheses and replicates Studies 1 and 2. Although both negative and positive expectations showed a positive relationship between perceived interaction quality and outgroup attitudes, this relationship was qualified by a significant interaction between expectation condition and perceived interaction quality. Consistent with Studies 1 and 2, this statistical interaction suggests that positive expectations encouraged generalization. The relationship between perceived interaction quality and outgroup category attitudes was more pronounced in the positive expectation condition, indicating that participants with positive expectations more readily associated outcomes from that interaction with the outgroup, whereas negative expectations did not.

Given that participants expecting both positive and negative interactions experienced the same group discussion, the effect of expectations on generalization was likely due to differences in processing rather than differences in the actual interaction. This result is particularly noteworthy given the use of fictitious groups to which participants had no previous association. Participants interacting with members of established outgroups (racial outgroup members in Study 1 and political rivals in Study 2) are likely more motivated to retain negative outgroup category attitudes. The use of fictitious groups in this study both eliminates the effect of preexisting attitudes on evaluations of the outgroup and highlights the importance of expectations in generalizing a positive contact experience to the outgroup.

The strength of our yoked design is that, regardless of expectations, participants experienced the same actual interaction, providing greater experimental control. As predicted, ratings of interaction quality were the same for those with positive and negative expectations. However, although participants rated it equivalently in both conditions, we had no control over interaction quality. Although expectations had an effect on generalization of contact, it did not have a direct effect on perceptions of the interaction quality. This may have been due to the yoked experimental design, which was intended to minimize interaction differences between participants with positive or negative expectations for the interaction. Without manipulating the interaction quality directly,

our design may have restricted the range of perceived interaction quality ratings. A generally positive perceived interaction quality—in this study, $M = 6.01$ out of 7—may have prevented us from testing the effect of a truly negative intergroup interaction and may have washed out any potential effect of expectations on perceived interaction quality. Therefore, we designed Study 4 to manipulate both the objective interaction quality and participants' expectations.

Study 4

In Study 4, we manipulated both the expectations for the interaction and the quality of the *actual* interaction using trained undergraduate confederates. This design enabled us to directly test the interactive effect of participant expectations and the actual interaction quality on outgroup perceptions.

Method

Participants and design. Fifty-eight White undergraduate women[2] participated for partial course credit, in 29 sessions of two participants and two confederates per session, in a 2 (expectations: positive, negative) × 2 (interaction quality: positive, negative) between-subjects design.

Confederate behavior. To manipulate interaction quality, each session included two confederates posing as participants. In the positive interaction condition, the confederates acted to facilitate an agreeable intergroup interaction, whereas in the negative interaction condition, confederates acted to make it difficult to reach a final decision. Confederates were trained to use prepared scripts of six statements, three from each confederate. In the *positive interaction condition*, these statements were variations of the following: "That is true, [item] is definitely the most important," "I agree, that is a good spot for [item]," Great idea, I didn't think of that," and "That is pretty creative. I like that." In the *negative interaction condition*, these statements comprised two direct criticisms of a suggestion, and four suggestions to reorganize the rank ordering of the list after items had already been recorded, intended to be irritating, such as "Actually I think [item] should go as #1. Let's just move everything down one rank," "Now that I think about it, I don't think that's a good choice for #1. What if we put [item] there?," "Actually, [item] doesn't make sense at #4, let's move it to #2," and "I don't think that's a good idea, but whatever, we can just keep going." Other than variations of these statements, confederates were trained to keep their comments to a minimum. Confederates were unaware of the expectation condition.

Procedure. Two confederates waited in the same location as participants before an experimenter ushered them into the laboratory. To increase believability of the fictitious

under- and over-estimator groups, each of the four ostensible participants was asked to estimate of the number of jellybeans of a particular color in a jar of jellybeans. Both actual participants were informed they belonged to one group (over- or under-estimators) and both confederates belonged to the other group. The two participants were then led to a small room, where they were informed the purpose of the experiment was to compare the problem-solving styles of over- and under-estimators. Participants then worked on the Fallout Shelter task for 5 min.

Similar to Study 2 and Study 3, expectations were manipulated by participants either receiving positive or negative feedback on their solution, and participants then reported their expectations of the upcoming interaction (expected interaction quality, 11 items, six reverse-scored: Cooperative, Friendly, Agreeable, Successful, Decisive, Tense [R], Competitive [R], Quarrelsome [R], Unpleasant [R], Frustrating [R], Annoying [R]; α = .89).

