



How negative contact and positive contact with Whites predict collective action among racial and ethnic minorities

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Positive contact with advantaged group members can improve disadvantaged group members' attitudes towards them, yet it may also lower perceptions of group discrimination and consequent collective action. Little is known, however, about how *negative* contact with the advantaged predicts collective action among members of disadvantaged groups. With samples of Black and Hispanic Americans, we tested positive and negative contact with White Americans as predictors of self-reported collective action behaviour and future intentions. Across both samples, negative contact with White Americans predicted greater collective action, largely through the mechanisms of perceived discrimination and intergroup anger. Simultaneously, positive contact showed a negative indirect effect on collective action primarily through reduced anger. These findings suggest that negative contact may be a potential driver of social change among racial minorities. Implications of these findings for the contact and collective action literatures are discussed.

Positive contact – characterized by pleasant, cooperative interactions between members of different groups – typically produces more positive intergroup attitudes (Pettigrew & Tropp, 2006; Tropp & Pettigrew, 2005). While contact research has largely focused on its ability to curb prejudice, some have argued that it has neglected an issue of at least equal importance: how contact influences people's willingness to challenge intergroup inequality (Dixon, Levine, Reicher, & Durrheim, 2012; Wright & Baray, 2012; Wright & Lubensky, 2009). Both surveys (e.g., Dixon, Durrheim, & Tredoux, 2007) and experimental studies (Becker, Wright, Lubensky, & Zhou, 2013) have shown that the more members of disadvantaged groups have contact with the advantaged group, the less inclined they are to support policies and actions that would protect the rights of their disadvantaged groups. Thus, positive contact may undermine disadvantaged group members' desire to challenge the status quo and promote equality between groups (Wright, 2001; Wright & Lubensky, 2009).

The debate surrounding contact's paradoxical effects has, until recently, focused almost exclusively on positive contact. However, emerging work acknowledges that

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contact can be both positive *and negative* (Aberson, 2015; Alperin, Hornsey, Hayward, Diedrichs, & Barlow, 2014; Barlow *et al.*, 2012; Graf, Paolini, & Rubin, 2014; Hayward, Tropp, Hornsey, & Barlow, 2017; Paolini, Harwood, & Rubin, 2010; Techakesari *et al.*, 2015). Negative intergroup contact ranges from mildly unpleasant interactions (e.g., awkwardness between strangers) to more severe incidents (e.g., verbal or physical abuse). Although less frequent than positive contact (Barlow *et al.*, 2012; Graf *et al.*, 2014; Hayward *et al.*, 2017), negative contact with advantaged group members is relatively common for disadvantaged group members (Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003).

Just as positive contact with the advantaged group may reduce disadvantaged group members' support for challenging inequality, negative contact could potentially mobilize disadvantaged group members to take action. In support of this proposition, disadvantaged group members who expect to be rejected by advantaged group members report greater support for political action (Barlow, Sibley, & Hornsey, 2011). Moreover, one form of negative contact for minority group members is exposure to prejudice and discrimination (Tropp, Mazziotta, & Wright, 2016). This can feed into the extent to which a minority individual perceives that their *group* faces substantive discrimination, and perceiving group-based discrimination has been identified as a motivator of collective action to promote intergroup equality (Dion, 2003; Tropp & Brown, 2004; Van Zomeren, Postmes, & Spears, 2008). Although not all instances of negative contact strictly involve expressions of prejudice or discrimination, the subjective nature of contact is such that they may often be appraised through this intergroup lens.

Given that historically disadvantaged groups are typically the drivers of social change towards equality (Dixon *et al.*, 2012), it is crucial to understand the factors that promote or dissuade their engagement in collective action. Furthermore, because contact can be both positive and negative (and the two tend to covary; Barlow *et al.*, 2012), it is important to examine how positive contact and negative contact both contribute to predicting collective action among members of disadvantaged groups. Only one study has considered both positive and negative forms of contact as predictors of collective action among disadvantaged group members (Reimer *et al.*, 2016). Among sexual minorities, negative contact with heterosexuals predicted greater willingness to engage in collective action, and once this negative contact relationship was accounted for, positive contact no longer predicted collective action intentions. The present research aims to extend this literature by investigating the experiences of racial and ethnic minorities in the United States, using comprehensive measures of both positive and negative contact, and expanding our understanding of the psychological processes involved.

Explaining the contact–collective action link

In testing predictors of collective action among disadvantaged group members, researchers have highlighted how positive contact may mask perceptions of discrimination that disadvantaged groups face (Dixon *et al.*, 2010, 2012). Perceiving that one's group suffers from discrimination is an important precursor of collective action (Dion, 2003; Van Zomeren *et al.*, 2008) because one must be aware that there is a problem in order to want to address it (Dixon *et al.*, 2012; Wright & Tropp, 2002).¹ Consistent with

¹ Similar arguments have been proposed within the relative deprivation literature (e.g., Guimond & Dubé-Simard, 1983; Runciman, 1966; Smith & Ortiz, 2002; Smith, Pettigrew, Pippin, & Bialosiewicz, 2012; Tougas & Veilleux, 1988), such that perceptions of relative ingroup disadvantage correspond with greater collective action intentions.

this perspective, longitudinal evidence from Black, Latino, and Asian American samples showed that having friendships with White Americans predicted lower perceived group discrimination, and this in turn reduced intentions to engage in collective action (Tropp, Hawi, Van Laar, & Levin, 2012).

At the same time, among disadvantaged group members, it is possible that negative contact with the advantaged group works to highlight the discrimination suffered by one's ingroup and, in doing so, may enhance disadvantaged group members' desire to fight for social change. In line with this possibility, Reimer *et al.* (2016) found that greater perceived discrimination mediated the relationship between negative contact and collective action intentions among sexual minorities. Similarly, in the present research, we expect that perceived discrimination is likely to mediate the relationship between negative contact and greater collective action among members of racial and ethnic minority groups.

