

Need Satisfaction in Intergroup Contact: A Multinational Study of Pathways Toward Social Change

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What role does intergroup contact play in promoting support for social change toward greater social equality? Drawing on the needs-based model of reconciliation, we theorized that when inequality between groups is perceived as illegitimate, disadvantaged group members will experience a need for empowerment and advantaged group members a need for acceptance. When intergroup contact satisfies

This article was published Online First June 17, 2021.

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Primary idea: Tabea Hässler and Johannes Ullrich. Conceptualization of the project and acquisition of the seed money: Tabea Hässler, Johannes Ullrich, Michelle Bernardino, Daniel Valdenegro, and Roberto González. Creation of research design/instrument construction: Tabea Hässler, Johannes Ullrich, Michelle Bernardino, Daniel Valdenegro, Nurit Shnabel, Colette Van Laar, Simone Sebben, Emilio Paolo Visintin, Linda R. Tropp, Roberto González, Ruth K. Dittmann, Dominic Abrams, Hema Preya Selvanathan, Jorina von Zimmermann, and Anna Lisa Aydin. Draft of preregistration: Tabea Hässler,

Johannes Ullrich, Michelle Bernardino, and Daniel Valdenegro. Coordination of the project: Tabea Hässler and Johannes Ullrich, supported by Simone Sebben. Data collection: Tabea Hässler, Johannes Ullrich, Michelle Bernardino, Nurit Shnabel, Colette Van Laar, Daniel Valdenegro, Simone Sebben, Linda R. Tropp, Emilio Paolo Visintin, Roberto González, Ruth K. Dittmann, Dominic Abrams, Hema Preya Selvanathan, Marija Branković, Stephen C. Wright, Jorina von Zimmermann, Michael H. Pasek, Anna Lisa Aydin, Iris Žeželj, Adrienne Pereira, Nóra Anna Lantos, Mario Sainz, Andreas Glenz, Anna Lantos, Mario Sainz, Andreas Glenz, Hana Oberpfalzerová, Michal Bilewicz, Anna Kende, Olga Kuzawinska, Sabine Otten, Edona Maloku, Masi Noor, Pelin Gul, Jessica Pistella, Roberto Baiocco, Margareta Jelić, Evgeny Osin, Orly Bareket, Dinka Corkalo Biruski, Jonathan E. Cook, Maneeza Dawood, Lisa Droogendyk, Angélica Herrera Loyoy, Kaltrina Kelmendi, Luiza Mugnol Ugarte. Data preparation: Tabea Hässler supported by Simone Sebben. Data analysis: Simone Sebben, Tabea Hässler, Johannes Ullrich, and Andreas Glenz. Paper draft: Tabea Hässler, Nurit Shnabel, Johannes Ullrich, and Simone Sebben. Commenting on the drafts: Michelle Bernardino, Daniel Valdenegro, Colette Van Laar, Edona Maloku, Roberto González, Emilio Paolo Visintin, Linda R. Tropp, Hema Preya Selvanathan, Mario Sainz, Anna Kende, Masi Noor, Michael H. Pasek, Iris Žeželj, Dominic Abrams, Anna Lisa Aydin, Nóra Anna Lantos, Michelle Bernardino, Dinka Corkalo Biruski, Luiza Mugnol Ugarte, Evgeny Osin. **Online supplemental materials:** Tabea Hässler and Simone Sebben. Commenting on the **online supplemental materials:** Johannes Ullrich.

This project received direct financial support through the Swiss Bilateral Program of the State Secretariat for Education, Research and Innovation (SERI) awarded to Johannes Ullrich, Robert González, Tabea Hässler, Michelle Bernardino, and Daniel Valdenegro and through the Swiss National Science Foundation (IZSEZO 192941, P1ZHP1 184553) awarded to Tabea Hässler. The Chilean research team was supported by the Center for Social Conflict and Cohesion Studies (ANID/FONDAP 15130009), the Center for Intercultural and Indigenous Research (ANID/FONDAP 15110006), and the research grants ANID/FONDECYT 1201788 awarded to Roberto González. The Belgian part of this research was funded by FWO Odysseus grant (G.O.E66.14N) awarded to Colette van Laar. The English part of this research was funded by a grant from the ESRC commissioning (403006662) awarded to Dominic Abrams and Giovanni Travaglino. Stephen C. Wright was funded by a grant from the Social Science & Humanities Research Council of Canada. Iris Žeželj was funded by the Serbian Ministry of Education, Science and Technological Development (179018). The Polish part of this research was funded by the Foundation for Polish Science (TEAM), cofinanced by the EU ERDF (“Language as a Cure” Project) awarded to Michal Bilewicz and Olga Kuzawinska. Evgeny Osin was supported by the HSE University Basic Research Program. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript. We thank Luisa Liekefett, Dogan Kokdemir, Dana Indreica, Ana Figueiredo, Neela Mühlemann, and Yasin Koc for their additional help with the translation and/or data collection. We also thank Léila Eisner for her insightful comments. Finally, we thank the SoSci Panel, PlanetRomeo, East meets West, Psychologie Heute, and all other LGBTIQ+ organizations for distributing the survey. Additional information for the article is available at Open Science Framework (<https://osf.io/mdngf/>).

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each group's needs, it should result in more mutual support for social change. Using four sets of survey data collected through the Zurich Intergroup Project in 23 countries, we tested several preregistered predictions, derived from the above reasoning, across a large variety of operationalizations. Two studies of disadvantaged groups ($N_s = 689$ ethnic minority members in Study 1 and 3,382 sexual/gender minorities in Study 2) support the hypothesis that, after accounting for the effects of intergroup contact and perceived illegitimacy, satisfying the need for empowerment (but not acceptance) during contact is positively related to support for social change. Two studies with advantaged groups ($N_s = 2,937$ ethnic majority members in Study 3 and 4,203 cis-heterosexual individuals in Study 4) showed that, after accounting for illegitimacy and intergroup contact, satisfying the need for acceptance (but also empowerment) is positively related to support for social change. Overall, findings suggest that intergroup contact is compatible with efforts to promote social change when group-specific needs are met. Thus, to encourage support for social change among both disadvantaged and advantaged group members, it is essential that, besides promoting mutual acceptance, intergroup contact interventions also give voice to and empower members of disadvantaged groups.

Keywords: social change, group-specific needs, intergroup contact, LGBTIQ+ context, ethnic context

Supplemental materials: <https://doi.org/10.1037/pspi0000365.supp>

In the struggle for greater social equality, groups with differential status experience motivational ups and downs resulting from having contact with one another. Hostile and discriminatory treatment by advantaged group members (i.e., cases of negative contact) can be a motor of collective action as seen in the Black Lives Matter movement or Stonewall riots. Positive and harmonious intergroup contact, however, may draw attention away from ongoing injustice and reduce support for social change toward greater equality. This “irony of harmony” effect (see Dixon et al., 2007; Saguy et al., 2009) has provoked controversy about whether positive intergroup contact is incompatible with social change (e.g., Çakal et al., 2016, 2011; Dixon et al., 2010, 2012; Kamberi et al., 2017; Saguy, 2018; Tausch et al., 2015; Wright & Lubensky, 2009).

To advance this debate, it is important to integrate work on intergroup contact and support for social change (Van Zomeren, 2019). Much work on support for social change draws on the social identity model of collective action (Van Zomeren et al., 2008), which postulates that identification, perceived illegitimacy of group disparities, and perceived efficacy play critical roles in motivating people to engage in support for social change. Positive intergroup contact, however, is likely to negatively affect these core predictors of support for social change such as ingroup identification (Tausch et al., 2015; Wright & Lubensky, 2009) and awareness of and anger about group-based inequalities or discrimination (Çakal et al., 2011; Dixon et al., 2010; Hayward et al., 2017; Saguy et al., 2009; Tausch et al., 2015). In other words, positive contact might reduce disadvantaged group members' motivation to strive for social justice.

Among advantaged group members, in contrast, positive contact might promote support for social change by blurring boundaries between groups (Rosenthal & Crisp, 2006), increasing their sense of shared identity (Gaertner & Dovidio, 2000), awareness of structural inequalities, and anger about existing injustices (Selvanathan et al., 2018). Consequently, interactions among members of groups with different degrees of resources, power, and status might have different implications for social change depending on the group's relative position in the social hierarchy (for a theoretical discussion see Kteily & McClanahan, 2020; Selvanathan et al.,

2020). In summary, while intergroup contact seems to reduce disadvantaged group members' support for social change, it might increase support for social change among advantaged group members.

The Zurich Intergroup Project (Hässler et al., 2020) has recently performed a large-scale test of the association between intergroup contact and nonviolent forms of support for social change across multiple social contexts. Results of this comprehensive study pointed to opposing effects of intergroup contact on support for social change depending on the group's relative status: Whereas intergroup contact was positively associated with support for social change among members of advantaged groups, it was negatively associated with support for change among members of disadvantaged groups. Moreover, more positive and intimate intergroup contact (e.g., friendships) are more strongly associated with less support for social change among disadvantaged groups, suggesting that these forms of contact have the potential to perpetuate existing social inequalities. In the present article, we address two main questions raised by this finding: “How can positive and intimate contact between groups occur without reducing disadvantaged group members' support for social change? And how can support for social change be bolstered among disadvantaged group members without requiring negative contact experiences?” (Hässler et al., 2020, p. 385).

Previous research on “supportive contact” provides some leads. For instance, contact with an advantaged group member who communicates support for social change (Droogendyk et al., 2016; Techakesari et al., 2017), status-based respect (Glasford & Johnston, 2018), or clearly describes the group disparity as illegitimate (Becker et al., 2013) does not appear to undermine collective efforts for social change among the disadvantaged. These findings demonstrate that the irony of harmony effect is not inevitable and that the content of intergroup contact might be a crucial moderator to explain under which circumstances intergroup contact promotes support for social change.

In the present research, we sought to understand and integrate these findings into a more comprehensive model that explains support for social change as a function of need satisfaction among members of disadvantaged and advantaged groups. A model

linking social change motivation to the basic psychological needs for empowerment among disadvantaged group members and acceptance among advantaged group members is advantageous because it can address not only the role of disadvantaged but also of advantaged group members in supporting social change.

The central assumption of the present research is that intergroup contact might promote support for social change among both members of disadvantaged and advantaged groups to the extent that key psychological needs of both groups are satisfied. Guided by the theoretical framework of the needs-based model (Nadler & Shnabel, 2015), we expected that empowering contact, which satisfies disadvantaged group members' psychological need, would be associated with their heightened support for social change. Empowering intergroup encounters with advantaged group members are ones in which disadvantaged group members' voices are heard, their competence and value are appreciated, the injustices committed against their ingroup are acknowledged, and their perspectives are respected. Research on "the power of being heard" (Bruneau & Saxe, 2012) suggests that such encounters have profound psychological meaning, especially for disadvantaged group members, compared with advantaged group members who may take the experience of being heard, valued, and respected for granted. In particular, being heard and appreciated can increase support for social change through altering disadvantaged group members' views of their own ingroup as well as its relations with the advantaged outgroup.

In terms of perceptions related to the ingroup, the affirmation of disadvantaged group members' competence (that, in many cases, is stereotypically perceived as low; Fiske et al., 2007) can increase their perceptions of collective efficacy, a core predictor of collective action toward change (Van Zomeren, 2019). In terms of perceptions related to the advantaged outgroup, feeling that members of the advantaged group give room for disadvantaged group members to voice their experiences of frustration and discrimination (rather than sweep these experiences under the proverbial carpet) may reinforce disadvantaged group members' perceptions of injustice, another core predictor of collective action tendencies (Van Zomeren, 2019), while improving their attitudes toward the advantaged group (Bruneau & Saxe, 2012). Notably, our research focused on so-called "normative," conventional forms of collective action toward social change, which unlike radical, "nonnormative" forms (see Tausch et al., 2011), require a belief in the possibility of altering the system nonviolently; for example, through influencing public opinion and changing governmental policies—goals that can potentially be achieved through working in solidarity with advantaged group members. Therefore, we expected that the positive outgroup attitudes gained through empowering contact would be able to coexist with disadvantaged group members' support of and engagement in collective action toward greater equality.

Guided by the needs-based model, we further hypothesized that "accepting contact," in which advantaged group members feel welcomed and perceived as moral by disadvantaged group members, would be positively associated with advantaged group members' support for social change. To test our hypothesis, we used survey data from 11,211 participants from 23 countries and four populations (i.e., ethnic minorities, LGBTIQ+ individuals, ethnic majorities, and cis-heterosexual individuals) collected through the Zurich Intergroup Project (ZIP; Hässler et al., 2020). Below, we

discuss the theoretical perspectives on which we base our predictions in greater detail.