Similar to Studies 1 and 2, participants then entered another room with the two confederates, and each group worked together on the Winter Survival task for 10 min. Participants were told the four-person group creating the best solution over the semester would receive US$40.00. To manipulate interaction valence, the confederates acted in the manner described earlier. Following the interaction, they completed a questionnaire asking about perceived interaction (11 items, same as expected interaction quality, α = .95) and of the outgroup in general (either over- or under-estimators; 4 items, α = .82).

Results

Two participants were eliminated due to suspicion of the feedback (remaining $N = 56$). Unlike Studies 1 to 3, in the current study, expectations of the upcoming interaction and interaction quality were manipulated between subjects. Therefore, there were no Level 1 predictors, and grand-mean centered Level 2 predictors included dummy-coded expectation condition (positive, negative) and dummy-coded interaction quality condition (positive, negative) and their multiplicative interaction term.

As a manipulation check, we regressed expected interaction quality on our model. Participants in the negative expectations conditions ($M = 5.36$, $SD = 0.863$) expected a worse interaction than participants in the positive expectations conditions ($M = 5.36$, $SD = 0.863$; γ = 1.05, $SE = 0.312$, $p = .002$, 95% CI = [0.438, 1.66]). This model explained 69% of the Level 2 variance in expected interaction quality. Next, as a manipulation check, we regressed perceived interaction quality on our model. This model explained 88% of the Level 2 variance in perceived interaction quality. Participants in the negative interaction conditions ($M = 4.20$, $SD = 1.05$) evaluated the interaction more negatively than did those in the positive interaction conditions ($M = 6.45$, $SD = 0.473$; γ = 2.06, $SE = 0.237$, $p < .001$, 95% CI = [1.60, 2.52]), indicating
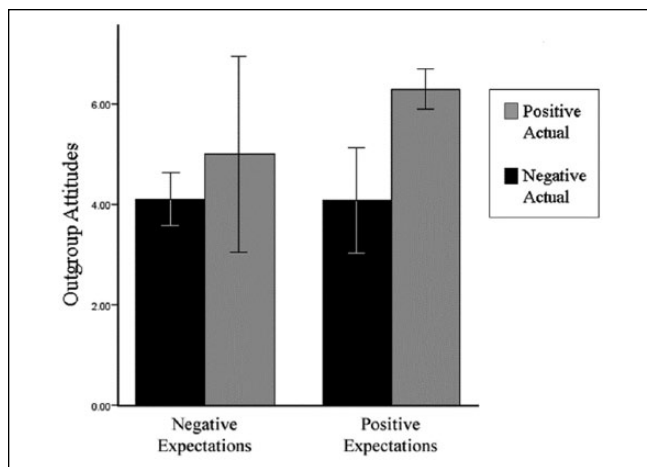
Figure 4. Expectation (negative or positive) by actual interaction (negative or positive) interaction.
Note. Error bars represent 95% confidence intervals.

that both manipulations were successful. Moreover, participants in the negative expectations conditions did not differ from participants in the positive expectations conditions ($\gamma = -0.039$, $SE = 0.375$, $p = .918$, 95% CI = [−0.774, 0.696]) on ratings of perceived interaction quality, indicating that participant expectations did not have a direct effect on perceived interaction quality.[3]

Outgroup attitudes. To examine the effect of expected and perceived interaction quality on outgroup attitudes, we regressed outgroup category attitudes on our model. This model explained 68% of the Level 2 variance in outgroup category attitudes. We found neither an effect of expectation condition ($\gamma = -0.338$, $SE = 0.406$, $p = .413$, 95% CI = [−1.13, 0.458]) nor an effect of interaction condition ($\gamma = 0.743$, $SE = 0.492$, $p = .143$, 95% CI = [−0.221, 1.71]) on outgroup attitudes. Consistent with the previous studies, we did find the anticipated Expectation condition × Interaction condition statistical interaction on outgroup attitudes ($\gamma = 1.41$, $SE = 0.664$, $p = .043$, 95% CI = [0.109, 2.71]). As predicted and replicating Studies 1, 2, and 3, decomposing the interaction revealed that in the negative expectations condition, perceived interaction quality did not influence evaluations of the outgroup ($\gamma = 0.743$, $SE = 0.492$, $t = 1.51$, $p = .143$), and in the positive expectations condition, perceived interaction quality predicted outgroup attitudes ($\gamma = 2.16$, $SE = 0.446$, $t = 4.84$, $p < .001$; see Figure 4).

