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Indirect Contact and Collective Action Among Disadvantaged Groups: A Multi-Level Mini-Meta-Analysis

Priscilla Lok-chee Shum[1] 🄳 | Marisa L. Mylett[1] | Ziv Levin[1] | Stephen C. Wright[1] 🄳 | Agostino Mazziotta[2] | Lisa Droogendyk[3] 🄳 | Lisa M. Bitacola[1]

[1]Department of Psychology, Simon Fraser University, Burnaby, British Columbia, Canada | [2]Department of Social Work, Fachhochschule Münster, Münster, Germany | [3]Faculty of Humanities and Social Sciences, Sheridan College, Oakville, Ontario, Canada

Correspondence: Priscilla Lok-chee Shum (pshum@sfu.ca)

ABSTRACT

It is well established that positive contact between members of different groups can reduce prejudice. However, there is also evidence that direct contact with advantaged group members can undermine disadvantaged group members' engagement in collective action. Also, considerable evidence shows that effective contact need not be direct. Mere knowledge of cross-group friendships (extended contact) or observing positive contact (vicarious contact) can also reduce prejudice. This raises the question of whether these indirect forms of contact might also undermine collective action. We conducted a mini-meta-analysis of eight unpublished studies, including a range of intergroup contexts and samples, that measured indirect contact with advantaged group members and collective action among disadvantaged groups. We found a small but significant relationship that was consistently negative but varied in size depending on how indirect contact was measured. Contrary to expectation, more indirect contact predicted reductions in normative forms of collective action as strongly as radical forms.

1 | Introduction

Prejudiced attitudes that drive interpersonal discrimination make daily interactions painful and unpleasant, while institutional and structural discrimination create and maintain intergroup inequalities. Given the prevalence of discrimination and intergroup inequality in society, there has been a strong focus in social psychological research on improving intergroup relations (Wright 2001).

Direct intergroup contact—positive interactions between members of different social groups—is well established as an effective method to reduce prejudice (Davies et al. 2011; Pettigrew and Tropp 2006; Tropp and Pettigrew 2005). However, in terms of creating broad social change, the presumptive underlying model of contact is that improving the attitudes of individuals will reduce discriminatory behaviour, which will then lead to changes in the systems that maintain inequality (Wright and Baray 2012). Given this model of social change, research has more often focused on members of more advantaged groups, as the prejudice and discrimination of those with power have the most obvious impact on systemic inequalities.

An alternative strategy involves direct action, often led by members of the disadvantaged group who demand redress of inequality. Collective action refers to the behaviour taken by individuals when acting on behalf of their group with the purpose of enhancing conditions for the group (Wright et al. 1990). Wright (2001) first argued that direct contact and collective action rely on conflicting psychological processes for disadvantaged group

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members (see also Dixon et al. 2007, 2012), meaning that positive contact with advantaged outgroup members could undermine their engagement in collective action. For instance, more contact is associated with reduced anxiety, threat and negative expectations towards the outgroup (e.g., Turner et al. 2008), which are key psychological antecedents of collective action (Wright and Lubensky 2009). Numerous studies have shown evidence of the palliative effects of positive direct contact on disadvantaged groups (e.g., Dixon et al. 2012), including lower awareness of group-based inequality (e.g., Saguy et al. 2009), reduced support for race-targeted reparative policies (e.g., Dixon et al. 2007) and less support for (Wright and Lubensky 2009; Hässler et al. 2020) and lower intentions to engage in collective action (Becker et al. 2013).

Importantly, not all forms of contact undermine collective action. When the advantaged outgroup contact partner explicitly expresses contempt for the inequality between the advantaged and disadvantaged groups during friendly cross-group interactions (i.e., supportive contact), the sedative effect on collective action intentions was either absent (Becker et al. 2013) or reversed (Droogendyk et al. 2016; Techakesari et al. 2017). More recently, researchers have explored *mobilising* effects of negative contact on collective action (e.g., Dixon and McKeown 2021; Reimer et al. 2017; Hayward et al. 2018). A large-scale, cross-national study also showed that, among disadvantaged groups, the *absence of negative contact* was a stronger predictor of reduced collective action than positive contact (Hässler et al. 2020).

1.1 | Indirect Contact

In an extension beyond direct contact, Wright et al. (1997) proposed the *extended contact hypothesis*, which held that mere *knowledge* of an ingroup member sharing a close relationship with an outgroup member could reduce prejudice. Since then, *vicarious contact*, another form of indirect contact which involved social learning through *observation* of positive interactions between ingroup and outgroup members (Mazziotta et al. 2011), has also been considered. Meta-analyses have shown that these and other forms of indirect contact can be as effective in reducing prejudice as direct contact (Lemmer and Wagner 2015), and that effects of *extended contact* remain significant even after partialling out effects of *direct contact* (Zhou et al. 2018). Underlying mechanisms for the prejudice-reducing effect of indirect contact include reduced intergroup anxiety and uncertainty, the inclusion of the outgroup in the self and perceptions that ingroup and outgroup norms support a positive view of the outgroup (e.g., Wright et al. 1997; Mazziotta et al. 2011; Turner et al. 2008).

In light of the research revealing the palliative effects of positive direct contact on collective action, it seems relevant to consider whether positive indirect contact can have similar effects. Given the mechanisms involved in extended contact's effect on prejudice, there is reason to believe that it could also reduce interest in collective action among disadvantaged group members.

Crucially, the creation of positive ingroup norms regarding attitudes and actions towards the outgroup may be especially problematic for collective action. For those who identify with a group, other ingroup members exert *referent informational influence* (Abrams and Hogg 1990; Wright et al. 1997); that is, the attitudes and behaviours of other ingroup members offer information about group norms that inform one's own attitudes. Observing positive cross-group relationships involving ingroup friends can suggest that normative attitudes towards the outgroup are largely positive (Turner et al. 2008). Furthermore, individuals may also experience pressure to comply with ingroup norms to attain social approval and acceptance (Abrams and Hogg 1990). Thus, these norms play a key role in deliberative cost–benefit evaluations that inform decisions to engage in collective action (Louis et al. 2005). As conflict-inducing behaviours essential to collective action would be inconsistent with the positive ingroup norms suggested by positive indirect contact, both referent informational influence and perceived social costs of violating ingroup norms should make collective action less appealing.

Importantly, indirect contact may most strongly influence radical forms of collective action—behaviours that are also broadly unacceptable within a society (Tausch et al. 2011; Wright et al. 1990). Tausch et al. (2011) found that engagement in radical collective action was predicted by strong feelings of contempt towards the outgroup, which would be entirely inconsistent with positive emotions prescribed and elicited by positive indirect contact. Furthermore, to the degree that it suggests that the ingroup is supportive of intergroup harmony, indirect contact should undermine the normative consensus that collective action, especially its more radical forms, is a good idea, thus increasing the perceived cost of taking action (Jiménez-Moya et al. 2015). Indeed, Mooijman et al. (2018) found that the perceived acceptability of violent protests, a form of radical collective action, was contingent on the belief that others shared one's attitudes.

