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# Don't judge a book by its cover: The role of intergroup contact in reducing prejudice in conflict settings

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# **Don't judge a book by its cover: The role of intergroup contact in reducing prejudice in conflict settings \***

**Surya Nath Maiti,♦ Debayan Pakrashi,♥ Sarani Saha▲ and Russell Smyth\***

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## **Abstract**

We study the potential for pleasant and cooperative contact to reduce preconceived prejudice between religious groups in the context of India. We randomly assign Hindus and Muslims into groups, in which they interact over the course of a week-long vocational training program. We find that intergroup contact reduces the prejudice of both Hindu and Muslim participants toward members of the other religion one week after the training program finished. While we find that most of the positive effect of intergroup contact on reducing prejudice dissipates after six months, the baseline results for Hindu attitudes toward Muslims are persistent.

**Keywords:** religion, attitude, prejudice, vocational training.

**JEL classification:** C93, J15, Z12, Z18.

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## 1. Introduction

Can “pleasant and cooperative contact” (Hewstone & Browne, 1986) between antagonistic groups in conflict settings reduce prejudice and induce positive outcomes? A large literature in psychology exists on the association between positive social contact and prejudice between opposing groups. More recently economists have turned their attention to this issue, focusing on identifying whether pleasant and cooperative contact has causal effects on reducing prejudice between different groups. Yet, several questions remain unanswered. In seeking to draw causal inferences, economists have primarily relied on random assignment in college dormitories in educational or military settings. As a consequence, we know very little about whether pleasant and cooperative contact can reduce prejudice in business or workplace settings. Most studies in the economics literature have been situated in high income countries. We know very little about how social conflict can reduce discrimination in societies steeped in conflict in which there is entrenched prejudice, often dating back centuries. More generally, few studies have explored the boundary conditions under which pleasant and cooperative contact induces positive effects.<sup>1</sup> We know very little about how the intensity of contact, nor the characteristics of the opposing groups, defined in various ways, affect the extent to which pleasant and cooperative contact reduces prejudice and promotes positive outcomes. There is also little evidence on whether the effect of pleasant and cooperative contact on changes in attitudes persists beyond the intervention and, hence, has lasting effects. These are significant shortcomings in our understanding of the potential for social contact to reduce prejudice and promote positive outcomes at a time when many NGOs are promoting contact interventions in myriad conflict settings around the world as an avenue to promote social inclusion.

We conducted a field experiment to test whether a vocational training program can improve communal relations in a setting in which there has been a long history of religious conflict. The intervention brought together a random sample of majority Hindu and minority Muslim women from slums in the district of Kanpur Nagar in Uttar Pradesh, India to participate in a week-long introductory level beautician course. The course consisted of lectures on professional ethics and hygiene, as well as modules on the basics of grooming (facial and make-up), manicure and pedicure, hair treatment, hair cutting, hair colouring and hair styling. The course provided many

<sup>1</sup> We treat the term ‘boundary conditions’ as being analogous with ‘moderating influences’, which is a common approach in the organizational behavior literature— see eg. Mayer et al. (2009). We explicitly consider the moderating influence of the participant’s characteristics and characteristics of other participants.

opportunities for pleasant and cooperative contact, given that it was very hands-on in nature with a major focus on group activities and discussion in focus groups with other participants. We selected participants from 30 slums in the district of Kanpur Nagar, such that the religious composition of participants was similar to that of the district. We then randomly allocated participants into separate groups, in which all group activities and focus group discussion took place throughout the week-long course. To assess the impact of our intervention, we collected data on attitudes of each participant toward members of the other group before the vocational training program took place; one week after the training program was completed; and, for a subsample of participants in the training program, six months after the training program was completed, in order to examine if post-training attitudes persist in the medium-to-long run.

We find that intergroup contact reduces prejudicial attitudes towards members of the other religion for both Hindus and Muslims one week after the training program was completed. We find evidence that the intensity of contact, as well as the baseline level of prejudice of other members of the group, matters for Hindu attitudes toward Muslims. We find that intergroup contact generally has stronger effects on reducing prejudice for both Hindus and Muslims who are extroverted and open to new experiences, relative to other members of the group to which they were assigned. We show that other forms of social identity can interact to influence the extent to which intergroup contact reduces prejudice and that intergroup contact has stronger effects for participants who belong to the disadvantaged castes and, as such, are more likely to have been confronted with prejudice themselves, making them more empathetic. While the cognitive ability of members of the other religion per se does not influence the efficacy of intergroup contact, we find that if participants are positively or negatively surprised by the ability of participants from the other religion, dependent on their baseline prejudice, this influences whether intergroup contact reduces or increases prejudice. While most of the positive effects of intergroup contact on reducing prejudice dissipate in the medium to long-term, we do find that Hindus who were in a group with at least one Muslim continue to be less prejudiced six months after the training was completed, which is encouraging.

Our findings contribute to studies examining the relationship between intergroup contact and prejudice that have tested the contact hypothesis. First posited by Allport (1954), it states that contact between two antagonistic groups which is pleasant and cooperative can reduce prejudice towards the other group. Traditionally, studies on the contact hypothesis have been restricted to the psychology literature. Because studies of the contact hypothesis in psychology

have primarily relied on observational data, the findings have been difficult to interpret. In particular, while many of the studies in psychology find a positive relationship between intergroup contact and attitude change (Pettigrew, 1998), given that they use non-experimental data, these results potentially reflect reverse causation or less-prejudiced individuals being more likely to engage in contact with the other group (Paluck, et al., 2019).

Only recently have economists and other social scientists, such as political scientists and psychologists, started to test the contact hypothesis using experimental methods. There are very few field experiments that seek to test the contact hypothesis and these have mainly relied on randomization in classroom or dormitory settings (Boisjoly et al., 2006; Burns et al., 2015; Carrell et al., 2019; Corno et al., 2019; Dahl et al., 2018; Finseraas et al., 2016; 2019; Gu et al., 2016; Rao, 2019). There are very few studies with adults that are not in an educational or military setting. Gu et al. (2019) examine the effect of intergroup contact on reducing prejudice between Chinese immigrants and local shopkeepers in Malawi. Lowe (2020) randomly allocates Indian men of different castes to participate in cricket matches and examines the mediating effect of contact on cross-caste social interaction and trading efficiency. The closest study to ours, though, is Scacco and Warren (2018) who examine whether intergroup contact between Christian and Muslim men participating in an urban youth vocational training program reduces prejudice toward the other religious group in Nigeria. Importantly, Scacco and Warren (2018) find that after 16 weeks of positive intergroup contact there are no changes in attitude toward the other group. Hence, an important difference between our study and theirs is that we find positive intergroup contact can reduce prejudicial attitudes toward the other group one week after the intervention. Moreover, we find generally that the intervention has stronger effects on reducing prejudice by the majority group toward the minority group.

Given the dearth of such studies, in a recent high-profile survey of the contact hypothesis, Paluck, et al. (2019) specifically call for more high-quality field experiments on how intergroup contact reduces discrimination and prejudice using more diverse samples in conflict settings. Studying intergroup contact between Muslim and Hindu women in India advances our understanding of ethnic conflict and how to address it in several ways.

The first is the advantage of the setting. Despite the importance of social identity in organizational contexts, the existing empirical evidence has mostly come from laboratory experiments, and there exist few studies of the impact of social identity on worker behavior in

the field (Kato & Shu, 2016). The training program in which we situate our study mimics the environments in which some people in conflicting Hindu and Muslim groups find themselves in the workplace. This is important because while social identity has potential economic benefits in organisational contexts - such as increased cooperation (Eckel & Grossman, 2005; Goette, Huffman & Meier, 2006) and improved coordination (Charness, Rigotti & Rustichini, 2007; Chen & Chen, 2011) among group members – it has also been shown to generate antisocial and harmful behaviors toward out-group agents. Ethnic divisions in the workplace have been shown to lower productivity (Hjort, 2014) and hinder career advancement of out-groups within an organization (Pittinsky, Shih & Trahan, 2005). Oh (2020) finds that in India 43 per cent of workers refuse to spend 10 minutes working on tasks associated with other castes, even when offered 10 times their daily wage. Better understanding the positive social outcomes that can flow from intergroup contact in settings such as these helps us to ameliorate the potential negative effects of social identity in the workplace.

Second, given that most existing studies have relied on college dormitory or roommate assignments in educational or military settings in Europe or the U.S., what we know about intergroup contact is largely based on what Scacco and Warren (2018, p. 655) describe as “rarefied contexts ... far removed from the explicit intergroup animosity found in conflict settings”. As Scacco and Warren (2018, p. 656) note, “the applicability of existing findings to conflict environments remains an open question. Episodes of intergroup violence may increase the salience of identity cleavages and harden prejudices against the outgroup”. This applies *a fortiori* if prejudices that are deep-rooted are transferred inter-generationally, such as anti-Semitic prejudice in Europe (Voigtländer & Voth, 2012) or deep-seated hostility between Hindus and Muslims in India. In Pettigrew and Tropp’s (2006) well-known meta-analysis of the contact hypothesis, less than 3 per cent of 515 studies reviewed involved groups in conflict.

Studying whether intergroup contact between Hindu and Muslim women in India can change attitudes provides an ideal conflict setting to test the contact hypothesis, given that India has a long history of religious conflict between Hindus and Muslims, which dates back to the British Raj (Brass, 2004; Engineer, 1987; Mitra & Ray, 2014; Pachauri, 1998). The Pew Research Centre (2019) classified India as having the second highest level of religious violence in the world in 2017. Some prominent examples of religious violence include the Gujrat riots between the Hindu and Muslim community in 2002 that killed around 2000 people and the more recent Muzaffarnagar riot in 2013, in which 31 people died and more than 40 people were

hospitalized. The more recent Citizenship Amendment Bill, 2019, which is perceived by many to be anti-Muslim has caused protests and riots all over India, resulting in the deaths of 25 people with 18 of them from Uttar Pradesh (India Today, 2019). As we discuss in detail in the next section, specifically conflict between Hindus and Muslims has a long history and is deeply entrenched in the industrial city of Kanpur, in which our study is situated. More generally, we contribute to a growing literature in economics that seeks to better understand the causes and implications of religious violence in India, as well as how to address it (see e.g. Chakravarty et al., 2016, 2019; Gupta et al., 2018; Iyer & Shrivastava, 2018; Mitra & Ray, 2014).

