Research Article

Relationships Between Intergroup Contact and Prejudice Among Minority and Majority Status Groups

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ABSTRACT—*Considerable research has shown that greater intergroup contact corresponds with lower intergroup prejudice, yet little is known regarding how the relationships between contact and prejudice may vary for members of minority and majority status groups. The present research examined differences in contact-prejudice relationships among members of minority and majority status groups, using data from a larger meta-analytic study of the effects of intergroup contact. Results indicate that the relationships between contact and prejudice tend to be weaker among members of minority status groups than among members of majority status groups. Moreover, establishing Allport's (1954) proposed conditions for optimal intergroup contact significantly predicts stronger contact-prejudice relationships among members of majority status groups, but not among members of minority status groups. Implications of these findings for future research on contact between minority and majority status groups are discussed.*

Decades of research show that intergroup contact can promote reductions in intergroup prejudice, particularly when the contact situation is structured to enhance positive intergroup outcomes (see Allport, 1954; Pettigrew, 1998). Indeed, longitudinal (Levin, van Laar, & Sidanius, 2003), experimental (Wright et al., 2004), and meta-analytic (Pettigrew & Tropp, in press-b) studies provide converging evidence that intergroup contact can contribute meaningfully to reducing prejudice between groups.

Still, despite this extensive literature, only recently have researchers begun to consider the distinct ways in which members

of minority and majority status groups might respond to intergroup contact, given their different histories of experiences within the broader society. Emerging work suggests that members of minority and majority status groups both have challenges with which they must contend as they approach cross-group interactions (e.g., Devine & Vasquez, 1998; Hyers & Swim, 1998); however, these challenges tend to be based in largely distinct concerns, corresponding with the groups' differences in status. In particular, the concerns of members of majority status groups typically involve being perceived as prejudiced by individuals lower in status, whereas the concerns of members of minority status groups involve becoming the target of prejudice from individuals higher in status (see Plant, 2004; Plant & Devine, 2003; Shelton, 2003; Stephan & Stephan, 1985; Vorauer, Main, & O'Connell, 1998).

These perspectives offer important advances for understanding minority- and majority-group members' expectations for intergroup contact and experiences during cross-group interactions. But research has yet to test whether group differences in status might moderate the extent to which intergroup contact can promote positive intergroup attitudes among members of minority and majority status groups. Other recent work suggests that differences in status may compel members of minority and majority status groups to differ in how they conceive of their intergroup relationships and define relations between their groups (see Blumer, 1958; Bobo, 1999; Sidanius & Pratto, 1999). Relative to members of minority status groups, members of majority status groups are generally less inclined to reflect on their group's privileged status (Leach, Snider, & Iyer, 2002) or to think of themselves in terms of their group membership (Pinel, 1999), unless there are demands to do so in the immediate social context (McGuire, McGuire, Child, & Fujioka, 1978). By contrast, members of minority status groups tend to be well aware of

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their group's devalued status (Jones et al., 1984) and recognize that they are likely to be seen and evaluated in terms of their devalued group membership (Goffman, 1963). Consequently, they live with the constant threat of becoming targets of prejudice (Crocker, Major, & Steele, 1998), at the same time as they tend to receive inferior treatment due to their group's devalued status (see Swim, Hyers, Cohen, & Ferguson, 2001; Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003).

Researchers must begin to consider the implications of these contrasting orientations for achieving positive outcomes from contact between members of minority and majority status groups. From the perspective of members of minority status groups, regular reminders of their group's devalued status may become enduring features of the intergroup relationship, whereas members of majority status groups may deem these features less relevant to the intergroup relationship. Consistent with this view, other work suggests that the intergroup attitudes of minority group members are often based in the anticipation of prejudice from the majority group, whereas the intergroup attitudes of majority group members tend to be based in their own systems of beliefs and values (see Livingston, Brewer, & Alexander, 2004; Monteith & Spicer, 2000). It is therefore possible that ongoing histories of devaluation would inhibit the degree to which intergroup contact would be associated with positive intergroup attitudes among members of minority status groups, relative to the effects that might be observed among members of majority status groups.