While previous work involving perceived discrimination hints at nuanced relationships between positive and negative contact and collective action, several questions remain unanswered. For one, affective mediators linking contact to collective action have gone largely unexamined. Like others, we argue that emotional responses to contact are especially influential (see Pettigrew & Tropp, 2008; Selvanathan, Techakesari, Tropp, & Barlow, 2017) and should therefore be investigated as potential mediators between contact and collective action. Numerous studies from the relative deprivation literature show that group-based anger in particular motivates action among disadvantaged groups (see Smith *et al.*, 2012). Although often seen as a destructive, oppositional intergroup emotion (Mackie, Devos, & Smith, 2000), anger has been shown to mobilize individuals to constructively fight for the rights of their group (Livingstone, Spears, Manstead, Bruder, & Shepherd, 2009, 2011; Smith, 1993; Smith & Pettigrew, 2014; Smith & Walker, 2008; Smith *et al.*, 2012; Tausch *et al.*, 2011; Van Zomeren, Spears, Fischer, & Leach, 2004). Yet while anger has long been examined as a predictor of collective action tendencies, its role has rarely been examined in the contact literature. In the few cases where anger has been measured in response to contact (see Reimer *et al.*, 2016; Tausch, Saguy, & Bryson, 2015), it has typically been conceptualized as *anger about disadvantage*, paralleling the well-established relative deprivation tradition (Smith & Pettigrew, 2014; Smith & Walker, 2008). Only Reimer *et al.* (2016) examined anger in relation to negative contact, and interestingly, these authors did not find that anger about disadvantage mediated the link between negative contact and collective action among sexual minorities. In the present research, we instead test whether *anger towards the advantaged group* might serve to explain the hypothesized link between negative contact and collective action among racial minorities.

Along with specifying more of the psychological processes underpinning links between contact and collective action, the present research addresses some methodological limitations of past work. First, collective action has typically been assessed in terms of *intentions*, or *support* for policies aimed at restoring inequality, rather than with reports of actual behaviour. Intentions do not always lead to behaviour (Sheeran, 2002). Moreover, people are more likely to report collective action intentions than actual collective action behaviour, and perceived group disadvantage has been shown to predict willingness to engage, but not necessarily engagement in, collective action (Tropp & Brown, 2004). Thus, although positive contact and negative contact have been found to predict willingness to participate in collective action (Reimer *et al.*, 2016; Tropp *et al.*, 2012), it remains unclear whether these forms of contact would predict self-reported participation in collective action.

Second, we do not have a thorough understanding of intergroup contact as it is experienced in the real world. In the literature, contact is typically measured as either frequency of interactions, numbers of outgroup friends, or frequency of high-quality interactions (with quality determined by a limited set of criteria). However, contact can be experienced in myriad ways and there have been calls for greater recognition of this diversity in the field (Dixon, Durrheim, & Tredoux, 2005; Hayward *et al.*, 2017). We argue that it is important to evaluate contact with comprehensive measures that are grounded in reality, capturing both the frequency *and* subjective emotional intensity of a wide range of interactions. We believe that these novel measures paint a more accurate and nuanced picture of disadvantaged group members' real-life interactions with the advantaged.

The present study

In sum, this research investigates how positive contact and negative contact with advantaged group members (White Americans) predict collective action among disadvantaged racial groups (Black and Hispanic Americans). We further extend prior work by examining perceived group discrimination and intergroup anger as mediators of the links between contact and collective action. We also tested these relationships with two important points of methodological distinction from past research. We measured intergroup contact using a more comprehensive scale that captures both the frequency and intensity of a wide range of interactions (see Hayward *et al.*, 2017). Further, we assessed collective action in terms of both *intentions* and self-reported *behaviour*, in order to more accurately evaluate the validity of the findings.

We hypothesized that for both Black and Hispanic Americans, negative contact with White Americans would predict greater collective action intentions and self-reported behaviour. We expected that this relationship between negative contact and collective action would be mediated by greater perceptions of discrimination against one's group and heightened intergroup anger. Furthermore, we hypothesized that positive contact would be associated with lower collective action through lower perceived discrimination and lower anger, but recognized that these effects might be reduced when controlling for negative contact.

Method

Participants and procedure

In 2013, community samples of Black Americans and Hispanic Americans completed surveys online through SocialSci (www.socialsci.com).² We removed one participant because s/he completed <50% of the survey. The final samples comprised 195 Black Americans (135 women, $M_{\text{age}} = 41.60$ years, $SD_{\text{age}} = 14.96$) and 170 Hispanic Americans (112 women, $M_{\text{age}} = 38.14$ years, $SD_{\text{age}} = 13.61$). On a scale from 1 (*worst off in society*) to 10 (*best off in society*), average self-reported socio-economic status was 5.91 ($SD = 2.12$) among Black Americans and 6.16 ($SD = 2.02$) among Hispanic Americans.

² On our behalf, SocialSci recruited 206 participants for the Black American sample and 216 participants for the Hispanic American sample. We then confirmed each participant's ethnicity through responses to items in the survey. Twenty participants reported their ethnicity as White, 17 as a different ethnicity, 11 reported mixed ethnicity, and eight did not answer the question. These participants were removed, resulting in samples of 195 Black Americans and 170 Hispanic Americans. See Hayward et al. (2017) for further details.

The most commonly reported level of educational attainment was *some university or college*.

Measures

Measures of anger, perceived group discrimination, and collective action were randomized throughout the beginning pages of the survey administered to participants. After completing these measures, participants were presented with a wide range of positive and negative contact items. These contact items were distributed across multiple pages of the survey, and these pages were randomized in their presentation (except for the first page of negative contact items that contained the instructions). We intentionally placed the anger, perceived discrimination, and collective action items first to ensure that they would not be artificially influenced by recent memory of reported contact experiences. We expected this order to be less problematic for responses to the contact measures given that the items were very concrete and specific (e.g., 'Have you been verbally abused by a White American person?') and thus were less likely to be affected by intergroup emotions reported previously. At the end of the survey, participants provided demographic information before being debriefed.³

Demographics

Participants were asked to report their age, sex, level of education, and socio-economic status, so that these variables could be considered as controls in data analysis.⁴

Intergroup contact

Participants completed 69 items assessing the frequency and intensity of a wide range of interactions with White Americans (see Hayward *et al.*, 2017). Positive contact examples include pleasant, comfortable, friendly, welcoming, and intimate interactions, and becoming friends with a White American person. Negative examples include uncomfortable, awkward, unfriendly, cold, discriminatory, tense, and abusive interactions, and being threatened or rejected by a White American person.

