Intergroup contact fosters

more inclusive social identities

We examined how individuals construct their social identities from multiple group memberships—and whether intergroup contact fosters more inclusive social identities. Participants (N = 351) viewed 24 identity cards, each representing a person with whom participants shared none, one, two, or all three group memberships. Participants reported whether they considered each person as “us” or “not us”, showing whom they included in their ingroup, and whom they excluded. Using this method, we found that participants tended to exclude caste and religious outgroups, replicating persistent social divides in South India. Bridging these divides, cross-group friendship was associated with more inclusive identities, while more inclusive identities were associated with more favourable outgroup attitudes. Negative contact—but not social dominance orientation—was associated with less inclusive identities, showing that past experiences—not ideological orientations—shaped whom participants considered “us” and “not us”. Contact and identity processes were unrelated to support for affirmative action.

How we feel about and act toward others depends on whom we consider “us” and “them”—that is, whom we include in our ingroup, and whom we exclude (for a review, see Reimer, Schmid, Hewstone, & Al Ramiah, in press). In some situations, it is clear who is in the ingroup and who is not. On a football pitch, for example, players tend to think of their own team as “us”, and of the other team as “them”, and try their best to make their own team win. In many situations, this distinction is less clear because it rests on multiple categories. Often, these categories are interrelated. Many Americans, for example, associate being American with being White American (Devos & Banaji, 2005). This suggests that whom Americans consider “us” and “them” might depend on someone’s race *and* nationality (and perhaps other categories, such as religion or language). In this paper, we examine how people’s group memberships shape whom they consider “us” and “not us”, and test what the antecedents and consequences of more inclusive social identities are.

Social psychological theories have argued for the importance of considering two (Berry, 1997; Crisp & Hewstone, 2007; Dovidio, Gaertner & Saguy, 2009) or more (Roccas & Brewer, 2002) social categories for understanding intergroup relations. Broadly, these perspectives recognise that we are part of multiple overlapping groups; that we have a subjective sense of who is “us” and “them” that goes beyond the objective facts of group membership; and that identification across multiple categories affects our attitudes toward people with whom we share some, but not all, group memberships. However, these perspectives have lacked methods for measuring identification across multiple categories.

Addressing this shortcoming, van Dommelen, Schmid, Hewstone, Gonsalkorale, and Brewer (2015) developed the triple crossed-categorization task to measure how individuals combine multiple group memberships to construct their social identities. In this task, participants view identity cards, each of which represents a fictitious person with whom participants share none, one, two, or all of three group memberships. Participants report whether they consider each person as “us” or “not us”, showing whom they include in their ingroup, and whom they exclude. The researchers analysed participants’ responses quantitatively, as social identity inclusiveness, and qualitatively, as social identity structure. They operationalised inclusiveness as the total number of targets a participant had categorized as “us”. They coded responses according to structures proposed by Roccas and Brewer (2002). Figure 1 shows schematic representations of various plausible structures, ordered by their inclusiveness.

In two studies, van Dommelen et al. (2015) studied social identification across ethnicity, religion, and nationality among Turkish-Belgian Muslims and Turkish-Australian Muslims. Participants categorized, on average, 59% and 65% of targets as “us”, and endorsed a wide range of social identity structures. As the researchers recruited homogeneous samples, they documented individual differences, but not group differences, in social identity construals. Group memberships, however, likely influence whom people consider “us” and “not us”. For majority-group members, negotiating their ethnic and national identities likely means something different than for minority-group members (Dovidio et al., 2009). As group members share these experiences, we expect that group differences are as great as, if not greater than, individual differences in social identity construals—especially if groups differ in status and power.

Shared experiences, however, make only part of an individual’s day-to-day experiences. Of these, contact experiences could overcome group differences in social identity construals. First, encountering diverse others could initiate a process of cognitive differentiation (Schmid & Hewstone, 2011) whereby interaction partners become aware of the complex interrelations of their group memberships. Second, intergroup interactions motivate people to include the outgroup of an interaction partner in their self-concept (Page-Gould et al., 2010). If contact motivates people to include partial outgroups in the self, it should encourage social identities that include the interaction partner’s combination of group memberships. Together, these mechanisms suggest that intergroup contact could foster more inclusive identities.

