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Status-Based Asymmetry in Intergroup Responses: Implications for Intergroup Reconciliation

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Abstract

We studied intergroup responses as a function of relative intergroup status and familiarity. In Study 1, 34 African Americans and 34 European Americans interacted with two members of the out-group in separate, 20 minute dyadic interactions. Intergroup perception, affect, and behavior were asymmetric; Blacks differentiated the traits of and the quality of interactions with Whites, whereas Whites did not make these differentiations. Blacks and Whites predicted that different out-group partners perceived them similarly. Study 2 showed that the failure to differentiate an out-group member is due to intergroup status differences. Asymmetric intergroup responses pose a barrier to intergroup reconciliation and explain, in part, why increased interracial contact has not eradicated disparities in life outcomes for Black Americans.

Keywords

intergroup relations; intergroup reconciliation; social relations model, dyadic interaction; intergroup status; asymmetric block design

That people categorize themselves and others into groups is axiomatic. In-groups are entities that offer security, identity, task allocation, mating opportunities, and a common fate (Campbell, 1958); out-group members are presumed to have attitudes, traits, and behaviors typical of their group (Yzerbyt & Demoulin, 2010). Allport (1958) described the adverse social consequences of a racist view of an out-group “If I can lump thirteen million of my fellow citizens under a simple formula, ‘Negroes are stupid, dirty, and inferior,’ I simplify my life enormously. I simply avoid them one and all” (p. 20). There are two variables in Allport’s example that affect intergroup responses; relative group status and intergroup

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familiarity. Is a low status out-group perceived as a homogenous entity because those with high status attend primarily to features confirming category membership (Ostrom, Carpenter, Sedikides, & Li, 1993)? Or, does unfamiliarity with the sampling distribution of out-group members' traits lead perceived homogeneity (Linville, Fischer, & Salovey, 1989)? These questions are theoretically and practically important because the quality of intergroup contact has implications for intergroup reconciliation (Nadler, Malloy, & Fisher, 2008). Both have received empirical attention, but the data are mixed in response to each.

Relative Group Status and Differentiation of Out-Group Members

Keltner, Grunefeld, and Anderson (2003) proposed that groups with higher status are more likely to control the rewards and punishments of groups with lower status. Individuals with high status process information about a low status other using automatic cognition (i.e., stereotypes), whereas those with low status process information about a high status other using controlled cognition with attention to unique features. Ostrom et al., (1993) termed this the *differential processing hypothesis* and empirical data support it (Sedikides, 1997). These cognitive processing differences appear to lie at the heart of many group biases (Van Rooy, Van Overwalle, Labiouse, & French, 2003; Fiske, 2010).

Park et al. (1992) argued that low status groups recognize the variability of in-group and out-group members because it is "functionally useful." High status groups are predicted to differentiate the in-group, but not the out-group, because rewards are less likely to be controlled by a low status other. Miller and Malloy (2003) found that in face to face interactions gay men differentiated heterosexual males' traits, whereas heterosexual men failed to differentiate the traits of gay interaction partners.

Why are those with low status undifferentiated? This may be due to processes operating within the perceiver; those with high status focus on features confirming category membership; low status perceivers focus on differentiating features (Ostrom et al., 1993). Alternatively, those with high status may be more expressive behaviorally than those with low status. Consequently, the variability in behavior impacts the variability in perceptions; high status group members are differentiated while low status members are not (Guinote, Judd, & Brauer, 2002).

Familiarity and Differentiation of Out-Group Members' Traits

Demography can naturally confound group status and intergroup familiarity. For example, African Americans have more familiarity with European Americans than visa versa, and also have lower social status. Therefore, we also considered if familiarity with an out-group leads to greater differentiation of members' traits; theoretical analysis (Linville et al., 1989) suggests an affirmative answer. Studies of Hindu and Muslim students (Islam & Hewstone, 1993) and Protestants and Catholics in Northern Ireland (Paolini, Hewstone, & Cairns, 2007) found that increased familiarity was associated with greater differentiation of out-group members' traits. Linville et al. (1989) found that younger and older people, as well as Irish and American college students differentiated the traits of in-group members to a greater extent than out-group members. These results support the *differential familiarity hypothesis*; greater familiarity with a group leads to greater differentiation of members' traits.

Contrasting findings also exist. Linville et al. (1989) did not support the differential familiarity hypothesis when the groups were based on gender. In a study of men in social clubs, familiarity with out-group members was unrelated to the perceived variability of their traits (Jones, Wood, & Quattrone, 1981). Other research has found that familiarity with a group, be it an in-group or an out-group, did not predict perceived variability of group members (Park et al., 1992). Clearly, the data remain mixed; some studies indicate that

familiarity with a group is associated with differentiation of members' traits, whereas others do not.

Variance Components in Intergroup Responses

In a significant departure from much past research on intergroup processes, we modeled intergroup relations using a method that is a generalization of the social relations model (Kenny, 1994) to the intergroup context (Malloy, 2008) called variance component analysis. Intergroup responses are hypothesized to contain psychologically distinct components that index conceptually distinct intergroup phenomena. To illustrate, imagine a study where blue and brown eyed people judge the personality traits of out-group members. Mike with brown eyes judges the extroversion of two blue eyed social interaction partners, Sam and Alex. Suppose that Mike rated Alex 8 on a ten point scale where 10 would indicate high extroversion. If the rating of 8 is due to Mike's general view of the extroversion of people with blue eyes; it is possible that Mike would rate all people with blue eyes 8. This is a *perceiver effect*. This rating could also be due to Alex's stimulus effect on others; he is extroverted so Mike's and others' judgments of him would be high. This is a *target effect*. These possibilities are generalized effects; one is Mike's generalized view of the out-group, and the other is Alex's generalized effect on judgments of him by his out-group. Theoretically, the rating of 8 could also represent Mike's unique rating of a specific out-group member, Alex. This is a *relationship effect*. The rating of 8 is not how Mike typically rates blue eyed individuals, nor is it typical of how Alex is rated by those with brown eyes. Rather, this is a dyadic effect that indexes Mike's unique response to Alex compared to other out-group members.