For each form of contact, participants were asked whether they had experienced this kind of interaction with Whites at least once before (0 = *no*, 1 = *yes*). If the participant responded *yes*, two follow-up questions assessed (a) how frequently they had experienced this kind of interaction with Whites in the past (1 = *extremely rarely*, 7 = *extremely frequently*), and (b) how intensely positive or negative, on average, they found these kinds of interactions with Whites to be (for all 37 positive contact items: 1 = *not at all positive*, 7 = *extremely positive*; for all 32 negative items: 1 = *not at all negative*, 7 = *extremely negative*). Mean frequency and mean intensity scores were created for each participant, based only on those types of interactions that they reported

³ These measures represent a portion of a larger questionnaire that was conducted to answer several research questions, including how intergroup emotions (such as anger) mediate the relationship between contact and prejudice among majority and minority groups (reported in Hayward *et al.*, 2017).

⁴ Results did not differ when demographic variables were controlled for except that perceived discrimination no longer mediated the relationship between negative contact and collective action behaviour among Black Americans ($b = .01$, $CI[-.001, .291]$). To simplify presentation of results, analyses without demographic controls are reported in this manuscript.

experiencing at least once. This procedure helps to account for the fact that some people may experience only a few types of interactions but experience them very frequently.

Mean scores were calculated separately for the positive and negative contact items; participants who reported experiencing no contact at all were given a mean frequency score of 0 (to indicate *never*). Combined frequency x intensity scores were then created as per Voci and Hewstone (2003), such that the range of participants' positive contact scores and negative contact scores ranged from 0 to 49. The full contact measure and further information about how the scales were created are provided in Appendix S1. The vast majority of positive contact items were rated as highly positive (with mean positivity scores above 6 on a 7-point scale), with an overall mean of 6.04. The negative contact items were somewhat more variable in their intensity, yet all negative contact means except for one (competitive interaction) were above the mid-point for negativity, with an overall mean of 5.04. In line with previous research (Barlow *et al.*, 2012; Graf *et al.*, 2014), positive contact ($M = 4.72$) was, on average, more frequent than negative contact ($M = 2.63$).⁵

To support the validity of these novel contact measures, we examined their correlations with other contact measures used in past research. In our larger survey, we included single-item measures of positive and negative contact ('Overall, how often do you have [positive/negative] contact with White Americans?'; see Barlow *et al.*, 2012). Our positive contact measure correlated strongly with the single positive contact item ($r = .57$, $p < .001$ for each respondent group), and our negative contact measure correlated strongly with the single negative contact item ($r_s > .49$, $p_s < .001$).

Perceived discrimination

Perceived discrimination against one's group was assessed with two items, adapted for respondents from each group: '[Black/Hispanic] Americans often experience discrimination on the basis of their race' (Dixon *et al.*, 2010) and '[Black/Hispanic] Americans are more likely than other racial groups to be discriminated against because of their ethnicity'. Responses to these items were scored on a response scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Scores on these items were highly correlated among both Black ($r = .58$, $p < .001$) and Hispanic ($r = .53$, $p < .001$) respondents and were thus averaged.

Intergroup anger

Participants completed four items adapted from Mackie *et al.* (2000) measuring the extent to which White Americans make them feel (1) angry, (2) irate, (3) incensed, and (4) furious, on a response scale from 1 = *not at all* to 7 = *extremely* ($\alpha = .97$ for each group).

Collective action

Using items inspired by Van Zomeren, Postmes, Spears, and Bettache (2011), participants indicated: (1) whether they had engaged in nine collective action behaviours in the past, and (2) how willing they would be to engage in the same nine

⁵ See Hayward et al. (2017) for descriptive information about the average frequency and intensity of each form of contact for each group.

collective action behaviours in the future, adapted for respondents from each group. Example items include: 'I [have joined/would be willing to join] a group aimed at raising awareness of [Black/Hispanic] American rights', and 'I [have protested/would be willing to protest] against racism toward [Black/Hispanic] Americans'. Self-reported collective action behaviour had a *Yes/No* response format, and a sum score was calculated from the nine items (Kuder-Richardson 20 = .86 for Black Americans, .89 for Hispanic Americans; Kuder & Richardson, 1937). Collective action intentions had a response scale from 1 = *not willing at all* to 7 = *extremely willing*, and a mean score was calculated ($\alpha = .95$ for each group). For the intentions items, we conducted an exploratory factor analysis using principal axis factoring (PAF) extraction and oblique (oblimin) rotation to determine whether they loaded onto only one factor. A single factor emerged for the collective action intentions items as determined by scree plot and by eigenvalues greater than 1. All factor loadings were greater than .50. For the behaviour items, we conducted a categorical principal components analysis (CATPCA), which revealed one dimension with an eigenvalue greater than 1. All component loadings were greater than .50.

Results

Mean comparisons and correlations

Means and standard deviations for all variables were calculated separately for Black Americans and Hispanic Americans (see Table 1). Overall, Black Americans reported higher levels of negative contact, perceived discrimination, collective action intentions, and self-reported collective action behaviour compared with Hispanic Americans.

Bivariate correlations among variables were conducted separately for Black Americans and Hispanic Americans and are reported in Table 2. Positive contact and negative contact were not significantly correlated in either sample. Across both groups, positive contact was associated with less anger, whereas negative contact was associated with more anger and stronger perceptions of discrimination. Positive contact was associated with *greater* intentions to engage in collective action among Black Americans, but not among Hispanic Americans, and was not associated with collective action behaviour among respondents from either group. Negative contact, anger, and perceived discrimination were all significantly associated with greater collective action intentions and past behaviour among respondents from both groups.