1.2 | The Current Research

To our knowledge, only one published study has estimated the relationship between indirect forms of contact and collective action in disadvantaged groups. However, in Hässler et al.'s (2020) analysis, indirect contact was collapsed alongside measures of direct contact in their main analyses. The current paper aims to address gaps in both the collective action and indirect contact literatures with a set of studies that focuses specifically on indirect contact with advantaged group members and collective action among a range of disadvantaged groups. The datasets used in the current paper were collected for a variety of purposes as part of a series of projects investigating the relationships between contact and collective action over the past decade. All studies were conducted by members of our research group. Only previously unpublished datasets that included measures of both indirect contact (extended or vicarious) and collective action variables were included in the analyses.

Studies 1 and 2 examined how extended contact with Mainland Chinese people predicted Hong Kong residents'[1] endorsement of two pro-democracy movements—the Umbrella movement and Anti-ELAB movement. Studies 3 and 4 examined how extended contact with heterosexual people predicted intentions to engage in collective action among German (Study 3) and

Canadian (Study 4) sexual and/or gender minorities. Studies 5 and 6 examined how extended contact with White people predicted endorsement of and intentions to engage in collective action among Canadian ethnic minorities (Study 5) and African Americans (Study 6). Study 7 was an experiment that included a manipulation of relative status of the ingroup (vs. the outgroup) and examined how observing positive contact with a member of the higher-status outgroup predicted intentions to engage in collective action among those induced to believe that their group had lower status. Finally, Study 8 examined how observed contact with men predicted women's endorsement of specific collective action behaviours of Me-Too activists[2].

Given the diversity in samples, measures and study designs across these eight datasets, we employed a meta-analytic approach to synthesising the findings. The goal of this 'mini-meta-analysis' is not to provide an exhaustive review of the existing literature, but rather to present a succinct internal summary of multiple conceptually comparable studies (Goh et al. 2016) conducted solely by our own research group. Thus, although we employ a statistical approach used in traditional meta-analysis, we use this technique only because it provides a parsimonious and appropriate way of presenting data from a group of our own previously unpublished studies.

2 | Methods

2.1 | Participants

A total of 2182 people participated across eight studies. A priori power analysis was not conducted prior to data collection. Post hoc power analysis shows that, given the estimated effect size in this paper (0.14), a sample size of 398 is required to detect this effect with 80% power (two-tailed, $\alpha = 0.05$). Only one study (Study 3) achieved this minimum sample size.

Participants included undergraduate and community samples from Hong Kong, Germany, Canada and the USA (see Table 1 for descriptions and demographics of each sample). Seven studies received ethical approval from their respective university Ethical Review Boards[3]. All participants provided informed consent.

2.2 | Procedure

All studies were cross-sectional[4]. In each study, participants completed self-report measures of extended or observed contact with the relevant advantaged outgroup as well as intentions to engage in, or endorsement of, collective action.

2.2.1 | Studies 1 and 2

Data for Study 1 and Study 2 were collected online as part of a larger study on language attitudes in Hong Kong. Study 1 was conducted in 2018, 4 years after the Umbrella movement, while Study 2 was conducted in 2019, during the Anti-ELAB movement. Participants were recruited from a university in Hong Kong via the school's mass mail system. The procedures in both studies were similar. As part of the larger project, participants were randomly assigned to listen to recordings of eight speakers (four men; four women) speaking in either Cantonese or Mandarin[5] and provide ratings for each speaker. Participants then completed measures of extended contact with Mainland Chinese people and endorsement of the Umbrella movement, and Anti-ELAB movement as well as a number of specific relevant collective actions (Study 2 only)[6].

2.2.2 | Study 3

Data for Study 3 were collected as part of a larger unpublished study on contact effects between gays, lesbians and heterosexuals in Germany. Over 60 GLBT associations (e.g., Lesbian and Gay Federation in Germany, Association of Lesbian and Gay Journalists, Association of Lesbian and Gay Teachers) were contacted via email and asked to forward an invitation to the cross-sectional online study to their members. Beyond offering to send participants a summary of the results, no further incentives for participation were offered. Participants filled out demographic questions, followed by, in addition to other constructs, measures of positive and negative indirect contact with heterosexuals and motivation to engage in collective action. Each scale was presented on separate pages, and the items of the respective scales were presented to each participant in a random order.

2.2.3 | Study 4

Data for Study 4 were collected as the Canadian contribution to a 23-country multi-lab collaborative project (Hässler et al. 2020) investigating members of the LGBTQ+ community's cross-group contact with Cis-Heterosexuals and their intentions to engage in a number of collective actions. The survey included a variety of demographic and individual difference measures, a number of measures of direct and indirect contact and measures of collective action. The current analyses include only the relevant measure of indirect contact and collective action intentions. While these variables were part of the larger project, the specific comparisons presented in the current study do not appear in the analyses presented by Hassler and colleagues and represent a unique contribution.

2.2.4 | Study 5

Data for Study 5 were collected at a university in British Columbia, Canada. Participants who identified as belonging to an ethnic minority in Canada completed an in-lab electronic questionnaire in exchange for either course credit or a chance to win raffle prizes. After choosing the ethnic category that best described them, that chosen label was then piped into subsequent questions whenever a reference to the ethnic category was necessary. Participants responded to demographic items and completed, as part of a longer survey on intergroup relations, measures of quality and quantity of extended contact with White Canadians and endorsement of and intentions to engage in collective action.

TABLE 1 | Sample descriptions and demographics of Studies 1–8.

Study	Context	Sample	Sample size	Excluded participants	Ethnic breakdown	Gender breakdown	Mean age (SD)
1	Hong Kong Umbrella Movement	Hong Kong Undergraduates	237	Total $N=241$; Excluded due to missing data: $N=4$	Hong Kong-Chinese (100%)	Men (58.2%) Women (41.8%)	19.51 (1.61)
2	Hong Kong Umbrella and Anti-ELAB (2019) Movements	Hong Kong Undergraduates	194	Total $N=200$; Excluded due to missing data: $N=6$ or 11 depending on key measure	Hong Kong-Chinese (100%)	Men (28.3%) Women (69.1%) Unreported (2.6%)	19.78 (1.96)
3	LGB	German Community Sample	552	Total $N=581$; Excluded due to self-reported sexuality: Heterosexual ($N=9$); Pansexual ($N=7$); Asexual ($N=1$); Others ($N=5$); Missing ($N=4$) Excluded due to missing data: $N=3$ or 4 depending on key measure	N/A	Men (68.3%) Women (31.4%) Intersex/Transgender (0.4%)	36.50 (13.03)
4	LGBTQ+	Canadian Community Sample	227	N/A	Caucasian/White (57.3%) Asian (11.9%) Biracial/Mixed-Ethnicity (7.9%) African Canadian/Black (1.3%) Hispanic/Latino(a) (0.9%) Indigenous/First Nations (0.9%) Middle Eastern (0.4%) Self-defined (3.1%) Not Reported (16.3%)	Men (25.1%) Women (55.5%) Non-binary (15.9%) Intersex/Transgender (1.3%) Self-defined (2.2%)	26.41 (10.21)

(Continues)

TABLE 1 | (Continued)