Phenomena Indexed by the Variance Components of Intergroup Responses

Unlike standard ANOVA that quantifies phenomena using means, variance component analysis partitions out-group responses into distinct components. Mike's rating of Alex's extroversion, an 8, is partitioned into perceiver, target, and relationship components described previously. Formally, if a member of group *i* (e.g. a White man) judged a member of group *j* (e.g., Black man) on trait *X* yielding X_{ij} this judgment can be represented by:

$$X_{ij}=M+P_i+T_j+R_{ij}+e_{ij} \quad (\text{Equation 1})$$

where *M* is the grand mean of White men's ratings of Black men, P_i is the perceiver effect for a White man when rating Black men's traits, T_j is the target effect of a Black man on ratings being made by White men, R_{ij} is a relationship effect or the unique rating by a specific White man when judging a specific Black man. The term e_{ij} is random error. The response of the member of group *j* (e.g. a Black man) to the member of group *i* (e.g. a White man) can be represented by:

$$X_{ji}=M+P_j+T_i+R_{ji}+e_{ji} \quad (\text{Equation 2})$$

where *M* is the grand mean of Black men's ratings of White men, P_j is the perceiver effect for a Black man when rating White men's traits, T_i is the target effect of a Black man on ratings being made by White men, R_{ji} is a relationship effect or the unique rating by a specific Black man when judging a specific White man. The term e_{ji} is random error. The variances of these components quantify distinct generalized and dyadic intergroup phenomena, and when standardized as a proportion of total variance they can range from 0 to 1.00 and are effect estimates.

In this research the perceiver variance (P^2) is of prime interest; it quantifies perceivers' tendencies to judge multiple partners similarly, although they differ, and is termed

assimilation. Assimilation is a failure to differentiate a set of partners. In Panel A of Table 1, hypothetical trait judgments by two Whites of two Blacks are determined entirely by perceiver effects. Panel B shows a pattern of judgments that are determined entirely by the effects of the targets; different Whites judge different Blacks identically. Target variance (T^2) quantifies consensual agreement in out-group judgments. In Panel C are relationship effects showing that specific Whites have unique reactions to specific Blacks; this is a dyadic effect. Relationship effects are also of interest in this research. The variance of the relationship effects (R^2) measures if specific in-group members uniquely differentiate the traits of specific out-group members and is termed *uniqueness*. In panels A, B, and C, 100% of the variance is determined by perceiver, target, and relationship effects, respectively. Typically, total variance will be due to all three sources and will not look like these stylized patterns. A detailed discussion of variance components in intergroup responses is provided elsewhere (Malloy, 2008).

Overview of Studies 1 and 2

This research focused on the effects of relative intergroup status and familiarity on intergroup responses. In Experiment 1 Blacks and Whites interacted with two out-group members, in two separate dyadic interactions. These groups have historical status differences rooted in racism and “fundamental questions remain unanswered about interracial contact in situations ranging from casual encounters to intense relationships” (Sigelman, Bledsoe, Welch, & Combs. 1996; p. 1306–1307). Moreover, intergroup reconciliation hinges upon, among other things, positive social interaction of groups with a history of conflict (Nadler et al., 2008). Because of racism, we assumed that Blacks have lower social status than Whites, and we presumed that Blacks were more familiar with Whites than visa versa due to demography. We measured behavior, affect, and trait perceptions. In Experiment 2 we used a minimal group paradigm to avoid the natural confound of intergroup status and familiarity, and experimentally manipulated these variables.

Study 1: Dyadic Interactions of Blacks and Whites

Stephan and Stephan’s (2000) *integrated threat theory* predicts that interracial interactions are characterized by anxiety that can diminish the desire to interact with an out-group (Shelton, 2003). Because contact is recognized as necessary, though insufficient, for easing intergroup tensions (Pettigrew & Tropp, 2006) and promoting reconciliation (Nadler et al., 2008), studying responses that preclude or facilitate interracial contact is warranted.

Differential Familiarity and Status of Blacks and Whites

The 2000 census indicated that the ratio of Whites to Blacks was 19 to 1 where this research was conducted resulting in differential intergroup contact. Blacks are more likely to interact with Whites and directly experience their variability, whereas Whites have less contact with Blacks. Unfamiliarity with an out-group has been associated with stereotyping of its members across a broad range of traits (e.g., Linville, Fischer, & Yoon, 1996).

When a person’s characteristics are centrally defining (e.g., a Black skin tone; Eberhardt, Godd, Purdie, & Davies, 2004), and associated with negative stereotypes (Sidanius & Pratto, 2001), lower social status is a consequence (Goffman, 1963). In an interracial dyad, Blacks are aware of the negative stereotypes Whites hold toward their group (Sigelman & Tuch, 1997). Moreover, if reinforcement has been determined by majority group members, one should attend to them in order to behave in a manner that maximizes the likelihood of a positive outcome (Fiske, 2010; Keltner, et al., 2003; Malloy, 2008; Park et al., 1992).