In India, Muslims and Hindus generally live in segregation and this leads them to forming biases towards the opposite religion. Most of the women in our study spend the majority of their time in their homes and rarely encounter members of the other religion. As a consequence, their views of members of the other religion are informed by stereotypical accounts of differences in religious practices, which accentuate practices in the other religion that are exactly the opposite to, and even sometimes strictly forbidden in, their own religion. This results in prejudice toward members of the other group (Glaeser 2005; Harris et. al, 2018), impairs inter-group cooperation (Alexander & Christia, 2011; Sambanis et. al, 2012) and contributes to lack of trust, conflict and hatred (Acemoglu & Wolitzky, 2014). Our study provides an ideal setting to examine if pleasant and cooperative contact can overcome hardened prejudice in a highly charged environment. This is a much harder test for the contact hypothesis than many in the existing literature, yet incredibly important if intergroup contact is going to be an effective policy tool for promoting social inclusion in conflict settings.

Third, we address the question of how pleasant and cooperative contact works to reduce prejudice by examining several ways through which intergroup contact potentially operates. As in Corno et al. (2019) we address whether intergroup contact works through exposure to the other group, consistent with contact generating increased empathy for the other group or reduction in anxiety around the other group, or through belief updating; i.e. in response to the characteristics of the other group. We also consider the role played by the individual's own characteristics. We examine if the effect of intergroup contact on reducing prejudice depends on the intensity of contact with the other group; the cognitive ability of other group members with whom one has contact; one's baseline prejudice towards the other group; the baseline prejudice of other group members with whom one has contact; one's personality traits and

personality traits of other group members with whom one has contact; the strength with which a group member identifies with their in-group and the effects of other forms of social identity.

Taking advantage of our setting, with respect to the last boundary condition, specifically we examine how one's caste identity interacts with religious identity to influence how intergroup contact impacts on attitude change toward the other group. Recent studies on the contact hypothesis have examined some of these boundary conditions (see e.g. Corno et al 2019; Scacco & Warren 2018; Carrell et al 2019). To the best of our knowledge, ours is the first, though, to consider the role of personality traits, the strength of one's social identity (how religious one is) or how alternative forms of social identity (caste identity and religion)<sup>2</sup> interact to influence the degree to which intergroup contact changes attitudes towards the outgroup.

Fourth, "pleasant and cooperative contact" has generally focused on fostering social activities between conflicting groups. Examples include completing puzzles in pairs (Gu et al., 2016, 2019); art and music (Bergh & Sloboda, 2010) and playing sport (Lowe, 2020; Mousa 2019). Allport (1954) posited that the cooperative contact should work toward a common goal. The common goal in our study was a group presentation scheduled for the final day of the training program. Group presentations have the advantage that they facilitate natural interaction and can be easily built into other types of training programs. Equally valuable, making the pleasant and cooperative contact part of a vocational training program that helps build human capital and improves employability and career prospects. An important motivation for being able to report sound causal estimates of the effect of intergroup contact on reducing prejudice and the boundary conditions within which this occurs is that the results carry implications for policy (Paluck et al., 2019; Scacco & Warren, 2018). Thus, it makes sense that the intergroup contact takes a form that, if it is shown to work, is both scalable and delivers the highest rate of return when implemented in a workplace setting. Interventions that are designed around training programs have the advantage that they can deliver on multiple fronts. This is also the case when the training program takes place not in a workplace, but is designed for people looking for work as a way to increase their skills, as in our study. Maitra and Mani (2017) found that six months after a subsidised vocational training program for low-income women in India concluded, women who participated in the program were 6 percentage points more likely to be employed,

<sup>2</sup> Lowe (2020) examines whether intergroup contact can reduce prejudice between castes in India, but does not examine how caste as a social identity interacts with religion.



work 2.5 additional hours per week and earn 150 per cent more per month than women in the control group. Our results suggest that appropriately designed programs of this sort have the potential to also deliver benefits in terms of social inclusion. From the perspective of urban planners, interventions embedded in vocational programs have the advantage that they potentially *both* reduce out-group prejudice through promoting positive contact and increase employability among economically and socially marginalised groups.

A fifth contribution is that we not only examine the effect of intergroup contact on attitudes one week after the training program finishes, but we examine if the attitude change persists six months later for a subsample of participants. Few studies of the contact hypothesis test the persistence of attitude change beyond the initial intervention and, of those that do, the time period between the intervention and follow up have been relatively short. For example, Enos (2014) and Gu et. al. (2019) conduct the follow-up 10 days after the experiment concluded. Lowe (2020) conducts the follow-up one to three weeks after the cricket season ended. Such relatively short time periods undermine the usefulness of such studies for policy-makers. As Paluck et al. (2019, p. 131) state: “A policy-maker might reasonably ask whether the effects of contact endure for days, weeks, months or years”, but there is a dearth of such evidence.

## **2. Research Design**

### *Study setting*

All of the participants in our study are women from the district of Kanpur Nagar in the city of Kanpur in the state of Uttar Pradesh. Uttar Pradesh has been an epicentre of conflict between Hindus and Muslims in India (Engineer, 2002; Brass, 2004; Narayan, 2014; Pai 2014). Since 1990, Babri Masjid in Ayodhya in Uttar Pradesh has been at the forefront of most communal riots, reflecting that it was possibly built on the controversial site of Ram Janmabhoomi - birth place of Ram, the Hindu God (Engineer, 1987). Uttar Pradesh was named the worst state for communal violence in 2017 by the Indian government with 822 communal incidents taking place in 2017, 703 incidents in 2016 and 751 incidents in 2015 (Press Trust of India, 2018).

Hindu-Muslim conflict is particularly deep seated in Kanpur, which has experienced a number of communal riots over the course of the last century, predating partition. One early, and particularly violent, example occurred in 1931 when riots between Hindus and Muslims led to almost 300 deaths, 530 cases of serious personal injury and widespread property damage

(Pachauri, 1998). More recently, in December 1990 another violent riot took place in Kanpur in which Muslim hawkers selling clothes were attacked and their merchandise was burnt and, in retaliation, Muslims looted, and set fire to, Hindu shops. In total 20 people were killed and 600 people were arrested (Engineer, 1991). There was another major riot in December 1992. Muslim mobs started looting Hindu shops and administrative offices. Hindus retaliated, attacking Muslims with little intervention from the police. Muslim houses, properties and mosques were specifically targeted with widespread looting and property damage. Troops had to be sent in large numbers to control the situation. It is estimated that 254 people were killed in a single day - 8<sup>th</sup> December, 1992 – during the violence (Naqvi, 2008).

### *Sampling design*

We adopted a three-stage sampling strategy to form our peer groups. First, we randomly selected 30 slums from a list of 60 different slums in Kanpur Nagar, such that each type of slum, based on size, composition and location, was adequately represented. Second, from each slum we randomly selected on average 25 women to participate in the vocational training course.<sup>3</sup> Third, from within the participants finally selected to take part in the vocational training course from each slum, we formed random groups of five women.

The final sample consisted of 764 women aged between 15 and 50 years from 30 slums spread across Kanpur Nagar.<sup>4</sup> The slums from which participants were selected in the district of Kanpur Nagar are depicted in Figure 1. The breakdown in terms of Hindus and Muslims in the sample were very similar to the district as a whole. In the sample, 81 percent of participants were Hindus and the remaining 19 percent were Muslims. According to the 2011 District Census 2011, 82.78 percent of residents in Kanpur Nagar were Hindus and 15.73 percent were Muslims. A sub-sample of 345 women completed the follow-up survey, six months after the training finished, in order to gauge if the effects of intergroup contact during the training program persisted in the medium to long run. This sub-sample of women, representing about half of the original sample, was randomly selected from the 30 slums. For those selected for the follow up survey, we did not have any attrition. A balancing test for the socio-economic

<sup>3</sup> On average we selected 25 women from each slum, with about 20 women from smaller slums and 30 women from larger slums. From each slum, we prepared a list of 30-40 eligible women for participation in the course – based on whether the woman was between the age of 15 and 50 and willing to devote a week's time for the training and about 25 women are randomly selected out of these 30-40 women to finally participate in the course.

<sup>4</sup> In total, 775 women were invited to participate in the vocational training program but only 764 attended on the first day. We had a total of 144 groups with five women each with 11 groups of four women each (due to the 11 women who did not turn up for the training despite being invited).

characteristics of the women, which is presented in Table A1, suggests that those who participated in the follow-up survey had similar characteristics to those who were not followed.

**[Insert Figure 1]**

The data were assembled between August 2016 and April 2017. We started recruiting participants for the vocational training program and administering the baseline survey, which included a measure of (pre-training) attitudes toward members of the other religion, in August 2016. Once the women had completed the baseline survey, between Monday and Friday of the following week they participated in the vocational training program in groups of five. The training concluded on Saturday with a verbal presentation made by the group followed by multiple choice and practical exams, conducted by the instructors. Finally, a post-training survey, which included a measure of (post-training) attitudes toward members of the other religion was administered to participants one week after the training program was completed. A follow-up survey, which again included a measure of attitudes toward members of the other religion was administered to a sub-sample of participants, six months after the post-training survey - between February and April 2017 - depending on when the training program occurred. The baseline survey was introduced, and discussed, with the participants in terms of the opportunities provided by the vocational training program. By focusing on promoting the skills of poor slum women instead of peace messaging, ensuring that participants and instructors were not informed about the main purpose of the study and not including any messaging targeted at explicit prejudice-reduction in the training curriculum, we seek to minimize any reporting bias (Scacco & Warren, 2018). Importantly, all surveys to the minority Muslims were administered exclusively by Muslim enumerators to minimize reporting bias from fear of backlash or to prevent their social image from being affected.

*Pleasant and cooperative contact in the vocational training program*

The introductory level beautician course was delivered to groups of five woman over five days. Each day the training commenced at 8am and finished at 5pm with a one-hour break. Each session was taught by two experienced female instructors, one of whom was Hindu and the other Muslim. The course curriculum was prepared in consultation with a professional expert, who provided advice and training to each of the instructors, ensuring that each of the instructors followed the same curriculum and taught the same materials at the same pace. All of the participants spoke Hindi and the course was delivered in Hindi.

The five-day course consisted of classes on professional ethics and hygiene, as well as modules on the basics of grooming, manicure and pedicure, waxing, threading, hair treatment, hair cutting, hair colouring and hair styling. Each session consisted of lectures, demonstrations and in-class activities, which were designed to facilitate pleasant and cooperative contact in a natural setting, consistent with Allport's (1954, p.489) argument that contact "should occur in ordinary purposeful pursuits [and] avoid artificiality". A second condition that Allport (1954) specified was that the contact should be between equal peers. The in-class activities, consisting of hands-on-training, practice sessions, such as grooming each other within their groups, and other group based fun activities, created natural interaction among equals. A third condition that Allport (1954) stipulated was that the cooperative contact should be part of working toward a common goal. In our study, the common goal was a group presentation, held on the last day of the training program. For the group presentation, participants were asked to prepare a business plan, a schedule of services that could be offered by their small-scale business, design a budget and outline possible sources of finance for their business. Time was allocated on each day in which participants were encouraged to discuss, and practice, what they had been learning that day with other group members and to work together on preparing their group presentation.