Fostering more inclusive identities could reduce intergroup bias. Dividing others into “us” and “not us” is a necessary and sufficient condition for ingroup favouritism (Tajfel, 1981). Considering more people as “us” should extend ingroup favouritism to a wider range of people, and thus reduce discrimination (Gaertner et al., 2016). Ingroup favouritism can turn into outgroup derogation when an outgroup threatens the ingroup (Brewer, 1999). Considering fewer people as “not us” should reduce the number of groups which are perceived to threaten the ingroup. Together, these mechanisms suggest that more inclusive identities could reduce intergroup bias.

Beyond prejudice, researchers have debated whether fostering more inclusive identities helps or hinders social change. Changing attitudes and beliefs is often not enough to overcome structural inequalities. Instead, social change requires advantaged and disadvantaged groups to strive for redistributive policies. On the one hand, fostering more inclusive identities could break down the boundaries between the advantaged ingroup and the disadvantaged outgroup—making injustice faced by “them” into “our” problem. This process could narrow the gap between advantaged-group members’ support for the principle of equality and their opposition to its implementation (Dixon, Durrheim & Tredoux, 2007). On the other hand, fostering more inclusive identities could distract disadvantaged-group members from differences in resources and power, and thus reduce their support for social change (Dovidio, Saguy, Gaertner, & Thomas, 2012). Together, these mechanisms suggest that more inclusive identities could increase support for social change among the advantaged, but decrease support among the disadvantaged.

# Present research

We tested these predictions among South Indian students, examining the overlapping categories of caste, religion, and nationality. Caste is a system of social relations that concentrates status and power in the hands of dominant castes (Jodhka, 2012). This system is maintained by restricting subordinate castes’ occupations, by barring subordinate castes from owning land, and by enforcing endogamy and segregation. This system is underpinned by a tradition that ranks castes according to their supposed ritual purity, and condemns contact with less pure castes. Untouchability excludes some castes from public life, and consigns them to landlessness and menial labour. Dalits—members of castes historically affected by untouchability—still face economic inequalities based on this history of exploitation, as well as interpersonal discrimination based on the practice of untouchability. Since Independence, the Indian State has sought to redress caste-based injustices by reserving seats in state-run universities and state-sector jobs for disadvantaged groups. Specifically, it recognises Dalits as Scheduled Castes (SCs), Adivasi—India’s indigenous peoples—as Scheduled Tribes (STs), and other disadvantaged castes (who fall above the so-called ‘line of pollution’) as Other Backward Classes (OBCs). Members of historically advantaged castes compete for these opportunities in the General Merit (GM) category. Reservation policies, alongside ongoing discrimination, mean that caste identities remain important in electoral politics and political organising.

South India is religiously diverse. For example, 84% of Karnataka’s inhabitants are Hindus, while (at 13%) Muslims form the largest ethnoreligious minority. Muslims face both structural inequalities and communal violence. In 2002, for example, a pogrom killed over a thousand Muslims in Gujarat (Dhattiwala & Biggs, 2012). In recent years, anti-Muslim violence has been increasing (Amnesty International, 2017). Religion is intertwined with two currents of Indian nationalism (Menski, 2009). On the one hand, the secular foundations of the Indian State resulted from an inclusive nationalism that strives to include Indians of all religions. On the other hand, Hindu nationalism (Hindutva) is an ideology that equates being Indian with being Hindu, and thus excludes Muslims from the national identity. Narendra Modi’s Bharatiya Janata Party government espouses Hindutva, and enjoys broad support in the Indian population (Pew Research Center, 2017).