Whites' interactions with Blacks are "stressful and uncomfortable" (Ickes, 1984) and physiologically arousing (Blascovich, Mendes, Hunter, Lickel & Kowai-Bell, 2001; Littleford, Wright, & Sayoc-Parial, 2005; Shelton & Richeson, 2006). Whites also actively inhibit racial bias (Dovidio, Kawakami, & Gaertner, 2002). While interacting with Blacks, Whites experience negative affect and enjoy the interaction less than when interacting with Whites (Shelton, 2003). Whites also show depleted cognitive processing ability (Monteith, 1993; Norton et al., 2006; Richeson & Trawalter, 2005). Richeson and Trawalter (2005) manipulated "prejudice concerns" leading Whites to believe they were more prejudiced than they thought. Following an interaction with a Black person they performed less well on the Stroop color naming task than when interacting with a White person. Regulation of behavior during the interaction adversely impacted subsequent information processing; one that requires highly concentrated attention to the features of the stimulus (see Fiske, 2010). We expected that Whites' judgments of social interactions with Blacks, their traits, and affective responses to them are also impaired *during* a face to face interaction. Consequently, Blacks are undifferentiated by Whites when judging their traits and the quality of interactions with them. Moreover, emotional responses to different Blacks should also be undifferentiated. On dimensions (Intelligence) where prevailing negative stereotypes are shared widely (e.g., Blacks are less intelligent than Whites), we expected substantial perceiver variance and the weakest relationship variance in Whites' judgments of Blacks. Blacks, on the other hand, were expected to differentiate the traits of and the quality of interactions with Whites.

Metaperceptions in Interracial Dyads

Metaperceptions of trait judgments—A metaperception is a prediction of how one is judged by another. Group members spontaneously consider the negative stereotypes that an out-group has of them to control the course of an intergroup interaction (Vorauer, 2006). In Study 1 we measured metaperceptions; dyad members predicted how out-group partners responded to them emotionally and judged their traits. We anticipated that both Blacks and Whites would predict that two out-group men judged them similarly resulting in significant perceiver variance in metaperceptions. That is, both Blacks and Whites should operate on the principle "they think we are all alike."

Method

Participants—Thirty four American men of European ancestry (i.e. Whites) and 34 American men of African ancestry (i.e. Blacks) participated. All were undergraduate students at an urban university in New England and were informed they would be interacting with two people from a different ethnic background. All participants were at least 18 years of age, and were given a \$15 honorarium.

Procedures and Measures—Each session included 2 Black and 2 White men; 17 groups of four men were constituted randomly. In two separate laboratories, dyads were formed that included a Black and a White man. The experimenter told the participants "This is a getting-to-know you situation. After I turn on the recorder, please introduce your selves to one another, and talk to each other for 20 minutes; then I will return." The experimenter then left and returned in 20 minutes. Participants were escorted to different locations and responded to questions about the interaction and their partner. They rated (using 10 point scales 1 – 10) their partner on twenty five bipolar trait dimensions with five traits serving as indicators of each of the Big Five personality factors (John, 1990). Extroversion (Factor 1) was indicated by quiet-talkative, introverted-extroverted, no sense of humor-sense of humor, unsociable-sociable, timid-outspoken; Agreeableness (Factor 2) was indicated by argumentative-good natured, discourteous-courteous, uncooperative-cooperative, disagreeable-agreeable, inflexible-flexible; Conscientiousness (Factor 3) was indicated by unambitious-ambitious, lazy-hardworking, academically irresponsible-academically

responsible, not studious-studious, unmotivated-motivated; Emotional Stability (Factor 4) was indicated by insecure-secure, emotionally unstable-emotionally stable, nervous-at ease, anxious-calm, unconfident-confident, and Intelligence (Factor 5) was indicated by ordinary-creative, down to earth-imaginative, narrow interests-broad interests, unintelligent-intelligent, uncultured-cultured. These trait items were arranged in a random order. Using the same scale, participants also made predictions about how they were judged by their partner; these were metaperceptions.

Participants also rated their affect for their interaction partner by responding to the questions: “How much did you enjoy this interaction,” “How interesting was this interaction for you,” “How comfortable were you in this interaction,” “How much do you like your interaction partner,” “Do you think this person could be your friend,” “How similar do you think your partner is to you.” Responses were made on 10 point scales (1–10) bounded by adjectives relevant for each question (e.g. uncomfortable-comfortable). Participants also predicted their partner’s affective response to them (“How much do you think your interaction partner liked you?”) and the partner’s metaperceived similarity with self (“How similar do you think your interaction partner thinks you are to him?”). After these ratings were completed a second 20 minute dyadic interaction occurred and the same measurements were taken. Multiple interactions were necessary to estimate the parameters of Equations 1 and 2, and multiple indicators permitted partitioning of relationship and error variance (see Kenny, West, Malloy, & Albright, 2006 and also Malloy, Barcelos, Arruda, DeRosa, & Fonseca, 2005 for an example).

Verbal and non-verbal behaviors during the interactions were independently coded by two research assistants (one Black and one White) from the videotapes using the coding system developed by Duncan and Fiske (1977). This system, developed to study discrete verbal and nonverbal behavior in dyadic interactions, has been used in other studies in our intergroup relations laboratory (Kenny & Malloy, 1988; Miller & Malloy, 2003). Coded behaviors included speaking time, short back channels (e.g., hmm, huh), long back channels (e.g., I see), questions asked, smiles, and laughs. Inter-rater reliabilities (r 's) were .86 or greater for all behaviors coded.

Results and Discussion

Research Design and Statistical Analysis—The asymmetric block design (Table 2) was used. Significance testing was conducted using the unstandardized variance components, although standardized estimates (proportions of total variance that range from 0 to 1.00) are presented for ease of interpretability.

Means and Variance Components in Intergroup Trait Judgments and Metaperceptions—Mean out-group trait judgments were not reliably different with $F(1,16) = .42, p = .53$; Blacks’ intergroup judgments ranged from 7.94 to 8.50 and Whites’ ranged from 8.07 to 8.68 across the five factors. However, there were notable differences in the variance components.