Needs for Empowerment and Acceptance: Integrating Intergroup Contact With a Needs-Based Perspective

The needs-based model of reconciliation builds on literature about social perception, which demonstrates that people judge social targets along two fundamental psychological dimensions (Abele & Wojciszke, 2013). One is the agency dimension, representing constructs such as competence, respect, strength, influence, and self-determination. The other is the moral-social (or communion) dimension, representing constructs such as warmth, sociability, trustworthiness, and morality (see also the stereotype content model, which uses the terms "competence" and "warmth" to denote these dimensions; Fiske et al., 2007). The needs-based model argues that conflict threatens group members' identities in an asymmetrical manner. Members of victimized groups experience a threat to their agentic identity, namely, to their group's respect, perceived competence, and ability to control its outcomes. Consequently, they experience a heightened need for empowerment; that is, they wish to restore their group's identity as agentic and competent. Members of perpetrating groups, by contrast, experience a threat to their group's moral-social identity. Because social exclusion is the sanction imposed upon those who violate the moral standards of their community (Tavuchis, 1991), they experience a heightened need for moral-social acceptance. The needs-based model further argues that addressing victim and perpetrator group members' respective needs for empowerment and acceptance should increase their readiness to reconcile with each other.

Whereas earlier research supported the model's predictions in contexts of direct intergroup violence with clear-cut victim and perpetrator roles (e.g., the Holocaust; Shnabel et al., 2009) subsequent research applied the model to contexts of structural inequality (Aydin et al., 2019b; Hässler et al., 2019; Shnabel et al., 2013), assuming that the psychological needs of disadvantaged and advantaged group members should—under certain conditions—correspond to those of victims and perpetrators, respectively. This assumption was based on findings (for a review see Fiske et al., 2007) that members of disadvantaged groups are often the targets of discrimination and are stereotyped as incompetent, whereas advantaged group members may benefit from unearned advantages and are stereotyped as cold and bigoted (Vorauer et al., 1998). The needs-based model's logic suggests that these distinct identity threats should also lead to divergent psychological needs in contexts of structural inequalities, namely the need for empowerment among disadvantaged groups and the need for moral acceptance among advantaged groups.

Thus far, the effects of addressing disadvantaged and advantaged group members' respective needs for empowerment and acceptance in the context of structural inequalities have been directly examined in only one set of studies (Shnabel et al., 2013), which focused on the relations between students of universities with lower versus higher status. Students from the low-status university were more willing to engage in support for social change (e.g., sign a petition or participate in a demonstration) following a competence (vs. warmth) affirming message. This finding is conceptually consistent with findings that expression of status-based

respect by advantaged group members increases disadvantaged group members' support for social change (Glasford & Johnston, 2018). Students from the high-status university, by contrast, were more willing to engage in solidarity-based support for social change following the warmth (vs. competence) affirming message. Accumulating evidence suggests that when advantaged group members feel that they are blamed for enjoying unearned privilege or for being prejudiced and racist, they respond defensively (e.g., competition over the victim status; Sullivan et al., 2012) and reduce support for change toward equality (Saguy et al., 2013). Hence, affirming advantaged group members' moral identity could be expected to enhance their support for collective action and social change.

While Shnabel et al. (2013) provided initial evidence for the hypothesis that addressing disadvantaged and advantaged group members' respective needs for empowerment and acceptance can increase support for change toward equality in both groups, these studies used relatively artificial lab settings, in which participants referred to their identity as students (that is probably less central to their self-concepts than their ethnic or sexual/gender identity—examined in the present research). Further, in this prior work, there was no direct contact with outgroup members; therefore, the studies were not able to capture the complexity of communication in real-life intergroup contact. The goal of the present research is to integrate research on intergroup contact with the needs-based model by directly examining, for the first time, whether “empowering” and “accepting” real-life intergroup contact is associated with disadvantaged and advantaged group members' support for social change toward greater equality.

Identifying what type of intergroup contact has the potential to increase support for social change is important for preventing the irony of harmony effect among disadvantaged group members. Disadvantaged group members are typically motivated not only to improve their group's conditions but also to preserve intergroup cooperation and avoid direct, high-cost conflict (Jackman, 1994). It is essential to shed light on whether and how they can jointly pursue goals of harmony and justice through intergroup contact. As for advantaged group members, although intergroup contact

with the disadvantaged is positively associated with their support for social change (Hässler et al., 2020), this effect might fail to fully materialize under certain conditions. For example, when advantaged group members' need for acceptance remains unsatisfied, they may disengage from the outgroup (Ditlmann et al., 2017). Thus, it is important to establish what type of intergroup contact (empowering vs. accepting) is most likely to augment support for change toward equality among which groups (disadvantaged vs. advantaged).

The Moderating Role of Perceived Illegitimacy

In the needs-based model, the assumption that the psychological needs of disadvantaged and advantaged group members correspond to those of victim and perpetrator group members is conditional on group members perceiving disparities between their groups as illegitimate (Shnabel & Ullrich, 2013). People, however, might not always perceive group-based disparities to be illegitimate, because structural inequalities are typically characterized by ambiguity with regard to the advantaged group's culpability (Galtung, 1969). Members of both disadvantaged and advantaged groups might legitimize and defend rather than challenge the status quo of group-based inequality (Jost et al., 2004; Leach et al., 2002; Major, 1994; Tajfel & Turner, 1979).

Prior research (Aydin et al., 2019b; Hässler et al., 2019; Siem et al., 2013; see also Aydin et al., 2019a) has shown that legitimacy perceptions typically moderate disadvantaged and advantaged group members' needs for empowerment and acceptance, such that the higher the perceived illegitimacy, the stronger the needs. However, no research to date has examined whether and how legitimacy perceptions moderate responses to intergroup contact that addresses these needs. Based on the needs-based model's logic, we hypothesized that the positive effects of “empowering” and “accepting” contact on disadvantaged and advantaged group members' respective support for social change should be stronger for individuals who perceive existing group-based disparities as more illegitimate (see Figure 1).

Figure 1
Conceptual Model

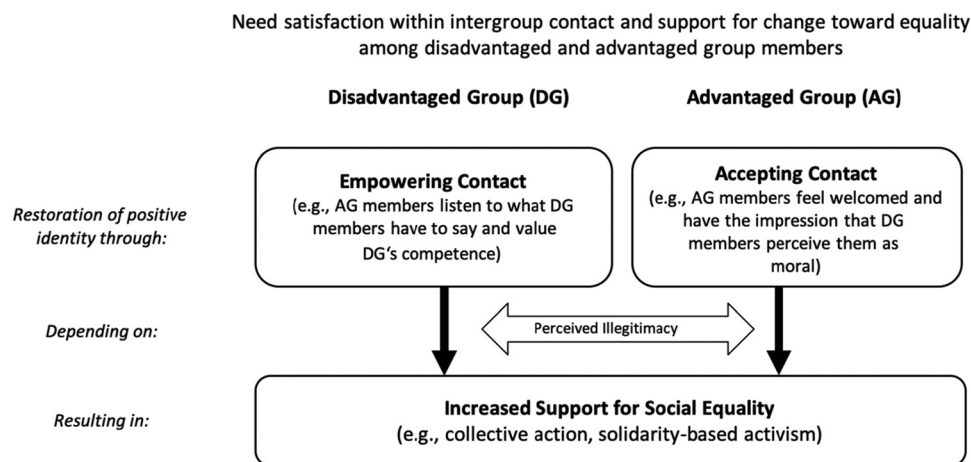
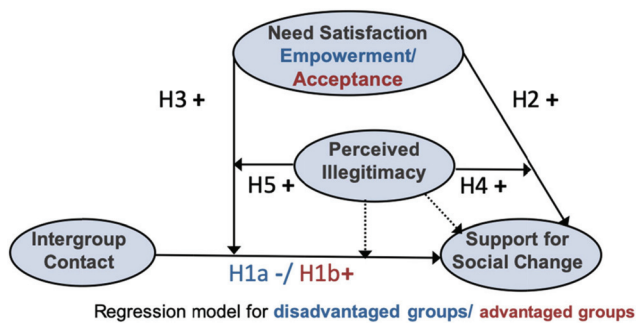


Figure 2
Overview of the Regression Model Underlying All a Priori Hypotheses



Note. See the online article for the color version of this figure.

Outline of Hypotheses

First, we expected to confirm patterns previously observed by Hässler et al. (2020), such that intergroup contact would be negatively associated with support for change among the disadvantaged (Hypothesis 1a) and positively among the advantaged (Hypothesis 1b). The test of Hypotheses 1a and 1b differs from the previously reported bivariate correlation between intergroup contact and support for social change (Hässler et al., 2020) because in the present research, we simultaneously examined the effects of intergroup contact, need satisfaction (empowerment or acceptance), perceived illegitimacy, and their interaction terms (see Figure 2). Consequently, when testing Hypotheses 1a and 1b, we assessed the independent effect of intergroup contact on support for social change over and above these other variables and their interactions.

The main novel hypothesis derived from the conceptual model guiding the present research (see Figure 1) concerns the association between need-satisfying contact and support for social change:

For disadvantaged group members, the extent to which intergroup contact satisfies the need for empowerment should be associated with higher support for social change (Hypothesis 2a);

For advantaged group members, the extent to which intergroup contact satisfies the need for acceptance should be associated with higher support for social change (Hypothesis 2b).

The key contribution of the present study is to assess the independent effect of group-specific need satisfaction (empowerment among disadvantaged group members, acceptance among advantaged group members) on support for social change over and above the previously reported effect of intergroup contact per se (Hässler et al., 2020). Therefore, we tested the effects of need satisfaction on support for social change while controlling for the effect on intergroup contact.

In addition to testing the additive effects of intergroup contact and need satisfaction (specified, respectively, in Hypotheses 1 and 2), we expected these variables to interact in predicting support for social change. That is, the negative effect of intergroup contact on disadvantaged group members' support for change should become less negative (or even positive) when intergroup contact is experienced as empowering (Hypothesis 3a), whereas the positive effect of intergroup contact on advantaged group members' support for

change should become even more positive to the extent that the intergroup contact is experienced as accepting (Hypothesis 3b).

Further, consistent with our theorizing about the moderating role of legitimacy perceptions, we expected the effect of need satisfaction on support for social change (specified in Hypotheses 2a and 2b) to be moderated by perceived illegitimacy. More specifically, we expected the link between empowering contact and support for change among disadvantaged group members to be stronger for those who perceive high illegitimacy (Hypotheses 4a). Accordingly, we expected the link between accepting contact and support for change among advantaged group members to be stronger for those who perceive high illegitimacy (Hypotheses 4b).

Finally, we expected a three-way interaction between intergroup contact, need satisfaction, and perceived illegitimacy on support for social change. That is, we expected that feeling empowered would attenuate the negative effect of intergroup contact on support for change especially among disadvantaged group members who perceive the status quo as illegitimate (Hypotheses 5a). Correspondingly, we expected that feeling accepted would strengthen the positive effect of intergroup contact on support for change especially among advantaged group members who perceive the status quo as illegitimate (Hypotheses 5b). We preregistered (October 20, 2016) all five hypotheses, schematically depicted in Figure 2, as well as our analytic strategy (see <https://osf.io/6hfcu>).

In addition to the preregistered hypotheses, we also tested the effects of intergroup contact satisfying the "other" less group-relevant need. That is, for disadvantaged group members, we tested the effect of acceptance, and its two- and three-way interactions with intergroup contact and legitimacy, on support for change toward equality. For advantaged group members, we tested the effect of empowerment and its interactions with intergroup contact and legitimacy on support for change. The purpose of these additional analyses was to explore the boundary conditions of the need satisfaction effects by testing whether they are specific to the needs proposed by the model.

Finally, our model includes a main effect of perceived illegitimacy on support for social change as well as an interaction effect of perceived illegitimacy and intergroup contact (see dotted arrows in Figure 2) mainly to satisfy the statistical requirement of including the components of higher-order interactions. However, it should be noted that the main effect of perceived illegitimacy is also theoretically compelling in the context of research on collective action (e.g., Van Stekelenburg & Klandermans, 2013; Van Zomeren et al., 2008). Thus, in the present research, perceived illegitimacy also serves as an important control variable.