Consistent with the previous studies, when the intergroup interaction was negative, outgroup attitudes for participants with negative expectations were not significantly different from that for participants with positive expectations ($\gamma = -0.034$, $SE = 0.406$, $t = -0.832$, $p = .414$). In Study 4, expectations did not have an effect on perceived interaction quality, a result that is likely due to our experimental manipulation of interaction quality.

Discussion

Study 4 provides strong evidence for our hypothesis that positive expectations facilitate, whereas negative expectations limit generalization of an intergroup interaction on outgroup attitudes. In Study 4, expectations did not have an effect on perceived interaction quality, a result that is likely due to our direct manipulation of interaction quality. For participants in the positive expectation condition, those who had a positive interaction showed more positive outgroup attitudes compared with those who had a negative interaction. In contrast, for participants in the negative expectations condition, outgroup attitudes did not differ as a function of how well the interaction actually proceeded. Study 4 sampled only female participants, but because our results were consistent with the previous three studies and given that gender did not play a role in the other studies, we do not believe this to be a factor in our results.

Importantly, Study 4 replicated the effects observed in each of the previous three studies. First, we showed that when people have positive expectations—but not when they have negative expectations—positive interactions lead to more positive outgroup attitudes compared with participants who experienced negative interactions, suggesting that positive expectations encourage generalization. Given that we manipulated both expectations and interaction quality, this study provides evidence that having positive expectations for an interaction causes outgroup attitudes to be dependent on how well that interaction proceeds. For participants expecting a positive interaction, a positive intergroup interaction can produce more favorable outgroup views. By contrast, having negative expectations for an intergroup interaction may crystallize outgroup attitudes, making them less responsive to a positive intergroup interaction.

General Discussion

Using correlational, yoked quasi-experimental, and experimental designs involving both minimal and real-world groups, four studies demonstrated that expectations about intergroup interactions, whether measured (Study 1) or manipulated (Study 2), predicted the interaction quality. Only in studies where the design of our study necessarily limited (yoked design, Study 3) or directly manipulated (Study 4) the interaction quality did we fail to find a main effect of expectations on interaction quality. We believe the critical difference in the findings between these two sets of studies is that in Studies 1 and 2, we allowed the interaction to vary spontaneously, whereas in Studies 3 and 4, we more tightly controlled the valence of the interactions. Interactions with no direct valence manipulation (Studies 1 and 2) are more likely to reflect naturalistic interactions beyond the laboratory, and thus we argue that these studies have greater external validity, though less empirical precision. Thus, expectations usually influence perceived interaction quality.

The unique contribution of the current research is the role that expectations play in generalizing intergroup contact to outgroup attitudes. Factors such as the typicality of outgroup members directly involved in the contact situation has been shown to moderate generalization of positive contact to improved outgroup attitudes (see Brown & Hewstone, 2005, for a review). The current research demonstrates that intergroup expectations also moderate the extent to which the quality of intergroup contact affects outgroup attitudes. Whereas positive intergroup expectations encourage generalization of positive contact to the outgroup category, negative expectations help maintain negative outgroup attitudes. Across all four studies, participants with positive expectations for the intergroup interaction generalized a positive intergroup interaction to the outgroup category. By contrast, for participants holding negative expectations, the relationship between intergroup interaction quality and outgroup attitudes was nonexistent or weaker than for participants with positive expectations.

These studies not only highlight the importance of positive intergroup contact but also reinforce recent interest in negative contact. A recent longitudinal study suggests that both positive and negative intergroup contact can generalize to the outgroup (Stark, Flache, & Veenstra, 2013). Additional research suggests that negative information may more easily generalize to the outgroup (Paolini, Harwood, & Rubin, 2010). Our studies suggest that negative expectations prevent positive contact from leading to more favorable outgroup attitudes.