Perceiver variances: The perceiver variances were significantly different for Blacks and Whites (multivariate $F(5,28) = 3.13, p = .02$). Among Whites, all five perceiver variances in trait factors were reliably different from zero and ranged from .29 (Extroversion) to .45 (Intelligence) with a median of .31 and evidenced assimilation. Among Blacks none of the perceiver variances differed from zero with a median of .00. As predicted, Whites’ trait judgments of Black partners were undifferentiated, whereas Blacks differentiated the traits of their White partners. On the dimension intelligence (Factor 5) where negative stereotypes of Blacks are strong, the largest perceiver variance among Whites ($P^2 = .45$) was observed.

Relationship variances: There was evidence that men made unique trait judgments of specific partners and this was more pronounced among Blacks; relationship variance components were reliably different from zero for all five factors with a median of .44. Among Whites, four relationship variance components were reliably different from zero with a median of .30. MANOVA showed that Blacks' relationship variances were reliably greater than Whites' with $F(5,28) = 3.35$, $p = .02$. Moreover, on the stereotype-relevant dimension of intelligence (Factor 5), relationship variance was significantly less ($F(1,32) = 14.20$, $p = .001$) in Whites' judgments of Blacks than in Blacks' judgments of Whites. These results are in Table 3.

Metaperceptions: Blacks' and Whites' mean metaperceptions (Table 4) were not reliably different ($F(1,16) = .48$, $p = .50$). Among Blacks, four perceiver variance components were reliably different from zero and ranged from .15 to .44 with a median of .35. Among Whites, all perceiver variances were statistically reliable and ranged from .41 to .59 with a median of .51. Both Blacks and Whites predicted that out-group members failed to differentiate their traits, and there were no racial differences for perceiver variances in metaperceptions on the five factors ($F(1,16) = 1.63$, $p = .22$).

The relationship variance components in metaperceptions for Blacks ranged from .12 to .47 with a median of .18 and all were reliably different from zero. Among Whites, relationship variances ranged from .04 to .17 with a median of .08 and three were reliably different from zero (Factors 1, 3 and 4). Both Blacks and Whites predicted that specific out-group members failed to differentiate their traits; there were no significance racial differences in relationship variances in metaperceptions on the factors ($F(1,16) = 2.06$, $p = .17$).

Means and Variance Components in Intergroup Affect and Quality of Interaction—Means in Table 5 show that Blacks and Whites enjoyed their interactions, liked their interaction partners, and predicted that their partners liked them. However, the variance components again revealed asymmetric affective reactions.

Perceiver variances: Among Whites there was statistically reliable perceiver variance in two variables related to the quality of the interaction (*enjoy* at .49 and *interesting* at .50), on two interpersonal affect measures (*liking* at .37 and *could be friends with* at .60), and on the two metaperception (MP) of affect measures (*MP liking* at .42 and *MP similarity* at .43). Whites reported similar affect for their two Black partners, and predicted that those two partners had similar affective responses to them. In contrast, no perceiver variance components were reliably different from zero among Black men on these variables; MANOVA indicated reliable racial differences of the perceiver variances in affect ($F(6,27) = 2.52$, $p = .05$). These result showed that Blacks had more differentiated emotional responses than Whites to their interaction partners.

Relationship variances: Relationship variance components (error removed) for interaction quality, interpersonal affect, and MP of affect were .53, .46, and .43, respectively for Blacks; the equivalent estimates for Whites were .19, .22, and .10. MANOVA revealed a race differences in relationship variance components for the interaction quality and interpersonal affect measures ($F(6,28) = 9.05$, $p = .001$). Blacks uniquely evaluated the quality of their interactions with Whites and had unique affective reactions to specific partners. Whites evaluated the quality of their interactions similarly and reported similar affect for different partners. They also believed that their partners felt similar affect toward them. As was seen for trait perceptions, the affective responses of Blacks and Whites were also asymmetric.

Means and Variance Components in Intergroup Behavior—An interpersonal responsiveness factor was formed with short and long back channel responses as indicators.

Whites were significantly more responsive to Blacks in back channel responses ($t(16) = 2.88, p = .011$). Not only were Blacks less responsive, they were consistently so; actor¹ variance components (see Table 6) in short and long back channel responses were statistically significant and substantial (.51 and .61, respectively).

Was responsiveness reciprocal within dyads? That is, if one member was uniquely responsive was the other member also uniquely responsive? Dyadic reciprocity in responsiveness (the correlation of R_{ij} and R_{ji}) was estimated to be $r = .00$; Whites' greater verbal responsiveness was not reciprocated by Blacks. In addition to the asymmetry in perception and affect, interpersonal responsiveness was not reciprocal.

Blacks and Whites enter face to face interactions with different social goals (Richeson & Shelton, 2007; Shelton & Richeson, 2006; Trawalter & Richeson, 2008). The Black member is concerned with being negatively stereotyped and with the outcome of the interaction; the White member has similar concerns but also wishes to avoid behavior that communicates racial bigotry. The traits of Whites and affective responses to them were uniquely differentiated by Blacks. Whites, who are known to show decrements on a complex cognitive task following interaction with a Black person (Richeson, Baird, Gordon, et al., 2003; Richeson & Trawalter, 2005) also fail to differentiate the unique characteristics of two Black interaction partners and emotional responses to them in face to face encounters. This lack of differentiation is most pronounced on dimensions that are stereotype-relevant.

Study 2: The Effects of Relative Group Status and Familiarity on Differentiation of Out-Group Members

Although the data from Experiment 1 are consistent with the claim that relative group status affected perceptual, affective, and behavioral responses to out-group members, those data could also be explained by differential familiarity with the out-group. It is plausible that Blacks differentiated the traits of and quality of interactions with Whites because they had greater familiarity with the out-group. Group status and intergroup familiarity can be confounded naturally in the social world; groups with high status often have less familiarity with lower status out-groups, whereas the reverse is true for low status group members. We designed Experiment 2 to isolate the effects of relative group status and intergroup familiarity on differentiation of out-group members.