The Present Research: Samples and Analytic Approach

We tested our model in four studies, each of which draws on different subsets of the survey data from the Zurich Intergroup Project (ZIP; Hässler et al., 2020). The four studies have several desirable features relating to generalizability beyond standard student samples, construct validity, internal replications, and reproducibility. However, it is important to define and limit the scope of the application of our model. Although we made great efforts to extend the range of contexts in which most studies in intergroup relations examine their hypotheses, a potential blind spot of our research is that our theorizing may not reflect the idiosyncratic realities of all countries considered here and beyond (e.g., countries from the Global South).

The ZIP dataset used here includes 62 subsamples collected in 23 countries (see Tables 1, 3, 6, 8, and online supplemental materials), in which a minimum of 100 participants completed the questionnaire. Between June 2016 and June 2017, the authors recruited participants to complete an online survey or (in a few cases) a paper-based questionnaire about relations between different groups in society. Participants were recruited through online platforms (e.g., social networking sites, snowball sampling, SoSci Panel, and contacting relevant organizations), on university campuses, on the street, and through paid services such as Amazon Mechanical Turk (MTurk), prolific, or clickworker. Only 18% of the samples were standard student samples; most samples included a mix of student participants, community participants, and crowdworker participants (a detailed overview of recruiting and data collection methods is available at <https://osf.io/mdngf/>). While we were able to collect a large and heterogeneous sample, with countries varying in the level of prejudice and discrimination against ethnic minorities and LGBTIQ+ individuals, it should be noted that the data have been collected predominantly from the Global North (84% of the samples) and mostly in countries with structural inequalities rather than open conflict.

Each construct was operationalized with multiple measures to recognize that (a) intergroup contact can differ in its frequency, intimacy, and valence; (b) needs can be satisfied at the individual or group-level; (c) perceived illegitimacy can be assessed directly or more indirectly as system-justifying beliefs; and (d) different behaviors might underlie efforts to achieve social change toward greater social equality. This addressed a limitation of past research: so far, different researchers have used different measures to tap similar theoretical constructs, making comparisons difficult.

The project surveyed members of disadvantaged and advantaged groups in two rather dissimilar contexts, allowing for internal replications. More specifically, Study 1 tested hypotheses pertaining to disadvantaged groups (Hypotheses 1a–5a) among members of ethnic, racial, or religious minority groups that are disadvantaged in the countries in which data were collected (e.g., Bosniaks in Serbia, People of Color in the United States, indigenous people in Chile, or Muslims in the Netherlands). For the sake of brevity and clarity we refer to the disadvantaged groups examined in Study 1 as “ethnic minorities.” Study 2 tested the same hypotheses among LGBTIQ+ individuals (i.e., individuals identifying as lesbian, gay, bisexual, trans, intersex, queer, or other sexual and gender minorities) who, despite some progress toward equality, still suffer from structural inequality in practically every country in the world (OHCHR, 2015; Mendos, 2019). An analogous rationale guided our decision to test hypotheses pertaining to advantaged groups (Hypotheses 1b–5b) among members of advantaged ethnic, racial, or religious majority groups in the countries in which data were collected in Study 3 (e.g., Serbs in Serbia, White people in the United States, nonindigenous people in Chile, Christians in the Netherlands; we refer to these groups as “ethnic majorities”), and among cis-heterosexual individuals (heterosexual individuals whose gender identity corresponds to their assigned sex at birth) in Study 4.

In addition to using a large and heterogeneous data set, we also followed guidelines for best practices for open research to increase the credibility and transparency of our results (Nosek et al., 2015). We preregistered the postulated regression model underlying our hypotheses and our analytic strategy, which relies on specification curve analysis (Simonsohn et al., 2019)—a novel approach to data

analysis designed to mitigate the problem that empirical results in social psychological research often hinge on decisions regarding the inclusion or exclusion of measures and datapoints that are defensible but also arbitrary and motivated. The benefit of specification curve analysis is that it allows researchers to examine all possible specifications and learn upon which (if any) analytic choices the conclusion hinges (rather than precommitting to one vs. another valid analysis). For example, it can tell us whether a particular measure of intergroup contact yields stronger effects than others, or whether the exclusion of outliers substantially changes the obtained patterns of results. Thus, beyond a general conclusion about the overall null hypothesis based on the joint significance test, which constitutes the confirmatory part of our research, we used specification curve analysis to systematically assess what kind of operationalizations or analytic decisions produce smaller or larger effects (see online supplemental materials).

In summary, the goal of the present research was to examine several new, theory-based predictions about when and why intergroup contact would be positively related to support for social change toward greater social equality. When intergroup contact satisfies the disadvantaged group members’ need for empowerment and the advantaged group members’ need for acceptance at the individual or collective level, it should result in more mutual support for social change. We used survey data from the ethnic and LGBTIQ+ contexts collected through the ZIP (Hässler et al., 2020) in 23 countries. Using methods that allow for reproducible and generalizable conclusions, we tested our predictions across a total of 1,520 regression models, which varied the operationalization of each construct and the nature of data exclusions. All studies reported below followed a preregistered analysis plan stored along with the questionnaires, data, and code at: <https://osf.io/mdngf/>.

Study 1: Disadvantaged Ethnic Groups

Study 1 tested our hypotheses among members of disadvantaged ethnic groups (see Table 1).

Method

Participants

We used the available subsample of $N = 689$ members of ethnic minorities from the ZIP dataset (Hässler et al., 2020) who reported having at least some intergroup contact with the respective majority group and for whose minority group there were at least 100 observations available. The number of observations was determined by the anticipated number of total samples (<https://osf.io/6hfcu>). The subsample included 284 male, 402 female, one other

Table 1
Overview of Included Samples—Disadvantaged Ethnic Groups ($N = 689$) and the Advantaged Group to Which They Referred

Category disadvantaged/advantaged	Country	$N_{\text{Disadvantaged group}}$
Mapuche/Non-Indigenous	Chile	118
Peruvians/Chileans	Chile	127
Muslims/Non-Muslims	Germany	110
Serbs/Albanians	Kosovo	102
Asians/British	United Kingdom	126
Muslims/Non-Muslims	United States	106

participants (and two who did not respond to the question; $M_{age} = 29.20$, $SD_{age} = 11.09$).

Measures

The final scales and items were assessed on a 7-point Likert scale (1 = low values, 7 = high values; see [online supplemental materials](#) for the full list of items and anchors).

Support for Social Change. We used five different operationalizations of the construct support for social change: Two scales (based on [Jost et al., 2012](#)) measured collective action intentions, both low cost (e.g., “Signing an online/regular petition to support action against the unequal treatment of [disadvantaged group],” Cronbach’s $\alpha = .82$) and high cost (e.g., “Attending demonstrations, protests or rallies against the unequal treatment of [disadvantaged group],” Cronbach’s $\alpha = .89$). We also measured support for empowering policies (based on [Shnabel et al., 2016](#); e.g., “Institutions of [respective country] should allocate more places to [disadvantaged group members] as a form of affirmative action,” Cronbach’s $\alpha = .65$). Finally, we collected two new measures reflecting important theoretical constructs in the literature on support for social change: raising ingroup awareness of inequality ([Van Stekelenburg & Klandermans, 2013](#); e.g., “When I come into contact with ingroup members, we talk about injustices in society regarding [disadvantaged group],” Cronbach’s $\alpha = .91$) and working in solidarity with the outgroup ([Droogendyk et al., 2016](#); [Subašić et al., 2008](#); e.g., “How willing are you to unite with [outgroup] to work for justice for [disadvantaged group]?” Cronbach’s $\alpha = .89$).

Intergroup Contact. We used five different operationalizations of the intergroup contact construct: (a) Quantity of contact (adapted from [Voci & Hewstone, 2003](#); e.g., “How many [outgroup] people do you know, at least as acquaintances?”, Spearman-Brown coefficient = .60; note that for two-item scales we report the Spearman-Brown coefficient instead of Cronbach’s α ; see [Eisinga et al., 2013](#)), two measures of quality of contact, namely, (b) Positive contact (adapted from [Kelly & Breinlinger, 1995](#); [Tropp & Brown, 2004](#); e.g., “When you interact with [outgroup], to what extent do you experience the following: The contact is friendly?”, Cronbach’s $\alpha = .83$), and (c) Absence of negative contact (adapted from [Barlow et al., 2012](#); e.g., “When you interact with [outgroup], to what extent do you experience the following: The contact is unfriendly?” [reverse coded], Spearman-Brown coefficient = .77), (d) Number of outgroup friends (based on [Tropp & Pettigrew, 2005](#); single item “How many of your friends are [outgroup]?”), and (e) Frequency of meeting outgroup friends (adapted from [Tropp & Pettigrew, 2005](#); single item “How often do you meet your [outgroup] friends?”).

Need Satisfaction. For both needs, empowerment and acceptance, we developed measurements of the extent to which participants perceived the intergroup contact as satisfying the respective need both individually and at the group level. Making this distinction between individual level and group level need satisfaction is meaningful against the background of the generalization problem in the intergroup contact literature (e.g., [Hewstone & Brown, 1986](#); [Pettigrew, 1998](#)). When members of different groups have personalized contact, it is unclear to what extent the effects of contact generalize to the group level. Thus, individual level empowerment was measured with the items “I felt that [outgroup members] with whom I had contact listened to what I had to say” and “I felt that [outgroup members] with whom I had contact perceived me

as competent and intelligent,” Spearman-Brown coefficient = .80. Group level empowerment was measured with the same items adapted to the group level: “I felt that [outgroup members] with whom I had contact listened to what [ingroup] had to say” and “I felt that [outgroup members] with whom I had contact perceived [ingroup] as competent and intelligent,” Spearman-Brown coefficient = .77. Individual level acceptance was measured with the items “I felt welcomed and accepted by [outgroup members] with whom I had contact” and “I felt that [outgroup members] with whom I had contact saw me as prejudiced or immoral” (reverse coded), Spearman-Brown coefficient = .43. Group level acceptance was measured with the same items adapted to the group level: “Contact with [outgroup members] left me with the impression that [ingroup] is welcomed and accepted by [outgroup]” and “Contact with [outgroup members] left me with the impression that [outgroup] see [ingroup] as prejudiced or immoral” (reverse coded), Spearman-Brown coefficient = .53.

Although the confirmatory factor analysis pointed to a two-factor solution (see below and [online supplemental materials](#)), scales measuring satisfaction of the needs for empowerment and acceptance were strongly positively correlated (individual $r = .60$ and group level $r = .62$). In the interest of using only the portion of the variance that is theoretically relevant, we created residualized versions of these variables for the testing of our hypotheses. For example, when assessing the effects of empowering contact, we used the residuals of a regression in which acceptance predicted empowerment.

Perceived Illegitimacy. The construct perceived illegitimacy was operationalized by (reverse coded) scales of legitimacy of group differences ([Weber et al., 2002](#); e.g., “I think the advantages of [advantaged group] compared to [disadvantaged group] are legitimate,” Spearman-Brown coefficient = .78) and system justification ([Jost & Kay, 2005](#); e.g., “The [respective country] society is set up so that [advantaged group] and [disadvantaged group] usually get what they deserve,” Cronbach’s $\alpha = .78$).

Attention Check. To detect participants who respond to the questions without reading them, we also included two attention check items (adjusted from [Oppenheimer et al., 2009](#)), for example, “When you have read this item, please select the second point on the scale (to the right of ‘Strongly disagree’).” Unfortunately, some participants who answered the questionnaire on their cell phones reported that the instructions were misleading (the display format was vertical for participants completing the questionnaire). This means that answers to the attention check items have unclear validity for a subset of participants. Participants who selected a wrong answer in at least one of the attention check items were classified as having failed the attention check (28.0% among ethnic minorities; 11.8% among all four populations).

Analytic Strategy

Data analyses proceeded in three steps (see [online supplemental materials](#) for an overview of the analytic procedure).

Data Preparation. As data were collected in different countries and with regard to different ingroups and outgroups, we regressed the original items on the subsample identifier variable (a variable indicating which subsample a participant belonged to) to obtain residualized item scores. This was done to remove mean differences between subsamples and to ensure that we would test the postulated model at the level of individuals rather than at the

level of subsamples or countries (item-level sample-mean residualization). Next, we used confirmatory factor analyses to select the final set of items and scales as reported above (see [online supplemental materials](#)).

Model. Our hypotheses refer to the coefficients of a multiple regression model of support for social change with the following predictor variables:

$$\text{SSC} = b_0 + b_1\text{IC} + b_2\text{NS} + b_3\text{PI} + b_4\text{IC} \times \text{NS} + b_5\text{IC} \times \text{PI} \\ + b_6\text{NS} \times \text{PI} + b_7\text{IC} \times \text{NS} \times \text{PI}.$$

This model allows us to estimate the independent effects of intergroup contact (IC), need satisfaction (NS), and perceived illegitimacy (PI), as well as the interactive effects of these predictor variables up to the three-way interaction on support for social change (SSC). We *z*-transformed all variables before computing the interactions. Thus, regression coefficients can be interpreted as standardized regression coefficients.