One unexpected finding was consistent. Positive expectations did not appear to have a drawback in negative contact situations, compared with negative expectations. Although we predicted that positive expectations might make people more likely to generalize a negative contact experience, in all studies, when the actual interaction was relatively negative, there was no difference between participants with positive or negative expectations. Future studies should use a baseline control condition to test whether positive or negative expectations specifically cause changes in the likelihood of generalization. For example, in the paradigm used in Studies 2 and 3, a condition could be added in which the groups receive no information about what the other group thought of their group's solution.

Positive expectations appear to be effective at improving intergroup relations (Mallett & Wilson, 2010). However, affective forecasting research suggests that people are generally poor predictors of their feelings (Wilson & Gilbert, 2003), and people systematically predict that intergroup interactions will proceed worse than they actually do (Mallett et al., 2008). People tend to adjust predictions based on negative feedback, but they tend not to learn from positive feedback (Wilson, Meyers, & Gilbert, 2001). This may explain why negative expectations are so impactful and why they tend to stifle generalization in the face of positive contact. Moreover, this may suggest that people will fail to adjust their expectations of future contact following a positive contact situation, particularly for people who entered an interaction with negative expectations.

Limitations and Future Directions

One potential limitation to our research is the use of small groups in each study, instead of individual participants. Research on the interindividual-intergroup discontinuity effect suggests that people behave more competitively when in groups compared with when interacting as individuals (for a review, see Wildschut, Pinter, Vevea, Insko, & Schopler, 2003). However, because our studies were intended to test the effect of expectations for members of different social group categories, we would suspect on the basis of social identity theory (Tajfel & Turner, 1979) that the results would be no different than if participants were interacting as two individuals, as long as their different social identities were salient. When individuals' group identities are salient, two individuals can have an intergroup interaction (Brown & Turner, 1985). However, future research might examine potential differences in the role expectations play when individuals with different salient group identities, compared with small groups, interact.

Although the present work provides convergent evidence across four studies of the role of intergroup expectations on the way the quality of intergroup contact affect outgroup attitudes, we do not examine a mediator of the effect, which future research might consider. Information-processing styles are a possible mediator. Positive expectations facilitate greater scrutiny toward an individual than negative expectations (Yzerbyt & Leyens, 1991), which entrench negative attitudes toward that individual (Ybarra, 2002), making attitude change less likely. We observed this pattern in our measures capturing the effect of expectations and the interaction quality on outgroup attitudes. That is, positive intergroup expectations led to greater generalization from the interaction to outgroup attitudes, compared with negative expectations. Positive expectations elicit a more systematic processing style, whereas negative expectations produce a more heuristic processing style (Ybarra et al., 1999). It is possible that intergroup expectations have an effect on intergroup information-processing styles, leading to differences in how easily a positive contact experience generalizes to the outgroup (Ybarra, Stephan, & Schaberg, 2000).

Additional research might directly assess whether positive and negative expectations lead people to process intergroup interactions with deliberative or heuristic processing. To the extent that deliberative processing accounts for the effects of positive expectations on the generalization of the immediate intergroup experience to outgroup attitudes, introducing memory load on participants, which reduces the capacity for deliberative processing, might impair the effects of positive expectations on generalization but have little effect on the pattern we observed for negative expectations.

Deliberative processing could be assessed, as Ybarra et al. (1999) did, by administering a memory test after presenting the information about social targets. Specifically, future research could script confederate behavior to convey identical information across conditions. Better memory for this information is assumed to reflect more deliberative processing. We would expect that positive, compared with negative, intergroup expectations would produce better memory for the detailed information conveyed by confederates, representing greater engagement and scrutiny during an interaction, which in turn would predict a stronger relationship between the specific attitudes toward outgroup members involved in the interaction and the outgroup category. Directly assessing the potential underlying cognitive processes would thus help to clarify the relationship between intergroup expectations and post-interaction intergroup attitudes.

Another limitation of this research is the use of a feedback-based manipulation of expectations. Although our manipulation checks in Studies 2, 3, and 4 indicated that we successfully manipulated perceived expectations, the possibility remains that other potential processes could have been manipulated. In Study 2, our results were due to changes in perceived expectations above and beyond the effect of affect, though we have no data available in Studies 3 and 4 to examine the potential role of affect. The use of just one method of manipulating expectations represents a limitation of this research, and future studies should use other manipulations and study designs to more directly examine the role of expectations in generalization of intergroup contact.