Method

Participants

The participants were 120 (53 male and 67 female) undergraduates recruited from the same population included in Study 1. Participants were recruited to participate in a study focused on "visual perception and life outcomes." Course credit was provided.

Procedures and Measures

Participants arrived at the laboratory, were seated at a computer monitor and instructed that the experiment would begin with a dot estimation task. Software (*Dot Generator*) generated 3 practice trials in which a circle filled with a large number (> 99) of randomly arranged dots appeared on the screen. The task was to estimate the number of dots within the circle and enter the number using a keyboard. Thirty additional trials followed. The participant was told that the software would calculate the accuracy of dot estimation and the results would be printed in an adjacent laboratory. The researcher went to that laboratory and upon

¹When behavior is the focus of study it is common to use the term actor rather than perceiver which is used in studies of perception.

returning presented the participant with a graph displaying the normal curve with a mark on the horizontal axis displaying performance; it was either at the 84th percentile (accurate estimators) or the 16th percentile (inaccurate estimators). The experimenter said “The software calculated your performance on the dot estimation task. You performed at the 84th (or 16th) percentile. This means you performed better than 84% (or 16%) of the college students that have performed the same dot estimation task.” This manipulation established an in-group identity. The status manipulation followed. Participants were told that past research had established a link between performance on the dot estimation task and life outcomes. The high status manipulation involved giving the accurate estimators a sheet of paper that summarized contrived research findings; they were told that accurate estimators have average starting salaries of \$55,000 per year out of college, are respected by their professional peers, and advance quickly in their careers. The low status manipulation involved giving the inaccurate estimators a sheet of paper stating that members of their group have average starting salaries of \$22,000 per year, are not generally respected by their professional peers, and do not advance quickly in their careers. Both accurate and inaccurate dot estimators were given information about the typical salary and professional outcomes for their out-group. This manipulation established the relative status of the in-group and the out-group for accurate and inaccurate dot estimators.

The variable manipulated next was familiarity with out-group members’ traits. Participants were told that psychological tests and a psychologist’s evaluation were used to determine the personality traits of accurate and inaccurate dot estimators, and they would receive information on the personality traits of randomly selected out-group members. First, the participant was given a written description that defined the high and low end of each of the Big Five Factors and read it aloud. Then a histogram for an anonymous out-group member was presented to the participant. The researcher ensured that the participant could read the histogram and interpret accurately on which Factors the person scored high and low in the personality testing. Participants were then presented with either 30 (high familiarity) or 6 (low familiarity) histograms that displayed trait information for out-group members. These values (30 and 6) were based on pilot testing to determine the number of White and Black people, respectively, that White college students reported that they “knew personally.” The actual data for the histograms were generated randomly; thus greater familiarity would provide information that out-group members’ traits are distributed normally.

Participants were then presented with 25 sentences written purportedly by 5 in-group or 5 out-group members that were read aloud in the presence of the experimenter. Five sentences provided information on each of the Big Five factors and could range from no relevant information on the factor (0 - the sentences were merely filler items unrelated to traits, e.g., “I like the fall season”) to 5 sentences indicating high standing on a factor. For example, for Factor I (i.e., Extroversion) a sentence was “I like to meet new people.” The score of 0 to 5 on each factor, for each target was selected randomly; thus there were no differences in target information across condition. After reading the 25 self-descriptive sentences for each target, the participant rated that target on the 25 trait adjectives used in Study 1. Sentences written purportedly by the next target were then read and that target was rated. Thus, each of the 5 targets was rated on 5 indicators of each of the Big Five factors. Targets appeared in a random order for each participant.

Research Design and Statistical Analysis

The design was a 2 (high or low in-group status) $\times$ 2 (high or low familiarity with the out-group) $\times$ 2 (in-group or out-group targets) between subjects factorial with targets (5) and traits within targets (5) as repeated factors. Perceiver variances were computed by treating perceivers as a between subjects factor in a repeated measures ANOVA to calculate the variance among perceivers when judging out-group targets across the trait factors. We

computed fixed effect variance ratios; the sampling distribution of this ratio (F' Gallagher, 2006) was used for significance testing.

Results and Discussion

Validation of the Group Formation Task

The key data of interest in experiment 2 are out-group judgments. However, because we created minimal groups using the dot estimation task it was necessary to determine that the paradigm produced in-group bias. A planned contrast showed that participants in the high and low status conditions showed in-group favoritism; the mean trait judgments of in-group targets was significantly greater than judgments of out-group targets with $F(1,112) = 5.09$, $p = .03$. Those in the low and high status conditions rated in-group targets higher (8.02 and 8.07, respectively) than they rated out-group targets (7.76 and 7.47, respectively). The formation of groups using the dot estimation task did indeed produce in-group favoritism.