None of the participants dropped out during the program or refused to partake in the group activities. Moreover, no participants requested a group change and each continued to be in the same group throughout the course of the training. At the conclusion all participants were offered a certificate of participation (conditional upon full attendance). With the exception of two participants, who missed one day of class, there was full attendance for the full five days of each training program. We also presented the best performers in every slum with a best performer certificate and a gift basket consisting of items to help them practise their new skills.

#### *Survey and attitude measures*

The baseline and follow-up surveys asked participants detailed questions regarding their personal and household level characteristics, such as demographic and socio-economic background, health status and household income. The baseline survey included the Ten-Item Personality Inventory (TIPI) (Gosling et al., 2003), which was used to measure the five personality traits of the respondent; specifically, extraversion, agreeableness, conscientiousness, emotional stability and openness to experience. As part of the baseline survey, participants were given 12 puzzles, which were selected from Raven's progressive matrices (Raven, 1936, 1981), and asked to complete as many as possible. We used the resulting Raven's test scores (0-12) as a

measure of the cognitive ability of the participant. As a robustness test on the results employing Raven's test scores we use results from the multiple choice and practical tests administered to participants at the end of the training program. Each of the multiple choice and practical tests were out of 20, so we combine these to get a mark out of 40. Table A2 presents the summary statistics from the baseline survey for the complete set of women considered in the sample.

We employed a five-item version of the eight-item Generalized Group Attitude Scale to measure each participant's attitude toward members of the other religion at baseline, post-training and in the follow-up survey. The Generalized Group Attitude Scale has been widely employed in the psychology literature to measure attitudes of one group toward another and has been shown to have good psychometric properties (see e.g. Dru, 2007; Duckitt & Mphuthing, 1998; Duckitt et al., 2005). The short version of the Generalized Group Attitude Scale administered to Hindu participants was based on responses to the following five statements: (i) It really upsets me to hear anyone say anything negative about Muslims (reverse coded); (ii) Muslims have some very bad characteristics; (iii) I have very positive attitudes towards Muslims (reverse coded); (iv) There is little to admire about Muslims; (v) Sometimes I think India would be better off without so many Muslims. Muslim participants were given the same statements about Hindus. Responses were provided on a five-point scale (1=agree to 5=disagree). The short version of the Generalized Group Attitude Scale is the sum of the five items with higher values representing more prejudicial attitudes.<sup>5</sup>

Summary statistics for the Generalized Group Attitude Scale for Hindu and Muslim participants are reported in Table 1. Table 1 reports summary statistics for the pre-training, post-training and follow-up attitudes of participant  $i$  from slum  $j$  towards members of the other religious group. Table 1 also reports summary statistics at baseline for the pre-training group attitude, which is a measure of the prejudice of other group members of participant  $i$ 's own religion towards members of the other religion (excluding participant  $i$ ) and the pre-training

<sup>5</sup>In a pilot for the study, conducted in July 2016 with 100 participants, we administered the full eight-item Generalized Group Attitude Scale. The other three items (when administered to Hindu participants) are: Muslims have done a great deal to make India successful (reverse coded); Muslims should get much more recognition for what they have done for India (reverse coded); and I can understand people having a negative attitude towards Muslims. However, women living in Indian slums have little or no education and very little broader historical or political awareness. This means that they were not well placed to provide informed responses to statements that referred to Hindus' and Muslims' contributions in general to India's success, recognition for that contribution or what other people think about Hindus and Muslims. In the pilot survey, most of the participants could not properly place the context of these statements, were often confused about what was being asked and sought help from enumerators in responding to these statements. This resulted in a very high rate of non-response.

reverse group attitude, which is a measure of the prejudice of members in participant  $i$ 's group from the other religion toward members of participant  $i$ 's religion. Table 1 also gives summary statistics on the proportion of groups with at least one Hindu participant, one Muslim participant and the proportion of Hindus and Muslims in each group.

**[Insert Table 1]**

*Treatment effect equation*

Our overall goal is to examine whether pleasant and cooperative contact with members of the other religious group reduce discriminatory attitudes towards that group, controlling for the participant's pre-existing attitudes towards the other group and other observable characteristics. For this purpose, we start with the following reduced form regression:

$$Y_{ij} = \alpha + \beta_0 Z_{ij} + \beta_1 Z_{-ij} + \gamma X_{ij} + \theta_j + \epsilon_{ij} \quad (1)$$

$Y_{ij}$  is the post-training attitude of individual  $i$  from slum  $j$  towards members of the other religious group. We estimate (i) the post-training attitude of Muslims towards Hindus and (ii) the post-training attitude of Hindus towards Muslims in alternative specifications.  $Z_{ij}$  refers to the pre-training (baseline) attitude of individual  $i$  towards the other group.  $Z_{-ij}$  is the pre-training (baseline) attitude of individuals in  $i$ 's group, other than individual  $i$ , consisting of the pre-training group attitude and pre-training reverse group attitude. The pre-training group attitude and reverse group attitude scores control for the existence of baseline prejudice towards members of the other religion, which is particularly important in conflict settings. All attitude indices have been standardized with a mean of zero and standard deviation of one.  $X_{ij}$  controls for other individual and household-level characteristics of individual  $i$ , as set out in Table A2.  $\theta_j$  represents slum fixed effects and  $\epsilon_{ij}$  is the idiosyncratic error term.

We consider the effect of the composition of the group – i.e. whether there is a) at least one member of the other religion and b) the proportion of the group belonging to the other religion. A higher proportion of individuals from the other religion in the group increases the number of out-group members in the group and, thus, increases the intensity of social interaction with members of the other group compared to just presence in the case of at least one.

*Randomization checks*

We conduct a number of formal tests to check whether groupmate assignments within the slums were indeed random. To begin with, we regressed own pre-training prejudice on group average

baseline prejudice, with slum fixed effects. All pre-treatment prejudice scores are standardized so that they have a mean of zero and standard deviation of one.

The results, presented in Panel A of Table 2, suggest no association between group average baseline prejudice and own pre-training prejudice, meaning that group assignment is random and that prejudice between group members are uncorrelated.

**[Insert Table 2]**

We next used a strategy proposed by Guryan et al. (2009), who show that a routine negative association exists between the characteristics of individuals and their group members, even when the group assignment is random. This negative association arises because sampling of individuals is done without replacement; i.e. an individual cannot be his/her own group member. Thus, the group members of individuals with higher prejudice are chosen from a group with a slightly lower average prejudice than those of individuals with lower prejudice, meaning that one should find a negative association between each individual's prejudice and the average prejudice of his or her group members. To address this issue, Guryan et al. (2009) propose controlling for the mean prejudice of all individuals in the sample, excluding individual  $i$  in the group effect estimation. The results, when we do this, are presented in Panel B of Table 2 and support the null hypothesis of a random assignment.

As a third check, we construct a distribution of the coefficients estimated from the randomization test following Fafchamps & Mo (2018), with own baseline prejudice as the dependent variable and average baseline group prejudice as the independent variable. We form artificial groups within each slum by reassigning participants into counterfactual random sets of group members. We calculate the distribution of estimated coefficients from the counterfactual random matches under the null hypothesis of random assignment and compare them to the actual estimated coefficient in order to get the  $p$ -value. We run the regressions over 200 randomly assigned counterfactual matches. The results of these tests for Muslim attitudes are in Figure A1 in the Appendix, where the vertical line is the estimated coefficient from the randomization test, presented in Panel A of Table 2. We find that the simulated distribution of estimated regression coefficients of prejudice towards Hindus on average group prejudice towards Hindus is centred at -0.217, with 68.5 per cent of the simulated coefficients being smaller than the coefficient estimated from the sample, -0.127. Hence, we cannot reject the null hypothesis of random assignment of members in the groups, with a  $p$ -value of 0.685. We find

similar results for the estimated regression coefficients of prejudice by Hindus towards Muslims on average group prejudice. This result is presented in Figure A2 in the Appendix.

Taken together, we conclude that the attitudes of individuals toward members of the other religion is indeed random. Group assignment is also random based on a series of socio-economic controls such as household income, employment status and Raven's test score that measures each participant's cognitive ability. Results are available upon request. <sup>6</sup>

### 3. Results

#### *Baseline Results*

As a starting point, we present estimates of the effect of having at least one individual from the other religion in one's group in column 1 of Table 3 on attitudes one week after the training program concluded.<sup>7</sup> Panel A presents the results for Muslim attitudes toward Hindus and Panel B presents the results for Hindu attitudes towards Muslims. The results in Panel A suggest that the presence of at least one Hindu in the group reduces the post-training prejudice of Muslim participants towards Hindus by 0.407 SD. The results in Panel B suggest that the presence of at least one Muslim in the group reduces the post-training prejudice of Hindu participants towards Muslims by 0.531 SD. Two conclusions emerge from these baseline results. First, intergroup contact that is pleasant and cooperative can be effective in reducing prejudice, even in emotionally charged conflict settings in which the prejudice is deep-seated. Second, the reduction in shift in attitudes of participants from the majority group (Hindus) toward the minority group (Muslims), resulting from intergroup contact is slightly larger.

#### **[Insert Table 3]**

The latter is consistent with previous findings for the contact hypothesis. Pettigrew and Tropp's (2006) meta-analysis found that in terms of the effects of mere exposure to the other group, the reductions in prejudice from intergroup contact were stronger for the majority or 'high status' group than minority or 'low status' group. The studies in the Pettigrew and Tropp (2006) meta-analysis were mainly in laboratory settings or correlational studies, although there is also evidence from field experiments to the same effect (see e.g. Corno et. al., 2019).

<sup>6</sup> We also present falsification test results in the Appendix in Table A3, in which we show that our estimated coefficients in Table 3 below are solely due to intergroup contact. We find that the results are not significant if individuals are randomly assigned to some other pseudo groups. These results provide support to our claim that interaction during the week-long training camps are the cause of the estimated effects on post-training attitudes.

<sup>7</sup> The regression estimates with all the controls are provided in the Appendix in Tables A4A & A4B.