Table 1. Means and standard deviations among Black Americans and Hispanic Americans

Variables	Black Americans		Hispanic Americans	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Positive Contact	29.33	12.63	29.00	14.98
Negative Contact**	14.76	10.61	11.67	10.56
Anger	3.13	1.71	2.88	1.82
Perceived Discrimination***	5.42	1.40	4.39	1.55
Collective Action Intentions***	5.03	1.50	4.35	1.61
Collective Action Behaviour*	2.56	2.68	1.92	2.67

Note. Asterisk indicates significant difference between sample means. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2. Intercorrelations among variables for Black and Hispanic Americans

Variables	1	2	3	4	5	6
1. Positive Contact	–	–.08	–.34***	–.28***	–.10	.04
2. Negative Contact	–.003	–	.59***	.39***	.30***	.47***
3. Anger	–.27***	.54***	–	.52***	.37***	.45***
4. Perceived Discrimination	–.04	.36***	.24**	–	.53***	.32***
5. Collective Action Intentions	.15*	.39***	.32***	.27***	–	.41***
6. Collective Action Behaviour	.01	.27***	.32***	.24**	.45***	–

Note. Correlations are reported above the diagonal for Hispanic American participants and below the diagonal for Black American participants. * $p < .05$; ** $p < .01$; *** $p < .001$.

Mediation analyses

We tested a series of parallel mediation models using *PROCESS* (Model 4; Hayes, 2013). In each model, positive and negative contact predicted collective action through the parallel mediators of intergroup anger and perceived discrimination. Data for Black and Hispanic Americans were modelled separately. Thus, the first two models (Figures 1 and 2) examined the predictors of (1) collective action intentions and (2) self-reported past collective action behaviours among Black Americans. The next two models (Figures 3 and 4) report the same analyses for Hispanic Americans. We used *PROCESS* because it provides estimation of specific indirect effects (i.e., indirect effects through anger and indirect effects through perceived discrimination). These indirect effects were tested using a bootstrap estimation approach with 5,000 samples. All bias-corrected percentile bootstrap confidence intervals are reported at the 95% confidence level. Because *PROCESS* only allows one variable to be specified as a predictor, we ran two analyses for

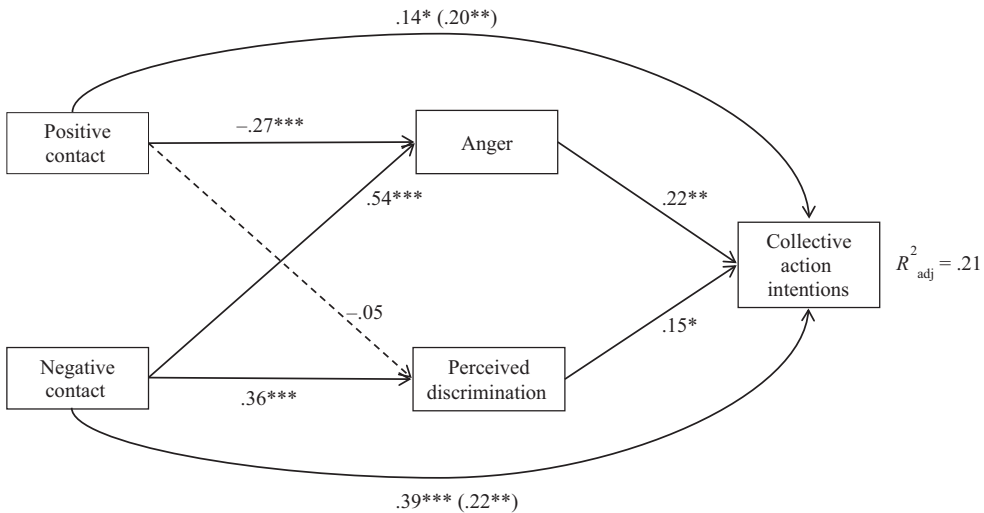


Figure 1. Parallel mediation model of positive and negative contact predicting future collective action intentions through anger and perceived discrimination among Black American participants. Direct effects are reported in parentheses. Standardized coefficients are reported. Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

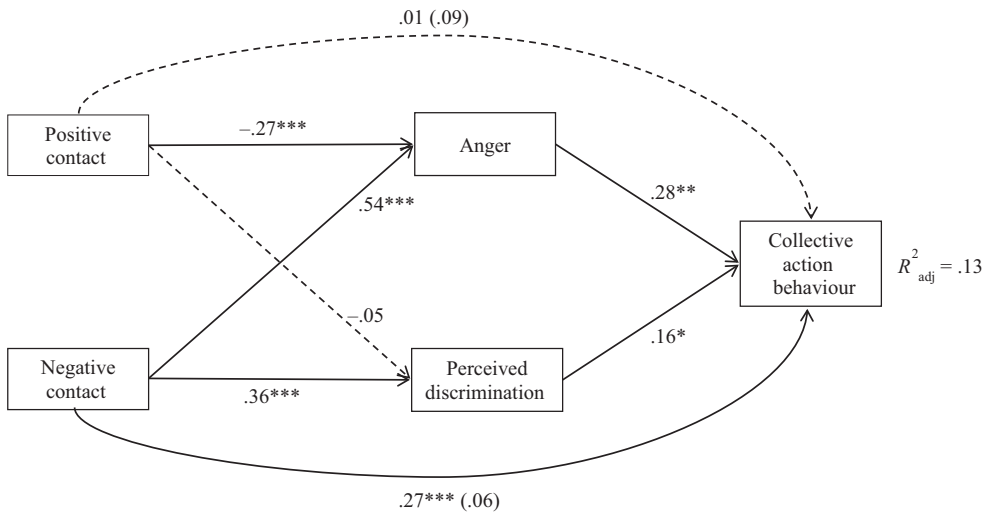


Figure 2. Parallel mediation model of positive and negative contact predicting self-reported collective action behaviour through anger and perceived discrimination among Black American participants. Direct effects are reported in parentheses. Standardized coefficients are reported. Note. $*p < .05$; $**p < .01$; $***p < .001$.