Effects of Relative Status and Familiarity on Differentiation of Out-Group Members' Traits

Since differentiation of targets' traits was of interest, the perceiver variance components were estimated. Note that when perceivers fail to differentiate the traits of multiple targets, and differ from one another when judging those same targets, the magnitude of the perceiver variance component *increases*. Perceiver variance components (P^2) at levels of low and high familiarity with the out-group, and at high and low relative status of the in-group were estimated. Then, ratios of these independent variances were computed and tested for statistical significance using the procedure described by Gallagher (2006) in which F' prime (F') for the two-sided distribution was computed. With df of 29 on the numerator and denominator, to achieve conventional statistical significance F' must have a p value of .03 or less (not .05). A significant main effect due to relative group status was observed ($F(29,29) = 3.76$, $p = .0003$); perceivers from a low status group differentiated the traits of high status out-group members ($P^2 = 16.29$) to a greater extent than high status perceivers when judging low status out-group members ($P^2 = 61.32$). This status effect on target differentiation in a minimal group paradigm is consistent with the findings in the face to face context of Study 1 where status was inferred. We failed to observe an effect of familiarity with the out-group on the differentiation of targets' traits. Judges with high and low familiarity with the out-group did not show statistically significant differences in perceiver variance components ($P^2 = 52.96$ and 24.65 , respectively with $F(29,29) = 2.15$, $p > .03$). High status judges tended to perceive five out-group targets as having similar personality traits, whereas low status judges better detected the random variation that was built into the targets' traits. Moreover, high or low familiarity with out-group targets did not affect differentiation of their traits.

General Discussion

We used two very different research designs and variance component analysis to study intergroup status and familiarity effects on responses to an out-group. An asymmetry in intergroup perception, affect, and behavior of Blacks and Whites was observed in face to face interactions. The results of Study 1 are important because we departed from much past research on intergroup relations and studied face to face interactions of multiple members of different ethnic groups. The observed asymmetry that is rooted substantially in status differences between groups, has important implications for intergroup reconciliation.

Status and Intergroup Perception

Trait perceptions—The relative status of the in- and out-groups determines intergroup responses (Fiske, 2010; Tajfel & Turner, 1979; Yzerbyt & Demoulin, 2010), and privileged groups are motivated to maintain status differentials (Morrison, Fast, & Ybarra, 2009).

There is now abundant evidence that in interracial interaction Whites' "worries, concerns, anxieties, discomforts, failures, and cover-ups together consume cognitive capacity" (Fiske, 2010, p. 956). How might the perceptual component of this mechanism operate? Members of groups with high or low status process information about out-group members differently (Fiske, 1993; Ostrom et al., 1993; Keltner et al., 2003; Sedikides, 1997). People with high status process categorical information about low status others, paying less attention to unique features that permit differentiation. Those with low status attend to the unique, defining features of higher status partners; consequently, they are differentiated. The data from Studies 1 and 2 can be explained by this differential processing model. An important unique contribution of this research is the demonstration that this differential processing occurs in the rich social context of face to face interactions and in a minimal social context.

This status effect is consistent with related findings on the recognition of facial details of in- and out-group members (Yzerbyt & Demoulin, 2010). A reliable finding is that Whites show greater recognition for White faces than for Blacks faces, and this effect is not explained by differential contact. Meissner and Brigham (2001) reported meta-analytic results showing that only 2% of the variance in interracial face recognition was due to familiarity with the out-group. Rather, the effect appears to be due to status (Yzerbyt & Demoulin, 2010); one processes information about the face of a low status person by focusing on categorical features that define group membership, while attending to the facial features that differentiate high status, in-group members. When affluent Whites believed that in- group members were low status (i.e., poor Whites) the recognition of same race faces was equivalent to that of Black faces (Shriver et al., 2008). When Whites were instructed to attend carefully to and differentiate the features of Blacks, recognition of their faces was equivalent to recognition of White faces (Hugenberg, Miller, & Claypool, 2007). High status leads to inattention to the variable features of low status others. This leads to biased (i.e., undifferentiated) judgments of category members (Van Rooy et al., 2003; Yzerbyt & Demoulin, 2010).

Our experiments show a consistent pattern of results across different paradigms. In face to face interactions and in a minimal group those with presumed, or manipulated, high status failed to differentiate out-group members; whereas those with low status differentiated out-group members. An asymmetry in Blacks' and Whites' intergroup responses was apparent in trait judgments, in judgments of the quality of social interactions, affect, and behavior.

Where does the status effect originate? Is it due to processes within the perceiver, or is it due to the effect of the target's behavior on the perceiver? Guinote, et al. (2002) reported that members of a high status group are more variable behaviorally than are members of a group with lower status. In Study 1 we measured verbal and non-verbal behaviors of Black and White men and they were equal on all variables but one. Consequently, the status effects we observed in Study 1 cannot be explained by differential behavior of high and low status members.

The most plausible explanation of the status effects are processes within perceivers when judging the traits of out-group members (Ostrom et al., 1993). Theoretical analyses (Fiske, 2010) propose that individuals from low status groups recognize the variability of in-group and out-group members because it is functional and adaptive. Low status group members behave in a manner that maximizes positive outcomes, and actively monitor a high status partner to assess the course of an interaction (Fiske, 1993; Keltner et al., 2003). A person with high status need not actively monitor a low status partner that does not control one's reinforcement. These predictions have been supported empirically among those with high (e.g., Fiske, 1993; Depret & Fiske, 1999; Neuberg & Fiske, 1987; Stevens & Fiske, 2000) and low status (Goodwin, et al., 2000; Lorenzi-Cioldi, 1998; Operario & Fiske, 2001;

Sedikides, 1997). Moreover, accumulating data shows decrements in cognitive processing when a White person interacts with a Black person (Fiske, 2010), which leads to the undifferentiated responses we observed.

Metaperceptions—Both Blacks (Sigelman & Tuch, 1997) and Whites (Vorauer et al., 2000) are concerned with how they are judged by their out-group, and evaluative concerns impact intergroup relations (Vorauer, 2006). The variance component analysis of metaperceptions revealed that Blacks and Whites believed that two out-group members viewed them as having similar traits. Both Blacks and Whites showed strong assimilation in metaperceptions and predicted that two out-group partners judged their traits similarly. Such beliefs are barriers to intergroup reconciliation because members of both groups do not know accurately how they are being judged. Both groups relied on biased beliefs of how they will be judged rather than on the behavioral responses of a social partner. In Study 1, neither Blacks nor Whites predicted accurately how a specific partner judged their traits; average dyadic meta-accuracy correlations across the traits were r 's of .08 and .06, respectively. This showed that men in Study 1 did not know accurately how specific partners judged their traits following a 20 minute interaction. In an intergroup interaction, one basic motive is to reduce uncertainty about the other and the course of the interaction (Vorauer, 2006). An inaccurate prediction of how a specific partner judged oneself can lead to behavioral responses that disrupt the interaction, create misunderstanding, and ultimately avoidance of interactions with other out-group members.