As a check on these results, in Table A5 we examine the effect of having at least one member of the other religion in the group on post-training attitudes where post-training attitudes are measured by responses to each of the five statements in the shortened Generalized Group Attitude Scale separately. For Hindu attitudes toward Muslims, the findings for having at least one Hindu in the group seem to be driven by responses to the fifth statement – ‘sometimes I think India would be better off without so many Muslims’. For Muslim attitudes towards Hindus, the coefficient on at least one Hindu in the group is significant with a negative sign for the first, second and fifth statements with it having the strongest effects for the first statement - ‘It really upsets me to hear anyone say anything negative about Hindus’ (reverse coded) – and second statement– ‘Hindus have some very bad characteristics’.<sup>8</sup>

#### *Intensity of contact*

Next, we examine if the intensity of contact influences whether pleasant and cooperative contact with members of the other group reduces prejudice toward the other group one week after the training program concluded. Our conjecture is that a higher dosage of contact that is pleasant and cooperative should reduce prejudice. The results for the effect of the proportion of individuals from the other religion in the group on attitude change are in column 2 of Table 3. The results in Panel B suggest that increasing the proportion of Muslims in the group, reduces the post-training prejudice of Hindu participants towards Muslims by 1.486 SD. The intensity of contact, however, has no effect on Muslim participants’ attitudes toward Hindus.

In Table A6, we examine if the intensity of contact differs when prejudice is measured by each of the five items of the shortened Generalized Group Attitude Scale separately. For Muslim attitudes towards Hindus, intensity is insignificant for each of the five statements, consistent with Table 3. For Hindu attitudes toward Muslims, the results appear to be driven by the effect of intensity on responses to statement 2 – ‘Muslims have some very bad characteristics’, with the coefficient on proportion of Muslims insignificant for the other statements.

<sup>8</sup> Psychologists believe that established scales should be used as a whole, arguing that it is inappropriate to separate out individual components. Economists, though, frequently do separate out components so to see if the results are being driven by a particular component or components of the index – see eg. Singhal (2019) in a different context. That one or two components seem more important than others should not be seen as invalidating the use of a multi-item index. As in our results, different items can appear to be more important for different groups, but overall there is still much evidence that multi-item indicators measure constructs better than single-items because they are better able to capture the complexity of the measure (Judd et al., 1991).

In Table A7 we examine if there is an optimal proportion of members of the other religion to maximize intergroup contact by allowing for potential non-linear effects in intensity on post-training attitudes, measured by the shortened Generalized Group Attitude Scale. Specifically, instead of employing a continuous variable measuring the proportion of women of the other religion in the participant's group, we employ dummy variables set equal to 1 if the proportions of women of the other religion in the group are 0.2, 0.25, 0.4, 0.6, 0.75 or 0.8 respectively, with the reference category being that there are no women of the other religion in the group.<sup>9</sup>

The results are generally consistent with the conclusions from Table 3. In the specification in which the dependent variable is Muslim attitudes toward Hindus, the coefficient on proportion is equal to 0.2 is negative and significant. The coefficient on proportion is 0.4 is actually positive and significant, but only weakly so at 10%, while the coefficients on the higher proportions are insignificant. In the specification in which the dependent variable is Hindu attitudes toward Muslims, the coefficients on proportions equal to 0.2, 0.25, 0.4 and 0.6 respectively are all negative and significant and the magnitude on the coefficient gets progressively larger. This result suggests that there are increasing returns to contact on reducing the prejudice of Hindu participants toward Muslims up to three Muslim participants, in groups of five participants, reinforcing the overall conclusions from Table 3. The finding that intergroup contact has a linear effect is consistent with the result in Lowe (2020).

That the results differ across Hindus and Muslims should not be surprising. As Scacco and Warren (2018) note, social conflict can affect individuals across religious divides in different ways, particularly in conflict settings. One possible explanation for the differing results for intensity of contact between Hindus and Muslims could lie with social identity theory. Minority status groups have a stronger sense of social identity (Goette et. al., 2006), which may make them more accommodating of the majority in order to ensure that their positive social identity is maintained (Gu et. al., 2019). If Muslims, as the minority group, are more accommodating, this would be consistent with pleasant and cooperative contact with at least one Hindu being enough to reduce prejudicial attitudes toward all Hindus and additional exposure having no effect. However, Hindus, as the majority group, are likely to be less accommodating of the

<sup>9</sup> Recall that there are 144 groups with five women each with 11 groups of four women each. The proportions 0.2, 0.4, 0.6 and 0.8 refer to five-member groups with one, two, three or four women of the other religion in them and 0.25 and 0.75 refer to four-member groups with one or three women of the other religion in them.

minority. For them, the higher the dosage of pleasant and cooperative contact with Muslim participants, the larger the positive effect on reducing prejudice.

Other explanations are also possible. The results for intensity of contact could reflect that the majority Hindus encounter minority Muslims far less frequently in their everyday lives than the other way around, so additional exposure in a pleasant and cooperative setting is effective. Another possibility is that as the majority, the baseline prejudice of Hindus is greater. There is support for this in Table 1. The pre-training prejudice of Hindu participants and the pre-training group prejudice of Hindus in the sample is higher than Muslims. In these circumstances, additional exposure to members of the other religion overcomes negative stereotypes.

### *Treatment heterogeneity*

#### *Effect of baseline prejudice*

Are these results heterogeneous across women with differing incoming levels of prejudice? We examine the effect of pre-training self-attitude and the pre-training attitude of group members from the same religion (leaving out individual *i*) and those of the other religion on the post-training perception of individuals towards the other religion. We consider the effects of baseline prejudice given previous research suggests that the quality of contact matters (Pettigrew, 2008) and that contact with highly prejudiced members of the other group might actually reinforce existing prejudices by reconfirming existing biases (Barlow et al., 2012).

The results are presented in Table 3. The results in Panel A suggest that pre-training attitudes have no effect on whether intergroup contact reduces the prejudice of Muslim participants toward Hindus. The results in Panel B suggest that, controlling for pre-training self-attitude and reverse group attitude, for a 1 SD increase in the pre-training prejudice of her other Hindu groupmates towards Muslims, Hindu participants' own post-training prejudice Muslims reduces by 0.105 SD. However, pre-training self-attitude and pre-training reverse group attitude have no effect on whether intergroup contact reduces post-training prejudice.

Pre-training group prejudice can be seen as an indicator of the initial hostility of Hindus toward Muslims. As such, the results for pre-training group prejudice reinforce the baseline findings that intergroup contact that is pleasant and cooperative can be effective in reducing prejudice, even in settings in which prejudice is initially deep-seated (Finseraas & Kotsadam, 2017). The results for pre-training group prejudice for Hindus are also consistent with the social identity

theory explanation suggested above around intensity of contact. If Hindus, as the majority group, are initially more prejudiced as a group, given that they are likely to be less accommodating, higher intensity contact can be effective in reducing prejudice.

#### Effect of personality traits

One might expect that a participant's personality could moderate the effect of intergroup contact on post-training attitude change by influencing the extent, and manner, to which participants interact in a pleasant and cooperative way with other group members.

To begin with, we consider the effect if the individual is extroverted or introverted, relative to her groupmates. We create an extrovert index using two of the ten responses in the Ten-Item Personality Inventory (TIPI) questionnaire. The two statements are: "I see myself as extraverted or enthusiastic" and "I see myself as reserved or quiet" (reverse coded), where responses to each statement are on a scale of 1 (disagree strongly) to 7 (agree strongly). A participant is considered to be a (relative) extrovert if she has a score that is greater than, or equal to, the average of the other group members' score. We expect a participant who is relatively extroverted to interact more easily with participants from the other religion and, hence, for pleasant and cooperative contact to have a stronger effect on reducing prejudice.

#### **[Insert Table 4]**

We estimate Equation (1) for women who are extroverted versus those who are introverted, relative to their groupmates. The results, which are presented in Table 4, are consistent with our expectations. Both Muslim and Hindu participants who are relatively extroverted are less prejudiced following the training program if their group has at least one participant from the other religion and the higher the proportion of participants from the other religion, while these variables are insignificant when the subsample is introverted participants. For Hindu participants, the results for group attitude and reverse group attitude are also being driven by the extroverted subsample. Extroverted Muslims, who are socially more confident, are more prejudiced at the end of the training program if they are grouped with highly prejudiced Hindus. For every one standard deviation increase in the prejudice of group members who are Hindus, extroverted Muslim participants are 0.646 SD more prejudiced at the end of the program.

We next repeat the same exercise based on whether participants are open, or less open, to new experiences, relative to others in their group. We create an openness index using the following two responses in the TIPI: "I see myself as open to new experiences and complex" and "I see

myself as conventional and uncreative” (reverse coded). Responses to each statement are on a scale of 1 (disagree strongly) to 7 (agree strongly). A participant is considered to be (relatively) open to new experiences if she has a score that is greater than, or equal to, the average of the other group members’ score. Individuals who are more open to new experiences tend to be more open to experiencing other cultures, languages and practices. Our expectation is that participants who are relatively open to new experiences will be more curious about the practices of members of the other religion and be more accepting of them; and, hence, for pleasant and cooperative contact to have a stronger effect on reducing prejudice.

**[Insert Table 5]**

The results are presented in Table 5. The results in Panel A suggest that the presence of at least one Hindu in the group reduces the post-training prejudice of Muslim participants who are relatively open to new experiences, towards Hindus by 0.593 SD. There is, however, no effect for Muslim participants who are relatively less open to new experiences. Relative openness also has no effect on the effect of the intensity of the contact. The moderating results for relative openness on the effect of baseline reverse group attitudes on post-training attitudes are similar to those when we broke the sample up based on relative extroversion. Muslims, who are relatively open to new experiences are more prejudiced at the end of the training program if they are grouped with highly prejudiced Hindus. This result highlights how negative contact can reinforce prejudice (Barlow et al., 2012). In this case, these Muslim women are likely to be particularly open to having their attitudes changed by interacting with Hindu women. However, having been grouped with Hindu women that are more highly prejudiced against them, their existing biases against Hindus in general are only reconfirmed. The results in Panel B suggest that the presence of at least one Muslim in the group reduces the post-training prejudice of Hindu participants who are, and are not, relatively open to new experiences. Openness matters, though, for the effect of intensity of contact on reducing prejudice. While the proportion of Muslims in the group does not have a significant effect on post-training attitudes for Hindus who are relatively less open, a one standard deviation in the proportion of Muslims in the group reduces post-training prejudice of relatively open Hindus by 1.461 SD.