Statistical Inference. Recall that we used multiple operationalizations of each construct. The most systematic and transparent way of testing our hypotheses consists of repeatedly estimating the same statistical model using all 100 possible combinations of operationalizations, that is, 5 (support for social change measures [i.e., low cost collective action, high cost collective action, support for empowering policies, raising awareness, working in solidarity]) \times 5 (intergroup contact measures [i.e., quantity, positive contact, negative contact, number of outgroup friends, frequency of meeting outgroup friends]) \times 2 (need satisfaction measures [i.e., individual level empowerment, group level empowerment]) \times 2 (perceived illegitimacy measures [i.e., system justification, legitimacy of group differences]). We also decided in advance that we would vary whether statistical outliers (with observations more extreme than three times the interquartile range away from the end of the box in Tukey's boxplot) and participants failing the attention check would be excluded or not. Combining the different possibilities of operationalizing the constructs and excluding participants, that is, 2 (attention check failures [i.e., included, excluded]) \times 2 (outliers [i.e., included, excluded]) results in 400 opportunities for testing each hypothesis.

For each of the 400 hypothesis tests, we tested whether a given regression coefficient was significantly different from zero in the predicted direction (applying an alpha level of .05 using one-sided

testing for preregistered hypotheses) or the nonpredicted direction (applying an alpha level of .05 and two-sided testing). We then used the techniques developed by [Simonsohn et al. \(2019\)](#), namely, specification curve analysis, to test whether the number of significant results was greater than can be assumed to occur by chance. This involves a bootstrapping technique (see [online supplemental materials](#)), which yields an overall *p*-value which we denote as *p*_{overall} (as opposed to the *p*-value we use to test coefficients in any given individual regression). When *p*_{overall} was less than .05, we rejected the global null hypothesis that the assumed effect does not exist for any possible combination of operationalizations and data exclusion criteria. We then used visualization techniques and metaregression to understand whether results depend on operationalization and data exclusions (i.e., examine whether a particular measure of intergroup contact or support for change produced especially large negative effects, whether the exclusion or inclusion of outliers systematically affected the results, and so forth). For the sake of conciseness, we review key findings in the Results section below and provide complete results in [online supplemental materials](#). All steps of the specification curve analysis can be reproduced with the script Master_Spec.R.

Results

Analyses With Intergroup Contact Satisfying the Need for Empowerment

To test hypotheses while varying operationalizations and data exclusions, we ran 400 regressions of support for social change on intergroup contact, satisfaction of the need for empowerment, perceived illegitimacy, and all two-way and three-way interactions among the predictor variables. A summary of the resulting coefficients is shown in [Table 2](#). Note that testing the same hypothesis in 400 different ways implies that we may observe results in the predicted direction and in the opposite direction.

We first confirmed that intergroup contact is negatively related to support for social change (Hypothesis 1a), in line with [Hässler et al.'s \(2020\)](#) findings. Confirming this effect was necessary because the current model differs from the model tested by Hässler and colleagues in two ways: it includes additional covariates and excludes participants who reported not having any intergroup contact at all, restricting the variance of intergroup contact. As can be seen in [Table 2](#), consistent with Hässler et al.'s findings, 37% of the model

Table 2

Summary of Coefficients From 400 Regression Models Predicting Support for Social Change Among Disadvantaged Ethnic Groups (Study 1)

H	Predicted effect	Predictor variable	Min (<i>b</i>)	Max (<i>b</i>)	Significantly negative results		Significantly positive results	
					Proportion	<i>P</i> _{overall}	Proportion	<i>P</i> _{overall}
1a	Negative	Intergroup contact (C)	-.28	.18	37%	< .001	11%	< .001
2a	Positive	Empowerment (E)	-.14	.19	3%	.658	25%	< .001
—	—	Illegitimacy (I)	-.06	.38	0%	1	60%	< .001
3a	Positive	C \times E	-.08	.13	0%	1	12%	.015
—	—	C \times I	-.10	.09	2%	.925	1%	.958
4a	Positive	E \times I	-.14	.08	14%	< .001	2%	.999
5a	Positive	C \times E \times I	-.15	.13	13%	< .001	6%	.872

Note. H = hypothesis. Results shown in bold pertain to preregistered hypotheses and are based on one-tailed individual significance tests. All other results are based on two-tailed individual significance tests.

specifications produced significantly negative coefficients, indicating that more intergroup contact was generally associated with less support for social change ($p_{\text{overall}} < .001$). Nonetheless, as in Hässler et al. a nontrivial number of coefficients was significantly positive (11%; $p_{\text{overall}} < .001$), such that more intergroup contact was associated with more support for change. Further inspection of results using visualization and metaregression available in [online supplemental materials](#) suggested that when intergroup contact was related to disadvantaged group members' increased support for change, this relationship typically manifested in models in which the measure of this construct tapped into willingness to work in solidarity with the advantaged group toward greater equality.

Next, we tested our novel hypothesis that satisfaction of the need for empowerment would be related to more support for social change among disadvantaged ethnic groups (Hypothesis 2a). In line with this hypothesis, [Table 2](#) reveals that 25% of the coefficients were significantly positive (that is unlikely to occur by chance, $p_{\text{overall}} < .001$), this means that 100 regressions yielded evidence that, above and beyond the known effects of intergroup contact, the more ethnic minorities reported their contact experiences to be empowering, the more they supported social change. Only 3% of coefficients were significant in the opposite direction, which is consistent with chance levels ($p_{\text{overall}} = .658$).

We also found a positive effect of perceived illegitimacy on support for social change, which was obtained in 60% of the analyses ($p_{\text{overall}} < .001$). This robust effect, which is consistent with previous research about the link between perceptions of injustice and support for social change (e.g., [Jost et al., 2017](#); [Van Zomeren et al., 2008](#)), must be considered when interpreting the strength of the evidence regarding the effects of other variables. Specifically, after controlling for the influence of illegitimacy, the variance in support for social change that can be explained by intergroup contact and need satisfaction is much smaller.

According to Hypothesis 3a, need satisfaction should interact with intergroup contact such that the effect of intergroup contact on support for social change should be less negative (or even positive) the higher the satisfaction of the need for empowerment during intergroup contact. In line with this hypothesis, 12% of interactions were significantly positive ($p_{\text{overall}} = .015$) and none were significantly negative. The interaction between intergroup contact and illegitimacy perceptions on support for social change, which was entered merely as a statistical requirement for testing the theoretically relevant interactions, was nonsignificant (see [Table 2](#)).

Having obtained encouraging levels of support for our hypotheses regarding the positive effects of empowering contact on disadvantaged group members' support for social change, we next evaluated Hypothesis 4a, that the effects of empowering contact should be stronger the higher the perceived illegitimacy. Inspection of [Table 2](#) suggests that this was not the case. Both the interaction between need satisfaction (i.e., empowerment) and perceived illegitimacy and the three-way interaction between intergroup contact, empowerment, and perceived illegitimacy (Hypotheses 5a) were significantly negative in 14% and 13% of the regressions, respectively ($p_{\text{overall}} < .001$), suggesting that, contrary to expectations, the additive and interactive effects of need satisfaction (i.e., feeling empowered) might be smaller when perceived illegitimacy is higher.

Analyses With Intergroup Contact Satisfying the Need for Acceptance

To check our assumption that empowerment, and not acceptance, is what matters for disadvantaged groups, we reestimated the 400 regressions by replacing satisfaction of the need for empowerment with satisfaction of the need for acceptance, expecting to find weaker positive or negative effects on support for social change (see [online supplemental materials](#)). The coefficients obtained for satisfaction of the need for acceptance ranged from $-.29$ to $.11$. Only 4% of the coefficients were significantly positive ($p_{\text{overall}} = .505$), and a majority (57%) were significantly negative ($p_{\text{overall}} < .001$), mirroring the negative effect of intergroup contact on support for social change. Further, there was no evidence that satisfaction of the need for acceptance buffers the negative effect of intergroup contact ($p_{\text{overall}} = .963$). Thus, in contrast to empowering contact, accepting contact was associated with disadvantaged group members' lesser, rather than greater, support for social change.

Discussion

Study 1 used a diverse international sample of members of disadvantaged ethnic groups to test the incremental effect of need satisfaction, over and above the effects of intergroup contact and perceived illegitimacy on support for social change. Across a large variety of operationalizations, and consistent with our hypotheses, satisfaction of disadvantaged ethnic group members' need for empowerment was related to more support for social change, offsetting the negative effect of intergroup contact, and exerted a moderating effect, such that the negative effect of intergroup contact on support for social change was smaller, the more empowering the experiences of intergroup contact were reported to be. In other words, empowerment seemed to buffer against the irony of harmony effect ([Saguy et al., 2009](#)). These results were specific to satisfaction of the need for empowerment. Repeating all analyses with a measure of satisfaction of the need for acceptance (rather than need for empowerment) produced a strikingly different set of results: Specifically, satisfaction of the need for acceptance consistently related to less support for social change, in line with the irony of harmony effect, and failed to moderate the effect of intergroup contact.

Notably, although the number of significant results among the 400 model tests was clearly larger than the number that can be expected to occur by chance, it was not particularly high in absolute terms. We reasoned that the large number of nonsignificant results might reflect relatively low statistical power, considering that the effects of need satisfaction compete with the robust effects of perceived illegitimacy (e.g., [Jost et al., 2017](#); [Van Zomeren et al., 2008](#)) and intergroup contact ([Hässler et al., 2020](#)), reducing effect size. Thus, it was important to replicate results with a larger sample. Furthermore, we obtained moderating effects of perceived illegitimacy that were unexpected in their direction (e.g., suggesting that the effect of empowerment was smaller, the higher the perceived illegitimacy). To understand the extent to which unexpected moderating effects of perceived illegitimacy are robust or are perhaps due to the idiosyncratic mix of disadvantaged groups inherent to this convenience sample, we focused on groups that are disadvantaged along a common dimension in Study 2.

Study 2: LGBTIQ+ Individuals

In Study 2 we tested the same hypotheses as in Study 1 among members of groups that are disadvantaged based on their sexual orientation and/or gender identity. Although the conditions of LGBTIQ+ individuals have improved in many countries in recent decades (e.g., more positive attitudes in the United States Westgate et al., 2015; and the United Kingdom, Abrams et al., 2018), negative attitudes toward LGBTIQ+ individuals can be observed in several parts of the world (e.g., some countries in Eastern Europe; O'Dwyer & Vermeersch, 2016; Zeliz et al., 2019). Further, legal disadvantages (e.g., in terms of marriage and adoption laws) continue to exist in most countries.

Method

Participants

More than quadrupling the sample size of Study 1, Study 2 relies on the available subsample of $N = 3,382$ LGBTIQ+ individuals from the ZIP dataset (Hässler et al., 2020). We only included national contexts for which at least 100 observations were available (see Table 3). The subsample included 1,221 male, 1,839 female, and 322 other participants ($M_{\text{age}} = 30.35$, $SD_{\text{age}} = 12.65$, see Table 4 for sample composition).

Measures

We used the same set of measures as in Study 1, except that we did not measure quantity of contact (see online supplemental materials), considering the high numbers of cis-heterosexual individuals every LGBTIQ+ individual knows at least as acquaintance. All items were tailored to the LGBTIQ+ context.

Analytic Strategy

We used the same analytic strategy as in Study 1. However, because we used four instead of five operationalizations of

Table 3

Overview of Included Samples—LGBTIQ+ Individuals
($N = 3,382$)

Country	<i>N</i>
Austria	110
Belgium	157
Brazil	103
Canada	227
Chile	236
Croatia	107
Czech Republic	125
France	122
Germany	442
Hungary	171
Italy	199
Netherlands	160
Poland	176
Russia	123
Spain	318
Switzerland	323
United Kingdom	125
United States	158

intergroup contact, the overall number of hypothesis tests across operationalizations and data exclusions was 320 instead of 400.