Familiarity and Intergroup Responses

In America there has been increased contact of Blacks and Whites (Sigelman, et al., 1996). Although some research (Linville et al., 1996) has demonstrated that increased familiarity is associated with greater differentiation of the traits of out-group members, other research has shown the contrary (Jones et al., 1981; Judd & Park, 1988; Linville et al., 1996 (Gender Study); Meissner & Brigham, 2001; Park, et al., 1992). Study 2 did not support the hypothesis that greater familiarity with a group is associated with differentiation of its members' traits.

Considering research on interpersonal perception, this result for familiarity is not surprising. In a meta-analysis of 11 longitudinal studies of interpersonal perception, Kenny, Albright, Malloy, and Kashy (1994) observed that increased acquaintance (i.e., familiarity) was not associated with greater consensual differentiation of the traits of others. Theoretically, it may be useful to consider different forms of interpersonal and intergroup familiarity and their effects on social judgments. An encounter with an out-group member in the check out line of the grocery store is not the same as sharing a dorm room. Close interpersonal relationships with out-group members should lead to differentiation of the unique traits of each specific person (a dyadic effect). This was predicted theoretically by Kenny and Malloy (1988) in the interpersonal context and by Ostrom et al. (1993) in the intergroup context. Moreover, this dyadic effect should generalize to the out-group as a whole and there should be less stereotyping of members in general. Indeed, data consistent with this prediction have been reported (Paolini, Hewstone, & Cairns, 2007). Friendship with an out-group member may be the optimal contact for reducing intergroup stereotypes (Brown & Hewstone, 2005; Wright, Brody, & Aron, 2005; Wright, Aron, & Brody, 2008). Future research should focus not on the sheer number of out-group members known, but on the number of out-group members with whom one shares a close dyadic relationship.

Asymmetric Affective and Behavioral Intergroup Responses

In Study 1, Whites did not differentiate interaction quality or affect for Black partners, whereas Blacks made these differentiations. Blacks and Whites believed that they liked out-

group members more than they were liked by them. Blacks liking for Whites was 8.24 but they predicted Whites liked them less at 7.44 ($t(16) = 7.10, p = .001$); Whites liking and predictions were 8.56 and 7.24, respectively ($t(16) = 7.50, p = .001$). Note that means for liking and prediction of liking were over 3.5 standard deviation units apart for both groups. This discrepancy can make interracial interactions unsatisfying for both members and reduce the likelihood of future interaction with members of the out-group. Interventions promoting a more accurate assessment of out-group members' responses to the self should be developed because they may facilitate intergroup reconciliation (Nadler et al., 2008).

Asymmetric Social Psychology Precludes Intergroup Reconciliation

The most general finding of this research is an asymmetry in perceptions, affect, and behavior of Blacks and Whites rooted substantially in status differences. In Study 1, participants were male college students at the same institution who meet in the laboratory with presumably equal status. This is why the asymmetry of responses observed has important implications. Intergroup status, perception and affect are hypothesized to be key determinants of intergroup reconciliation (Malloy, 2008), which is a transition from conflict to egalitarianism. One requirement is structural societal change ensuring equality of opportunity for attaining material and social resources. Although a necessary condition for reconciliation, structural change is insufficient. Psychological responses across group boundaries must also change. In American society, structural change to promote equality is rooted in law; the present data document what has yet to change. We observed asymmetric intergroup trait perceptions, affective responses were asymmetric and judged inaccurately, and pleasant verbal behaviors were not reciprocated. Inspection of the means of Study 1 shows that Blacks and Whites judged positively each others' traits, reported enjoyment in the interaction, and liking of the other. Yet, these were explicit responses. The statistical models captured implicit processes that were automatic and outside of awareness. Having viewed the interactions of Study 1, be assured that Blacks and Whites were pleasant, courteous, and respectful. Yet asymmetric process operated that could not be detected by our eyes and ears or by the participants' explicit reports. If White Americans become aware of their undifferentiated reactions to Blacks that are outside of awareness, understand the social costs associated with bias, and the economic outcome dependency of the two groups, psychological barriers to reconciliation can be eradicated. Close dyadic relationships could be the optimal venue for intergroup reconciliation. The asymmetric psychological responses discovered in this research explain, in part, why increased interracial contact has not eradicated racial disparities in life outcomes for Black Americans.

Future Directions

We did not measure mediational mechanisms by which status affects judgments of out-group members. Future studies that directly measure eye-tracking of the features of out-group members could delineate exactly what elements of the stimulus field the perceiver attends to when making in- and out-group judgments. Visual attention is likely a mediating mechanism that links stimulus features with biased perception of others.

This research is novel because it involved multiple face to face interactions of people from different groups and measured perception, affect, and behavior. While very difficult to accomplish, the yield from multiple interaction research designs can be considerable. Intergroup relations research that studies the interactions of members of different groups in the face to face context is rare yet warranted. Moreover, the use of componential statistical models of intergroup relations has the potential to reveal processes that could otherwise go unnoticed.