each model (as recommended by Hayes, 2013) – one where negative contact was specified as the predictor and positive contact a covariate, and one where positive contact was the predictor and negative contact a covariate. This is mathematically equivalent to a model with multiple predictors, because by default the covariate is set to predict all mediators and outcomes in the model (and so estimates direct, indirect, and total effects). Bootstrap confidence intervals can change from analysis to analysis, however, because they are derived through a random resampling procedure and different samples are selected for each analysis. Specifying a large number of samples (as we have done) minimizes sampling error and thus minimizes these differences. In confirmation of this, using the same samples in each analysis had no effect on the results.

Tests of mediation among Black Americans

Collective action intentions

The total effect of negative contact on intentions to engage in collective action was significant and positive ($b = .06$, $SE = .009$, $p < .001$; see Figure 1). This relationship was mediated by greater anger ($b = .02$, $SE = .006$, $CI_s[.007, .031]$) and perceived discrimination ($b = .01$, $SE = .004$, $CI_s[.001, .017]$). Negative contact remained a significant direct predictor of intentions after taking into account the mediators ($b = .03$, $SE = .012$, $p = .008$).

Positive contact had a significant and *positive* total effect on intentions to engage in collective action ($b = .02$, $SE = .008$, $p = .039$). However, there was also a *negative* indirect effect through lower anger, such that more positive contact predicted lower anger, which in turn was associated with lower collective action intentions ($b = -.01$, $SE = .003$, $CI_s[-.014, -.003]$). Positive contact was unrelated to perceived discrimination; thus, the indirect effect of positive contact through perceived discrimination was not significant ($b = -.001$, $SE = .002$, $CI_s[-.005, .002]$). Positive contact directly predicted

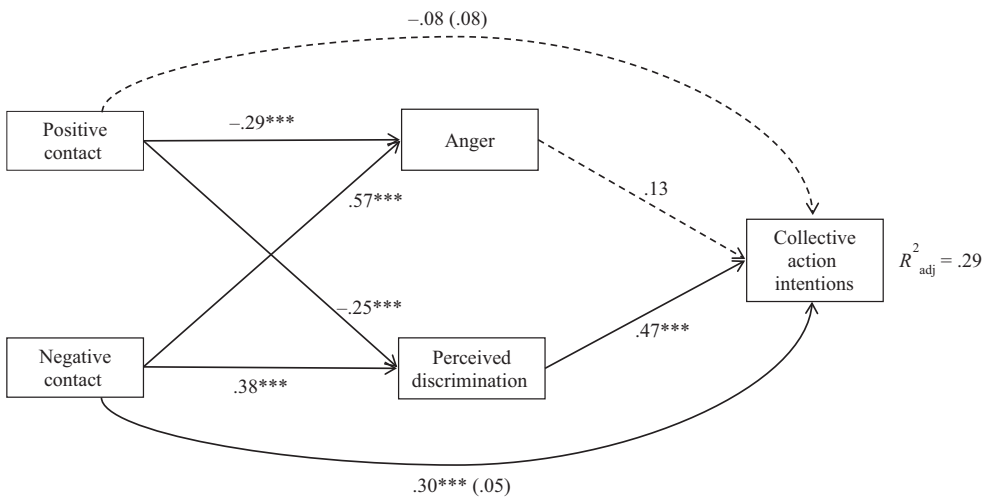


Figure 3. Parallel mediation model of positive and negative contact predicting future collective action intentions through anger and perceived discrimination among Hispanic American participants. Direct effects are reported in parentheses. Standardized coefficients are reported. Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

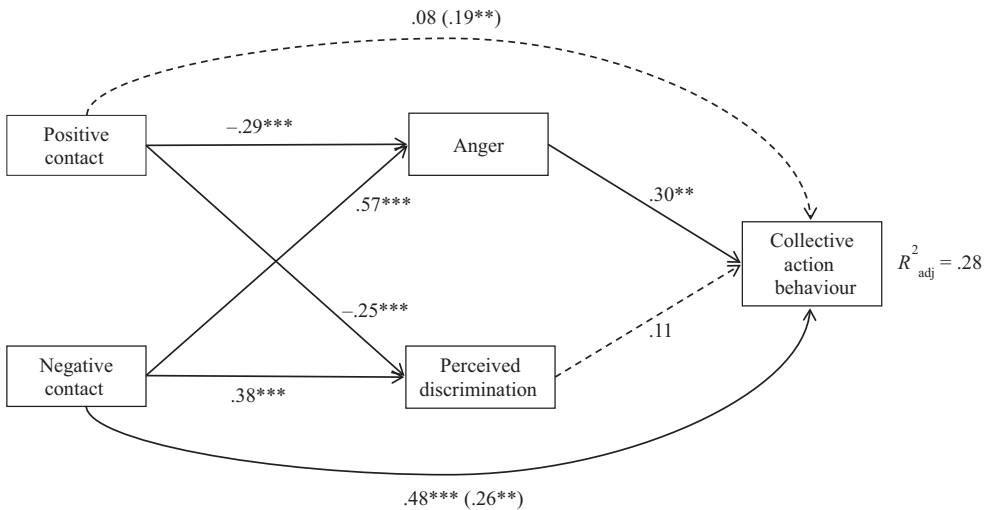


Figure 4. Parallel mediation model of positive and negative contact predicting self-reported collective action behaviour through anger and perceived discrimination among Hispanic American participants. Direct effects are reported in parentheses. Standardized coefficients are reported. Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

greater collective action intentions even after taking into account the mediators ($b = .02$, $SE = .008$, $p = .003$).