Results

Analyses With Intergroup Contact Satisfying the Need for Empowerment

Table 5 provides an overview of coefficients estimated in 320 regression models with varying operationalizations and data exclusions. In line with Study 1, a majority (62%) of coefficients obtained for the average effect of intergroup contact on support for social change (Hypothesis 1a) were significantly negative ($p_{\text{overall}} < .001$), but some regression models also produced significantly positive coefficients (14%, $p_{\text{overall}} < .001$). This is consistent with the results of Hässler et al. (2020). Visualizations and metaregression available in the online supplemental materials confirmed that, as in Study 1, the subset of positive coefficients mainly involved the measure willingness to work in solidarity—such that intergroup contact was related to LGBTIQ+ individuals' greater support for change toward equality when this construct tapped willingness to work in solidarity with cis-heterosexual individuals (rather than other aspects of support for change).

As in Study 1, our novel hypothesis regarding the effects of empowering contact received clear support (Hypothesis 2a). After accounting for the effects of intergroup contact and perceived illegitimacy (and their interactions), satisfaction of the need for empowerment was related to more support for social change, which was significant in 58% of the tests ($p_{\text{overall}} < .001$). In contrast, only 4% of the coefficients were significantly negative, which is consistent with chance levels ($p_{\text{overall}} = .336$).

Consistent with the literature and with results from Study 1, the effect of perceived illegitimacy was positive in all regressions, and significantly so 95% of the time ($p_{\text{overall}} < .001$). In other words, the effect of empowerment almost always competes against the effect of perceived illegitimacy, which further demonstrates the robustness of results regarding our main hypothesis.

According to Hypothesis 3a, need satisfaction should interact with intergroup contact such that the effect of intergroup contact would be less negative (or even positive) when satisfaction of the need for empowerment during intergroup contact is higher. In line with this hypothesis, 15% of the interactions were significantly positive ($p_{\text{overall}} = .004$), while only 2% were significantly negative, which is consistent with chance levels ($p_{\text{overall}} = .966$). Thus, as in Study 1, feeling empowered buffered the irony of harmony effect of intergroup contact on support for change among LGBTIQ+ individuals.

Though not hypothesized a priori, it is also interesting that the effect of intergroup contact was qualified by interactions with perceived illegitimacy, of which 18% were significantly negative ($p_{\text{overall}} < .001$), implying stronger negative effects of intergroup contact at higher levels of perceived illegitimacy. At the same time, 14% of the interactions of intergroup contact with perceived illegitimacy were significantly positive ($p_{\text{overall}} < .001$), implying the opposite direction of moderation.

The hypothesis regarding the moderating effect of perceived illegitimacy on the association between empowerment and support for social change was not supported among LGBTIQ+ individuals (Hypothesis 4a). Table 5 reveals that the surprising negative

Table 4
Sample Composition (LGBTIQ+ Individuals)

Sexual orientation/gender	Male	Female	Intersex	Other	<i>N</i>
Heterosexual	21 (21)	16 (16)	2 (0)	23 (13)	62 (50)
Bisexual	193 (28)	754 (25)	11 (4)	74 (62)	1,032 (119)
Homosexual	940 (22)	812 (28)	9 (4)	49 (35)	1,810 (89)
Asexual	27 (7)	98 (5)	3 (1)	42 (36)	170 (49)
Other	40 (17)	159 (15)	1 (0)	108 (97)	308 (129)
<i>N</i>	1,221 (95)	1,839 (89)	26 (9)	296 (243)	3,382 (436)

Note. In parentheses: Individuals identifying as trans.

interactions observed in Study 1 were not replicated. The two-way interactions between empowering contact and perceived illegitimacy were generally nonsignificant. However, consistent with Hypothesis 5a, the three-way interaction was significantly positive 19% of the time ($p_{\text{overall}} < .001$), suggesting that the buffering effect of empowering contact (i.e., the negative two-way interaction) emerges at higher levels of perceived illegitimacy. That is, intergroup contact satisfying the need for empowerment attenuates the irony of harmony among sexual and gender minorities who perceive the existing arrangements involving LGBTIQ+ issues as particularly unjust.

Analyses With Intergroup Contact Satisfying the Need for Acceptance

To verify that observed effects are specific to satisfaction of the need for empowerment, we reestimated all regressions using satisfaction of the need for acceptance (instead of empowerment). As in Study 1, intergroup contact that was experienced as accepting affected support for social change in opposite ways than did intergroup contact that was experienced as empowering. The average effect of contact satisfying the need for acceptance ranged from $-.19$ to $.04$, and was significantly negative in 82% of the regressions ($p_{\text{overall}} < .001$), mirroring the effect of intergroup contact more generally. Satisfaction of the need for acceptance did not buffer the negative effect of contact in any of the regressions (i.e., unlike empowering contact), and there was a positive moderator effect of intergroup contact that afforded acceptance in 3% of the regressions ($p_{\text{overall}} = .725$). The moderating effect of perceived illegitimacy on the accepting contact—support-for-social-change relationship was significantly positive in 10% of the results ($p_{\text{overall}} = .002$). Thus, the negative effect of intergroup contact that afforded acceptance on support for social change was smaller when

perceived illegitimacy was high. Finally, in contrast to the positive three-way interactions for empowering contact, the three-way interaction involving accepting contact was significantly negative in 11% of the results ($p_{\text{overall}} = .003$) but never significantly positive ($p_{\text{overall}} = 1$).

Discussion

Study 2 further corroborated the hypothesis that irony of harmony effects would be smaller, or even reversed, when disadvantaged group members experience intergroup contact with the advantaged group as empowering. Among LGBTIQ+ individuals reporting on their intergroup contact with cis-heterosexual individuals, satisfaction of the need for empowerment (but not satisfaction of the need for acceptance) was related to more support for social change and buffered the negative effect of intergroup contact. Reflecting the much larger sample size, the number of significant effects consistent with our hypothesis was larger and more consistent across operationalizations. Effects of need satisfaction were unique to satisfaction of the need for empowerment. As in Study 1, exploratory analyses revealed that satisfaction of the need for acceptance was related to less support for social change. This effect was even more frequently obtained than the negative effect of intergroup contact, suggesting that it is particularly accepting contact (i.e., feeling welcomed and accepted by the outgroup) that is responsible for the so-called irony of harmony effects (see Dixon et al., 2007; Saguy et al., 2009).

The moderating effects of illegitimacy were only partially in line with expectations. Results suggested that the buffering effect of satisfaction of the need for empowerment was stronger the higher the illegitimacy (i.e., the three-way interaction was supported). However, the two-way interactions of empowering contact and perceived illegitimacy were largely nonsignificant. Viewed together with interaction

Table 5
Coefficients From 320 Regression Models Predicting Support for Social Change Among LGBTIQ+ Individuals (Study 2)

H	Predicted effect	Predictor variable	Min (<i>b</i>)	Max (<i>b</i>)	Significantly negative results		Significantly positive results	
					Proportion	<i>P</i> _{overall}	Proportion	<i>P</i> _{overall}
1a	Negative	Intergroup contact (C)	-.25	.17	62%	<.001	14%	<.001
2a	Positive	Empowerment (E)	-.08	.11	4%	.336	58%	<.001
—	—	Illegitimacy (I)	.00	.33	0%	1	95%	<.001
3a	Positive	C × E	-.03	.08	2%	.966	15%	.004
—	—	C × I	-.21	.09	18%	<.001	14%	<.001
4a	Positive	E × I	-.10	.05	1%	.984	3%	.982
5a	Positive	C × E × I	-.12	.08	1%	1	19%	<.001

Note. H = hypothesis. Results shown in bold pertain to preregistered hypotheses and are based on one-tailed individual significance tests. All other results are based on two-tailed individual significance tests.

effects observed in Study 1, which contradicted our predictions, the role of perceived illegitimacy remains unclear despite the larger sample size and the more homogeneous sample composition.

A possible explanation lies in the fact that, in absolute terms, perceived illegitimacy was generally high in both Study 1 ($M_{\text{System Justification [recoded]}} = 4.40$, $SD_{\text{System Justification [recoded]}} = 1.51$ and $M_{\text{Illegitimacy of Group Differences}} = 5.49$, $SD_{\text{Illegitimacy of Group Differences}} = 1.75$, on a 7-point-Likert scale) and Study 2 ($M_{\text{System Justification [recoded]}} = 4.64$, $SD_{\text{System Justification [recoded]}} = 1.31$ and $M_{\text{Illegitimacy of Group Differences}} = 6.52$, $SD_{\text{Illegitimacy of Group Differences}} = 1.13$). Note that our hypotheses regarding the moderating role of perceived illegitimacy are based on previous theorizing (Shnabel & Ullrich, 2013) and findings (Hässler et al., 2019; Siem et al., 2013) that disadvantaged group members' need for empowerment is aroused when group disparity is perceived as illegitimate, but not when it is perceived as legitimate. It is possible that the conditions for testing this hypothesis in the present research were suboptimal, because both the ethnic disadvantaged group members in Study 1's sample and the LGBTIQ+ individuals in Study 2's sample generally perceived the existing social conditions as illegitimate. Future research may examine this hypothesis in contexts characterized by greater variance of perceptions of illegitimacy among disadvantaged group members.

Study 3: Advantaged Ethnic Groups

Having shown that empowering contact is associated with more support for social change among disadvantaged groups, we now test the predictions of our model for advantaged groups. Study 3 tested our hypotheses among members of advantaged ethnic groups (e.g., White people in Brazil, Non-Muslims in Germany, or Non-Immigrants Chileans in Chile).

Method

Participants

Study 3 relies on the available subsample of $N = 2,937$ members of ethnic majorities from the ZIP dataset (Hässler et al., 2020), including national contexts for which at least 100 observations were available (see Table 6). The sample included 983 male, 1,942 female, 13 other participants ($M_{\text{age}} = 28.31$, $SD_{\text{age}} = 11.23$).

Measures

We used the same set of measures as in Study 1, tailored to ethnic majority members (see online supplemental materials).

Analytic Strategy

We used the same analytic strategy as in Study 1. As in Study 1, the overall number of hypothesis tests across operationalizations and data exclusions was 400.

Results

Analyses With Intergroup Contact Satisfying the Need for Acceptance

Table 7 provides an overview of the coefficients estimated in 400 regression models with varying operationalizations and data

Table 6

Overview of Included Samples—Advantaged Ethnic Groups ($N = 2,937$) and the Disadvantaged Group to Which They Referred

Category advantaged/ disadvantaged	Country	$N_{\text{Advantaged}}$
Belgians/Moroccans	Belgium	101
White people/Black people	Brazil	166
Non-Indigenous/Mapuche	Chile	165
Chileans/Peruvians	Chile	132
Non-Muslims/Muslims	Germany	192
Germans/Refugees (Sample 1)	Germany	142
Germans/Refugees (Sample 2)	Germany	175
Germans/Turks	Germany	205
Israelis/Arabs	Israel	117
Israelis/Ethiopians ^a	Israel	97
Albanians/Serbs ^a	Kosovo	66
Polish/Ukrainians	Poland	134
Serbs/Bosniaks	Serbia	106
Non-Roma/Sinti and Roma	Spain	508
Non-Muslims/Muslims	Switzerland	118
Swiss/Portuguese immigrants	Switzerland	129
Non-Muslims/Muslims	United Kingdom	148
British/Asians	United Kingdom	101
White people/Black people	United States	135

^a Please refer to Figure S2 in online supplementary materials for why this sample size is less than 100.

exclusions. We first confirmed that intergroup contact was positively related to support for social change and then moved on to the hypothesis about the effects of acceptance. The coefficients obtained for the average effect of intergroup contact (Hypothesis 1b) were consistent with results of Hässler et al. (2020) in that almost all coefficients (97%) were significantly positive ($p_{\text{overall}} < .001$).

Next, we tested our novel hypothesis regarding the effects of accepting contact on support for social change (Hypothesis 2b), which received good support. After accounting for effects of intergroup contact and perceived illegitimacy (and their interactions), satisfaction of the need for acceptance was related to more support for social change, which was significant 51% of the time ($p_{\text{overall}} < .001$). Contrary to our expectations, 10% of coefficients were significantly negative ($p_{\text{overall}} < .001$). Further inspection of results (see online supplemental materials) suggested that negative effects occurred for analyses involving the dependent measure raising ingroup awareness, while all other dependent measures were associated with positive effects.

Consistent with the literature and results for disadvantaged group members obtained in Studies 1 and 2, the effect of perceived illegitimacy on support for social change was significantly positive in 97% of the regressions ($p_{\text{overall}} < .001$). This suggests that advantaged group members who perceive group inequalities to be illegitimate are more inclined to support social change. Considering that previously reported effects of need satisfaction were obtained while controlling for the robust influence of perceived illegitimacy, this is a testament to the importance and added value of need satisfaction during intergroup contact experiences for social change.