Study	Context	Sample	Sample size	Excluded participants	Ethnic breakdown	Gender breakdown	Mean age (SD)
5	Canadian Ethnic Minority Groups	Canadian Undergraduates (self-identified ethnic minorities)	350	Total $N=350$; Excluded due to missing data: $N=9$–31 depending on key measure	Chinese (56.6%) East-Indian/ Indian (18.3%) Southeast Asian (9.1%) Middle Eastern (4.9%) Korean (3.4%) African Canadian/ Black (0.9%) Pakistani (0.9%) Indigenous/First Nations (0.3%) Self-defined (5.7%)	Men (35.1%) Women (64.3%) Unreported (0.6%)	20.68 (3.61)
6	US African American	American Community Sample (self-identified Black American or African American)	301	Total $N=301$; Excluded due to missing data: $N=0$ or 14 depending on key measure	African/Black American (100%)	Men (33.2%) Women (66.4%) Non-binary (0.3%)	36.38 (12.08)
7	Experimentally manipulated 'low-status' group (BC undergraduates)	Canadian Undergraduates	122	Total $N=240$; Excluded due to experimental condition: High-status Ingroup ($N=118$)	East Asian (35.2%) Caucasian/ White (32.2%) South Asian (17.2%) Biracial/Mixed-Ethnicity (7.4%) African Canadian/ Black (2.5%) Middle Eastern (1.6%) Hispanic/ Latino(a) (0.8%) Self-defined (2.5%)	Men (40.2%) Women (59%) Self-defined (0.8%)	19.78 (3.30)
8	Gender (women vs. men)	American Community Sample (self-identified women)	199	N/A	Caucasian/ White (77.4%) African American/ Black (11.1%) Asian (4.5%) Biracial/Mixed-Ethnicity (4.0%) Hispanic/ Latino(a) (3.0%)	Women (100%)	40.85 (11.57)

2.2.5 | Study 6

Data for Study 6 were collected online as part of a larger unpublished study via the crowdsourcing platform Amazon Mechanical Turk (MTurk). Participants who identified as either Black American or African American completed a brief online survey in exchange for $1.50 USD. Participants completed demographic items and, among other constructs, measures of quantity and quality of extended contact with White Americans, and normative and radical forms of collective action engagement.

2.2.6 | Study 7

Data for Study 7 were collected at a university in British Columbia, Canada. All participants were British Columbian undergraduates. Participants were recruited from psychology classes or with recruitment flyers and received either course credit or $7. Participants completed all tasks on a computer in individual cubicles. *Group status* was manipulated by having participants read one of two mock magazine articles that described clear status inequality between the higher education system of British Columbia and Ontario (another large Canadian province). In one version of the article, Ontario had the higher status and in the other, British Columbia had the higher status. Therefore, group status was manipulated such that participants were either members of the high- or low-status group[7]. Since the current research project focuses only on disadvantaged groups, only participants in the low-status group condition were included in the analysis.

Next, participants were instructed to read an ostensibly real online discussion between a student from British Columbia (ingroup member) and a student from Ontario (outgroup member). After reading the online discussion, participants completed measures of perceived group status, interaction quality (the measure of indirect contact) and their willingness to take part in collective action.

2.2.7 | Study 8

Data for Study 8 were collected online via MTurk as part of a larger unpublished study on cross-gender contact and sexism. Participants who identified as women completed an online survey in exchange for $2.00 USD. Participants responded to, among other constructs, measures of quantity of observed equal-status contact between men and women (measure of indirect contact) and endorsement of specific collective action behaviours of Me-Too activists.

2.3 | Measures

A variety of measures of both key variables were used across the studies, in part due to the diverse contexts in which the data were collected. For the sake of clarity, the independent variables were categorised into one of three categories: *quantity of positive indirect or extended contact*, *quality of indirect or extended contact*, and quantity of negative indirect or extended contact, which was reverse-coded as *absence of negative indirect or extended contact* (Hässler et al. 2020). The dependent variable was categorised as either collective action *intentions* or collective action *endorsement*. All items were presented in English unless otherwise specified.

2.3.1 | Indirect Contact (See Table 2)

2.3.1.1 | Studies 1 and 2 (Hong Kong Samples). Participants responded on a 7-point Likert Scale to a single item that measured the *quantity of positive extended contact* with Mainland Chinese people. This item was presented in Traditional Chinese.

2.3.1.2 | Study 3 (German LGB+ Sample). Participants responded on a 5-point Likert scale to a single item measuring the *quantity of positive extended contact* and a single item measuring the *absence of negative extended contact* with heterosexual people. These items were presented in German.

2.3.1.3 | Study 4 (Canadian LGBTQ+ Sample). Participants responded on a 7-point Likert scale to a single item measuring the *quantity of extended contact* (defined as indirect friendships), a single item measuring the *quantity of positive extended contact* (defined as indirect interaction experiences) and a single item measuring the *absence of negative extended contact* with cis-heterosexual people.

2.3.1.4 | Study 5 (Canadian Ethnic Minority Sample). Participants responded on a 9-point Likert scale to a single item that measured the *quantity of positive extended contact* with White people. Participants who indicated that they knew of at least one person in their ethnic/racial group who had a White friend then responded on a 7-point Likert scale to a single item that measured the quality of the specific friendship that most readily came to mind (*quality of positive extended contact*).

2.3.1.5 | Study 6 (Black American Sample). Participants responded on a 7-point Likert scale to a single item that measured the *quantity of positive extended contact* with White people. Participants who indicated that they knew of at least one person in their racial group who had a White friend then responded to a single item that measured the quality of the single *closest* relationship they could think of. To do this, they completed an adapted version of the Inclusion of the Other in the Self (IOS) Scale (Aron et al. 1992). This single-item measure asked participants to select one of seven pairs of circles, with one circle in each pair representing each member of the friendship. The seven pairs of circles showed an increasing degree of overlap. They selected the pair of circles that best represented how close their Black friend was to their White friend. This was treated as a measure of the *quality of positive extended contact*.

2.3.1.6 | Study 7 (Canadian Disadvantaged Undergraduate University Sample). Participants responded on a 7-point Likert scale to three items assessing their perception

TABLE 2 | Items, measurement scales and means of indirect contact measures for Studies 1–8.

Study	IV(s)	Item	Scale	Mean (SD)
1 & 2	Quantity of Extended Contact with Mainlanders	'According to your knowledge, how many of the friends of your Hong Kong friends are Mainlanders?'	1 = 'None of them'; 7 = 'All of them'	2.05 (0.59) 1.96 (0.49)
3	Quantity of Positive and Negative Extended Contact with Heterosexuals	How often have your homosexual (lesbian and/or gay) friends had [positive/negative] contact experiences with heterosexual people?	1 = 'Very rarely'; 5 = 'Very often'	Positive: 4.01 (0.77) Negative: 2.59 (0.96)
4	Quantity of Extended Contact with Cis-Heterosexuals	'As far as you are aware of, how many of your sexual minority friends have cis-heterosexual friends?'	1 = 'None of my friends'; 7 = 'All of my friends'	5.91 (1.33)
	Quantity of Positive and Negative Extended Contact with Cis-Heterosexuals	'As far as you are aware of, how many of your sexual minority friends or close relatives have had [good/bad] experiences with cis-heterosexuals?'		Positive: 6.01 (1.11) Negative: 4.56 (2.10)
5	Quantity of Positive Extended Contact with Whites	'How many members of your own ethnic/racial group do you know who have White friends?'	1 = '0'; 12 = 'more than 10'	8.46 (3.98)
	Quality of Extended Contact with Whites	'If you indicated you know of people of your own ethnic/racial group that have a White friend, please consider the one person whose friendship comes most readily to mind. How would you define that friendship?'	1 = 'acquaintance'; 7 = 'best friend'	4.68 (1.70)
6	Quantity of Positive Extended Contact with Whites	'How many of your close Black friends and/or family members have at least one close White friend?'	1 = 'None of them'; 7 = 'All of them'	4.43 (1.82)
	Quality of Extended Contact with Whites	With that same friendship in mind, please choose the two circles that best describe how close the friendship is.	IOS scale	4.87 (1.46)
7	Quality of indirect contact with Ontario student	How friendly were the BC and Ontario student with each other during the online discussion?	1 = 'Not at all friendly'; 7 = 'Extremely friendly'	5.18 (1.35)
		How well did the BC and Ontario student get along during the online discussion?	1 = 'Did not get along well'; 7 = 'Got along very well'	
		What was the level of equality between the BC and Ontario student during the online discussion?	1 = 'Extremely equal'; 7 = 'Extremely unequal'	
8	Quantity of observed equal cross-gender contact	How often do you observe men and women interacting in your daily life, where both are of equal status?	1 = 'Never'; 5 = 'All the time'	3.52 (0.91)