Furthermore, given these long-standing differences in group status, one must question whether attempts to establish optimal conditions within the contact situation would contribute to enhancing positive intergroup attitudes among both minority and majority status groups. Traditionally, intergroup-contact theory has emphasized the importance of establishing optimal conditions within the contact situation—including conditions such as equal status, cooperation, common goals, and institutional support—in order to encourage the development of positive intergroup attitudes (see Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, in press-a). But some researchers have suggested that these conditions can be defined and interpreted in a number of ways (see Cohen, 1982; Riordan, 1978), and that members of minority status groups, relative to members of majority status groups, may be less convinced that such conditions have been implemented successfully (Robinson & Preston, 1976). Thus, even when attempts are made to establish optimal conditions in the contact situation, such efforts may not be enough to ensure that intergroup contact will promote positive intergroup outcomes for members of both minority and majority status groups. Rather, it may be that optimal conditions in the contact situation will be particularly effective in promoting positive intergroup attitudes among members of majority status groups, and less effective in promoting positive intergroup attitudes among members of minority status groups.

We examined these issues in the present research, using data gathered as part of a larger meta-analytic study of the effects of intergroup contact (see Pettigrew & Tropp, in press-b). Specifically, this research tested whether relationships between intergroup contact and intergroup prejudice differ between members of minority and majority status groups, and whether the patterns of effects vary depending on conditions of the contact situation. We predicted that contact-prejudice relationships would generally be weaker among members of minority status groups than among members of majority status groups. Moreover, we predicted that although establishing optimal conditions in the contact situation would strengthen contact-prejudice relationships for members of majority status groups, such conditions would generally be less effective in predicting contact-prejudice relationships among members of minority status groups.

METHOD

Locating Relevant Studies

For the meta-analytic review, we retrieved studies through intensive searches of multiple research literatures using a variety of procedures. We conducted searches of psychological (*PsychLIT*, *PsycINFO*), sociological (*SocAbs*, *SocioFile*), political science (*GOV*), education (*ERIC*), dissertation (*UMI Dissertation Abstracts*), and general research periodical (*Current Contents*) abstracts through December 2000. These searches utilized 54 different search terms that range from single words (e.g., "contact") to combined terms (e.g., "disabled + contact"). Within each database, we conducted three types of searches— by "title words," "key words," and "subject"—to enhance our likelihood of accessing all relevant studies with these terms. Using the *Social Sciences Citation Index*, we checked on later citations of especially seminal contact studies, following the "descendancy approach" described by Johnson and Eagly (2000). We also requested published and unpublished reports via e-mail networks of social psychologists, and we wrote personal letters to researchers who have published work in this area. Finally, we combed reference lists from located studies and previous reviews of the contact literature.

Inclusion Criteria

As we located these reports, we evaluated their appropriateness for inclusion in the meta-analysis on the basis of four primary criteria.

First, because our meta-analysis focused on the relationship between intergroup contact and prejudice, we considered only those empirical studies in which intergroup contact acted as an independent variable for predicting intergroup prejudice. Eligible studies included those using experimental manipulations to test for the effects of contact on prejudice and correlational studies in which contact was used as a correlate or predictor of intergroup prejudice.

Second, we included only studies that involved and assessed outcomes of contact between members of clearly defined groups. Thus, studies that involved some degree of interaction between

members of different groups, but did not examine outcomes in relation to group membership, were not included. This rule ensured that we examined intergroup—rather than interpersonal—outcomes.

Third, research was included only if it involved some degree of actual interaction between members of the different groups. This rule excluded studies that attempted to gauge contact with indirect measures such as information about an outgroup, as well as cases in which participants were categorized into different groups but given no opportunities to interact. This rule also excluded research that used estimates of intergroup proximity or relative group proportions to infer cross-group interaction.

Fourth, for a study to be included, the outcome measures had to be collected on individuals rather than assessed on an aggregate level, and some type of comparative data had to be available to evaluate variability in prejudice in relation to the contact.