According to Hypothesis 3b, need satisfaction should interact with intergroup contact such that the positive effect of intergroup contact should be more pronounced the higher the satisfaction of the need for acceptance during intergroup contact. Contrary to our hypothesis, satisfaction of the need for acceptance did not

Table 7
Coefficients From 400 Regression Models Predicting Support for Social Change Among Advantaged Ethnic Groups (Study 3)

H	Predicted effect	Predictor variable	Min (<i>b</i>)	Max (<i>b</i>)	Significantly negative results		Significantly positive results	
					Proportion	<i>p</i> _{overall}	Proportion	<i>p</i> _{overall}
1b	Positive	Intergroup contact (C)	.01	.47	0%	1	97%	<.001
2b	Positive	Acceptance (A)	-.14	.20	10%	<.001	51%	<.001
—	—	Illegitimacy (I)	-.01	.41	0%	1	97%	<.001
3b	Positive	C × A	-.09	.09	15%	<.001	8%	.245
—	—	C × I	-.06	.08	3%	.737	17%	<.001
4b	Positive	A × I	-.07	.12	6%	.160	23%	<.001
5b	Positive	C × A × I	-.06	.07	10%	.005	17%	<.001

Note. H = hypothesis. Results shown in bold pertain to preregistered hypotheses and are based on one-tailed individual significance tests. All other results are based on two-tailed individual significance tests.

positively moderate the intergroup contact effect (with only 8% of the coefficients being significantly positive, $p_{\text{overall}} = .245$). Instead, we found a negative moderation in 15% of the results, $p_{\text{overall}} < .001$. Thus, the positive effect of intergroup contact on ethnic majorities' support for change was smaller when acceptance was high, and the effect of acceptance was smaller when contact was more frequent or more positive.

Next, we tested whether the link between intergroup contact that satisfied the need for acceptance and support for social change was stronger among advantaged group members with high levels of perceived illegitimacy (Hypothesis 4b). We found the expected moderator effect in 23% of tests ($p_{\text{overall}} < .001$). The opposite direction of the moderator effect was not supported (6% significant, $p_{\text{overall}} = .160$). Thus, positive effects of contact that afforded acceptance on support for social change were larger when perceived illegitimacy was high. With regard to the interaction between perceived illegitimacy and need satisfaction, which was included as a statistical requirement for estimating the theoretically derived interactions, we obtained significantly positive coefficients in 17% of tests ($p_{\text{overall}} < .001$), such that the positive effect of intergroup contact was larger when illegitimacy was perceived as high.

Consistent with Hypothesis 5b, the three-way interaction involving intergroup contact that afforded acceptance was significantly positive in 17% of results ($p_{\text{overall}} < .001$). At the same time, 10% of three-way interactions were significantly negative ($p_{\text{overall}} = .005$).

Analyses With Intergroup Contact Satisfying the Need for Empowerment

Are the effects of need satisfaction specific to acceptance, as our model implies? To answer this question, we reestimated all regressions using measures of satisfaction of the need for empowerment (instead of acceptance). The average effect of empowering contact ranged from .01 to .18 and was significantly positive in 94% of the regressions ($p_{\text{overall}} < .001$). Contrary to our assumptions, measures of empowering contact produced even stronger associations with support for social change than did measures of accepting contact. In addition, we found that satisfaction of the need for empowerment moderated intergroup contact effects (9% of the interactions were significantly positive, $p_{\text{overall}} = .007$). Surprisingly, then, the number of significant main and moderating effects of need satisfaction was larger when need satisfaction was

measured with regard to empowerment rather than acceptance, while the latter is the more salient need of advantaged groups. The moderating effect of perceived illegitimacy on the link between empowering contact and support for social change was significantly positive in only 3% of results ($p_{\text{overall}} = .872$). Finally, the three-way interactions involving empowering contact were significantly negative in 24% of results ($p_{\text{overall}} < .001$), while we did not find a positive three-way interaction (4% significant, $p_{\text{overall}} = .815$).

Discussion

Study 3 used a diverse international sample of members of advantaged ethnic groups to test the incremental effect of need satisfaction on support for social change. Across a large variety of operationalizations, the results clearly demonstrate that satisfaction of the acceptance need has an independent positive effect on support for social change over and above the positive effect of intergroup contact. One exception was that analyses involving the outcome variable raising ingroup awareness yielded reliable results in the opposite direction. In other words, the more the contact was experienced as accepting, the less willing participants were to discuss the unfair disadvantages of the outgroup with ingroup members. Results by and large also support the notion that satisfaction of the need for acceptance would have stronger effects on support for social change when there were high levels of perceived illegitimacy of the outgroup's disadvantage.

Contrary to our expectation, however, satisfaction of the acceptance need did not positively moderate the effects of intergroup contact on support for social change. Instead, we found some evidence for a negative moderation. However, considering that the main effects of acceptance were both larger in number and size than the negative interaction effects (see [online supplemental materials](#)), a reasonable conclusion is that the positive main effect of need satisfaction for acceptance on support for social change is reduced but not eliminated by more frequent or more positive contact. Thus, there is no evidence that contact that satisfies advantaged group members' need for acceptance leads to licensing effects (in which positive contact is associated with less support for change when advantaged group members feel accepted). It was also unexpected that repeating all analyses with the measure for empowering contact instead of accepting contact would produce

similar results. Experiencing contact as satisfying needs for empowerment and acceptance were both positively related to support for social change over and above the effects of intergroup contact per se. To test whether the pattern of expected and unexpected results would generalize from the ethnic/racial domain to the context of sexual orientation/gender identity, we conducted an additional study in the context of cis-heterosexual individuals' contact with LGBTIQ+ individuals.

Study 4: Cis-Heterosexual Individuals

In Study 4, we tested the same hypotheses as in Study 3, now among members of groups that are advantaged based on their sexual orientation and gender identity (i.e., cis-heterosexual individuals).

Method

Participants

Study 4 relies on the available subsample of $N = 4,203$ cis-heterosexual individuals from the ZIP dataset (Hässler et al., 2020). We included national contexts for which at least 100 observations were available (see Table 8). The sample included 1,289 male and 2,914 female participants ($M_{\text{age}} = 28.90$, $SD_{\text{age}} = 12.47$).

Results

Analyses With Intergroup Contact Satisfying the Need for Acceptance

Table 9 provides an overview of coefficients estimated among cis-heterosexual individuals in 400 regression models with varying operationalizations and data exclusions.

Coefficients obtained for the effect of intergroup contact on support for social change (Hypothesis 1b) were consistent with the

Table 8

Overview of Included Samples—Cis-Heterosexual Individuals ($N = 4,203$)

Country	N
Belgium	180
Brazil	121
Canada	369
Chile	298
Croatia	168
Czech Republic	105
Germany	641
Hungary	229
Italy	167
Kosovo ^a	81
Mexico ^a	98
Netherlands	274
Poland	184
Russia	166
Spain	408
Switzerland	320
Turkey ^a	96
United Kingdom	113
United States	185

^aPlease refer to Figure S2 in online supplementary materials for why this sample size is less than 100.

results of Hässler et al. (2020) in that almost all (99%) were significantly positive ($p_{\text{overall}} < .001$).

In line with results observed among ethnic advantaged groups, our hypothesis regarding the effect of accepting contact on support for social change (Hypothesis 2b) was supported in the majority of specifications (68%, $p_{\text{overall}} < .001$). However, 12% of the regression coefficients were significantly negative, which is also unlikely to have occurred by chance ($p_{\text{overall}} < .001$). Further investigation revealed that, as in Study 3, the significantly negative effects were obtained when raising ingroup awareness was used to operationalize support for social change.

Consistent with the previously reported studies, the effect of perceived illegitimacy was significantly positive in 90% of regressions ($p_{\text{overall}} < .001$). Contrary to Hypothesis 3b, only 1% of the interactions between intergroup contact and satisfaction of the need for acceptance were significantly positive ($p_{\text{overall}} = 1$). Instead, we found a proportion of statistically negative coefficients which is unlikely to have occurred by chance (15%, $p_{\text{overall}} < .001$), indicating that the effect of intergroup contact on cis-heterosexual individuals' support for social change was smaller when acceptance was high, and that the effect of acceptance was smaller when contact was more frequent or more positive, mirroring Study 3's results (see Table 7).

Hypothesis 4b was supported in 16% of analyses, indicating that perceived illegitimacy positively moderated the effect of satisfaction of the need for acceptance on support for social change ($p_{\text{overall}} < .001$), such that the positive effect of acceptance was stronger under higher perceptions of illegitimacy. There was no evidence of moderating effects in the opposite direction (5% significant, $p_{\text{overall}} = .247$). As in Study 3, perceived illegitimacy also moderated the positive effects of intergroup contact (6% significant, $p_{\text{overall}} = .033$), but this effect emerged in relatively few specifications. When perceived illegitimacy was higher, the effects of intergroup contact on support for social change were more positive. Contrary to Study 3, we also found evidence for a moderation effect in the opposite direction (29% significant, $p_{\text{overall}} < .001$).

The three-way interaction involving intergroup contact, satisfaction of the need for acceptance, and perceived illegitimacy, was significantly positive in 24% of analyses, consistent with Hypothesis 5b ($p_{\text{overall}} < .001$). However, in 14% of cases, the interaction was significantly negative ($p_{\text{overall}} < .001$).

Analyses With Intergroup Contact Satisfying the Need for Empowerment

To examine whether effects of need satisfaction were unique to the need for acceptance, we reestimated all regressions using measures of satisfaction of the need for empowerment (instead of acceptance; see online supplemental materials). As in Study 3, the number of significant effects supporting our main hypotheses was in fact larger when empowerment rather than acceptance was examined as the need satisfied during contact. The average effect of empowering contact ranged from .01 to .18 and was significantly positive in 95% of the regressions ($p_{\text{overall}} < .001$). Additionally, in 6% of the regressions the effect of intergroup contact on support for social change was positively moderated by empowering contact ($p_{\text{overall}} = .055$). The moderating effect of perceived illegitimacy on the empowering contact—support-for-social-change relationship was significantly positive in only 2% of results

Table 9*Coefficients From 400 Regression Models Predicting Support for Social Change Among Cis-Heterosexual Individuals (Study 4)*

H	Predicted effect	Predictor variable	Min (<i>b</i>)	Max (<i>b</i>)	Significantly negative results		Significantly positive results	
					Proportion	<i>p</i> _{overall}	Proportion	<i>p</i> _{overall}
1b	Positive	Intergroup contact (C)	.01	.41	0%	1	99%	<.001
2b	Positive	Acceptance (A)	-.08	.17	12%	<.001	68%	<.001
—	—	Illegitimacy (I)	-.09	.29	5%	.202	90%	<.001
3b	Positive	C × A	-.09	.05	15%	<.001	1%	1
—	—	C × I	-.09	.05	29%	<.001	6%	.033
4b	Positive	A × I	-.06	.05	5%	.247	16%	<.001
5b	Positive	C × A × I	-.08	.07	14%	<.001	24%	<.001

Note. H = hypothesis. Results shown in bold pertain to preregistered hypotheses and are based on one-tailed individual significance tests. All other results are based on two-tailed individual significance tests.

(*p*_{overall} = .942). Finally, the three-way interaction involving empowering contact was significantly positive in 9% of results (*p*_{overall} < .001), but also significantly negative in 20% of results (*p*_{overall} < .001).

Discussion

Study 4 supported our hypotheses that satisfaction of cis-heterosexual individuals' acceptance need would have a positive effect on support for social change, over and above the positive effect of intergroup contact. However, Study 4 also clearly demonstrated that not only accepting contact, but also empowering contact, had positive effects on cis-heterosexual individuals' support for social change, replicating the pattern found among advantaged ethnic groups (Study 3). This suggests that for advantaged groups the distinction between feeling accepted versus empowered by the outgroup is less crucial. In other words, regardless of the form of need satisfaction during their encounters with disadvantaged groups, members of advantaged groups with more frequent and more positive intergroup contact were more willing to engage in solidarity-based support for social change. One important exception was that accepting contact was negatively associated with raising ingroup awareness, replicating the unexpected finding among ethnic majorities. We offer several possible explanations for this finding in the General Discussion.

The moderating effects of perceived illegitimacy were generally in line with assumptions and consistent with the results of Study 3. That is, need satisfaction was more strongly associated with support for social change among participants who perceived the outgroup's disadvantage to be more illegitimate. However, the three-way interaction between intergroup contact, need satisfaction, and perceived illegitimacy produced significant numbers of positive as well as negative effects in both Studies 3 and 4. Interpretation of this complexity would necessarily be highly speculative at this point. Further empirical investigations, which are beyond the scope of the present research, might eventually provide resolution regarding a more stable underlying set of relationships.