We investigated how South Indians’ caste, religion, and nationality shape whom they include in their ingroup, and whom they exclude. Beyond group differences, we examined why individuals differ in whom they consider “us” and “not us”. Specifically, we hypothesised that positive contact and cross-group friendship would foster more inclusive identities, while negative contact would lead to less inclusive identities. Alternatively, we tested whether ideological preferences for social dominance (Sidanius & Pratto, 1999) would motivate individuals to exclude lower-status outgroups. Aside from studying why individuals differ in whom they categorize “us” and “not us”, we examined whether identity construals influenced their attitudes and beliefs. We hypothesised that categorizing someone as “us” would foster more favourable attitudes and less social distance toward that person. More broadly, we expected that more inclusive identities would be associated with less perceived intergroup threat. We also tested whether more inclusive identities increase support for reservation policies among advantaged-group members, but decrease support for these policies among disadvantaged-group members.

# Method

All materials, data, analysis scripts, and appendices are available online (https://osf.io/ekb8z/?view\_only=05b6a5c5cf5e43d9a7bba5e192f53f87). Here, we only report measures testing our hypotheses, omitting measures replicating earlier research or validating the categorization task (Appendix E).

## Participants

Three hundred and fifty-one students at Karnatak University (Dharwad, India) participated in exchange for writing materials.[[1]](#footnote-1) Of these, we excluded 49 participants who did not belong to any of four caste groups (*n* = 20), failed to indicate their caste group (*n* = 7), or reported Islam as their own or their family’s religion (*n* = 27).[[2]](#footnote-2) This left 302 participants who reported Hinduism (*n* = 286), Jainism (*n* = 8), or Christianity (*n* = 8) as their or their family’s religion, and General Caste (*n* = 99), Other Backward Class (*n* = 127), Scheduled Caste (*n* = 54), or Scheduled Tribe (*n* = 22) as their caste group. Table 1 summarises participants by gender, age, nationality, religion, and caste.

## Procedure

Participants completed a triple crossed-categorization task (adapted from van Dommelen et al., 2015). Participants viewed 24 identity cards, each showing a person’s name, age, religion, nationality, caste reservation, and a head-and-shoulders silhouette. Based on a pilot study, we chose the targets’ castes, religions, and nationalities such that each target represented a person with whom participants shared none, one, two, or all three group memberships (Figure 2). Rather than test participants individually, we tested classrooms of 24–71 participants by presenting targets in a slide-based presentation. Each slide contained a male and a female target with participants focusing on the target corresponding to their gender. Slides also contained a number identifying each target, and the response scale(s) corresponding to the question(s) participants answered at the time.

In each session, participants first familiarised themselves with each target (for 7s) in an automated slideshow. Participants viewed targets for a second time, noting for each target whether they felt that this person was one of their own group (1 = “us”), or not one of their own group (0 = “not us”). Participants viewed targets for a third time, rating how comfortable or uncomfortable they would feel to share a room with this person (social distance; 1 = *very uncomfortable*, 7 = *very comfortable*), and how warm or cold they felt toward this person (feeling thermometer; 0 = *cold*, 100 = *warm*). Participants then completed a questionnaire containing the measures described below.

## Measures

Intergroup contact was measured as: how often, from 1 = *never* to 5 = *very often*, participants meet outgroup members in their everyday life (contact quantity), and how often, on average, they have positive/good contact and negative/bad contact with outgroup members (Barlow et al., 2012). To make participants’ responses more comparable, we preceded these items with examples of positive and negative contact experiences. Cross-group friendship was measured with two items (Turner, Hewstone & Voci, 2007): “How many close friends do you have who are [outgroup members]?” (1 = *none*, 5 = *more than ten*), and “How often do you spend time with [outgroup] friends?” (1 = *never* to 5 = *very often*; .47 ≤ *rs* ≤ .58). Participants reported contact with four groups: Dalits, people from other backward classes, people from general castes, and Muslims.