of the quality of an observed interaction (i.e., friendliness, getting along and equality; $\alpha = 0.71$) between a member of their own university and a member of another university that had been described in a (fictitious) magazine article as holding significant advantages over their own university. This was treated as a measure of the *quality of positive indirect contact*.

2.3.1.7 | Study 8 (Canadian Women Sample). Participants responded on a 5-point scale to a single item measuring the quantity of observed equal-status, cross-gender contact in their daily lives (*quantity of positive indirect contact*).

2.3.2 | Collective Action Endorsement/Intentions (See Table 3)

2.3.2.1 | Study 1 and 2 (Hong Kong Samples). Participants in both studies indicated on a 5-point scale their general *endorsement* of the Umbrella Movement. Participants in Study 2 also indicated on 5-point scales both their general *endorsement* of the Anti-ELAB movement and their *endorsement* of 10 specific behaviours displayed by protestors during the movements (10 items; $\alpha = 0.94$). All items were presented in Traditional Chinese.

2.3.2.2 | Study 3 (German LGB Sample). Participants reported on 5-point scales the likelihood that they will engage in eight collective action behaviours—*intentions* ($\alpha = 0.81$); and their willingness to participate in eight activities organised specifically by the Lesbian and Gay Federation in Germany—*intentions* ($\alpha = 0.87$). All items were presented in German.

2.3.2.3 | Study 4 (Canadian LGBTQ+ Sample). Participants indicated on 7-point scales their *intentions* to engage in six collective action behaviours on behalf of sexual minorities ($\alpha = 0.85$).

2.3.2.4 | Study 5 (Canadian Ethnic Minority Sample). Participants indicated on 7-point scales their *endorsement* of (8 items; $\alpha = 0.65$) and *intentions* to engage in collective action (12 items; $\alpha = 0.93$) on behalf of their ethnic minority group. The sample included multiple groups, and the specific ingroup identified in these items depended on participants' self-identified group.

2.3.2.5 | Study 6 (Black American Sample). Participants reported, on 7-point scales, their *endorsement* of Black Americans engaging in 12 specific collective action behaviours ($\alpha = 0.88$), as well as their own *intentions* to engage in these behaviours ($\alpha = 0.89$).

2.3.2.6 | Study 7 (Canadian Disadvantaged Undergraduate University Sample). Participants reported, on 7-point scales, their *intentions* to engage in 9 specific collective actions ($\alpha = 0.79$) and the likelihood they would participate in 15 collective action behaviours—*intentions* ($\alpha = 0.91$).

2.3.2.7 | Study 8 (Canadian Women Sample). Participants reported on 5-point scales their *endorsement* of 10 specific behaviours engaged in by Me-Too activists ($\alpha = 0.86$).

2.3.3 | Measures Used in Additional Moderator Analysis of Radical vs. Normative Collective Action

In order to perform more specific analyses, items that described more radical forms of collective actions, defined as those that are outside the norms of the dominant social system (Tausch et al. 2011), were separated from items that described more normative forms in each study. Only collective action measures that included both normative and radical items were included. Measures that included only normative items or items that could not be classified (e.g., general endorsement of a social movement in Studies 1 and 2) were excluded from these specific analyses (see Table 4).

2.3.3.1 | Study 1 (Hong Kong Sample). With only a single-item movement endorsement measure, this study was excluded from these analyses.

2.3.3.2 | Study 2 (Hong Kong Sample). The distinction between radical and normative items was determined post hoc. Horn's parallel analysis recommended a 2-factor solution (Horn 1965). An exploratory factor analysis (EFA) including all 10 items using a 2-factor structure with varimax rotation was conducted. Items 1–3 loaded on the first factor (loadings > 0.59), which included legal forms of collective action (e.g., petitions, peaceful protests). Items 4–10 loaded on the second factor (loadings > 0.79), which included more disruptive and illegal forms of collective action (e.g., occupying roads, property destruction, violence). Thus, the 10-item behavioural endorsement measure was separated into normative (3 items; $\alpha = 0.84$) and radical (7 items; $\alpha = 0.96$) subscales. The single-item general movement endorsement measures were excluded from these analyses.

2.3.3.3 | Study 3 (German LGB+ Sample). The distinction between radical and normative items was determined post hoc. EFA of the 8 items measuring collective action intentions specific to the Lesbian and Gay Federation (LSVD) did not yield interpretable factors along the normative-radical dimension. However, two items that were more disruptive in nature (i.e., sitting blockades, human chains) could be classified as radical while the remaining six items (e.g., demonstrations, boycotting products) were classified as normative. Thus, the 8-item LSVD-specific collective action intentions measure was separated into normative (6 items; $\alpha = 0.82$) and radical (2 items; $\alpha = 0.80$) subscales. No items in the 8-item general collective action intentions measure could be classified as radical. This measure was excluded from these analyses.

2.3.3.4 | Study 4 (Canadian LGBTQ+ Sample). No items in the collective action *intentions* measure could be classified as radical. This study was excluded from these analyses.

2.3.3.5 | Study 5 (Canadian Ethnic Minority Sample). The distinction between radical and normative items was determined post hoc. EFA of both the 8-item collective action *endorsement* and the 12-item *intentions* measure did not yield interpretable factors along the normative-radical dimension. Instead, four judges, who were supplied with a definition of radical action, independently coded each item as radical (or not). They demonstrated substantial interrater reliability (Fleiss $\kappa_{endorsement} = 1.00$; Fleiss $\kappa_{intentions} = 0.73$) and their ratings were used to categorise the items. The collective action *endorsement* and *intentions* measures were separated into

TABLE 3 | Example items, measurement scales and means of collective action measures for Studies 1–8.