In addition, future research might examine the effect of expectations on performance during an intergroup interaction. Positive performance expectancies generally lead to better performance (Bandura, 1986), and therefore, one might predict that positive expectations might encourage better performance. However, other research suggests that expectations need to be realistically positive (i.e., not fantasies) to be effective (Oettingen & Mayer, 2002) and that task difficulty and cognitive capacity (Reinhard & Dickhäuser, 2009) must be taken into account for positive expectations to lead to improved performance. Moreover, the challenges posed by intergroup interactions certainly play a role, suggesting that the relationship between expectations and performance in an intergroup context may be more nuanced.

Across these four studies, participants experienced a generally positive interaction. Because the interactions were generally positive, which would be anticipated based on the cooperative problem-solving tasks used, participants with positive expectations likely had their expectations confirmed more than those with negative expectations. Consequently, they may feel more confident in their intergroup interactions, perhaps reducing intergroup anxiety, which negatively influences outgroup attitudes (Plant & Devine, 2003). Future research might consider feelings of confidence with intergroup interactions, as well as intergroup anxiety, as potential mediators of the expectations by interaction quality effects on outgroup attitudes.[4] In addition, future research might more strongly manipulate the favorability of the intergroup interaction. If correspondence between expectations and the experience of the intergroup interaction is crucial, then positive expectations would be expected to primarily promote generalization when the experience of the intergroup interaction was positive, but negative expectations would primarily produce generalization when the intergroup interaction was negative.

In conclusion, although positive intergroup contact plays a crucial role in encouraging group-level attitude change (Pettigrew et al., 2011), positive contact does not necessarily guarantee more positive intergroup attitudes. Expectations fundamentally shape the ways people attend to their environment, encode information into memory, and form attitudes—particularly about other people. Unsurprisingly, positive expectations appear to have a very fruitful role in improving intergroup relations (Mallett & Wilson, 2010). The current research indicates that while more positive expectations have a positive impact on intergroup interactions, they also encourage greater generalization of an interaction to the outgroup. This research also reveals the particularly damaging role of negative expectations, which prevents generalization. Thus, the content of one's expectations upon entering an intergroup interaction can either facilitate or limit the potentially beneficial effects of positive contact on intergroup attitudes.

Declaration of Conflicting Interests

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Notes

1. Currently, no consensus exists on which effect size measures to use in multilevel analyses (Peugh, 2010). A local effect size can be calculated for Level 1 and Level 2 variance components representing the proportion of variance reduction from a model including no predictors. The proportion of variance reduction allows us to show the amount of variance in the outcome variable that is explained by the entire model at either Level 1 or Level 2, depending on whether variables are entered at each level (Peugh, 2010; Raudenbush & Bryk, 2002). Therefore, for all models reported, we have included this statistic.
2. To maintain consistency between sessions, four individuals acted as confederates. These confederates were all female, and therefore, only female participants were recruited.
3. An additional analysis examining the effect of self-reported expectations produced similar results.

4. We conducted additional analyses to test, albeit indirectly, whether greater confidence accounts for some of our findings. We computed an accuracy score using the difference (in absolute value) between expected interaction quality and perceived interaction quality (in Studies 2 and 3, which included different items for expectations and interaction quality, we used the items that were common to both measures; no adjustment was needed for Studies 1 and 4). In these analyses, greater correspondence between expectations and perceived interaction quality (or expectation "accuracy") is assumed to elicit greater confidence about interacting with outgroup members. We tested the relationship between accuracy (low scores indicating less difference or greater accuracy) and outgroup attitudes within our nested design for each study. We found inconsistent support for an interpretation that greater confidence may mediate our results. Greater accuracy predicted more positive outgroup attitudes in Study 1 ($\gamma = -0.487$, $SE = 0.172$, $p = .007$, 95% CI = $[-0.824, -0.150]$) and in Study 2 ($\gamma = -0.322$, $SE = 0.147$, $p = .032$, 95% CI = $[-0.610, -0.034]$). The relationship was non-significant in Study 3 ($\gamma = -0.265$, $SE = 0.174$, $p = .133$, 95% CI = $[-0.606, 0.076]$). In Study 4, by contrast, the lower the difference between expected and actual interaction quality, the more *negatively* participants rated the outgroup ($\gamma = 0.446$, $SE = 0.128$, $p = .002$, 95% CI = $[0.195, 0.697]$).

Supplemental Material

The online supplemental material is available at http://pspb. sagepub.com/supplemental.

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