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Table 1

Stylized Patterns of Assimilation, Consensus and Uniqueness

Panel A -Assimilation				
Target		Variance Components		
Black 1	Black 2	Perceiver	Target	Relationship
White Perceiver 1	4	4	1.00	0.00
White Perceiver 2	8	8	0.00	0.00
Panel B - Consensus				
Target		Perceiver	Target	Relationship
Black 1	Black 2	0.00	1.00	0.00
White Perceiver 1	4	8		
White Perceiver 2	4	8		
Panel C -Uniqueness				
Target		Perceiver	Target	Relationship
Black 1	Black 2	0.00	0.00	1.00
White Perceiver 1	4	8		
White Perceiver 2	8	4		

Note. Ratings are on a 1–10 scale. Variance components are standardized as the proportion of total variance.

Table 2

Asymmetric Block Design of Study 1

	White Partners		Black Partners	
	A	B	C	D
White Perceivers	A	-	x	x
	B	-	x	x
	C	x	-	-
Black Perceivers	D	x	-	-

Note. An x indicates Study 1 data and a dash (-) indicates data not collected. These are the scores that are partitioned using equations 1 and 2.

Table 3**Component Variances and Means for Intergroup Trait Judgments**

	Perceiver		Target		Relationship		Means	
	B	W	B	W	B	W	B	W
Factor1	.00	.29*	.00	.00	.59*	.30*	8.03	8.18
Factor2	.12	.36*	.00	.00	.33*	.21	8.50	8.68
Factor3	.00	.28*	.00	.00	.57*	.42*	8.05	8.27
Factor4	.13	.31*	.00	.00	.37*	.35*	8.20	8.39
Factor5	.00	.45*	.00	.04	.44*	.09*	7.94	8.07

Note. B is Black and W is White. Entries are standardized construct variance components based on five indicators of each construct. Factors 1 through 5 are; extroversion, agreeableness, good natured, emotional adjustment, and intelligence.

* indicates construct variance is reliably different from zero with exact probabilities of .05, .04, .05, .03, and .009 for Whites' perceiver variances for Factors 1 through 5, respectively. Exact probabilities for Whites' relationship variances were .001, .01, .001, and .001 for Factors 1 through 5, respectively. Exact probabilities for Blacks' relationship variances were .008, .002, .001, .001, and .002 for Factors 1 through 5, respectively.

Table 4

Trait Metaperceptions: Component Variances and Means

	Perceiver		Target		Relationship		Means	
	B	W	B	W	B	W	B	W
Factor1	.36 *	.59 *	.00	.00	.18 *	.06 *	8.23	8.04
Factor2	.44 *	.47 *	.00	.02	.19 *	.13	8.47	8.17
Factor3	.15	.57 *	.00	.02	.47 *	.17 *	8.09	7.53
Factor4	.35 *	.51 *	.03	.05	.12 *	.08 *	8.36	7.89
Factor5	.33 *	.41 *	.02	.03	.16 *	.04	7.88	7.74

Note. B is Black and W is White. Entries are standardized construct variance components based on five indicators of metaperceptions for each construct.

* construct variance is reliably different from zero. Exact p values for Blacks' perceiver variance components were .02, .02, .054, .03, and .03 for Factors 1 through 5, respectively. For Whites, exact p values for perceiver variances .02, .03, .04, .01, .04 for the Factors, respectively. Exact p values for Blacks' relationship variance components were .01, .05, .001, .005, and .05 for Factors 1 through 5, respectively. Exact p values for Whites' relationship variance components were .003, .09, .05, .04, and .13 Factors 1 through 5, respectively. Factors 1 through 5 are; extroversion, agreeableness, good natured, emotional adjustment, and intelligence.

Table 5
Component Variances and Means: Quality of Interaction, Positive Affect, and Metaperceptions

	Perceiver		Target		Relationship		Mean	
	B	W	B	W	B	W	B	W
<i>Quality of Interaction</i>								
Enjoy	.26	.49*	.18	.00	.74	.33	8.21	8.34
Interesting	.32	.50*	.17	.00	.68	.34	8.16	8.27
Comfortable	.00	.23	.08	.00	1.00	.70	8.41	8.19
<i>Positive Affect</i>								
Liking	.18	.37*	.08	.00	.82	.55	8.24	8.56
Be Friends	.30	.60*	.18*	.00	.70	.22	7.87	7.99
Similarity	.23	.26	.02	.00	.66	.72	6.77	6.62
<i>MP Positive Affect</i>								
MP Liking	.39	.42*	.30*	.00	.61	.28	7.44	7.24
MP Similarity	.00	.43*	.18	.00	1.00	.39	6.54	6.13

Note. MP is metaperception. Relationship and error variance are pooled and not tested for statistical significance.

* Statistically significant; exact p values for Whites' perceiver variances on *Enjoy*, *Interesting*, *Liking*, *Be Friends*, *MP Liking*, and *MP Similarity* are .006, .007, .03, .01, .04, and .03, respectively. Exact p values for Blacks target variances on *Be Friends* and *MP Liking* are .04 and .03, respectively.

Table 6

Dyadic Behavior: Means and Component Variances

Behavior	Actor		Partner		Relationship/Error		Mean	
	B	W	B	W	B	W	B	W
Speaking								
Time	.32	.00	.00	.00	.68	1.00	9.51	8.92
Questions	.00	.03	.00	.00	1.00	.97	12.37	10.54
SBC	.51*	.37	.09	.01	.40	.62	25.22 _a	37.50 _b
LBC	.61*	.00	.33	.00	.06	1.00	2.19	2.87
Smiles	.20	.55	.00	.04	.80	.41	8.44	8.19
Laughs	.34*	.69	.00	.02	.66	.30	10.02	11.15

Note. Speaking time is in minutes. Means with different subscripts are reliably different. Relationship and error variance are pooled and not tested for statistical significance.

* Statistically significant with exact p values for SBC, LBC, and Laughs of .02, .03, and .03, respectively.