Study	DV(s)	Measure (Example Item)	Scale	Mean (SD)
1	Umbrella Movement Endorsement	'How much do you endorse the Umbrella/Occupy Central movement?'	1 = 'Extremely against'; 5 = 'Extremely endorse'	3.49 (0.96)
2	Umbrella Movement Endorsement	'How much do you endorse the Umbrella/Occupy Central movement?'	1 = 'Extremely against'; 5 = 'Extremely endorse'	4.01 (0.85)
	2. Anti-ELAB Movement Endorsement	'How much do you endorse the Anti-ELAB movement?'	1 = 'Extremely against'; 5 = 'Extremely endorse'	4.28 (0.87)
	3. Collective Action Endorsement	'How appropriate do you find the following behaviors displayed by protestors?' (e.g., 'Organize and participate in petitions against the Bill')	1 = 'Extremely inappropriate'; 5 = 'Extremely appropriate'	4.94 (1.23)
3	1. Collective Action Intentions	'Please indicate the likelihood that you will... (e.g., '... take part in a peaceful demonstration which tend to improve the situation of gays and lesbians?')	1 = 'Very low'; 5 = 'Very high'	3.78 (0.75)
	2. Collective Action Intentions (LSVD-specific)	'Imagine that the Lesbian and Gay Federation in Germany will plan the following activities, please indicate your willingness to take part in these activities'. (e.g., 'Demonstrations')	1 = 'Very low'; 5 = 'Very high'	3.20 (0.92)
4	Collective Action Intentions	'Would you like to engage in the following activities in the future?' (e.g., 'Attending demonstrations')	1 = 'Not at all'; 7 = 'Very much'	5.12 (1.46)
5	Collective Action Endorsement	(e.g., I think [ingroup] people should organise and work together to improve their social position.)	1 = 'Strongly disagree'; 7 = 'Strongly agree'	4.13 (0.73)
	Collective Action Intentions	(e.g., 'I would sign a petition to address issues that happened in the [ingroup] community')	1 = 'Strongly disagree'; 7 = 'Strongly agree'	4.06 (1.08)
6	1. Collective Action Endorsement	(e.g., 'I support African Americans who have signed petitions to the government to address issues of racial inequality')	1 = 'Strongly disagree'; 7 = 'Strongly agree'	4.38 (1.09)
	2. Collective Action Intentions	(e.g., 'I personally would be willing to sign a petition to the government addressing issues of racial inequality')	1 = 'Strongly disagree'; 7 = 'Strongly agree'	3.68 (1.19)

(Continues)

TABLE 3 | (Continued)

Study	DV(s)	Measure (Example Item)	Scale	Mean (SD)
7	1. Collective Action Intentions	(e.g., 'I would give up some of my personal time in order to help out other BC students')	1 = 'Strongly disagree'; 7 = 'Strongly agree'	4.29 (0.95)
	2. Collective Action Intentions (Likelihood)	(e.g., 'If approached by someone I would sign a petition against (British Columbia) universities being disadvantaged compared to (Ontario) universities')	1 = 'Extremely unlikely'; 7 = 'Extremely likely'	3.31 (1.06)
8	Collective Action Endorsement	'Below is a series of behaviors that people could engage in while participating in the Me Too Movement. Please indicate the degree to which you believe these behaviors are appropriate'.(e.g., 'Organizing and signing online petitions')	1 = 'Extremely inappropriate'; 5 = 'Extremely appropriate'	3.81 (0.93)

6-item ($\alpha_{endorsement} = 0.54$) and 10-item ($\alpha_{intentions} = 0.92$) normative subscales, and 2-item radical subscales ($\alpha_{endorsement} = 0.39$; $\alpha_{intentions} = 0.64$).

2.3.3.6 | Study 6 (Black American Sample). The distinction between radical and normative items was determined ad hoc. Confirmatory factor analyses (CFA) of the two-factor model yielded subpar fit for both the 12-item collective action *endorsement* measure, $\chi^2(53) = 450.96$, $p < 0.001$, RMSEA = 0.16, CFI = 0.89, SRMR = 0.10, and the 12-item *intentions* measure $\chi^2(53) = 448.78$, $p < 0.001$, RMSEA = 0.16, CFI = 0.90, SRMR = 0.09. However, exploratory factor analyses (EFA) of the *endorsement* and *intentions* measures each yielded the expected two-factor models with radical (loadings > 0.76 and 0.74, respectively) and normative (loadings > 0.71 and 0.75, respectively) items loading on separate factors. Thus, both the *endorsement* and *intentions* measures were separated into normative (6 items; $\alpha_{endorse} = 0.94$; $\alpha_{intent} = 0.93$) and radical (6 items; $\alpha_{endorse} = 0.95$; $\alpha_{intent} = 0.95$) subscales as planned.

2.3.3.7 | Study 7 (Canadian Disadvantaged Undergraduate University Sample). The distinction between radical and normative items was determined post hoc. EFA of the 15-item collective action likelihood measure (*intentions*) did not yield interpretable factors. However, two items that were more disruptive (i.e., barricading university administration office, refusal to pay tuition) were classified as radical, while the remaining 13 items (e.g., signing petitions, joining Facebook groups) were classified as normative. Thus, the 15-item collective action likelihood measure was separated into normative (13 items; $\alpha = 0.87$) and radical (2 items; $\alpha = 0.62$) subscales. No items in the 9-item collective action *intentions* measure could be classified as radical. This measure was excluded from these analyses.

2.3.3.8 | Study 8 (Canadian Women Sample). The distinction between radical and normative items was determined post hoc. Horn's parallel analysis recommended a 2-factor solution (Horn, 1965). An EFA including all 10 items using a 2-factor structure with varimax rotation was conducted. Items 1–6 loaded on the first factor (loadings > 0.62), which included legal forms of collective action (e.g., petitions, boycotts). Item 7–10 loaded on the second factor (loadings > 0.60), which included more disruptive and/or illegal forms of collective action (e.g., harassment, doxing). Thus, the 10-item *endorsement* measure was separated into normative (6 items; $\alpha = 0.89$) and radical (4 items; $\alpha = 0.88$) subscales.

2.4 | Analysis Strategy

Pearson correlation coefficients between each measure of indirect contact and collective action were calculated as effect sizes. Correlation coefficients were converted into Fisher z scores (Goh et al. 2016) prior to analyses (see Table 5). Sampling variances of the transformed effect sizes (r_z) were estimated with formula (1), where N represents the sample size associated with each effect size

$$V_z = \frac{1}{N-3} \tag{1}$$

TABLE 4 | Example items, means, reliabilities, and raw and transformed correlations (with IVs) of radical and normative collective action measures.