The full model depicted in Figure 1, including both positive and negative contact as predictors and perceived discrimination and intergroup anger as mediators, accounted for

approximately 21% of the (adjusted) variance in collective action intentions, $R_{\text{adj}}^2 = .21$, $F(4, 187) = 13.34$, $p < .001$.

Self-reported collective action behaviour

Negative contact had a significant total effect on self-reported collective action behaviour ($b = .07$, $SE = .018$, $p < .001$; see Figure 2). This relationship was mediated by greater anger ($b = .04$, $SE = .015$, $CI_s[.011, .068]$) and perceived discrimination ($b = .01$, $SE = .008$, $CI_s[.001, .031]$). The direct effect of negative contact was not significant after including the mediators in the model ($b = .01$, $SE = .022$, $p = .498$).

There was no significant total effect ($b = .001$, $SE = .015$, $p = .927$) or direct effect ($b = .02$, $SE = .015$, $p = .212$) of positive contact on collective action behaviour. An indirect effect of positive contact was found through lower anger ($b = -.02$, $SE = .007$, $CI_s[-.032, -.005]$) but not through perceived discrimination ($b = -.002$, $SE = .003$, $CI_s[-.009, .003]$).

The full model in Figure 2 accounted for approximately 13% of the (adjusted) variance in collective action behaviour, $R_{\text{adj}}^2 = .13$, $F(4, 188) = 7.87$, $p < .001$.

Tests of mediation among Hispanic Americans

Collective action intentions

Negative contact had a significant total effect on greater willingness to engage in collective action in the future ($b = .05$, $SE = .011$, $p < .001$; see Figure 3). This relationship was mediated through greater perceived discrimination ($b = .03$, $SE = .006$, $CI_s[.016, .041]$) but not anger ($b = .01$, $SE = .008$, $CI_s[-.003, .028]$). The direct effect of negative contact was not significant ($b = .01$, $SE = .013$, $p = .572$).

Positive contact did not show a significant total effect ($b = -.01$, $SE = .008$, $p = .306$) or direct effect ($b = .01$, $SE = .008$, $p = .277$) on collective action intentions. However, positive contact indirectly predicted lower intentions through lower perceived discrimination ($b = -.01$, $SE = .004$, $CI_s[-.022, -.005]$), but not through anger ($b = -.004$, $SE = .003$, $CI_s[-.012, .001]$).

The full model depicted in Figure 3 accounted for approximately 29% of the (adjusted) variance in collective action intentions, $R_{\text{adj}}^2 = .29$, $F(4, 164) = 17.71$, $p < .001$.

Self-reported collective action behaviour

Negative contact had a significant total effect on greater self-reported collective action behaviour ($b = .12$, $SE = .017$, $p < .001$; see Figure 4). This relationship was mediated by greater anger ($b = .04$, $SE = .015$, $CI_s[.017, .074]$), but not by perceived discrimination ($b = .01$, $SE = .008$, $CI_s[-.004, .027]$). Negative contact remained a significant direct predictor even after accounting for the mediators ($b = .07$, $SE = .021$, $p = .002$).

There was no significant total effect of positive contact on past collective action behaviour among Hispanic Americans ($b = .01$, $SE = .012$, $p = .283$). However, there was a significant indirect effect of positive contact on lower collective action through lower anger ($b = -.02$, $SE = .006$, $CI_s[-.029, -.007]$), but not through perceived discrimination ($b = -.01$, $SE = .004$, $CI_s[-.014, .002]$). Positive contact predicted

greater reports of collective action behaviour once the mediators were included in the model ($b = .03$, $SE = .013$, $p = .009$).

The full model depicted in Figure 4 accounted for approximately 28% of the (adjusted) variance in past collective action behaviour, $R_{\text{adj}}^2 = .28$, $F(4, 164) = 17.57$, $p < .001$.⁶

Supplementary analyses

Testing models through multigroup analysis

Although we did not have *a priori* predictions regarding whether the observed relationships would be moderated by respondents' group membership (Black American vs. Hispanic American), we ran path models in AMOS (Arbuckle, 2006) and conducted a multigroup analysis for each collective action outcome. We compared the fit of the fully saturated unconstrained model (allowing paths to be estimated separately for each group) to the fit of several constrained models (which assume each path to be equal across the groups) using chi-square difference tests. In predicting collective action intentions, constraining the path from perceived discrimination to collective action significantly worsened the fit of the model, $\Delta\chi^2 = 8.82$, $p = .003$, revealing that the strength of this path was significantly greater among Hispanic Americans ($\beta = .47$, $p < .001$) than among Black Americans ($\beta = .15$, $p = .033$). No other group comparisons were significant, indicating that the magnitudes of all other paths in the two models were comparable between the groups ($\Delta\chi^2\text{s} < 3.79$, $ps > .051$).

Alternative mediation models

To provide further support for our hypothesized models, we also tested a reverse causal model where anger and perceived discrimination predicted positive and negative contact, which in turn predicted collective action. Four models were tested, predicting collective action intentions or behaviours among Black Americans or Hispanic Americans. We could not obtain model fit indices for the hypothesized and alternative models because the models are fully saturated, meaning that there are no constrained paths. However, across the four models, we found significant indirect effects in just two – when predicting collective action intentions among Black Americans and when predicting collective action behaviour among Hispanic Americans. Although these findings provide some evidence for reverse causality (and, conceptually, these relationships are likely to be bidirectional), our hypothesized models appear to provide a more consistent account of the data.

Additionally, to determine whether anger is a unique mediator or simply a response to perceiving discrimination, we also tested a serial mediation model in which positive and negative contact predicted perceived discrimination, which in turn predicted anger, which in turn predicted collective action. We found evidence of a serial indirect effect in only one of four models, when predicting collective action behaviour among Hispanic Americans (CIs for positive contact $[-.004, -.001]$ and negative contact $[.003, .019]$). Overall, then, the serial mediation model does not consistently offer a good fit to the data.