We uncovered 515 studies from the early 1940s through the year 2000 that met these criteria. The studies included 713 independent samples and 1,383 nonindependent tests examining relationships between intergroup contact and prejudice. Combined, the studies represent responses from more than 250,000 participants from 38 countries, and they involve a wide variety of target groups, contact settings, study designs, and research procedures (see Pettigrew & Tropp, 2000; in press-b).

Procedure

For the present analysis, we coded each sample as to whether participants in the contact situation belonged to a stigmatized, lower-status group (i.e., minority status) or a dominant, higher-status group (i.e., majority status). These codings were conducted at the level of samples, because many studies included separate samples of minority and majority status participants. Additionally, a coding of "both minority and majority" was used for samples that included responses from members of both minority and majority status groups. Two independent judges achieved a kappa of .94 for the ratings of group status, and discrepancies between the judges were resolved through further discussion.

Approximately half of the cases in our analysis involved contact between racial and ethnic groups (52%), and the remaining cases involved contact between groups that varied in age, sexual orientation, disability, or mental illness (see Pettigrew & Tropp, in press-b). Because racial and ethnic contact were the most frequent kinds of contact within the minority and majority samples (88% and 41%, respectively), we analyzed these kinds of contact both combined with and separately from the others, to check for consistency in patterns of effects.

RESULTS

Our meta-analytic results are presented in four stages. First, we briefly summarize findings from the larger meta-analysis (Pet-

tigrew & Tropp, in press-b), to provide some background regarding overall relationships between intergroup contact and prejudice. We then compare mean effects for samples from minority and majority status groups. Next, we discuss regression analyses that tested whether differences in group status significantly and uniquely predicted contact-prejudice relationships, beyond what could be accounted for by methodological variables associated with the research studies. Finally, we examine whether a global indicator of optimal contact conditions predicted stronger contact effects for both minority and majority status groups, beyond the effects predicted by the methodological variables.

We employed Pearson's r as our primary indicator of effect size. When r values were not reported in the research studies, we derived r from other statistics using conversion formulas provided by Johnson (1993). Negative values of r indicate that greater contact was associated with less prejudice, and larger absolute values of r signify stronger relationships between contact and prejudice.

We also applied two corrections to the data on which our analyses were based. First, we capped sample sizes for seven extremely large samples, to avoid overweighting their results in the analysis. Additionally, we omitted 17 samples for which "nonsignificant" results were reported without detailed analytic information, because the inclusion of such cases may lead to the underestimation of effects (Johnson & Eagly, 2000). Together, these corrections produced only slight reductions in our estimates of the contact-prejudice effect sizes (see Pettigrew & Tropp, in press-b).

We analyzed the data using a random-effects approach, because it is preferable when cases are highly heterogeneous, when treatments are ill specified, or when effects are likely to be multidetermined (Cook et al., 1992). An added benefit of the random-effects approach is that it allows findings to generalize beyond the cases included in the analysis (see Hedges & Vevea, 1998). Random-effects models assume that a portion of the differences in effects across samples is essentially random and pertains to sources that one cannot identify (Lipsey & Wilson, 2001; Raudenbush, 1994). Correspondingly, relative to fixed-effects models, random-effects models provide relatively conservative tests, as they typically produce wider ranges for estimates of confidence limits and reduce the probability of achieving statistical significance (Hedges & Vevea, 1998).

Overall Relation Between Contact and Prejudice

As we have reported (Pettigrew & Tropp, in press-b), greater intergroup contact is generally associated with lower intergroup prejudice. Mean estimates of contact-prejudice effect sizes were consistent across studies (mean $r = -.21, z = -28.93, p < .001$) and samples (mean $r = -.22, z = -32.24, p < .001$). Further analyses demonstrated that these results were unlikely to be due to participant selection or publication biases, and the most

rigorous studies revealed especially strong contact-prejudice relationships (see Pettigrew & Tropp, in press-b).