The results for other personality traits; namely, relatively agreeable versus not agreeable and relatively emotionally stable versus relatively emotionally unstable, are presented in Tables A8A and A8B in the Appendix. The results for emotional stability suggest that, generally, intergroup contact has a more consistent effect on reducing prejudice for participants who are relatively more emotionally stable. For the relative agreeableness, the results differ between

Hindu and Muslim participants, consistent with the social identity thesis that we put forward earlier. Muslim participants who have at least one Hindu in their group are less prejudicial post-training if they are relatively more agreeable. Muslim women who are more agreeable are likely to have a stronger sense of social identity (Goette et al., 2006), which makes them accepting of Hindus in order to ensure that their positive social identity is maintained. However, for the majority Hindus, agreeableness is not related to social identity in this way. Rather, for less agreeable Hindus, exposure to at least one Muslim participant, as well as the intensity of the exposure to Muslims, has a positive effect on reducing post-training prejudice. The reason for this result could be that less agreeable Hindus are also more prejudiced at baseline; hence, the marginal returns to pleasant and cooperative contact are higher.

#### Effect of “other” social identity

Individuals can have multiple social identities through which they perceive themselves (see eg. Akerlof & Kranton, 2000; Bénabou & Tirole, 2006). Yet, the way in which other social identities may impact on the effectiveness of intergroup contact has not been explored. We examine how one form of particularly salient social identity to our context — caste - interacts with religious identity to shape how intergroup contact influences post-training attitudes.

We estimate Equation (1) for women who belong to advantaged versus disadvantaged castes. Disadvantaged caste (D-AD) refer to Scheduled castes (SC), Scheduled Tribes (ST) and Other Backward classes (OBC), whereas those belonging to the General caste category are referred to as advantaged castes (AD). We expect that the effect of intergroup contact on reducing prejudice will be strongest for those who belong to disadvantaged castes; i.e. participants who are discriminated against themselves, are likely to be more empathetic with members of the other religion. The results, which are presented in Table 6, are consistent with this expectation. From columns (1) and (2) in Panel A in Table 6, we find that the discriminatory attitude towards Hindus in the presence of at least one Hindu groupmate reduces significantly only for those who belong to the disadvantaged castes. The discriminatory attitude of Hindus towards Muslims reduces by 0.512 SD in the presence of at least one Muslim and the same reduces by 1.309 SD as the proportion of Muslim groupmates increase in the groups if the participant belongs to a disadvantaged caste (Columns (2) & (4) in Panel B).

**[Insert Table 6]**

### Effect of cognitive ability

We examine the moderating effect of each participant's cognitive ability, the cognitive ability of other participants from one's religion and the cognitive ability of participants from the other religion in the group on the effect of intergroup contact in reducing prejudice. In their study of the impact of racially diverse peers on white males' attitudes towards minorities in the U.S., Carrell et. al. (2019) find that only high aptitude blacks are able to influence the attitudes of whites. We measure cognitive ability based on Raven's test scores. The results are reported in Table 7. Intergroup contact has a stronger effect on reducing the prejudice of Muslims who perform better on Raven's Matrices towards Hindus. A one standard deviation increase in Raven's test scores increases the effect of intergroup contact on reducing the prejudice of Muslims towards Hindus by 0.084-0.098 SDs. However, own cognitive ability has no influence on the effect of intergroup contact on the attitudes of Hindus towards Muslims. Similarly, the cognitive ability of other group members, whether they be from the same or other religion, has no influence on the effect of intergroup contact on attitudes to the other religion.

### **[Insert Table 7]**

As a robustness check on the results in Table 7, instead of employing Raven's test scores, we employ the combined post-training exam score of participants on the multiple choice and practical exams. The results are reported in Table A9. The findings are very similar to those reported in Table 7, although the influence of own ability on the effect of intergroup contact on reducing the prejudice of Muslims towards Hindus is stronger. In Table A9, a one standard deviation increase in post training test scores increases the effect of intergroup contact on reducing the prejudice of Muslims towards Hindus by 0.233-0.321 SDs.

We also examined the impact of exposure to additional women of the other religion by tercile and quantile of performance on the Raven's test scores. This allows us to distinguish between the effect of being exposed to members of the other religion whose cognitive ability is at different points of the distribution. When they divided blacks' test scores into terciles, Carrell et al. (2019) found that exposure to black students in the middle, and particularly upper, tercile had a significant effect on reducing the prejudice of white students toward their black peers, while exposure to the bottom tercile had no effect. In Table A10 we present the effect of having an additional woman of the other religion by tercile on the Raven's test scores. We find the opposite to Carrell et al. (2019). The number of Hindus of low, medium and high cognitive ability in each group has no significant effect on Muslim attitudes. Additional Muslims of low and medium cognitive ability in each group reduces the prejudice of Hindus, while the number

of Muslims in the top tercile has no significant effect. We report the effect of an additional woman of the other religion by quantile on the Raven's test scores in Table A11. Here, there is some evidence of non-linearity in the effect on Hindu attitudes to Muslims. Exposure to additional Muslims who are in the third and top quantile in terms of cognitive ability has a significant effect on reducing the prejudice of Hindus. Hence, in Table A11 we find some evidence that greater exposure to very high ability Muslims reduces Hindu prejudice.<sup>10</sup>

Next, we examine whether stereotypes change in response to updated information about ability of members of the other group. To do so, we follow the approach in Corno et al. (2019) and examine the effect of positive and negative surprise on baseline prejudice. First, we classify each woman as having higher or lower than average prejudice toward members of the other religion at baseline. Second, we classify each woman as having either higher or lower than average cognitive ability based on their Raven's test scores. Positive surprise takes the value 1 when a woman with above average prejudice is paired with groupmates with above average cognitive ability. Negative surprise takes the value 1 when a woman with below average prejudice is paired with groupmates with below average cognitive ability.

The results are presented in Table 8. There is evidence that both Hindus and Muslims update their attitudes based on whether they are positively or negatively surprised by the ability of women from the other religion in their group. In the final column, we see that Muslims who experienced a negative surprise become more prejudiced towards Hindus. The effects are stronger for Hindu attitudes toward Muslims. In each specification, Hindus who were negatively surprised by the cognitive ability of their Muslim groupmates become more prejudiced, while Hindus who were positively surprised by Muslims in their group become less prejudiced. The magnitude of the positive surprise is larger across the board.

Allport (1954) considered increased knowledge about the other group was one channel through which contact may reduce prejudice; however, Pettigrew and Tropp (2008), in their meta-analysis of mediators in the contact literature, find that increased knowledge is less important than reduction in anxiety and increased empathy. Corno et al. (2019) find that surprise does not affect Population IAT (which is similar to prejudice) in their study of black and white students

<sup>10</sup> Carrell (2019) also present results for the effect of academic ability by decile. There is not sufficient variation in the Raven's test scores for us to do this.



in South Africa.<sup>11</sup> In light of these studies our results are interesting in two respects. First, we find much stronger evidence that knowledge does matter. The common goal might be important here. When the contact is working on a group assignment, this provides more opportunity to observe the ability of members of the other group than many of the common goal activities used in the psychology literature. Second, we show that increased knowledge can increase or decrease prejudice depending on the baseline expectations of the individual and whether interaction with members of the other religion ‘disappoint’ or ‘exceed’ those expectations. This result reinforces that negative contact, relative to a baseline expectation, can increase prejudice.

#### Effect of strength of identity

Finally, we examine if the strength with which participants identify with their religion affects how intergroup contact changes attitudes. To do so, we distinguish between women who consider themselves to be religious or not. We define the participant as religious if she describes herself as very religious, religious or somewhat religious and not religious if otherwise. Our conjecture is that the effects of intergroup contact will be stronger on reducing prejudice if the participant describes herself as not being religious because the identity threat posed by members of the other religion will be less in such cases and baseline prejudice will be lower. In our sample, the baseline prejudice of those participants who described themselves as not being religious toward the other religion are lower than those who said they were religious.<sup>12</sup>

#### **[Insert Table 9]**

The results are reported in Table 9. Overall, the findings in Table 9 are consistent with Table 3, in the sense that the effect of intergroup contact on reducing prejudice are stronger for Hindu attitudes toward Muslims than Muslim attitudes toward Hindus. Consistent with our conjecture, we find that the results of intergroup contact on reducing prejudice are generally stronger for participants who describe themselves as not being religious.

#### *How persistent are successful contact interventions?*

We administered a follow-up survey to a sub-sample of 345 women; of whom 68 were Muslims and 277 were Hindus six months after the training program finished, in order to examine whether the effects estimated in Table 3 persist over time. The results are presented in Table

<sup>11</sup> Corno et al. (2019) do, however, find that knowledge influences Academic IAT, measuring stereotypes about academic ability.

<sup>12</sup> For the short version of the Generalized Group Attitude Scale on a scale of 5-25, in which higher values represent higher prejudice for Hindus who were religious (not religious) the mean values were 15.1 (14.9) and for Muslims who were religious (not religious) the mean values were 14.6 (13.8).

10 and comparisons across the three surveys are presented in Figure 2. We find that the results have mostly dissipated at the end of the six months. Perhaps this result is not surprising. While Lowe (2020) found persistent effects one to three weeks after the cricket season concluded, other contact studies which have attempted to measure persistence in attitude change for a much shorter period of 10 days, have found little evidence of persistence (Enos, 2014; Gu et al., 2019). An encouraging aspect of our findings is that we find strong support for the contact hypothesis in the post-training survey, administered one week after the intervention and the presence of at least one Muslim in the group continues to reduce the prejudice of Hindu participants towards Muslims by 0.480 SD six months after the training concluded. This finding is consistent with meta-analytic findings that the *immediate* effect of intergroup contact on reducing prejudice is stronger for the attitudes of the majority than the minority (Pettigrew & Tropp, 2006). We show that this continues to hold in the medium-term.

**[Insert Table 10]**

That the results are not significant in other cases suggests that prejudice re-establishes itself once participants lose contact with members of the other religion when the training ends and they spend more time with their usual peers, who played an important role in moulding their attitudes to begin with. This can be seen from the positive, and highly significant, association between change in follow-up prejudice (relative to post-training prejudice) and baseline prejudice at the slum-level, as reported in Table 11, where we regress change in slum-level prejudice from post-training to follow-up on slum-level baseline prejudice. These results suggest that once the training is over, prejudice at the slum level plays an important role in determining whether the effects of the training persist or die out, with the effects vanishing in what is a highly prejudiced society. These results may, therefore, point towards a need for a more coordinated long-term effort, in which the whole slum is targeted and followed up at regular time intervals. How many follow up interventions are required to effect persistent change, and over what time frames, would be a useful inquiry to pursue in future studies.

**[Insert Table 11]**

#### **4. Conclusion**

We have examined whether contact that is pleasant and cooperative can reduce intergroup prejudice between Hindus and Muslims where the intervention takes the form of a week-long intensive vocational training program. Our main finding is that exposure to at least one member of the other religion in the group reduces the prejudice of both Hindu and Muslim participants toward all members of the other religion one week after the training program. We find that these effects are more pronounced for Hindus than Muslims. We also find that increasing the

intensity of contact strengthens the effect of intergroup contact on changing the attitudes of Hindus toward Muslims, but it has no effect on the attitude of Muslims toward Hindus. This finding highlights the differential intergroup responses to contact by majority versus minority group members and points to a need for similarly differential policy responses.