Social dominance orientation was measured as how much, between 1 = *strongly oppose* and 7 = *strongly favour*, participants endorsed eight statements about social hierarchies (Ho et al., 2015). Four items measured to what extent participants supported systems of group-based dominance (SDO-Dominance), for example, “some groups of people are simply inferior to other groups”. Four items measured to what extent participants opposed egalitarian ideologies (SDO-Egalitarianism), for example, “it is unjust to try to make groups equal”.[[3]](#footnote-3)

Realistic threat—from Muslims and Dalits—was measured with three items per outgroup (Schmid, Hewstone, Küpper, Zick & Tausch, 2014), for example, “the more power [Muslims/Dalits] gain in this country, the more difficult it is for [Hindus/people from my caste group]” (1 = *strongly disagree*, 5 = *strongly agree*; *α*Muslims = .71, *α*Dalits = .79). Symbolic threat was measured with two items per outgroup, for example, “[Muslims/Dalits] threaten [Hindus’/my caste group’s] way of life” (1 = *strongly disagree*, 5 = *strongly agree*; *rMuslims* = .44, *rDalits* = .48).

Perceived life difficulty was measured as how easy or hard participants thought it was, on average, for people from various groups to succeed in India today (1 = *very hard*, 7 = *very easy*). Participants rated seven groups: People from your own background, Scheduled Caste, Scheduled Tribe, Other Backward Class, General Caste, Hindus, and Muslims.

Policy support was measured with five items. Participants read that “currently, 22.5% of seats in central-government funded universities are reserved for Scheduled Caste and Scheduled Tribe students”, and that “an additional 27.5% of seats in central-government funded universities are reserved for students from Other Backward Classes”. For each, participants indicated to what extent they opposed or supported reservation in higher education for students from that group (1 = *strongly oppose*, 5 = *strongly support*), and whether they thought that reservation in higher education for students from that group should increase, decrease, or remain unchanged (1 = *decrease a lot*, 5 = *increase a lot*; *rSC/ST* = .67, *rOBC* = .67). Participants then read that “no seats in central-government funded universities are reserved for Muslim students nationally, though some states have introduced quotas for Muslim students”. Participants indicated to what extent they opposed or supported reservation for Muslim students.

# Results

We used the following analysis strategy: First, we tested for group differences in whom participants categorized as “us” and “not us”. Second, we examined to what extent past experiences and ideological orientations explained individual differences in participants’ categorizations. Third, we tested what consequences participants’ categorizations had on their attitudes and beliefs.

## Group differences

In this section, we examine how participants’ group memberships shaped participants’ ingroup construals. We compared *how likely* participants were to categorize *which* target as “us” versus “not us”—and how that probability varied across targets’ and participants’ group memberships.[[4]](#footnote-4)

To that end, we estimated a series of Bayesian multilevel models in RStan (Stan Development Team, 2018) with participants’ target categorizations (1 = “us”, 0 = “not us”) as outcome variable. Models derived the likelihood of the observed proportions of “us” categorizations from the Bernoulli likelihood with a logit link function. Models assigned weakly informative prior distributions to all fixed parameters (Gelman, Simpson & Betancourt, 2017). Models used the non-centred parameterisation for all varying effects (Betancourt & Girolami, 2015).[[5]](#footnote-5) We compared models using stratified 10-fold cross-validation to estimate each model’s out-of-sample predictive accuracy (Vehtari et al., 2017). We selected a more complex over a simpler model when the difference in predictive density was at least two times its standard error.

Models 0 to 3 estimated the probabilities of participants’ categorizing targets as “us” as varying between participants but fixed across target categories (M0), as varying across participants and target categories (M1), and tested whether SC/ST participants’ categorizations of Indian targets differed from GM and OBC participants’ (M2) and whether OBC participants’ categorizations differed from GM participants’ (M3). Models 1 and 2, but not Model 3, made more accurate predictions than less complex models (Table 2). This suggests that participants used the targets’ group memberships to decide who is “us” and “not us”, and that GM and OBC participants’ categorizations resembled each other but differed from SC/ST participants’. Below, we report median point estimates, with 97% highest posterior density intervals (Plummer, Best, Cowles, & Vines, 2006), from the model’s posterior distribution.