Relation Between Contact and Prejudice Among Members of Minority and Majority Status Groups

As a first step in the present analysis, we tallied the number of samples for which relationships between intergroup contact and prejudice were examined among members of minority and majority status groups. Of the 698 samples, in only 142 (20.3%) were contact outcomes examined for members of minority status groups; in 505 samples (72.4%), contact outcomes were examined among members of majority status groups. In the remaining 51 samples (7.3%), contact outcomes were assessed for both minority and majority status groups. A chi-square analysis indicated significant differences in distributions of these samples, $\chi^2(2, N = 698) = 495.94$, $p < .001$, with the proportion of minority samples substantially lower and the proportion of majority samples substantially higher than what would be expected by chance. This comparison reveals the relative scarcity of contact research on minority status groups, relative to the amount of research conducted among members of majority status groups (see Devine & Vasquez, 1998; Shelton, 2000).

We then compared magnitudes of the mean contact-prejudice effect sizes for all minority and majority samples, and for those minority and majority samples involving racial and ethnic contact specifically. Results from these analyses are summarized in Table 1. Although significant contact-prejudice relationships were observed in all cases, the magnitude of the relationships varied significantly. Analyses including all samples showed that contact-prejudice relationships were generally weaker for members of minority status groups (mean $r = -.18$) than for members of majority status groups (mean $r = -.23$), $Q_B(1) = 9.34, p < .01$.[1] Similarly, among samples involving only racial and ethnic contact, contact-prejudice relationships were weaker for the minority samples (mean $r = -.18$) than for the majority samples (mean $r = -.24$), $Q_B(1) = 9.15, p < .01$.[2]

Minority-Majority Status as a Predictor for Contact-Prejudice Effects

We then conducted regression analyses to examine minority-majority status as a predictor for contact-prejudice effect sizes.

[1] These analyses were conducted using Fisher's z-transformed r values. Mean effects presented here have been transformed back to the r metric from the z-transformed estimates obtained in these analyses.

[2] A supplementary analysis tested whether this general pattern would persist when only those cases with manipulated contact were examined. Overall, relatively few cases involved manipulations of contact in either experiments (1% of minority samples, 5% of majority samples) or quasi-experiments (18% of minority samples, 24% of majority samples); hence, samples using manipulations of contact in either experimental or quasi-experimental designs were combined to conduct the minority-majority comparison. The results were consistent with those from the full data set: Contact-prejudice relationships were generally weaker among the 28 minority samples with manipulated contact (mean $r = -.21$) than among the 153 majority samples with manipulated contact (mean $r = -.28$); however, this trend did not reach statistical significance, $Q_B(1) = 2.15$, $p = .14$.

TABLE 1

Effects of Intergroup Contact on Prejudice in Samples From Minority and Majority Status Groups

| Analysis | Effect size | | Test of significance | | |
	Mean r	95% confidence limit	z	p	k
All samples					
Minority only	−.18	−.20, −.15	−11.35	<.000	142
Minority and majority	−.22	−.26, −.16	−8.20	<.000	51
Majority only	−.23	−.24, −.21	−28.60	<.000	505
Racial-ethnic samples					
Minority only	−.18	−.21, −.15	−11.19	<.000	125
Minority and majority	−.21	−.27, −.15	−7.07	<.000	33
Majority only	−.24	−.26, −.21	−20.26	<.000	205

Note. These analyses were conducted using Fisher's z-transformed r values. Mean effects and confidence limits listed in this table have been transformed back to the r metric from the z-transformed estimates obtained in these analyses. Random-effects variance components (based on Fisher's z-transformed r values) ranged from .022 to .025. k = number of samples associated with the mean effect size.

We conducted weighted, random-effects regression analyses using SPSS macros developed by Wilson (2002), which provide the appropriate parameters and probability values for meta-analytic data (Lipsey & Wilson, 2001).