Study	IV	DV	Normative collective action					Radical collective action				
			Example item	M (SD)	α	r	r_c	Example item	M (SD)	α	r	r_c
2	EC-Quan	Endorse	Organise and participate in large-scale peaceful protests	6.20 (1.05)	0.84	−0.25	−0.30	Surround police stations, the HK Liaison Office, or other government buildings	4.41 (1.47)	0.96	−0.17	−0.18
3	EC-pos	Intent	Sign a petition or an appeal from the LSVD	3.45 (0.92)	0.82	−0.07	−0.08	Sitting blockades in front of public buildings	2.45 (1.15)	0.80	−0.06	−0.08
	EC-neg (R)					−0.25	−0.31				−0.23	−0.28
5	EC-Quan	Endorse	Chinese people should do more to raise ethnic awareness at my university.	4.24 (0.72)	0.54	−0.14	−0.26	Sometimes Chinese people have to break the rules to overcome the inequalities that exist.	3.80 (1.21)	0.39	−0.12	−0.32
	EC-Qual					−0.14	−0.26				−0.22	−0.56
	EC-Quan	Intent	I would participate in a peaceful demonstration aimed at improving the position of Chinese people in our society.	4.11 (1.12)	0.92	−0.04	−0.05	Although I follow rules, sometimes I would speak up for the Chinese people even if it meant ignoring the rules.	3.84 (1.28)	0.64	−0.06	−0.09
	EC-Qual					0.00	0.00				−0.03	−0.04
6	EC-Quan	Endorse	I support Black rights activist groups who have peacefully protested against racial inequality	5.87 (1.19)	0.94	−0.01	−0.01	I support African Americans who have blocked roads and streets to raise awareness about racial inequality	2.89 (1.71)	0.95	−0.03	−0.03
	EC-Qual					0.03	0.04				−0.21	−0.22
	EC-Quan	Intent	I personally would be willing to sign a petition to the government addressing issues of racial inequality	5.18 (1.52)	0.93	−0.04	−0.04	I personally would be willing to engage in radical action to protest against racial inequality	2.19 (1.58)	0.95	−0.00	0
	EC-Qual					0.01	0.01				−0.17	−0.18
7	VC-Qual	Intent	Participate in a rally encouraging (Ontario) to share some of the money that actually belongs to (British Columbia) universities.	3.47 (1.09)	0.87	−0.13	−0.15	Barricade the university administration office with other students to show our position on this issue of inequality	2.27 (1.28)	0.62	−0.24	−0.39
8	VC-Quan	Endorse	Organising and participating in protests	4.70 (1.03)	0.89	−0.12	−0.14	Doxing or exposing personal information of suspected perpetrators	2.48 (1.35)	0.88	−0.03	−0.03

TABLE 5 | Raw and Fisher Z-transformed correlations between indirect contact and collective action measures.

Study	Dataset	n	IV measurement type	DV measurement type	Effect size (r)	z_r	$V(z_r)$
1	HK Umbrella Movement	237	EC Quantity	Umbrella Movement Endorsement	−0.197**	−0.200	0.00427
2	HK Umbrella and Anti-ELAB Movements	194	EC Quantity	Umbrella Movement Endorsement	−0.222**	−0.226	0.00524
				Anti-ELAB Movement Endorsement	−0.196**	−0.199	0.00524
		189		CA Behaviour Endorsement ($\alpha = 0.94$)	−0.205**	−0.208	0.00538
Average					−0.208	−0.211	0.00538
3	German LGB+	552	EC Positive Quantity	Collective Action Intentions ($\alpha = 0.81$)	−0.092*	−0.092	0.00182
			EC Negative Quantity (R)		−0.256**	−0.261	0.00182
		551	EC Positive Quantity	Collective Action Intentions (LSVD-specific) ($\alpha = 0.87$)	−0.070	−0.070	0.00182
			EC Negative Quantity (R)		−0.261**	−0.267	0.00182
Average					−0.170	−0.171	0.00182
4	Canadian LGBTQ+	227	EC Quantity	Collective Action Intentions ($\alpha = 0.85$)	−0.040	−0.040	0.00446
			EC Positive Quantity		−0.114	−0.114	0.00446
			EC Negative Quantity (R)		−0.370**	−0.389	0.00446
Average					−0.175	−0.176	0.00446
5	Canadian Ethnic Minority Groups	341	EC Quantity	Collective Action Intentions ($\alpha = 0.93$)	−0.048	−0.048	0.00296
		330	EC Quality		−0.004	−0.004	0.00306
		330	EC Quantity	Collective Action Endorsement ($\alpha = 0.65$)	−0.156**	−0.158	0.00306
		319	EC Quality		−0.197**	−0.200	0.00316
Average					−0.101	−0.102	0.00316
6	US African American	301	EC Quantity	Collective Action Endorsement ($\alpha = 0.88$)	−0.030	−0.030	0.00336
		287	EC Quality		−0.145*	−0.146	0.00352
		301	EC Quantity	Collective Action Intentions ($\alpha = 0.89$)	−0.023	−0.023	0.00336
		287	EC Quality		−0.107	−0.107	0.00352
Average					−0.076	−0.077	0.00336
7	Canadian Experimentally manipulated 'low-status' group	122	VC Quality ($\alpha = 0.86$)	Collective Action Intentions ($\alpha = 0.79$)	−0.014	−0.014	0.00840
			VC Quality ($\alpha = 0.86$)	Collective Action Intentions (Likelihood) ($\alpha = 0.89$)	−0.157	−0.159	0.00840
Average					−0.086	−0.086	0.00840
8	US Gender	199	VC Quantity	Collective Action Endorsement ($\alpha = 0.86$)	−0.097	−0.098	0.00510

Note: *$p < 0.05$; **$p < 0.01$.

2.4.1 | Multi-Level Meta-Analysis of Main Effects

Most studies included multiple measures for indirect contact, collective action, or both, thus yielding more than one effect size per study. Since effect sizes within each study were calculated using the same participants, they are likely more similar to each other than effect sizes from other studies, introducing statistical dependencies (Cheung 2014). Since traditional meta-analysis models assume independence among effect sizes, failure to account for dependencies within studies may lead to invalid or imprecise estimates of the overall effect size (Matt and Cook 2009).

Common methods for handling non-independence include averaging effect sizes within studies, selecting one effect size per study, or shifting the unit of analysis, but these methods risk loss of information and statistical power (Cheung 2014). In order to address this issue, researchers have proposed a multi-level meta-analytic method (e.g., Van den Noortgate et al. 2013), which not only accounts for non-independence between effect sizes, but also disentangles within-study heterogeneity (i.e., differences between measures) from between-study heterogeneity (i.e., differences between studies; Assink and Wibbelink 2016).

A three-level meta-analysis was conducted in R with the *metafor* package (Viechtbauer 2010). Since the studies sampled subpopulations across diverse contexts with varying measurements of the key variables, it is unreasonable to assume a single 'true' population effect size. Therefore, a random-effects model, which does not assume homogeneity of population parameters (Hunter and Schmidt 2000), was used. All model parameters were estimated using the restricted maximum likelihood (REML) estimate.

2.4.2 | Moderator Analyses of Within-And-Between Study Characteristics

Total variance was decomposed into sampling error variance (level 1), within-study variance (level 2) and between-study variance (level 3). As recommended by Assink and Wibbelink (2016), the significance of level 2 and level 3 heterogeneity was determined with separate one-sided log-likelihood-ratio tests that compared the fit of a three-level model where level 2 and level 3 variance was freely estimated to alternative models that constrained level 2 and level 3 variance to zero. Assuming significance of level 2 (within-study) or level 3 (between-study) heterogeneity, further moderator analyses would be conducted with variables at level 2—type of IV (*absence of negative indirect contact* vs. *quantity of positive indirect contact* vs. *quality of indirect contact*) and type of DV (*collective action intention* vs. *collective action endorsement*)—and level 3 (type of group, country).