Figure 3 shows the estimated probabilities of General Merit (GM), Other Backward Class (OBC), and Scheduled Caste / Scheduled Tribe (SC/ST) participants categorizing a target as “us”. As expected, few participants considered Bangladeshi Muslims as part of their ingroup, Pr(“us”∣M2) = .17, [.14, .21]. Roughly half of the participants included Sri Lankan and Nepali Hindus in their ingroup, Pr(“us”∣M2) = .46, [.41, .52], indicating that participants were more likely to consider foreign targets as “us” when they were Hindu rather than Muslim, ΔPr(“us”∣M2) = .29, [.25, .34]. Still, GM/OBC and SC/ST participants were, respectively, 1.95, [1.73, 2.18] and 1.90, [1.71, 2.14] times more likely to categorize Indian, Hindu targets as “us” compared to foreign, Hindu targets. Participants thus tended to define their ingroup in terms of nationality, though about half of the responses indicated more inclusive ingroup construals.

As expected, participants’ own caste membership shaped how they categorized Indians of different castes and religions. Almost all GM/OBC participants included *Hindu, GM* and *Hindu, OBC* targets in their ingroup, Pr(“us”∣M2) = .94, [.92, .96] and Pr(“us”∣M2) = .93, [.91, .95]. Fewer GM/OBC participants, however, categorized *Hindu, SC/ST* targets as “us”, Pr(“us”∣M2) = .84, [.80, .87]. Of all Indian targets, GM/OBC participants were least likely to categorize *Muslim, OBC* targets as “us”, Pr(“us”∣M2) = .75, [.70, .80]. Dalit/Adivasi (SC/ST) participants’ responses differed from those of participants from relatively advantaged castes. As expected, almost all SC/ST participants included *Hindu, SC/ST* targets in their ingroup, Pr(“us”∣M2) = .97, [.95, .99]. Fewer SC/ST participants included *Hindu, GM* and *Hindu, OBC* in their ingroup, Pr(“us”∣M2) = .88, [.83, .92] and Pr(“us”∣M2) = .80, [.73, .86]. Surprisingly, SC/ST participants were less likely than other participants to categorize *Muslim, OBC* targets as “us”, Pr(“us”∣M2) = .47, [.38, .57]. Together, these findings showed that participants from advantaged backgrounds tended to exclude targets from disadvantaged backgrounds (and vice versa), while all participants tended to exclude targets from the Muslim minority.

## Individual differences

In this section, we examine to what extent individual differences in past experiences and ideological orientations explain why some participants excluded targets from caste and religious outgroups—and why others did not.

Models 4 to 6 tested whether intergroup contact was associated with whether participants categorized Indian targets of other caste or religious backgrounds as “us” versus “not us”. Model 4 extended Model 2 by including contact quantity, positive contact, negative contact, and outgroup friendship as predictors of participants’ categorizations. Model 4 made more accurate predictions than Model 2. Looking closer at the model’s predictions, negative contact (*eβ* = 0.81, [0.72, 0.90]) and outgroup friendship (*eβ* = 1.50, [1.28, 1.72]) were associated with participants’ categorizations, but neither positive contact (*eβ* = 1.01, [0.87, 1.16]) nor contact quantity (*eβ* = 0.99, [0.86, 1.15]) were. Model 5 included only negative contact and outgroup friendship as predictors of participants’ categorizations, and made more accurate predictions than Model 4. Model 6 estimated the relationships between contact and categorizations as varying across the four combinations of target caste and religion. As Model 6 made less accurate predictions than Model 5, the association between contact and categorizations did not seem to vary across target categories.

Figure 4 shows the estimated probabilities of participants categorizing targets as “us” versus “not us” as a function of their contact experiences (in Model 5). Across targets and participants, the odds of categorizing a target of a religious or caste outgroup as “us” were *eβ* = 1.50, [1.32, 1.69] times higher for each additional standard deviation of outgroup friendship. Conversely, the odds of categorizing an outgroup target as “us” were *eβ*= 0.81, [0.72, 0.90] times lower for each additional standard deviation of negative contact. This means, for example, that GM/OBC participants who reported “never” having any negative contact with Muslims were more likely to categorize Indian Muslims as “us” than participants who reported “sometimes” having negative contact, ΔPr(“us”∣M5) = .05, [.09, .03]. GM/OBC participants who reported no friendships with Muslims were a lot less likely to include Indian Muslims in their ingroup than participants who had 2–5 Muslim friends with whom they “sometimes” spent time, ΔPr(“us”∣M5) = .18, [.12, .24]. Together, these findings show that contact experiences were associated with whom participants considered as “us” and “not us”.