In terms of how intergroup contact works to reduce prejudice our results are mixed. We find some evidence that the baseline level of prejudice of other members of the group matters for Hindu attitudes toward Muslims, but not in reverse. We find that the cognitive ability of participants in the group from the other religion do not influence the effect of intergroup contact on attitudes. At the same time, though, we find that participants do update their beliefs about members of the other religion depending on whether they are positively or negatively surprised by the cognitive ability of their groupmates, relative to what they were expecting given their baseline prejudice. We find that the individual's own characteristics can influence the effectiveness of intergroup contact. Specifically, we find that an individual's own baseline prejudice, cognitive ability, extroversion and openness to experience relative to other group members, strength of religious identity and caste identity, as a salient alternative social identity in our context, all influence the effectiveness of intergroup contact on changing attitudes, although the results are heterogeneous across Hindus and Muslims.

The results for strength of identity are particularly interesting. As far as we are aware, previous studies that have tested the contact hypothesis simply assume that group identification is binary. Our results suggest it is not and that it matters. This has implications for the efficacy of future interventions and indeed the cost effectiveness of targeting them appropriately. Similarly, the finding that extroverted Muslims, who are socially more confident, are more prejudiced at the end of the training program if they are grouped with highly prejudiced Hindus points to the potential adverse effect of negative contact. It is as if the more extroverted use the training context as a vehicle through which to express their prejudice, and so reinforce it, which is important to consider in more widespread community-based interventions.

We offer three main takeaways from our study. The main takeaway from our findings is that contact which is pleasant and cooperative can reduce intergroup prejudice in urban conflict settings. There are a lack of field experiments testing the contact hypothesis in such settings. Scacco and Warren (2018), whose study is similar to ours in many ways, is an example of a high-quality field experiment in a conflict setting, but their study is notable for finding that

intergroup contact does not change attitudes. We find that it can and that it does so in nuanced ways when viewed from the perspective of a variety of boundary conditions. There are likely other boundary conditions that will be influential that we have not tested, such as cultural agility and diversity climate. These are useful avenues for future studies to consider.

Second, while most of the effects of intergroup contact on reducing prejudice dissipate after six months, we find that the presence of at least one Muslim in the group continues to reduce the prejudice of Hindu participants towards Muslims six months after the training has concluded. This is possibly the strongest evidence of persistence in the effect of intergroup contact on attitude change in the literature and is promising from a policy viewpoint, given that it is for attitude change in the majority group toward the minority group.

Third, we show that intergroup contact can work to reduce prejudice when the pleasant and cooperative contact is through a vocational training program. Specifically, we find that intergroup contact can be effective in small integrated groups in which participants collaborate toward a common goal, such as a group presentation. This result is consistent with Lowe's (2020, p.35) conclusion in the sporting context that "short-term sports programs can be effective in reducing intergroup differences [and] ... the effects of intergroup contact interventions may be increased if the contact within these interventions is made more collaborative – through smaller, integrated groups, with common, and desirable, goals". This suggests opportunities for employers to design training programs for their employees which will improve their skills and ameliorate the negative effects of entrenched social identities in the workplace. It also suggests avenues for urban planners in large cities to design training programs which give participants the skills needed to open small-scale businesses and reduce intergroup conflict. In this sense, such programs can produce a double dividend.

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**Table 1: Descriptive Statistics**

Variables of Interest	Mean	Std. Dev	Min	Max
<b>Attitude of Muslims towards Hindus</b>				
Post-training attitude	12.941	2.759	7.000	22.000
Follow-up post-training attitude	14.088	3.295	5.000	22.000
Pre-training attitude	14.195	2.380	8.000	20.000
Pre-training group attitude	14.252	1.775	8.000	18.250
Pre-training reverse group attitude	15.023	0.830	12.667	18.333
<b>Attitude of Hindus towards Muslims</b>				
Post-training attitude	14.912	2.395	7.000	23.000
Follow-up post-training attitude	15.040	2.901	6.000	22.000
Pre-training attitude	14.998	2.623	8.000	23.000
Pre-training group attitude	15.008	1.450	11.750	20.500
Pre-training reverse group attitude	13.547	0.538	10.500	16.000
<b>Group Composition</b>				
At least one Hindu	0.935	0.247	0.000	1.000
At least one Muslim	0.259	0.438	0.000	1.000
Proportion of Hindu	0.846	0.300	0.000	1.000
Proportion of Muslim	0.154	0.300	0.000	1.000

Note: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed. Pre-training attitude, pre-training group attitude and pre-training reverse group attitude indices were constructed based on responses to the short version of the Generalised Group Attitude Scale. Muslims were asked about their perception towards Hindu and Hindus towards Muslims. The five statements that we used in our analysis are as follows: 1) It really upsets me to hear anyone say anything negative about [the other religion] (reverse coded), 2) [The other religion] have some very bad characteristics, 3) I have very positive attitudes towards [the other religion] (reverse coded), 4) There is little to admire about [the other religion], and 5) Sometimes I think India would be better off without so many [from the other religion]. The responses to these five questions are recorded on a scale of 1 to 5, with 1 being strong disagreement, and 5 denotes strong agreement. The index is the sum of the five responses with higher values representing more prejudice.

**Table 2: Test for random group assignment****Panel A: Randomization test**

Pre-training attitude towards	Hindus	Muslims
By	Muslims	Hindus
Group attitude	-0.127 (0.118)	-0.061 (0.085)
Observations	118	646
R-squared	0.277	0.067

**Panel B: Guryan, et. al. (2009) randomization test**

Pre-training attitude towards	Hindus	Muslims
By	Muslims	Hindus
Group attitude	-0.084 (0.063)	-0.028 (0.025)
Slum quantile attitude	0.925*** (0.021)	0.922*** (0.004)
Observations	118	646
R-squared	0.834	0.851

Note: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training. For detailed discussion on the construction of the attitude indices see the Notes to Table 1. All attitude variables have been standardized. Standard errors clustered at the slum level are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. We control for slum fixed effects in each of the regressions.

**Table 3: The role of intergroup contact on prejudicial attitudes**

Panel A: Muslims post-training attitude towards Hindus

At least one	<b>-0.407***</b>			
	<b>(0.110)</b>			
Proportion		-0.198		
		(0.880)		
Pre-training group-attitude			0.013	0.013
			(0.045)	(0.048)
Pre-training reverse group-attitude				-0.024
				(0.066)
Pre-training self-attitude	-0.023	-0.028	-0.026	-0.026
	(0.053)	(0.055)	(0.055)	(0.055)
Controls	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R-squared	0.393	0.387	0.387	0.387

Panel B: Hindus post-training attitude towards Muslims

At least one	<b>-0.531***</b>			
	<b>(0.138)</b>			
Proportion		<b>-1.486**</b>		
		<b>(0.567)</b>		
Pre-training group-attitude			<b>-0.105**</b>	<b>-0.105**</b>
			<b>(0.049)</b>	<b>(0.049)</b>
Pre-training reverse group-attitude				-0.064
				(0.042)
Pre-training self-attitude	0.048	0.047	0.036	0.037
	(0.031)	(0.032)	(0.033)	(0.033)
Controls	Yes	Yes	Yes	Yes
Observations	646	646	646	646
R-squared	0.145	0.146	0.146	0.147

Note: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed. The following controls have been included in the OLS regressions: age (in years); years of schooling; dummy variable = 1 if the participant belongs to a disadvantaged caste (Scheduled Caste (SC), Scheduled Tribe (ST) or Other Backward Classes (OBC)); dummy variable =1 if the participant is currently married; monthly household income in Indian rupees; usual activity status (dummies for whether the participant is employed, unemployed, housewife, student or others); and household size of the participant. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects have also been controlled for in each of the regressions. Bold indicates statistically significant coefficients.

**Table 4: The role of personality traits (extroversion or introversion) on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus								
Respondent is	Yes	No	Yes	No	Yes	No	Yes	No
Extrovert								
At least one	<b>-0.628***</b> (0.104)	-0.018 (0.164)						
Proportion			<b>-1.873**</b> (0.825)	0.463 (0.885)				
Group-attitude					-0.014 (0.132)	0.034 (0.101)	0.011 (0.105)	0.061 (0.127)
Reverse group-attitude							<b>0.646***</b> (0.189)	-0.277 (0.226)
Self-attitude	0.224* (0.122)	-0.331** (0.110)	0.216* (0.113)	-0.326** (0.121)	0.229* (0.122)	-0.330** (0.115)	0.311** (0.126)	-0.325** (0.123)
Wald-statistics	<b>15.13</b>		<b>5.24</b>		0.13		<b>12.45</b>	
p-value	<b>0.000</b>		<b>0.022</b>		0.715		<b>0.000</b>	
Observations	58	60	58	60	58	60	58	60
R-squared	0.503	0.543	0.519	0.545	0.487	0.544	0.564	0.562

Panel B: Hindus post-training attitude towards Muslims								
Respondent is	Yes	No	Yes	No	Yes	No	Yes	No
Extrovert								
At least one	<b>-0.600***</b> (0.175)	-0.384 (0.284)						
Proportion			<b>-1.365*</b> (0.741)	-1.410 (1.047)				
Group-attitude					<b>-0.170**</b> (0.066)	-0.054 (0.045)	<b>-0.167**</b> (0.067)	-0.055 (0.046)
Reverse group-attitude							<b>-0.087*</b> (0.044)	-0.063 (0.053)
Self-attitude	0.052 (0.042)	0.057 (0.077)	0.048 (0.044)	0.059 (0.077)	0.041 (0.044)	0.051 (0.077)	0.041 (0.044)	0.053 (0.077)
Wald-statistics	0.36		0.00		<b>3.57</b>		0.82	
p-value	0.551		0.970		<b>0.059</b>		0.364	
Observations	346	300	346	300	346	300	346	300
R-squared	0.204	0.214	0.202	0.215	0.215	0.212	0.219	0.214