General Discussion

In the present research we sought to identify whether intergroup contact—which is typically associated with increased support for social change toward equality among advantaged group members, but decreased support for social change toward equality among

disadvantaged group members (Hässler et al., 2020)—can promote support for social change among both advantaged and disadvantaged groups to the extent that key psychological needs of both groups are satisfied. Guided by the theoretical framework of the needs-based model (Nadler & Shnabel, 2015), we predicted and found that contact through which disadvantaged group members felt empowered, and advantaged group members felt morally and socially accepted, was associated with increased support for social change.

The conclusion that need satisfaction is correlated with support for change is based on the results of a total of 1,520 regression models, which varied the operationalization of each construct and the nature of data exclusions. Although the strength of the evidence varied across the different regression models, and despite a few unexpected results for advantaged groups (see below), the number of significant results in line with our main novel hypothesis was, in each and every study, considerably higher than what can be expected to occur by chance, while results in the nonpredicted direction were generally unreliable. Furthermore, the effects of need satisfaction were consistent across substantially different kinds of disadvantaged groups (Study 1: ethnic minorities; Study 2: LGBTIQ+ individuals) and advantaged groups (Study 3: ethnic majorities; Study 4: cis-heterosexual individuals), allowing for broad generalizations across different contexts in which unequal social relations exist. Therefore, in Table 10, which gives an overview of the results regarding all five hypotheses across studies, we classified results regarding Hypothesis 2 (the effect of need satisfaction on support for social change) as “consistently positive.”

The Effect of Need Satisfaction on Support for Social Change Among Disadvantaged Group Members

The radically different effects of empowering and accepting contact observed among disadvantaged groups reinforce the insight that it is important to distinguish not only between positive and negative intergroup contact experiences (e.g., Barlow et al., 2012; Paolini et al., 2010; Reimer et al., 2017), but also between different types of positive intergroup contact: contact that is empowering and contact that is accepting. Empowering contact, in which disadvantaged group members felt that advantaged group members perceived them personally, as well as their ingroup, as competent and listened to what they had to say, was associated with increased support for change. This finding appears consistent with previous evidence that “supportive contact,” through which

Table 10
Overview of the Main Results for All Five Hypotheses and All Four Populations

Hypothesis	Disadvantaged groups	Advantaged groups
H1: Relationship between intergroup contact and support for social change.	Consistently negative. Exception: working in solidarity.	Consistently positive.
H2: Relationship between satisfaction of need for empowerment (disadvantaged groups) and need for acceptance (advantaged groups) and support for social change.	Consistently positive.	Consistently positive. Exception: raising ingroup awareness.
H3: Moderating effect of need satisfaction on the relationship between intergroup contact and support for social change.	Consistently positive.	Consistently negative.
H4: The effect of need satisfaction on support for social change should be stronger, the greater the perceived illegitimacy.	Inconsistent. Ethnic minorities negative, LGBTIQ+ individuals nonsignificant.	Consistently positive.
H5: The moderating influence of need satisfaction on the effect of intergroup contact on social change should be stronger, the greater the perceived illegitimacy.	Inconsistent. Ethnic minorities negative, LGBTIQ+ individuals positive.	Inconclusive pattern of results (both positive and negative results).

Note. H = hypothesis. Results shown in bold are consistent with the postulated hypotheses.

advantaged group members express support for social change and acknowledge existing injustice, promotes support for social change among disadvantaged group members (e.g., Becker et al., 2013; see also Droogendyk et al., 2016; Techakesari et al., 2017). This finding also demonstrates that the irony of harmony effect is not inevitable and can be reversed once disadvantaged group members' strong need to be heard by the advantaged group is addressed (Bruneau & Saxe, 2012; see also Kteily & McClanahan, 2020 for a theoretical discussion).

Previous evidence indicates that people's psychological needs are substantially different in interpersonal versus intergroup interactions (Aydin et al., 2019b; see also the interindividual-intergroup discontinuity effect, Insko et al., 2005). However, we found that empowerment at both the personal and group levels had similar effects on disadvantaged group members' support for change—consistent with the notion that the personal is political. Thus, disadvantaged group members wanted their own and their ingroup's voice to be heard, and intergroup contact that satisfied these wishes was associated with greater support for change. By contrast, feeling morally and socially accepted by advantaged group members, both at the personal and group levels, was related to less support for social change among disadvantaged group members—amplifying the irony of harmony effect.

The Effect of Need Satisfaction on Support for Social Change Among Advantaged Group Members

Among advantaged group members, contrary to the effect among disadvantaged group members and in line with our hypothesis, intergroup contact in which they felt welcomed and reassured that they were not perceived as prejudiced, at both the personal and group levels, was associated with increased support for change. Thus, disadvantaged group members' expression of acceptance and reassurance concerning the advantaged group's morality did not lead to moral "credentialing" or "licensing" effects (Merritt et al., 2010; Monin & Miller, 2001; Sachdeva et al., 2009; Zhong et al., 2009) among the advantaged. Rather, removing the threat posed to advantaged group members' morality—a central dimension in

people's personal and group identity (e.g., Leach et al., 2007)—was associated with their increased readiness for social change toward equality. This finding is consistent with previous research showing that once their threatened positive identity is restored members of conflicting groups are ready to relinquish some power for the sake of being more moral toward the other group (SimanTov-Nachlieli et al., 2018).

Notably, however, advantaged group members' feeling that disadvantaged group members perceived them personally, or their ingroup, as competent, and that disadvantaged members also listened to what they had to say was associated with increased support for change. Indeed, our results allow for the clear conclusion that among advantaged groups, any kind of intergroup contact (that is not negative) is in general related to greater support for social change. We found, however, one important exception to this overall positive effect among both ethnic majorities and cis-heterosexual individuals. Intergroup contact was not (or, in the case of accepting contact, even negatively) associated with the willingness to raise ingroup awareness about inequalities.

Moreover, advantaged groups were in general rather reluctant to talk about inequalities with their ingroup peers (on a 7-point Likert scale: $M_{\text{Ethnic Majorities}} = 2.59$, $SD_{\text{Ethnic Majorities}} = 1.47$; $M_{\text{Cis-Heterosexual Individuals}} = 2.66$, $SD_{\text{Cis-Heterosexual Individuals}} = 1.45$). This is especially problematic considering that critical consciousness of existing inequalities is central to challenging them (Vollhardt & Sinayobye Twali, 2016). Moreover, the literature on confrontation behaviors suggests that confrontation by those who are not directly negatively affected by existing inequalities is perceived as more credible than confrontation by those who are directly affected by existing inequalities (Czopp & Monteith, 2003). Therefore, advantaged groups can play a key role in changing existing inequalities. Consequently, advantaged groups' unwillingness to confront inequalities might contribute to failure of some advantaged group members to recognize own privileges, further mask existing privileges, and undermine a powerful way to change the hearts and minds of those advantaged groups who perceive group-based disparities as legitimate (see also Droogendyk et al., 2016).

Whence the Surprising Effect of Empowerment Among Advantaged Groups?

A possible explanation for the finding that among advantaged groups, feeling empowered had a similar effect to that of feeling accepted is that these needs might be indistinguishable (i.e., both simply reflect the experience of positive intergroup contact). The high correlation between empowerment and acceptance needs in all four studies and the resulting necessity to use residualized variables (in each case controlling for the other need) seems to support this interpretation. Nevertheless, making this interpretation less plausible, the confirmatory factor analysis indicated that a two-factor solution fit the data better than a single-factor solution. Moreover, despite their strong correlation, empowerment and acceptance had opposite effects on support for social change among disadvantaged group members. These results suggest that people can discriminate between empowering and accepting contact. If so, why do these discriminable forms of intergroup contact not have different effects for advantaged group members?

One possibility is that the needs for acceptance and empowerment are hierarchically arranged, consistent with the distinction between the lower-order categorical respect, granted based on membership in a common community, and the higher-order contingent respect, granted based on status and relative ranking (Janoff-Bulman & Werther, 2008). Being accepted does not necessarily imply being empowered (that may explain the divergent effects among the disadvantaged) whereas being empowered implies, at least to some extent, being morally and socially accepted (that may explain the corresponding effects among the advantaged). It is difficult to conclusively assess this explanation based on correlational data.

Another possible explanation, which may operate together with the previous one, is that our measure of group members' sense of empowerment did not fully capture this multifaceted construct (SimanTov-Nachlieli et al., 2013). Due to our wish to use an identical measure in all four studies, the items had to make sense and carry similar meaning for both advantaged and disadvantaged groups—leading us to focus on two particular components of empowerment; namely, voice and competence. However, the concept of empowerment includes additional components. For example, the acknowledgment of the injustice caused to the disadvantaged and the need to atone for it, constitutes a key component of empowerment (Shnabel & Ullrich, 2013). However, such acknowledgment of injustice (e.g., LGBTIQ+ individuals apologizing for their unjust treatment of cis-heterosexual individuals) carries the exact opposite meaning (reinforcing, rather than challenging the status quo) when expressed by the disadvantaged groups. Moreover, due to asymmetric power relations, the very same items carry different psychological meanings for the advantaged and disadvantaged. For example, having a voice is psychologically crucial for members of a group that has been silenced, but less so for members of a hegemonic group (Bruneau & Saxe, 2012). This may obscure differences between acceptance and empowerment among the advantaged.

The Moderating Effect of Need Satisfaction on the Relation Between Intergroup Contact Support for Social Change

Regarding the moderating effect of need satisfaction on the relation between intergroup contact and support for social change, we

found an interesting pattern of results (see Table 10). As hypothesized, this moderating effect was consistently positive for ethnic minorities and LGBTIQ+ individuals. That is to say, the more they perceived intergroup contact as empowering, the less negative were the effects of intergroup contact on support for social change.

However, there was consistent evidence for a negative moderating effect among advantaged groups, which weakens the positive main effect of satisfaction of the acceptance need on support for social change. What might explain this finding? First, it is important to consider that direct effects of both intergroup contact and satisfaction of the need for acceptance on support for social change were clearly positive for advantaged groups. These positive effects appear to be merely reduced, not negated, by the satisfaction of advantaged group members' need for acceptance. Possibly, acceptance by the outgroup may be especially relevant for advantaged group members, who are preoccupied with how they are viewed by members of the disadvantaged group (who are perceived as especially qualified judges of moral goodness; Vorauer & Sakamoto, 2008). While such evaluative concerns during intergroup interactions are known to narrow attention (i.e., focusing on self and ingroup rather than potential collective action on behalf of disadvantaged groups), they are typically less prominent when individuals have more frequent intergroup contact (e.g., Vorauer & Sakamoto, 2006). Thus, the negative interaction effect might indicate that satisfaction of the need for acceptance might become less relevant, the more frequently and positively they experience intergroup contact.

Our findings, however, do not indicate that making advantaged group members feel accepted during intergroup contact is detrimental to promoting support for social change, as demonstrated by the positive main effect of need satisfaction on support for social change. Rather, we would argue that these results may suggest that it may be best for disadvantaged group members to make advantaged group members feel accepted while also bringing up social injustices (for the effective use of this strategy by African Americans, see Dittmann et al., 2017). While we did not preregister a hypothesis regarding the effect of perceived illegitimacy on support for social change, this direct effect was clearly and robustly positive in all four studies. This supports the idea that discussing social injustices may be conducive to increasing support for social change, conditional on the assumption that discussing social injustices tends to increase perceived illegitimacy.

The Role of Perceived Legitimacy for Needs-Based Support for Change

Based on the theoretical extension of the needs-based model to contexts of structural inequality (Shnabel & Ullrich, 2013; see also Hässler et al., 2019), we reasoned that members of disadvantaged and advantaged groups should experience the respective needs for empowerment and acceptance only to the extent that they perceive group disparities to be illegitimate. Consistent with our theorizing, mean levels of perceived illegitimacy were so high that main effects of need satisfaction could be reliably observed. Furthermore, the hypothesis of an interaction effect between perceived illegitimacy and need satisfaction was consistently supported for advantaged groups (see Table 10). However, there was no evidence for the hypothesized interaction among LGBTIQ+

individuals (Study 2) and the few interactions observed among ethnic minorities (Study 1) were in the opposite direction. Finally, results for the hypothesized three-way interaction between intergroup contact, need satisfaction, and perceived illegitimacy were inconsistent between disadvantaged groups, and inconclusive (i.e., positive and negative) for advantaged groups.