Models 7 tested whether social dominance orientation was associated with how participants categorized targets of other caste or religious backgrounds. Specifically, Model 7 tested whether two subdimensions of social dominance were associated with participants excluding targets of comparably lower status. Model 7 found little evidence for the relationships between participants’ categorizations and their SDO-Dominance scores (*eβ* = 0.87, [0.69, 1.06]) or SDO-Egalitarianism scores (*eβ* = 0.98, [0.78, 1.21]). Together, these findings show that both group and individual differences explained whom participants included in their ingroup. As expected, past experiences with outgroup members explained why some participants included targets of (objective) caste or religions outgroups in their (subjective) ingroup, when others did not. In contrast, ideological orientations did not motivate participants to exclude lower-status groups.

## Consequences

After examining the antecedents of participants’ categorizations, we analysed how participants’ categorizations related to their warmth and social distance ratings for each target in the categorization task, to their perceptions of intergroup threat, and to their perceived life difficulty and policy support.

To that end, we estimated a series of multivariate models with participants’ target-wise social distance and feeling thermometer ratings as outcome variables (Table 3). Models 0 to 3 estimated ratings (on either outcome) as varying between participants but fixed across targets (M0), as varying across participants and targets (M1), and tested whether SC/ST participants’ responses differed from GM and OBC participants’ (M2) and whether OBC participants’ responses differed from GM participants (M3). Models 1 to 3 improved upon the predictions of simpler models, showing that participants’ ratings of a target depended on that target’s group memberships, that SC/ST participants’ ratings of Indian targets differed from GM/OBC participants’, and that OBC participants’ ratings differed from GM participants’.

Models 4 to 6 tested whether participants who categorized a target as “us” rated that target more favourably than participants who categorized the same target as “not us”. Models estimated this difference as constant across targets and participants (M4), as varying across the six target categories (M5), and tested whether this difference depended on participants’ own caste memberships (M6). Models 4 and 5, but not Model 6, made better predictions than less complex models, showing that how favourably participants felt toward a target depended on whether they had categorized that target as “us” or “not us”, and that the size of this difference depended on the group memberships of that target—but not on the group membership of the participant.

Figure 5 shows the estimated social distance ratings for all categories as a function of target categorizations and participants’ caste memberships (in Model 5). For all categories, participants felt more comfortable sharing a room with targets that they categorized as “us” than with targets they categorized as “not us”. This difference was smallest for *Indian, Hindu, GM* targets (*β* = 0.55, [0.19, 0.90]; *d* = 0.24, [0.08, 0.39]) and *Indian, Hindu, OBC* targets (*β* = 0.62, [0.29, 0.94]; *d* = 0.27, [0.12, 0.40]), followed by *Indian, Hindu, SCST* targets (*β* = 0.99, [0.68, 1.31]; *d* = 0.42, [0.29, 0.56]) and *Indian, Muslim, OBC* targets (*β* = 1.06, [0.79, 1.29]; *d* = 0.46, [0.34, 0.56]). This difference was greatest for *foreign, Muslim* targets (*β* = 1.46, [1.21, 1.70]; *d* = 0.63, [0.52, 0.73]) and *foreign, Hindu* targets (*β* = 1.22, [0.94, 1.50]; *d* = 0.53, [0.41, 0.65]).

Figure 6 shows a similar pattern of results for feeling thermometer ratings. The difference between targets categorized as “us” and targets categorized as “not us” was smallest for *Indian, Hindu, OBC* targets (*β* = 6.5, [2.1, 11.0], *d* = 0.20, [0.06, 0.33]), followed by *Indian, Hindu, SCST* targets (*β* = 13.0, [8.9, 17.3], *d* = 0.40, [0.27, 0.52]), *Indian, Muslim, OBC* targets (*β* = 13.1, [9.8, 16.5], *d* = 0.40, [0.30, 0.50]), and *Indian, Hindu, GM* targets (*β* = 13.2, [8.6, 18.3], *d* = 0.40, [0.26, 0.56]). Again, this difference was greatest for *foreign, Hindu* (*β* = 21.8, [18.6, 25.0], *d* = 0.66, [0.56, 0.76]) and *foreign, Muslim* (*β* = 15.9, [12.2, 19.6], *d* = 0.48, [0.37, 0.60]) targets. Feeling thermometer and social distance ratings were highly correlated (*r* = .58, [.56, .60]). Together, these findings show that categorizing a target as “us” was associated with more warmth and less social distance toward that target.

