We examined how South Indian students construct their social identities from multiple group memberships—and whether contact with caste and religious outgroups 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 minorities, replicating persistent social divides. 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 was associated with less inclusive identities. Contact experiences and identity processes were unrelated to support for affirmative action among advantaged- and disadvantaged-group participants. We discuss implications for caste and ethnoreligious relations in South India.

# 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 X).

## Participants

Three hundred and fifty-one students at Karnatak University (Dharwad, India) participated in exchange for writing materials. 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).[[1]](#footnote-1) 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’ gender, age, nationality, religion, and caste.

## Procedure

In the first part, … In the second part, …

## 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. Outgroup 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 (SDO7(S); 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”.

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*; .44 ≤ *rs*≤ .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 (SC) and Scheduled Tribe (ST) students”, and that “an additional 27.5% of seats in central-government funded universities are reserved for students from Other Backward Classes (OBC)”. For each group, 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 in higher education.

# 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

As discussed, van Dommelen et al. (2015) analysed *which* and *how many* targets participants included in their ingroup as two distinct questions. Instead, we examined how participants’ group memberships shaped their ingroup construals. Thus, we compared *how likely* participants were to categorise *which* target as “us” versus “not us”—and how that probability varied across targets’ and participants’ group memberships.

To that end, we estimated a series of Bayesian multilevel models in RStan (Stan Development Team, 2018) with participants’ target categorisations (1 = “us”, 0 = “not us”) as outcome variable. Models derived the likelihood of the observed proportions of “us” categorisations from the Bernoulli distribution with a logit link function. Models assigned weakly informative prior distributions to all fixed intercepts and coefficients (Gelman, Simpson & Betancourt, 2017). Models used the non-centred parameterisation for all varying intercepts (McElreath, 2016). Model 0, for example, estimated the probability of participants categorizing a target as “us” versus “not us” as varying between participants but fixed across target:

|  |  |
| --- | --- |
| *yij* ~ | Bernoulli(*θij*) |
| logit(*θij*) = | *β*0 + *σβj* |
| *β*0 ~ | Student(2.5, 0, 1) |
| *βj* ~ | Normal(0, 1) |
| *σ* ~ | Cauchy(0, 1) |

where *θij* is the probability that participant *j* categorizes target *i* as “us”, *β*0 is the fixed intercept across targets and participants, *βj* is the varying intercept for participant *j*, and σ is the standard deviation across participants.[[2]](#footnote-2)

…

Figure 1 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, [.13, .20]. Roughly half of the participants included Sri Lankan and Nepali Hindus in their ingroup, Pr(“us”∣M2) = .46, [.40, .52], indicating that participants were more likely to consider foreign targets as “us” when they were Hindu rather than Muslim, ΔPr(“us”∣M2) = .29, [.34, .25]. Still, GM/OBC and GM participants were 1.96, [1.75, 2.20] and 1.92, [1.71, 2.16] 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 participants seemed to endorse 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) = ., [., .] and Pr(“us”∣M2) = ., [., .]. Fewer GM/OBC participants, however, categorized *Hindu, SC/ST* targets as “us”, Pr(“us”∣M2) = ., [., .] and Pr(“us”∣M2) = ., [., .]. Of all Indian targets, GM/OBC participants were least likely to categorize *Muslim, OBC* targets as “us”, Pr(“us”∣M2) = ., [., .]. 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) = ., [., .]. Fewer SC/ST participants included *Hindu, OBC* and *Hindu, GM* in their ingroup, Pr(“us”∣M2) = ., [., .] and Pr(“us”∣M2) = ., [., .]. Surprisingly, SC/ST participants were less likely than other participants to categorize *Muslim, OBC* targets as “us”, Pr(“us”∣M2) = ., [., .], ΔPr(“us”∣M2) = −., [−., −.]. Together, these findings showed that participants from advantaged caste 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 national, religious, and caste 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” (see Table). Model 4 included contact quantity, positive contact, negative contact, and outgroup friendship as predictors of participants’ target categorisations. Model 4 made more accurate predictions than Model 2. Looking closer at the model’s predictions, negative contact (*eβ* = 0.81, [0.72, 0.91]) and outgroup friendship (*eβ* = 1.50, [1.29, 1.74]) were associated with participants’ responses, but neither positive contact (*eβ* = 1.00, [0.87, 1.15]) nor contact quantity (*eβ* = 0.99, [0.86, 1.13]) were. Model 5 included only negative contact and outgroup friendship as predictors of participants’ categorisations, and made more accurate predictions than Model 4. Model 6 estimated the relationships between contact and target categorisations 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 categorisations did not seem to vary across target categories.