Nevertheless, the moderating role of perceived illegitimacy should not easily be dismissed. An in-depth analysis of cross-country differences in living conditions and legal situations was beyond the scope of the present research but may well reveal systematic variation at the level of countries. For example, in some of these countries (e.g., Netherlands, Spain) LGBTIQ+ individuals are able to marry and enjoy far-reaching legal protections, whereas in others (e.g., Hungary, Poland) they face serious discrimination and hate crimes, and even (e.g., in Russia) “antihomosexual propaganda laws” that criminalizes LGBTIQ+ events held in public spaces (Mendos, 2019). These differences likely affect perceived illegitimacy of group disparities among both the disadvantaged and the advantaged (as legitimacy perceptions may be higher in societies with institutionalized discrimination, as opposed to societies that formally endorse egalitarianism). For the analyses presented in this article, we controlled for between-countries differences by using residualized items, which allowed us to test our hypotheses across these heterogeneous contexts. Nonetheless, future research should investigate whether perceived illegitimacy moderates the effects of need satisfaction at the level of cultures, where culture is understood psychologically as a “system of shared meaning that embeds individuals in social structure” (Van Zomeren & Louis, 2017, p. 281).

Potential for Theoretical Integration With Models of Collective Action

At the theoretical level, we hope that the present research will lay the basis for a better integration between the literatures on collective action on the one hand, and intergroup contact on the other. Just as intergroup contact is not considered a causal antecedent in models of collective action (e.g., Van Zomeren et al., 2008), research on intergroup contact—including the present research—does not typically include established predictors of collective action, the most prominent of which are identification, efficacy, and anger. Yet, there is room for synthesis between these two bodies of work. First, intergroup contact (compared with interacting with one’s ingroup members) might increase identification with a common, superordinate group (Dovidio et al., 2012), which may result in a weaker ingroup identification (e.g., Wright & Lubensky, 2009), particularly if existing group differences are not discussed. Ingroup identification, in turn, is a key predictor of engagement in collective action as a means of improving one’s group’s position or treatment (Van Zomeren et al., 2008).

Besides exploring the link between intergroup contact and predictors of collective action in general, it may be interesting to explore the link between these predictors and satisfaction of psychological needs within intergroup contact. For example, it is possible that empowering contact increases disadvantaged group members’ feeling of pride, equality-focused hope, and perceived efficacy, which lead to engagement in collective action (Britt & Heise, 2000; Hasan-Aslih et al., 2019; Mummendey et al., 1999; Simon & Klandermans, 2001; Van Zomeren, 2019; Wright et al.,

1990). It is also possible that intergroup contact, when it is experienced as accepting, leads to reduced support for change among disadvantaged group members because it increases false expectations of equal treatment (Saguy et al., 2009) while reducing awareness of structural inequalities, feelings of injustice, and anger about disparities (e.g., Carter et al., 2019; Dixon et al., 2007; Van Zomeren, 2019; Wright & Lubensky, 2009) which are key predictors of engagement in protest against social inequalities (Jost et al., 2017; Van Stekelenburg & Klandermans, 2013; Van Zomeren et al., 2008).

As for advantaged group members, feeling moral outrage is essential for their engagement in collective action (Van Zomeren et al., 2011). However, these feelings may be overwhelming if they threaten their ingroup’s positive moral identity (e.g., Lowery et al., 2007). Possibly, experiencing moral and social acceptance by disadvantaged group members, or learning that disadvantaged group members are interested in what advantaged group members have to say, can attenuate this (otherwise overwhelming) threat—allowing advantaged group members to feel moral outrage about the existing social arrangements, yet without feeling rejected and condemned at the personal or group level (see Unzueta & Lowery, 2008; for the importance of maintaining positive identity for advantaged group members’ ability to acknowledge group-based injustice). In summary, it may be valuable to further explore the links between intergroup contact, need satisfaction, collective action, and predictors suggested by other theoretical accounts of (resistance to) social change (e.g., Jost et al., 2017; Van Zomeren et al., 2008), which may possibly offer a unified framework for understanding these phenomena.

Limitations, Implications, and Future Directions

A limitation of the present research is that its correlational design hinders causal conclusions. While the proposed direction of causality (i.e., from intergroup contact to support for social change) was guided by previous theorizing and research, future research would benefit from experimental and longitudinal designs to test and strengthen causal inference. Furthermore, an obvious extension of the present research would consist of testing the causal effect of different types of intergroup contact on need satisfaction. Although we have shown that the extent to which needs are satisfied during intergroup contact in general predicts support for social change, our design precludes tests of how the effects of specific types of intergroup interaction would be mediated by need satisfaction. For example, contact interventions designed to encourage cross-group friendship may promote accepting contact (leading, in turn, to more vs. less support for change among advantaged and disadvantaged group members, respectively), whereas contact interventions designed to discuss inequality may promote empowering contact (and its consequences for support for change; see, e.g., Maoz’s [2011] distinction between nonconfrontational and confrontational intergroup encounters).

A second limitation is that, due to our wish to draw general conclusions about the relations between intergroup contact, need satisfaction, and support for social change, we combined data across countries. Yet, country-level policies have been shown to affect attitudes, perceptions, and experiences of both members of disadvantaged (e.g., Górska et al., 2017; Hatzenbuehler & McLaughlin, 2014) and advantaged groups (e.g., Eisner et al., 2020; Kuntz et

al., 2015; Visintin et al., 2018). Future research would benefit from assessing contextual factors that might account for between-country differences such as culture (Van Zomeren & Louis, 2017), social policies, (perceived) norms (Adra et al., 2020; Eisner et al., *in press*), the level of societal segregation (i.e., historical context), forms of the political regime (e.g., democratic vs. authoritarian), or the form of conflict (e.g., structural or direct violence; Galtung, 1969).

To illustrate, in certain societies LGBTIQ+ individuals are viewed as morally deviant (Herek & McLemore, 2013) whereas in other societies they may no longer suffer from moral stigma (but still lack full structural equality). Using Janoff-Bulman and Werther (2008) terminology, it can be said that in the first type of societies LGBTIQ+ individuals are likely to strive to gain morality-based categorical respect, which grants basic inclusion (i.e., being included in the societal “scope of justice”; Opatow, 1990), whereas in the second type of societies they are likely to strive to gain contingent respect, which grants status within society. If so, accepting intergroup contact may have (at least some) positive effect on LGBTIQ+ individuals' collective action in the first (but not the second) type of societies, whereas empowering intergroup contact may have a stronger positive effect on collective action in second type of societies (that comprised the majority of our samples) than in the first type of societies.

A third limitation is that most of the social contexts examined in our research (with some exceptions; e.g., the postwar Kosovo setting) are characterized mainly by structural forms of violence—as opposed to open conflict (see Galtung's [1969] distinction between structural and direct violence). In contexts characterized by open conflict, individuals often have limited intergroup contact and show little willingness to engage in intergroup contact (see Čehajić & Brown, 2010). In such polarized contexts, it is essential to better understand what could motivate individuals to willingly consider (positive) intergroup contact (Maloku et al., 2019; Ron et al., 2017). Otherwise, intergroup contact might be mostly hostile, leading to further polarization (e.g., Paluck, 2010). Additionally, the social contexts that we examined are generally characterized by formal, even if not practical, endorsement of egalitarianism (with some exceptions, such as the situation for LGBTIQ+ individuals in Turkey and Russia). However, intergroup contact might have fundamentally different effects on collective action in social contexts in which egalitarian values are not endorsed (e.g., if minorities are deemed morally deviant, rather than deserving equal rights; see Moscovici & Pérez, 2009). Our studies focused on so-called normative, conventional forms of collective action. In contexts characterized by open conflict and direct violence, however, members of different groups often lack any conciliatory intentions and perceive low efficacy to achieve the desired change by collaborating with the outgroup. This increases engagement in direct social competition, which involves radical, nonnormative, violent forms of collective action (e.g., Tausch et al., 2011). Thus, in contexts characterized by open violence, a first, immediate goal might be to achieve negative peace; namely, stop the direct, open violence (Christie et al., 2008; see Mousa, 2020 for a field study on intergroup contact in a postwar setting). The present work, however, aims at better understanding predictors of the next step, namely, collaborating toward positive peace (i.e., reducing injustice and structural inequality; Christie et al., 2008). Future research

would benefit from examining the effects of intergroup contact in samples collected in contexts of open intergroup conflict while also taking nonnormative, violent forms of collective action into account.

A fourth limitation relates to the fact that most of the samples are from the Global North (with the exception of 10 samples that were collected in Brazil, Chile, and Mexico). As we noted upfront, a potential blind spot of our research is that our theorizing does not explicitly take into account the different realities of all sampled countries. Although beyond the scope of the present research, it would seem important to critically assess whether the epistemic foundation of our model is appropriate to all contexts of application. The insights brought by critical psychology (Teo, 2005) and the diverse perspectives brought by epistemologies from the Global South (for a discussion see Santos, 2019) raise awareness that concepts from mainstream psychology often fail to adequately capture the perspective of people from non-WEIRD countries (i.e., Western, educated, industrial, rich, democratic; Henrich et al., 2010) as well as WEIRD countries (Adams et al., 2015).

A fifth limitation is that four out of five measures of support for social change assessed intentions rather than actual behavior. While intentions are reliable predictors of actual support for social change (Tausch et al., 2011)—particularly voting intentions (Van de Vyver et al., 2018)—actual support might sometimes be lower (see also the intention-implementation-gap, Dixon et al., 2007; the process of action mobilization, Klandermans & Oegema, 1987).

Challenges may arise in implementing the main recommendation derived from the present research, namely that if the goal is to promote change toward equality, intergroup contact should empower the disadvantaged group. In practice, advantaged group members may not spontaneously provide this kind of intergroup contact for two reasons. First, they may focus on promoting the satisfaction of their own need for acceptance by investing effort in being nice to be liked by disadvantaged group members (Bergsieker et al., 2010) or by diverting attention to commonalities between the groups to protect their ingroup's moral image (Knowles et al., 2014). Second, they may be motivated to maintain the status quo (Saguy & Kteily, 2014), a goal that is incompatible with empowering the disadvantaged group. Moreover, initiating a discussion about group differences (e.g., Saguy et al., 2009) might lead to heightened threat perceptions, anxiety, outgroup avoidance (MacInnis & Page-Gould, 2015), and even disruptive behavior (Maoz, 2011) among advantaged group members. Negative, defensive responses to attempts to empower disadvantaged group members are likely to be particularly pronounced among advantaged group members who perceive group disparities as legitimate (e.g., Hässler et al., 2019) and may ultimately discourage support for social change.

Due to these psychological obstacles, a certain threshold of intergroup contact that affords acceptance, in which outgroup members are viewed as potential friends or allies, might be needed before intergroup contact can address the empowerment needs of the disadvantaged. Otherwise, empowering contact might unintentionally foster rather than reduce intergroup bias (MacInnis & Hodson, 2019; Vezzali et al., 2017). While this two-staged process may not always occur in spontaneous intergroup contact, structured intergroup contact interventions may aim to achieve it. For example, mixed-model contact interventions (Maoz, 2011), which first emphasize commonalities and then gradually switch the focus

to differences, power-relations, and inequalities, may be a powerful tool to address the differential needs of both groups and increase support for social change (see, e.g., Shani & Boehnke, 2017).

Conclusion

Heeding calls for a more rigorous integration of intergroup contact research and work on support for social change (Van Zomeren, 2019), the present research offered a systematic, theory-driven examination of how need satisfaction can make the seemingly contradicting goals of social harmony and social justice less incompatible. Our theoretical framework allowed us to generate predictions about both disadvantaged (Studies 1 and 2) and advantaged (Studies 3 and 4) groups rather than focusing solely on one side of the equation. Our main finding is that, among disadvantaged group members, empowering contact (but not accepting contact) is related to more support for social change, whereas for advantaged group members, both accepting and empowering contact are related to more support for social change.

The results of this comprehensive study imply that achieving social harmony and social change may, in fact, be compatible if disadvantaged groups are empowered during intergroup encounters. This implies that structured contact interventions that focus not only on fostering social cohesion, but also empower members of disadvantaged groups and raise awareness of existing inequalities, can build bridges between social groups and help to promote greater social justice (for a theoretical discussion see Hässler et al., 2021). The present research provides much needed empirical evidence to guide researchers as well as practitioners, such as educators and group facilitators, who design and engage in intergroup contact interventions.

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Received April 2, 2020

Revision received December 9, 2020

Accepted January 24, 2021 ■

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