Next, we tested whether participants’ perceptions of realistic and symbolic threat differed depending on the inclusiveness of their identity construals. We examined whether participants reported feeling less threatened by Muslims and Dalits if they categorized more targets from these outgroups as “us”. Results from a series of multilevel models showed that participants reported more realistic (*M* = 3.62, [3.49, 3.75]) than symbolic (*M* = 3.21, [3.09, 3.33]) threat from (same-religion) Dalits, but more symbolic (*M* = 3.47, [3.34, 3.61]) than realistic (*M* = 3.23, [3.06, 3.38]) threat from (different-religion) Muslims. Contrary to predictions, we did not find more inclusive identities to be associated with (less) intergroup threat. For details, see Appendix C.

Finally, we estimated group differences in perceived life difficulty and policy support using multivariate models. Figures 7 and 8 show the estimated group differences in both outcomes. Contradicting prevailing social inequalities, GM/OBC participants rated their own groups’ lives as substantially harder than SC/ST members’ lives. Policy support strongly aligned with participants’ caste interests. Notably, SC/ST participants supported reservations for both SC/ST and OBC students, while OBC participants only supported reservations for their own group. Next, we estimated individual differences in the two outcomes using multilevel models. Contrary to predictions, we did not find more inclusive identities to be associated with either outcome. Contrary to past research (Dixon, Levine, Reicher, & Durrheim, 2012), intergroup contact was similarly unrelated to these outcomes. For details, see Appendix D.

Overall, we found that when participants included a person in their ingroup, they had, on average, more favourable attitudes to and desired less social distance from that person. Participants’ categorizations, however, were unrelated to more general perceptions of intergroup threat and life difficulties, and to support for affirmative action.

# Discussion

This research examined how South Indian students construct their social identities from multiple cross-cutting categories, and how these identities relate to intergroup contact and intergroup bias. As hypothesised, we found that cross-group friendship was associated with more inclusive identities, while more inclusive identities were associated with more favourable outgroup attitudes. Negative contact was associated with less inclusive identities. Below, we discuss the research’s strengths, limitations, and implications.

Alongside van Dommelen et al.’s (2015) research, our findings show that the triple crossed-categorization task is an intuitive and informative method for studying social identification across multiple categories. We extended the task to answer new questions about social identification. First, we recruited respondents from multiple groups, allowing us to study both individual and group differences (see also Branković et al., 2015). Second, we estimated responses as varying across targets and participants using multilevel models. This allowed more fine-grained analyses than van Dommelen et al.’s quantitative and qualitative summaries, and may explain why we found more consistent effects of intergroup contact. Third, we adapted the task to test more than one participant at a time. Overall, these changes open the triple crossed-categorization task to a broader range of research questions.

Still, our research is qualified by some methodological limitations. We presented all participants with the same combination of target groups. This design cannot determine whether the observed identity construals generalise beyond the specific combination of stimuli used. Relatedly, we did not control for factors that correlate with the categories under study, but were not made explicit. Class, rather than caste, could explain why some participants excluded targets from disadvantaged outgroups. Further, we measured categorization and attitudes for the same targets. This design cannot rule out that these variables measure the same construct, rather than represent an association across constructs. Intergroup threat, a more distal measure, did not correlate with participants’ categorizations.[[6]](#footnote-6) Future research should address these limitations by varying target categories across participants, by including more target categories, by assessing intergroup bias with proximal and distal measures, and by testing the hypothesised relationships over time.