2.4.3 | Additional Moderator Analyses of Radical vs. Normative Collective Action

With the exception of study 6, the separation of measure items into radical and normative was unplanned and done post hoc, resulting in normative items outnumbering radical items in almost all cases. Since scale reliability is sensitive to the number of items (Churchill and Peter 1984), radical subscales may have systematically lower reliability than normative subscales, which would in turn lead to more severe underestimation (attenuation) of their 'true' correlation with other variables (Spearman 1904). In order to correct for this artefact, partially corrected correlation coefficients were calculated using the correction for attenuation formula (Spearman 1904) and reliabilities of each scale.

A random-effects, three-level meta-analysis was performed with the subset of six studies that included effect sizes for both *radical* and *normative* collective action. All procedures were the same as the main-effects analysis, but the critical moderator tested was *type of collective action* (level 2).

3 | Results

All data and code required to reproduce these results can be obtained at https://osf.io/7trnf/?view_only=d5189a08c6434babaaa06c9b23d9596e.

3.1 | Overall Effect of Indirect Contact on Collective Action

The mini-meta-analysis included 8 studies (*s*), with 22 effect sizes (k)[8]. Overall, indirect contact was significantly associated with collective action, $r = -0.140$[9], $t(21) = -6.51$, $p < 0.0001$, 95% CI [−0.184, −0.095], indicating a small, negative relationship between indirect contact and collective action, though there was significant heterogeneity in effect sizes, $Q(21) = 61.35$, $p < 0.0001$.

Sampling variance accounted for 34.96% of the total effect size variance, while the variance within studies (level 2) and between studies (level 3) accounted for 65.04% and 0% (5.07e-07) respectively. The log-likelihood ratio test comparing models with and without between-study variance (level 3) was not significant $\sigma^2_{Level3} = 0.0000$, $\chi^2(1) = 0.00$, $p = 1.00$, indicating that level 3 variance was not significantly different from zero. However, the comparison was significant for level 2 variance $\sigma^2_{Level2} = 0.006$, $\chi^2(1) = 15.77$, $p < 0.001$[10], which indicates significant within-study heterogeneity.

3.2 | Moderator Analysis

To probe sources of within-study heterogeneity, moderator analyses were conducted to test whether measure characteristics (type of IV and type of DV) impacted the strength of the relationship between indirect contact and collective action.

3.2.1 | Effects of Type of the IV (Indirect Contact)

The way indirect contact was measured significantly moderated the relationship strength between indirect contact and collective action, $F(2,19) = 13.62$, $p = 0.0002$. Effect sizes were larger in magnitude (i.e., more negative) for *Absence of negative indirect contact* ($r = -0.31$, $p = 0.04$) compared to *Quality of indirect*
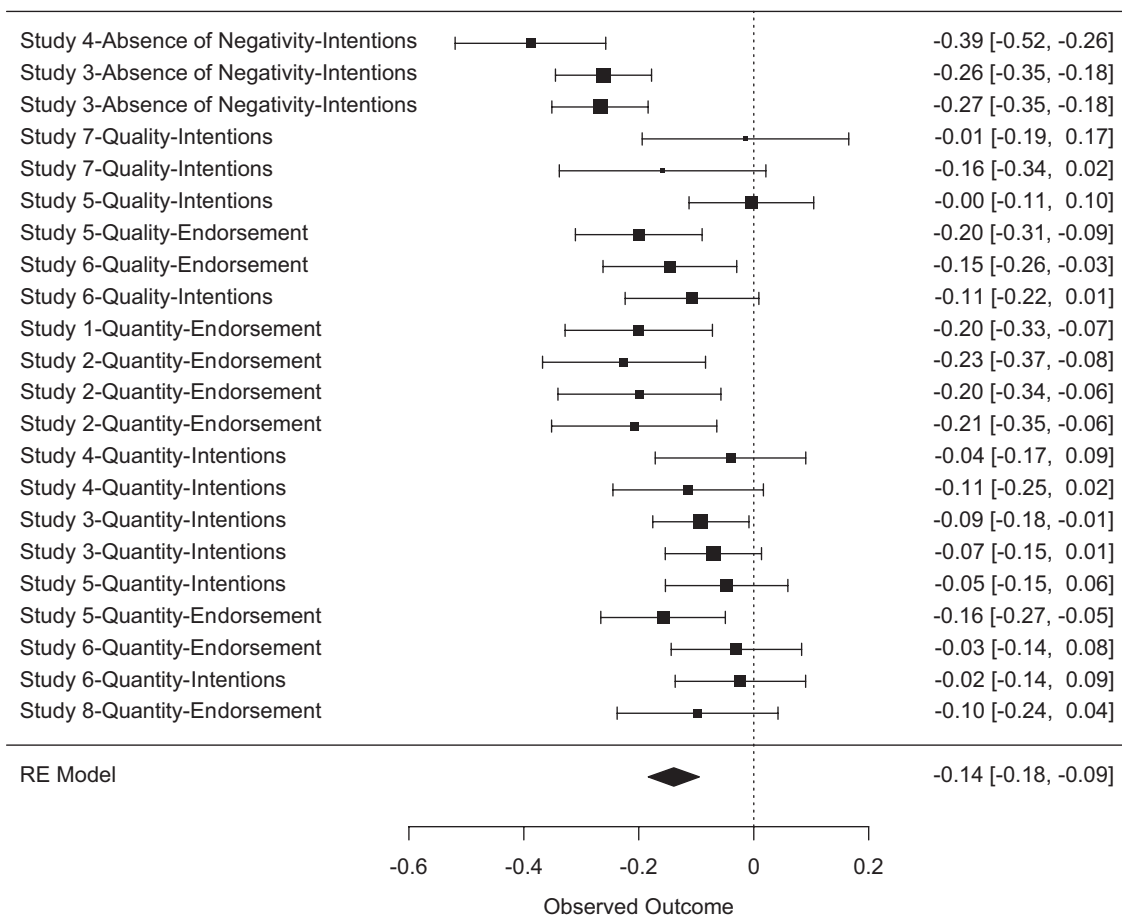
FIGURE 1 | Effect sizes (Z-transformed) by IV type and dataset in a random-effects model.

contact ($r = -0.11$, $p = 0.03$), $t(19) = 3.78$, $p = 0.001$ and *Quantity of positive indirect contact* ($r = -0.11$, $p = 0.001$), $t(19) = 5.21$, $p < 0.0001$.

3.2.2 | Effects of Type of the DV (Collective Action)

The way collective action was measured (*intention* vs. *endorsement*) did not moderate the relationship between indirect contact and collective action, $F(1,20) = 0.88$, $p = 0.36$ (Figure 1).

3.2.3 | Effects of Type of Collective Action (Radical vs. Normative)

This mini-meta-analysis included six studies (*s*), with 26 effect sizes (*k*). As in the main analysis, indirect contact negatively predicted collective action, $r_{corrected} = -0.163$, $t(25) = -4.17$, $p = 0.0003$, 95% CI [-0.24, -0.08], though there was significant heterogeneity, $Q(25) = 199.32$, $p < 0.0001$. Significant within-study variance (level 2) was present, $\sigma^2_{Level2} = 0.02$, $\chi^2(1) = 96.16$, $p < 0.0001$, accounting for 76.33% of the total effect size variance. However, contrary to prediction, indirect contact's association with *radical collective action* ($r_{corrected} = -0.19$) was not significantly stronger than the association with *normative collective action* ($r_{corrected} = -0.14$), $F(1,24) = 1.43$, $p = 0.24$[11].