As part of our larger analysis (see Pettigrew & Tropp, in press-b), we had coded the samples on several methodological variables, to examine contact-prejudice effects in relation to indices of research rigor. Specifically, we coded the samples to determine (a) the type of research study conducted (1 = survey or field study, 2 = quasi-experiment, 3 = experiment), (b) the type of contact indicator used (1 = assumed, 2 = reported by participants, 3 = observed), (c) the quality of the contact measure (1 = low reliability, 2 = high reliability), (d) the quality of the prejudice measure (1 = low reliability, 2 = high reliability), (e) the size of the sample, and (f) whether participants could choose to engage in the contact (1 = no choice, 2 = some choice, 3 = full choice).

For the present analysis, we used these codings in regression analyses to predict the contact-prejudice effects. The analysis revealed that minority-majority status significantly predicted contact-prejudice effects, beyond what could be predicted by the methodological variables (see Table 2). Moreover, minority-majority status emerged as a significant predictor both when all samples were included in the analysis and when only the racial and ethnic samples were included.

Optimal Conditions as a Predictor for Contact-Prejudice Effects

We then sought to test whether the minority and majority samples would show different patterns of effects even when the contact situation was designed to maximize positive intergroup

TABLE 2

Summary of Inverse Variance Weighted Regression Model Predicting Contact-Prejudice Effect Sizes (Random Effects)

Predictor variable	All samples ($R^2 = .09$***, $Q_{model} = 68.29$***, $k = 698$)				Racial-ethnic samples ($R^2 = .11$***, $Q_{model} = 43.32$***, $k = 363$)			
	B	SE	β	z	B	SE	β	z
Type of study	.00	.02	.01	0.12	.04	.03	.10	1.59
Type of contact measure	−.02	.02	−.06	−1.19	−.01	.02	−.04	−0.58
Quality of contact measure	−.10	.02	−.23	−5.30***	−.10	.03	−.23	−4.16***
Quality of prejudice measure	−.03	.01	−.09	−2.29*	−.05	.02	−.13	−2.43*
Sample size	.00	.00	−.02	−0.55	.00	.00	−.00	−0.03
Participant choice	−.00	.01	−.01	−0.22	.01	.02	.02	0.33
Minority-majority status	−.02	.01	−.10	−2.81**	−.03	.01	−.15	−2.97**

Note. These analyses were conducted using Fisher's z-transformed r values. Random-effects variance components (based on Fisher's z-transformed r values) ranged from .019 to .020. Q_{model} = test of whether the regression model explains a significant portion of variability across effect sizes (see Wilson, 2002); k = number of samples included in the analysis.
*$p < .05$. **$p < .01$. ***$p < .001$.

outcomes. As part of our larger analysis, we rated each sample as to whether the contact situation was or was not structured in line with the optimal conditions for intergroup contact proposed by Allport (1954). This global indicator offers a direct test of Allport's contentions, because he held that the conditions should be implemented together in order to maximize the potential for achieving positive contact outcomes (see Pettigrew & Tropp, in press-a). Our analysis showed that contact-prejudice effects were significantly stronger for those samples with optimally structured contact than for the remaining samples (see Pettigrew & Tropp, in press-b).

In the present analysis, we tested whether our global indicator of Allport's optimal conditions predicted stronger contact-prejudice relationships for both the minority and the majority samples, beyond the effects that could be accounted for by the methodological variables. We conducted this analysis for all minority and majority samples, as well as only for those involving racial and ethnic contact (see Table 3). Overall, Allport's optimal conditions predicted significantly stronger contact-prejudice effects for the majority samples, but did not contribute significantly to predicting contact-prejudice effects for the minority samples.

DISCUSSION

Findings from this meta-analytic study reveal important differences in the nature of contact-prejudice relationships among members of minority and majority status groups. Although greater intergroup contact is typically associated with less intergroup prejudice (see Allport, 1954; Pettigrew & Tropp, in

TABLE 3

Summary of Inverse Variance Weighted Regression Model Testing Contact Conditions as a Moderator for Effect Sizes (Random Effects)