Our research has implications for understanding intergroup relations in South India. Among advantaged groups, our research documented patterns of inclusion and exclusion that map onto persistent social divides. Participants from dominant caste groups tended to exclude subordinate caste groups from the common ingroup, while (mostly) Hindu participants tended to exclude Indian Muslims. Participants’ identity construals thus replicated the social and ideological divides of caste hierarchies and Hindu nationalism. Among disadvantaged groups, we found more complex patterns of inclusion and exclusion. Participants from intermediate caste groups faced the choice of aligning themselves with dominant caste groups, or forming a coalition with subordinate caste groups. OBC participants tended to include dominant GM targets and exclude subordinate SC/ST targets, thus choosing derogation over coalition (Craig & Richeson, 2012). Similarly, SC/ST participants rejected a solidarity-based identity that includes Indian Muslims.

Our findings suggest that cross-group friendship can overcome these divisions by fostering social identities that include Indians of all castes and religions. As more inclusive identities were related to less social distance and more warmth toward caste and religious minorities, our research shows that positive contact could help reduce interpersonal discrimination and violence against these groups. In line with recent research (e.g., Hayward, Tropp, Hornsey, & Barlow, 2017), we found that negative contact could exacerbate social divisions by fostering less inclusive identities. More broadly, our research speaks to *how* contact reduces prejudice (Pettigrew & Tropp, 2008). Our findings support arguments (Gaertner & Dovidio, 2000; Pettigrew, 1998) that contact reduces prejudice by changing how we understand our group memberships and social identities.

Our research also examined support for social change. Contrary to past research, neither positive nor negative contact (Reimer et al., 2017) were associated with support for social change in advantaged (Dixon et al., 2007) and disadvantaged (Dixon et al., 2012) groups. Similarly, more inclusive identities were not associated with opposition to affirmative action among the disadvantaged (Dovidio et al., 2012). Features of the participants’ situation might explain this discrepancy. As university students, participants have personally experienced the impact of reservation policies. For SC/ST and OBC students, reservation policies made it easier to get admitted to state-funded universities. This experience might explain why these students strongly support reservation (at least for their own group). For GM students, reservation policies made it more difficult to get admitted to state-funded universities. Echoing observations by Norton and Sommers (2011), this experience might explain why, in contrast to societal realities, GM students saw themselves at a disadvantage relative to other caste groups. Together, these experiences make for a “strong situation” (Mischel, 1977) in which situational features limit the influence of individual differences.

To conclude, we found that intergroup contact can change not only how we see others, but also how we see ourselves. That is, intergroup contact can foster more inclusive social identities—and thus improve intergroup relations. Fostering more inclusive identities, however, does not necessarily overcome entrenched opposition to (or undermine support for) affirmative action.

1. Reanalysing existing data (van Dommelen et al., 2015), we determined that ~100 responses per participant group would allow reasonably precise estimates of the relevant parameters. [↑](#footnote-ref-1)
2. We excluded Muslim participants as this subsample was too small for meaningful analyses. [↑](#footnote-ref-2)
3. Replicating Ho et al.’s (2015) findings, we found a four-factor model (with two method factors) to represent the data better than the one-factor (Δχ² = 155.14, *p*< .001) or two-factor (Δχ² = 138.67, *p* < .001) alternatives. Accounting for this structure, we used latent factor scores for SDO-Dominance and SDO-Egalitarianism in our analyses. [↑](#footnote-ref-3)
4. In Appendix B, we report analyses using van Dommelen et al.’s (2015) operationalisation who analysed *which* and *how many* targets participants included as distinct questions. [↑](#footnote-ref-4)
5. Models assigned the following prior distributions: *β* ~ Student(2.5, 0, 1) for fixed effects, and σ ~ Cauchy(0, 1) for standard deviations of varying effects. The Student(2.5, 0, 1) distribution includes .001 < Pr(“us”)< .999 among the 99% most plausible estimates for the probability of participants categorizing targets as “us”. [↑](#footnote-ref-5)
6. An explanation for this finding might be that threat perceptions stem from economic anxieties (e.g., fearing affirmative action as a threat to one’s career) and ideological beliefs (e.g., Hindutva), rather than identity processes. [↑](#footnote-ref-6)