Note: See Notes of Table 3. We created an extrovert index using responses to two statements from the Ten-Item Personality Inventory (TIPI) questionnaire: “I see myself as extraverted and enthusiastic” and “I see myself as reserved and quiet” (reverse coded), where responses to each statement are on a scale of 1 (disagree strongly) to 7 (agree strongly). An individual is referred to as (relatively) extroverted in nature if she has a score that is greater than, or equal to, the average of the other group members’ score. Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly respectively in the consecutive columns. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table 5: The role of personality traits (open vs less open to new experiences) on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus								
Open to new experience	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-0.593**</b> (0.240)	0.122 (0.175)						
Proportion			-1.147 (1.074)	1.812 (1.320)				
Group-attitude					0.094 (0.134)	-0.030 (0.186)	0.036 (0.080)	-0.049 (0.131)
Reverse group-attitude							<b>0.406**</b> (0.129)	-0.298 (0.197)
Self-attitude	0.060 (0.069)	-0.100 (0.072)	0.053 (0.077)	-0.053 (0.104)	0.043 (0.068)	-0.100 (0.078)	0.027 (0.070)	-0.114 (0.078)
Wald-statistics	<b>32.23</b>		<b>16.55</b>		0.36		<b>19.07</b>	
p-value	<b>0.000</b>		<b>0.000</b>		0.550		<b>0.000</b>	
Observations	58	60	58	60	58	60	58	60
R-squared	0.604	0.529	0.601	0.550	0.598	0.528	0.631	0.551

Panel B: Hindus post-training attitude towards Muslims								
Open to new experience	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-0.406***</b> (0.124)	<b>-0.596**</b> (0.223)						
Proportion			<b>-1.461***</b> (0.434)	-1.325 (0.890)				
Group-attitude					<b>-0.121*</b> (0.063)	-0.080 (0.058)	<b>-0.122*</b> (0.063)	-0.078 (0.058)
Reverse group-attitude							-0.063 (0.080)	<b>-0.093**</b> (0.045)
Self-attitude	0.063 (0.063)	-0.012 (0.048)	0.065 (0.062)	-0.014 (0.049)	0.054 (0.062)	-0.023 (0.053)	0.055 (0.062)	-0.023 (0.053)
Wald-statistics	0.76		0.02		0.46		0.28	
p-value	0.383		0.879		0.496		0.598	
Observations	326	320	326	320	326	320	326	320
R-squared	0.197	0.204	0.200	0.200	0.202	0.198	0.204	0.203

Note: See Notes of Table 3. We created an openness index using responses to two statements from the Ten-Item Personality Inventory (TIPI) questionnaire: "I see myself as open to new experiences and complex" and "I see myself as conventional and uncreative" (reverse coded), where responses to each statement are on a scale of 1 (disagree strongly) to 7 (agree strongly). An individual is referred to as (relatively) open to new experiences if she has a score that is greater than, or equal to, the average of the other group members' score. Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly respectively in the consecutive columns. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table 6: The role of caste identity on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitudes towards Hindus								
Caste group	AD	D-AD	AD	D-AD	AD	D-AD	AD	D-AD
At least one	-2.639 (1.697)	<b>-0.229**</b> <b>(0.076)</b>						
Proportion			5.072 (14.410)	0.169 (0.604)				
Group-attitude					-0.089 (1.060)	0.032 (0.072)	-0.063 (1.864)	0.030 (0.075)
Reverse group-attitude							-0.073 (1.444)	-0.057 (0.077)
Self-attitude	0.696 (0.429)	-0.097 (0.085)	0.945 (0.543)	-0.099 (0.089)	0.639 (1.050)	-0.100 (0.087)	0.673 (2.111)	-0.100 (0.088)
Wald-statistics		<b>11.70</b>	0.95		0.09		0.00	
p-value		<b>0.001</b>	0.329		0.758		0.965	
Observations	17	101	17	101	17	101	17	101
R-squared	0.875	0.415	0.886	0.413	0.875	0.413	0.875	0.414
Panel B: Hindus post-training attitude towards Muslims								
Caste group	AD	D-AD	AD	D-AD	AD	D-AD	AD	D-AD
At least one	-0.244 (0.425)	<b>-0.512***</b> <b>(0.115)</b>						
Proportion			-0.845 (1.954)	<b>-1.309**</b> <b>(0.575)</b>				
Group-attitude					-0.228 (0.254)	<b>-0.098*</b> <b>(0.049)</b>	-0.230 (0.257)	-0.098* (0.049)
Reverse group-attitude							-0.228 (0.399)	-0.059 (0.037)
Self-attitude	-0.079 (0.168)	0.049 (0.036)	-0.075 (0.170)	0.048 (0.037)	-0.019 (0.209)	0.039 (0.037)	-0.021 (0.215)	0.039 (0.038)
Wald-statistics		0.87	0.13		0.51		0.44	
p-value		0.352	0.723		0.474		0.508	
Observations	57	589	57	589	57	589	57	589
R-squared	0.700	0.149	0.700	0.148	0.709	0.150	0.710	0.151

Notes: See Notes of Table 3. AD refers to the advantaged caste group (general caste category) and D-AD refers to the disadvantaged caste group (SC, ST, OBC caste categories). Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly in the consecutive columns respectively. Standard errors clustered at slum level are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table 7: The role of cognitive ability on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus				
At least one	<b>-0.334**</b>			
	<b>(0.141)</b>			
Proportion		-0.016		
		(0.915)		
Pre-training group-attitude			0.015	-0.019
			(0.055)	(0.078)
Pre-training reverse group-attitude				-0.146
				(0.106)
Pre-training self-attitude	-0.024	-0.028	-0.027	-0.058
	(0.056)	(0.060)	(0.060)	(0.056)
Raven's test score of own community			0.028	0.018
			(0.091)	(0.093)
Raven's test score of out-group community				0.177
				(0.173)
Raven's test score (own)	-0.068	-0.091	<b>-0.084**</b>	<b>-0.098**</b>
	(0.065)	(0.059)	<b>(0.035)</b>	<b>(0.044)</b>
Controls	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R-squared	0.396	0.392	0.392	0.409
Panel B: Hindus post-training attitude towards Muslims				
At least one	<b>-0.533***</b>			
	<b>(0.139)</b>			
Proportion		<b>-1.496**</b>		
		<b>(0.569)</b>		
Pre-training group-attitude			<b>-0.106**</b>	<b>-0.105**</b>
			<b>(0.048)</b>	<b>(0.048)</b>
Pre-training reverse group-attitude				-0.056
				(0.044)
Pre-training self-attitude	0.049	0.047	0.037	0.038
	(0.031)	(0.032)	(0.033)	(0.033)
Raven's test score of own community			-0.049	-0.042
			(0.056)	(0.057)
Raven's test score of out-group community				-0.039
				(0.032)
Raven's test score (own)	0.017	0.018	0.013	0.017
	(0.043)	(0.044)	(0.044)	(0.044)
Controls	Yes	Yes	Yes	Yes
Observations	646	646	646	646
R-squared	0.145	0.146	0.148	0.150

Note: See Notes to Table 3. Raven's test scores are standardized test score of others in the group from own religion (row 6), from the other religion (row 7) and the participant's own test score (row 8). The score is on a scale of 0 to 12. We also include the usual additional controls. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects are also controlled for in each of the regressions. Bold indicates statistically significant coefficients.



**Table 8: The role of positive and negative surprise about cognitive ability on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus				
At least one	-0.085 (0.247)			
Proportion		-0.270 (0.682)		
Pre-training group-attitude			0.021 (0.089)	-0.028 (0.109)
Pre-training reverse group-attitude				-0.118 (0.093)
Pre-training self-attitude	0.086 (0.093)	0.097 (0.076)	0.097 (0.087)	0.144 (0.094)
Raven's test score of own community			0.044 (0.076)	0.042 (0.071)
Raven's test score of out-group community				<b>0.297*</b> <b>(0.138)</b>
Raven's test score (own)	-0.087 (0.061)	-0.084 (0.069)	-0.080* (0.042)	-0.098 (0.062)
Negative surprise	0.273 (0.298)	0.300 (0.264)	0.291 (0.310)	<b>0.563***</b> <b>(0.162)</b>
Positive surprise	-0.200 (0.224)	-0.230 (0.205)	-0.240 (0.228)	-0.343 (0.284)
Controls	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R-squared	0.406	0.407	0.407	0.447

Panel B: Hindus post-training attitude towards Muslims

At least one	<b>-0.421***</b> <b>(0.093)</b>			
Proportion		<b>-1.182**</b> <b>(0.513)</b>		
Pre-training group-attitude			<b>-0.101**</b> <b>(0.046)</b>	-0.101** (0.045)
Pre-training reverse group-attitude				-0.043 (0.046)
Pre-training self-attitude	<b>0.146**</b> <b>(0.060)</b>	<b>0.144**</b> <b>(0.060)</b>	<b>0.135**</b> <b>(0.062)</b>	<b>0.137**</b> <b>(0.062)</b>
Raven's test score of own community			-0.047 (0.057)	-0.043 (0.058)
Raven's test score of out-group community				0.016 (0.031)
Raven's test score (own)	0.011 (0.043)	0.012 (0.044)	0.007 (0.044)	0.009 (0.045)
Negative surprise	<b>0.231*</b> <b>(0.121)</b>	<b>0.229*</b> <b>(0.119)</b>	<b>0.224*</b> <b>(0.122)</b>	<b>0.228*</b> <b>(0.124)</b>
Positive surprise	<b>-0.600***</b> <b>(0.197)</b>	<b>-0.596**</b> <b>(0.262)</b>	<b>-0.735***</b> <b>(0.199)</b>	<b>-0.747***</b> <b>(0.255)</b>
Controls	Yes	Yes	Yes	Yes

Observations	646	646	646	646
R-squared	0.155	0.155	0.159	0.160

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Note: Participants are classified as having higher or lower than average prejudice toward members of the other religion based on their responses to the five-item Generalized Attitude Scale at baseline. Participants are classified as having higher or lower than average cognitive ability based on their Raven's test scores. Positive surprise takes the value 1 when participants with above average prejudice are paired with groupmates with above average cognitive ability. Negative surprise takes the value 1 when participants with below average prejudice are paired with groupmates with below average cognitive ability. We include the usual additional controls. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects are also controlled for in each of the regressions. Bold indicates statistically significant coefficients.