⁶ Theoretically, only including participants who had experienced both positive and negative contact would provide a more stringent test of the unique influence of each. Results do not substantively change when including only these participants, except that the total effect of positive contact on collective action intentions for Black Americans becomes non-significant ($r = .01$, $p = .254$).

Additional analyses

See Appendix S1 for additional post-hoc analyses regarding possible interactions between positive contact and negative contact, differential effects of contact frequency and contact intensity, and analyses with alternative contact scales that provide support for the validity of our novel contact measures.

Discussion

Positive contact with the advantaged group has been found to undermine disadvantaged group members' intentions to engage in collective action (Dixon *et al.*, 2012; Wright & Lubensky, 2009). However, we know little about the role that *negative* contact plays (Reimer *et al.*, 2016). The current study represents the first investigation of how both positive contact and negative contact with advantaged group members predict both collective action intentions and self-reported behaviour among racial and ethnic minorities. In addition to perceived discrimination, we highlight intergroup anger as a potential mediator of the relationship between contact and collective action.

Negative contact and collective action

Consistent with hypotheses, negative contact with White Americans predicted greater collective action intentions and behaviours among both Black and Hispanic Americans. Although negative contact can be detrimental for intergroup attitudes (Barlow *et al.*, 2012; Stephan *et al.*, 2002), it may be a significant driver of action to challenge the status quo (see also Reimer *et al.*, 2016). This relationship was mediated by both anger towards White Americans and perceived group-based discrimination. These findings are consistent with evidence from the relative deprivation and collective action literatures demonstrating that perceptions of disadvantage and emotions such as anger are especially important for driving social change (Livingstone *et al.*, 2011; Smith & Ortiz, 2002; Van Zomeren *et al.*, 2008; Wright & Tropp, 2002).

For disadvantaged group members, we recognize that negative contact may be experienced, or interpreted, as personal discrimination. Although it may not be possible to fully disentangle negative contact that is perceived as discriminatory from that which is not, our results suggest that negative contact, in its varied forms, may have a range of effects on members of disadvantaged groups. These effects may occur both by heightening perceptions of group-based discrimination and by increasing feelings of anger towards the advantaged group. We reiterate the call for further exploration and integration of the research literatures on contact, discrimination, and collective action (Tropp *et al.*, 2016).

Positive contact and collective action

Consistent with previous research, positive contact indirectly predicted lower collective action intentions among disadvantaged group members (Cakal, Hewstone, & Schwär, 2011; Saguy, Tausch, Dovidio, & Pratto, 2009; Tropp *et al.*, 2012; Wright & Lubensky, 2009). More specifically, our research shows that positive contact predicted reduced collective action behaviour through lower anger towards Whites among both Black and Hispanic Americans, as well as reduced collective action intentions among Black

Americans. Positive contact also indirectly predicted reduced collective action intentions through lower perceived group discrimination among Hispanic Americans.

Although indirect effects were detected, the total effect of positive contact on collective action was not significant in three of the four models tested. In the fourth model, positive contact had a *positive* total effect on collective action. Furthermore, positive contact had a positive direct effect on collective action in two models. The lack of a total effect of positive contact does not appear to be due to the inclusion of negative contact as a simultaneous predictor as we had hypothesized – bivariate correlations between positive contact and collective action revealed the same pattern of results. This pattern is consistent with one study in which positive contact was uncorrelated with, but indirectly predicted, support for social change (Saguy *et al.*, 2009; Study 2). However, it is in contrast to much previous correlational (Cakal *et al.*, 2011; Dixon *et al.*, 2007; Tausch *et al.*, 2015; Tropp *et al.*, 2012; Wright & Lubensky, 2009) and experimental (Becker *et al.*, 2013) evidence that positive contact is directly associated with lower support for collective action.

The finding that positive contact indirectly predicts collective action in the absence of a total effect suggests that either (1) the overall relationship between positive contact and collective action is small and we did not have adequate power to detect the total effect, or (2) there is a possible suppression effect (MacKinnon, Krull, & Lockwood, 2000). While positive contact predicts less collective action through anger and perceived discrimination, an opposing (and as yet unidentified) mediator may simultaneously be predicting *greater* collective action. These opposing indirect effects are resulting in an overall effect that is effectively zero. This is evidenced by the presence of a positive direct effect between positive contact and collective action alongside negative indirect effects in two of the four models tested (on collective action intentions among Black Americans and on collective action behaviour among Hispanic Americans).

Should suppression exist, we can speculate about what the positive mediator(s) may be. In addition to perceived discrimination and anger, group-based efficacy has been found to predict greater collective action intentions such that disadvantaged groups only engage in collective action when they feel that their actions will be efficacious in actually producing change (Van Zomeren *et al.*, 2008). It is possible that positive contact with advantaged group members could lead minority individuals to believe that, were they to fight for social justice, some members of the advantaged group would respond positively and be supportive of such change. Indeed, recent evidence suggests that positive contact produces expectations that the advantaged group will provide fair treatment to the disadvantaged (Saguy *et al.*, 2009), and does not reduce collective action when the advantaged group acknowledges inequalities as illegitimate (Becker *et al.*, 2013; but see Cakal *et al.*, 2011). Moreover, advantaged group members *do* engage in collective action alongside racial minorities to promote social change, and they are more willing to do so when they have experienced frequent positive contact with the disadvantaged group (Dixon *et al.*, 2007; Reimer *et al.*, 2016; Selvanathan *et al.*, 2017). Together, these findings suggest that positive contact may not always reduce collective action among the disadvantaged. In fact, in some circumstances, it may have a positive effect on collective action. For example, in the current study, positive contact was associated with greater collective action intentions among Black Americans and this was evident in the bivariate correlation as well as in the total and direct effects of the structural model – despite the presence of a negative indirect effect through anger.

It is also plausible that a positive relationship exists because some disadvantaged group members who engage in collective action may simultaneously wish to assert that they

have good relationships with advantaged group members, involving lots of positive contact and limited negative contact. This may serve to (1) stave off unwanted accusations of ‘reverse racism’ (e.g., Sobel, 2016), and/or (2) display and encourage comradery with advantaged group allies. Further research is needed to fully understand the nuanced relationship between positive contact and collective action among disadvantaged group members.