Predictor variable	All samples				Racial-ethnic samples			
	Minority ($R^2 = .14$**, $Q_{model} = 22.39$**, $k = 142$)		Majority ($R^2 = .08$***, $Q_{model} = 44.48$***, $k = 505$)		Minority ($R^2 = .15$**, $Q_{model} = 22.68$**, $k = 125$)		Majority ($R^2 = .09$**, $Q_{model} = 21.17$**, $k = 205$)	
	β	z	β	z	β	z	β	z
Type of study	.01	0.10	−.01	−0.16	.04	0.35	.19	2.00*
Type of contact measure	−.00	−0.03	−.02	−0.36	−.00	−0.00	.03	0.31
Quality of contact measure	−.23	−2.71**	−.20	−3.87***	−.24	−2.68**	−.20	−2.64**
Quality of prejudice measure	−.21	−2.54*	−.05	−1.13	−.21	−2.38**	−.12	−1.64
Sample size	−.06	−0.75	−.03	−0.68	−.08	−0.92	.00	0.06
Participant choice	−.05	−0.65	−.04	−0.76	−.09	−1.01	.00	0.04
Contact conditions	−.10	−1.09	−.12	−2.12*	−.13	−1.40	−.22	−2.67**

Note. Analyses were conducted using Fisher's z-transformed r values. Random-effects variance components (based on Fisher's z-transformed r values) ranged from .016 to .021. Q_{model} = test of whether the regression model explains a significant portion of variability across effect sizes (see Wilson, 2002); k = number of samples included in the analysis.
*$p < .05$. **$p < .01$. ***$p < .001$.

press-b), the present results indicate that contact-prejudice effects vary significantly in relation to the societal status of the groups involved. Specifically, contact-prejudice relationships were generally weaker for members of minority status groups than for members of majority status groups. This pattern, which supported our prediction, was found both when we analyzed all samples and when we analyzed only those samples involving racial and ethnic contact. Moreover, the effects persisted even after a range of methodological variables were controlled.

We believe these findings may reflect broader differences in how members of minority and majority status groups view relations between their groups (see Bobo, 1999; Sidanius & Pratto, 1999). In particular, we suspect that for members of minority status groups, an ongoing recognition of their group's devaluation inhibits the potential for positive contact outcomes, whereas such an effect is unlikely to occur among members of majority status groups. This view is consistent with recent work showing that minority group members' intergroup attitudes are closely tied to their perceptions of prejudice from the majority group (Livingston et al., 2004; Monteith & Spicer, 2000), and that exposure to prejudice from the majority group can provoke more negative intergroup attitudes among members of the minority group (see Tropp, 2003). Still, given the meta-analytic nature of the present study, we are not able to specify the processes by which group devaluation would contribute to weaker contact-prejudice effects for members of minority status groups relative to the effects for members of majority status groups. Additional research is therefore needed to directly test whether such variables as perceived discrimination, or perceived differences in group status, might inhibit the effects of contact on prejudice among members of minority status groups, but not among members of majority status groups.

Findings from the present study also indicate that optimal contact conditions may yield different patterns of contact-prejudice relationships for minority and majority status groups. Although optimal conditions predicted stronger contact-prejudice relationships for samples from majority status groups, optimal conditions did not significantly predict stronger contact-prejudice relationships for samples from minority status groups. In part, the lack of statistical significance for the minority samples could reflect the relatively small number of cases available for the analysis. Nonetheless, given differences between the minority and majority samples in the magnitude of prediction observed, these patterns may suggest that contact-prejudice relationships are generally weaker for members of minority status groups, even when the contact situation is explicitly structured to maximize positive intergroup outcomes.

Taken together, findings from this research suggest that the traditional focus on establishing optimal conditions within the contact situation may not be sufficient to promote positive intergroup relations among members of both minority and majority status groups. Rather, these findings suggest that researchers need to grant greater attention to the perceptions and experi-ences that are likely to inform group members' conceptions of their intergroup relationships (see Cohen, 1982; Devine & Vasquez, 1998; Plant, 2004; Swim et al., 2001; Tropp, 2003). Thus, future research on intergroup contact must consider how conditions of the contact situation and perspectives of the group members involved may jointly contribute to predicting contact outcomes among members of both minority and majority status groups.

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