Figure 2 shows the estimated probabilities of participants categorizing targets as “us” versus “not us” as a function of negative contact and outgroup friendship (in Model 5). Across targets and participants, the odds of categorizing a target of a religious or caste outgroup as “us” were *eβ* = 1.49, [1.30, 1.68] 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, 0.91] 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 categorise Indian Muslims as “us” compared to participants who reported “very often” having negative contact, ΔPr(“us”∣M5) = .12, [.05, .19]. 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 showed 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 categorised 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 model found little evidence for the relationships between participants’ categorisations and their SDO-D scores (*eβ* = 0.88, [0.72, 1.05]) or SDO-E scores (*eβ* = 0.91, [0.71, 1.11]), and did not make more accurate predictions than Model 2. Together, these findings showed that both group and individual differences explain 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. Other than expected, ideological orientations did not seem to motivate participants to exclude lower-status groups.

## Consequences

After examining the antecedents of participants’ categorizations, we analysed how participants’ categorizations related to their social distance and warmth ratings for each target in the crossed-categorisation 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 ratings of social distance and warmth as outcome variables (see Table). 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/OBC participants’ (M2) and whether OBC participants’ responses differed from GM participants (M3). Models 1 to 3 improved upon the predictions of preceding 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 categorised a target as “us” rated that target more favourably than participants who categorised 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 categorised 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 3 shows the estimated social distance ratings for all categories as a function of target categorisations 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”. Across participants, this difference was smallest for *Indian, Hindu, GM* targets (*β* = 0.46, [0.08, 0.81]; *d* = 0.20, [0.03, 0.35]) and *Indian, Hindu, OBC* targets (*β* = 0.63, [0.30, 0.94]; *d* = 0.27, [0.13, 0.41]), followed by *Indian, Hindu, SCST* targets (*β* = 0.95, [0.65, 1.27]; *d* = 0.41, [0.28, 0.55]) and *Indian, Muslim, OBC* targets (*β* = 1.07, [0.82, 1.32]; *d* = 0.46, [0.35, 0.57]). This difference was greatest for *foreign, Muslim* targets (*β* = 1.45, [1.22, 1.70]; *d* = 0.63, [0.53, 0.73]) and foreign, Hindu targets (*β* = 1.24, [0.97, 1.52]; *d* = 0.53, [0.42, 0.66]).

Figure 4 shows a similar pattern of results for participants’ warmth ratings. The difference between targets categorised as “us” and targets categorised as “not us” was smallest for *Indian, Hindu, OBC* targets (*β* = 6.8, [2.3, 11.1], *d* = 0.21, [0.07, 0.34]), followed by *Indian, Hindu, GM* targets (*β* = 12.4, [7.5, 17.3], *d* = 0.38, [0.23, 0.53]), *Indian, Hindu, SCST* targets (*β* = 12.3, [8.2, 16.4], *d* = 0.37, [0.25, 0.50]) and *Indian, Muslim, OBC* targets (*β* = 13.6, [10.4, 17.3], *d* = 0.41, [0.32, 0.53]). Again, this difference was greatest for *foreign, Hindu* (*β* = 21.9, [18.9, 25.3], *d* = 0.67, [0.57, 0.77]) and foreign, Muslim (*β* = 16.8, [12.8, 20.3], *d* = 0.51, [0.39, 0.62]) targets. Ratings of warmth and social distance were highly correlated (*r* = .58, [.56, .60]). Together, these findings show that categorizing a target as “us” versus “not us” was associated with more warmth and less social distance to that target.

Next, we tested whether participants’ perceptions of realistic and symbolic threat differed depending on the inclusiveness of their ingroup construals. Specifically, we examined whether participants reported feeling less threatened by Muslims and Dalits if they categorized more targets from these outgroups as “us” versus “not 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 less realistic (*M* = 3.23, [3.06, 3.38]) than symbolic (*M* = 3.47, [3.34, 3.61]) threat from (different-religion) Muslims. Contrary to predictions, we did not find more inclusive categorizations to be associated with intergroup threat. For details, see Appendix X.

Finally, we examined … For details, see Appendix X.

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 not related to more general perceptions of intergroup threat and life difficulties, or to support for reservation policies.

# Discussion

1. We excluded Muslim participants as this subsample was too small for meaningful analyses. [↑](#footnote-ref-1)
2. The prior distribution *β* ~ Student(2.5, 0, 1) includes .001 < *θ* < .999 among the 99% most plausible estimates for the probability of participants categorizing targets as “us”. [↑](#footnote-ref-2)