Finally, it is important to also note that some of the measures we used in the present study differed from those used in past research, and our research was conducted in a context different from those examined previously (e.g., in post-apartheid South Africa; Dixon *et al.*, 2007, 2010). As a field, it is crucial that we aim to better understand how contact shapes social change behaviours in different contexts and across different time points. Further replication of the present findings is needed to better understand these contextual factors.

Differences between ethnic groups

Testing these models in two disadvantaged groups allowed us to examine potential differences across samples. The observed models were largely consistent across the Black and Hispanic American samples: Only one of six structural paths revealed a significant difference in magnitude between the groups. The general patterns by which positive and negative contact predicted collective action were comparable, building on findings by Tropp *et al.* (2012) who found little difference in the pattern of relationships between positive contact, perceived discrimination, and support for collective action among Black and Hispanic American samples.

It is important to note, however, that perceptions of discrimination were greater among Black Americans than Hispanic Americans, with the mean for Hispanic Americans reflecting the mid-point of the scale (*‘neither agree nor disagree’*; see Table 1). Thus, Black Americans appear to be broadly aware that their group faces discrimination, with positive contact doing little to change that. On the other hand, Hispanic Americans on average do not perceive their group to be the target of significant discrimination. For Hispanic Americans, positive interactions with Whites may communicate the message that, as a group, they are treated relatively well and thus, no action is needed.

Limitations and future directions

Although our model specifies ways in which contact predicts collective action, we must acknowledge that the present study is cross-sectional, and as such, we cannot make strong causal assertions. We do note that our reverse causal models did not produce consistent indirect effects, and previous work using longitudinal data has shown that positive contact and negative contact predict perceived discrimination and, in turn, collective action over time (Reimer *et al.*, 2016; Tropp *et al.*, 2012). That said, the possibility of reverse causal models cannot be discounted, and theoretically, the links between contact, perceived discrimination, anger, and collective action are likely to be bidirectional.

Our examination of mediational pathways here is by no means exhaustive, with several other mechanisms suggested to be involved (see Dixon *et al.*, 2012). For example, reduced identification with the ingroup (e.g., Tausch *et al.*, 2015; Wright & Lubensky, 2009), perceived group boundary permeability (Wright & Lubensky, 2009), and (false) expectations of fair treatment by the advantaged group (Saguy *et al.*, 2009) have been implicated in the relationship between positive contact and collective action. Future

work should attempt to better understand additional factors at play, particularly for the relationship between negative contact and social change.

One strength of the present study was the development of a comprehensive measure of contact that reflects a wide range of potential intergroup experiences, responding to the call to understand contact as it is experienced in reality (Dixon *et al.*, 2005). However, because this measure is novel, its reliability and validity have not been well established. Each participant's contact scores were calculated only from the items that they had experienced at least once, meaning that no participant had scales comprised of exactly the same experiences. Because of this, we could not calculate internal consistency. With regard to validity, we presented evidence of significant correlations with previously used contact measures and demonstrated that the positive items were indeed rated as being subjectively positive and the negative items were rated as being subjectively negative. This measure has also been shown to predict intergroup emotions and prejudice consistent with previous research (see Hayward *et al.*, 2017). However, the limitations of the scales with regard to reliability and validity must be acknowledged, and we suggest that more work is needed to further validate our new measures and demonstrate their utility beyond that of past measures.

Implications and conclusions

The current findings have potential implications for the practice of intergroup contact interventions. The lack of a negative zero-order correlation between positive contact and collective action (and a positive correlation for one outcome variable) suggests that positive contact may still be an effective prejudice reduction strategy that does not automatically correspond with support for existing inequalities. However, positive contact was consistently associated with less anger towards the advantaged, and lower levels of anger in turn predicted lower levels of collective action. Thus, contact interventions that effectively reduce anger towards the advantaged may inadvertently have detrimental downstream effects for social change. There are also particular conditions under which positive contact could conceivably reduce or enhance participation in activism among the disadvantaged. For example, positive contact might inhibit collective action among disadvantaged group members when an advantaged group member communicates that the injustice is legitimate (Becker *et al.*, 2013). Conversely, positive contact might encourage a commitment to social change when advantaged group members indicate that discriminatory treatment is unfair (Becker *et al.*, 2013; Droogendyk, Louis, & Wright, 2016). Further work is needed to understand the ways in which positive contact might shape disadvantaged group members' collective action, with careful attention to ensuring that any effective contact intervention avoids unintended negative consequences for social change.

We must also contend with the conundrum that negative contact presents: that it fuels prejudice (Barlow *et al.*, 2012; Stephan *et al.*, 2002), but also appears to motivate disadvantaged group members to fight for racial equality. Do we therefore bolster our efforts to reduce negative intergroup contact, only to see that the consequence is maintenance of the status quo? We argue, as others have in the discussion of positive contact (Dixon *et al.*, 2012), that we need to focus greater attention towards understanding factors that lead to social equality and justice, while recognizing that positive contact may not be the only route through which this can or should occur (see Selvanathan *et al.*, 2017). Of course, we do not recommend promoting negative contact as a method of social change. Yet we recognize that negative contact, particularly in the

form of discrimination, is still a very real occurrence for disadvantaged group members (Swim *et al.*, 2003), and contend that there may be virtue in raising awareness of it. If disadvantaged group members are more conscious of negative experiences in their relations with the advantaged group, recognizing it even when it may be subtle or ambiguous, then they may be more ready to take action in response to it. Although these negative experiences have detrimental consequences for intergroup harmony (Barlow *et al.*, 2012), we cannot ignore the fact that they occur. In societies where intergroup inequality exists, negative contact may both reflect the reality of such inequality and act as an impetus to fight to change it.

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Supporting Information

The following supporting information may be found in the online edition of the article:

Appendix S1. Materials.