4 | Discussion

Despite the heterogeneity across samples and measures, a small but significant negative association between indirect contact and collective action tendencies was found, thus providing evidence that indirect contact may have a palliative effect on collective action by disadvantaged group members. Importantly, the effect was fairly consistent across contexts as between-study heterogeneity was near-zero and non-significant. However, the current mini-meta-analysis includes studies from research teams with significant researcher overlap, which may increase the likelihood of producing similar findings (Makel et al. 2012). Therefore, the lack of between-study heterogeneity should be interpreted with some caution.

Moderator analyses showed that different measures of indirect contact yielded significantly different effect sizes. Consistent with Hässler et al. (2020), the *absence of negative indirect contact* was most strongly associated with reduced collective action tendencies in disadvantaged group members. *The quantity of positive indirect contact* and the *quality of indirect contact* did not significantly differ in their association with collective action, which is surprising given previous findings demonstrating a greater impact of *quality* than *quantity* of direct contact on attitudes towards the outgroup (e.g., Islam and Hewstone 1993). A possible reason may be that extended contact (measured in

six out of eight studies) inherently includes elements of positivity and closeness unique to friendships. Thus, the quantity and quality of extended contact may not be as distinct as with other forms of indirect or direct contact. Indeed, a meta-analysis showed that the closeness of extended contact relationships (quality) did not moderate the relationship between extended contact and intergroup attitudes (Zhou et al. 2018). In order to fully disentangle the effects of quantity and quality, it may be necessary to employ a more 'valence-neutral' form of indirect contact quantity (e.g., observed contact between ingroup and outgroup members).

Contrary to expectation, while the negative association between indirect contact and radical collective action was larger than that for normative collective action, this difference was not significant. One possibility is that a difference does exist, but was not detected due to lack of power with only 6 studies included in this analysis. Furthermore, collective action items were categorised post hoc and did not include the full spectrum of radical behaviours, especially those that are more extreme. Specifically, while most radical items fit the broad definition of being 'outside the confines of the existing social rules and structure' (Wright et al. 1990, 995), few involved violence, which may be a central theme of radicalism (Moskalenko and McCauley 2009). The alternative is that indirect contact is not more strongly associated with radical than normative collective action. For example, Saab et al. (2017) found correlations of similar magnitude between direct contact and nonviolent collective action tendencies (−0.24) and support for violence (−0.21) among Syrian refugees in Lebanon. Further research is needed to compare the effects of indirect contact on normative versus radical collective action.

4.1 | Limitations and Future Directions

The present mini-meta-analysis is by no means an exhaustive overview. The small number of studies limited the moderators that could be tested, given insufficient statistical power to detect subgroup differences, especially when there were imbalanced numbers of effect sizes per subgroup (Cuijpers et al. 2021). Therefore, there is a need for future replication by other research groups, as well as further studies that make ad hoc comparisons of the relationship strength between different types and measurements of indirect contact and collective action.

For the purpose of consistency and interpretability, negative indirect contact was reverse-coded (as in Hässler et al. 2020) and entered into the same model for meta-analysis. However, negative and positive indirect contact may be qualitatively different experiences that are not fully captured by mere absence of one or the other. Thus, there may be value in entering negative indirect contact in parallel to positive contact in predicting collective action tendencies (e.g., Reimer et al. 2017). However, given the majority of our studies did not include measures of negative indirect contact, we could not do so in the current analysis.

Finally, the present analyses only examined main effects of indirect contact on collective action and did not focus on underlying mechanisms. Research on *direct* contact and collective action

among disadvantaged groups has identified mediators such as reduced ingroup identification (e.g., Tausch et al. 2015), lower outgroup threat (e.g., Çakal et al. 2016) and more positive outgroup attitudes (e.g., Saguy et al. 2009). Future studies could test models involving similar potential mediators between indirect contact and collective action, with an additional focus on perceived ingroup and outgroup norms, which may be especially relevant to indirect forms of contact.

In summary, with recognition of its limitations, this paper fills a gap in both the intergroup contact and collective action literatures as the first of its kind to focus specifically on and provide evidence for the sedative effect of indirect contact on collective action among disadvantaged group members. Across eight studies, with samples that included ethnic, racial and linguistic groups, women, LGBTQ+ and students who believed their university was disadvantaged, we found evidence that having more frequent and more positive indirect contact with the relevant advantaged group is associated with less endorsement of and intentions to engage in collective actions intended to produce positive social change. Indirect contact is a valuable tool to reduce prejudice across group divides. However, when thinking more deeply about indirect contact, it may be prudent to follow the lead of those considering ways that direct contact can be structured to both reduce prejudice and inspire disadvantaged and advantaged group members to vigorously engage in action for social change (e.g., Droogendyk et al. 2016; Becker et al. 2013, 2022; Becker and Wright 2022).

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

All data and code required to reproduce these results can be obtained at https://osf.io/7trnf/?view_only=d5189a08c6434babaaa06c9b23d9596e.

Endnotes

[1] Within the specific context of Hong Kong, locals ('Hongkongers') are typically considered advantaged compared to Mainland-Chinese people (e.g., Lee and Chou 2018, Awale et al. 2019). However, in the pro-democracy movement context, in which Hongkongers are seeking to defend their personal and political rights against what is perceived to be oppression and control by a much more powerful government in mainland China (Ma 2017), Hongkongers clearly perceive themselves to be disadvantaged.

[2] While the Me-Too movement was eventually expanding to cover victims and perpetrators of all genders, the movement was largely perceived as a feminist movement (Hawkins et al. 2019), with the focus being male-on-female sexual violence (Kessler et al. 2023).

[3] Study 3 was conducted at a time when there was no formal ethical review board at the University of Hagen. That said, it was conducted in line with APA standards and the declaration of Helsinki.

[4] Although Study 7 experimentally manipulated relative ingroup status, we only included data from the low-status condition in the analyses and examined correlational relationships between measures of indirect contact and collective action within this group only.

[5] Preliminary analyses revealed no effects of condition on any of the extended contact and collective action endorsement measures (all ps > 0.29). Thus, the data within each study were collapsed across conditions for the current analyses.

[6] The survey also included a number of other measures that were not relevant to the current research question and, thus, are not included here.

[7] The manipulation was successful: participants in the low-status condition ($M = 5.72$), where Ontario was the high-status group, perceived Ontario students to be more privileged, powerful, dominant, strong and of higher status compared to participants in the high-status condition ($M = 3.02$), where Ontario was the low-status group, $t(238) = 24.35, p < 0.001$.

[8] A four-level multi-level meta-analysis with studies nested within country was also conducted. This model did not improve fit compared to the three-level model, $\chi^2(1) = 0.08, p = 0.78$, which suggests that country-level variance did not differ significantly from zero. The estimated effect size using the four-level model was $r = -0.141$.

[9] The average effect size estimated using traditional meta-analytic strategies (averaging effect sizes within study) was $r = -0.143$.

[10] The *anova* function in R outputs *p*-values for two-sided log-likelihood ratio tests; thus, the *p*-value in the output was divided by 2 to yield a one-sided test. This did not impact the final conclusions of either test.

[11] Comparison using uncorrected correlations was also not significant, $F(1,24) = 0.75, p = 0.39$.

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