**Table 9: The role of strength of identity on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus								
Participant is religious	Yes	No	Yes	No	Yes	No	Yes	No
At least one	-0.234 (0.269)	<b>-0.844***</b> <b>(0.219)</b>						
Proportion			-2.089 (1.208)	0.602 (0.946)				
Group-attitude					0.168 (0.118)	-0.065 (0.088)	0.167 (0.119)	-0.060 (0.090)
Reverse group-attitude							-0.016 (0.165)	-0.054 (0.074)
Self-attitude	-0.045 (0.286)	0.006 (0.052)	-0.045 (0.275)	0.014 (0.057)	-0.062 (0.268)	0.001 (0.061)	-0.062 (0.272)	-0.003 (0.067)
Wald-statistics		<b>3.85</b>		<b>9.25</b>		2.51		0.08
p-value		<b>0.05</b>		<b>0.00</b>		0.11		0.78
Observations	56	62	56	62	56	62	56	62
R-squared	0.343	0.615	0.381	0.598	0.356	0.596	0.356	0.597

Panel B: Hindus post-training attitude towards Muslims								
Participant is religious	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-0.447***</b> <b>(0.146)</b>	<b>-0.638***</b> <b>(0.157)</b>						
Proportion			<b>-1.479***</b> <b>(0.485)</b>	<b>-1.577*</b> <b>(0.885)</b>				
Group-attitude					-0.024 (0.070)	<b>-0.123**</b> <b>(0.056)</b>	-0.026 (0.071)	<b>-0.123**</b> <b>(0.056)</b>
Reverse group-attitude							<b>-0.081***</b> <b>(0.025)</b>	-0.050 (0.093)
Self-attitude	0.037 (0.051)	0.099 (0.060)	0.039 (0.052)	0.096 (0.061)	0.026 (0.048)	0.103 (0.062)	0.028 (0.049)	0.104 (0.061)
Wald-statistics		0.83		0.01		1.76		0.12
p-value		0.36		0.93		0.19		0.73
Observations	307	339	307	339	307	339	307	339
R-squared	0.233	0.240	0.235	0.238	0.230	0.239	0.232	0.240

Note: See Notes of Table 3. We define the participant as religious if she describes herself as very religious, religious or somewhat religious and not religious if otherwise. Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly in the consecutive columns respectively. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table 10: The role of peer effects on prejudicial attitudes six months after the training program**

Panel A: Muslims follow-up attitude towards Hindus				
At least one	0.209 (0.251)			
Proportion		0.971 (1.052)		
Pre-training group-attitude			<b>-0.218*</b> <b>(0.108)</b>	-0.206 (0.123)
Pre-training reverse group-attitude				-0.101 (0.263)
Pre-training self-attitude	0.512** (0.183)	0.519** (0.175)	0.548** (0.173)	0.555** (0.172)
Controls	Yes	Yes	Yes	Yes
Observations	68	68	68	68
R-squared	0.492	0.499	0.512	0.515
Panel B: Hindus follow-up attitude towards Muslims				
At least one	<b>-0.480***</b> <b>(0.168)</b>			
Proportion		-0.648 (0.588)		
Pre-training group-attitude			-0.062 (0.044)	-0.062 (0.044)
Pre-training reverse group-attitude				0.006 (0.025)
Pre-training self-attitude	0.607*** (0.058)	0.594*** (0.054)	0.584*** (0.051)	0.584*** (0.052)
Controls	Yes	Yes	Yes	Yes
Observations	277	277	277	277
R-squared	0.480	0.476	0.478	0.478

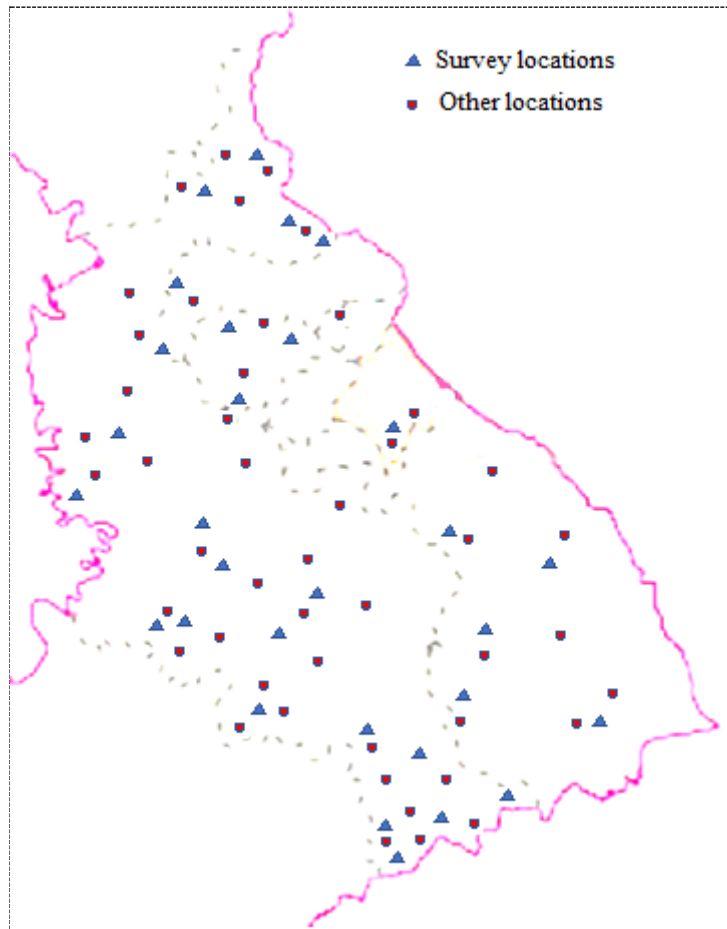
Note: See Notes of Table 3. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed. Standard errors, clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 11: Association of change in slum follow-up prejudice and baseline slum prejudice**

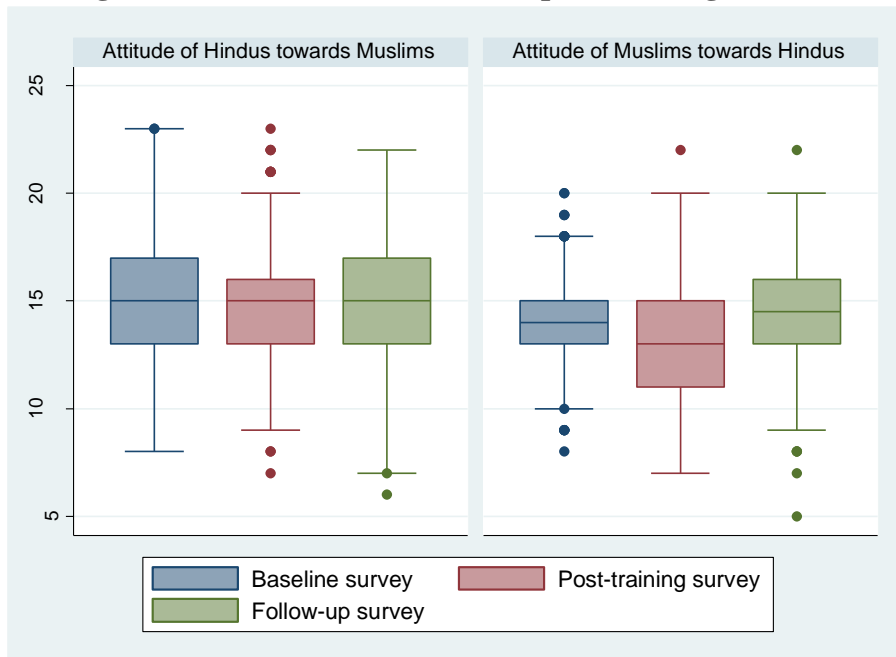
	Change in slum follow-up prejudice	
	Towards Hindus	Towards Muslims
Baseline slum prejudice	<b>1.267***</b> <b>(0.164)</b>	<b>0.851***</b> <b>(0.205)</b>
Controls	No	No
Observations	30	30
R-squared	0.681	0.382

Note: Standard errors clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Here the outcome variable is the change in slum-level prejudice from post-training to follow-up i.e. follow up minus post-training attitude.

**Figure 1: District map of Kanpur Nagar**



**Figure 2: Change in attitudes between baseline, post-training and follow-up surveys**



## Online Appendix (Not for publication)

**Table A1: Balance test**

Variables of interest	Mean		Difference	
	Followed	Not followed	t-test	p-value
Age (in years)	22.49	22.86	0.842	0.400
Years of schooling (in years)	9.493	9.251	-0.672	0.502
Marital status (Ref: Others)				
Currently married dummy	0.372	0.372	1.459	0.145
Household income (Ref: Less than 4000)				
4000+-5000	0.171	0.153	-0.683	0.495
5000+-10000	0.519	0.525	0.171	0.864
10000+	0.235	0.279	1.396	0.163
Caste category (Ref: Advantaged castes)				
Disadvantaged Castes (SC, ST & OBC)	0.901	0.905	0.143	0.886
Household size	5.658	5.544	-0.762	0.446
Activity status (Ref: Others)				
Employed	0.110	0.093	-0.779	0.436
Unemployed	0.121	0.112	-0.410	0.682
Housewife	0.307	0.346	1.136	0.256
Student	0.386	0.339	-1.335	0.182
No. of Obs.	345	419		

Notes: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training was completed. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed, while 419 were not followed. The reported p-values are from the two-tailed test with the null hypothesis that the group means are equal. Others in the case of caste categories refer to Unmarried/Divorced/Widowed individuals.

**Table A2: Summary statistics**

Variables of Interest	Mean	Std. Dev	Min	Max
<b>Control Variables</b>				
Age (in years)	22.692	6.032	15.000	50.000
Years of schooling (in years)	9.360	4.956	0.000	17.000
Marital status (Ref: Others)				
Currently married	0.349	0.477	0.000	1.000
Household income (Ref: Less than 4000)				
4000+-5000	0.161	0.368	0.000	1.000
5000+-10000	0.522	0.500	0.000	1.000
10000+	0.259	0.438	0.000	1.000
Caste categories (Ref: Advantaged castes)				
Disadvantaged Castes (SC, ST & OBC)	0.903	0.296	0.000	1.000
Household size	5.596	2.054	1.000	16.000
Activity status (Ref: Others)				
Employed	0.101	0.301	0.000	1.000
Unemployed	0.116	0.321	0.000	1.000
Housewife	0.329	0.470	0.000	1.000
Student	0.360	0.480	0.000	1.000
<b>Other variables of Interest</b>				
Extroversion (Ref: Introvert)	0.529	0.499	0.000	1.000
Openness (Ref: Less open)	0.503	0.500	0.000	1.000
Exam marks (both MCQ & Practical)	25.54	4.561	0.000	33.00
Raven's test score	1.723	1.257	0.000	8.000

Note: See Notes to Table A1. Household income is the monthly income of the household measured in Indian rupees as of the time of the survey. Others in the case of caste categories refer to Unmarried/Divorced/Widowed individuals. Both practical & MCQ marks were out of 20 each and so total exam marks was out of 40 marks. As part of the baseline survey, participants were given 12 puzzles and asked to complete as many as possible. We used the resulting Raven's test scores (0-12) as a measure of the cognitive ability of the participant.



**Table A3: Falsification test**

## Panel A: Muslims post-training attitude towards Hindus

At least one	0.137			
	(0.198)			
Proportion		0.649		
		(0.432)		
Pre-training group-attitude		-0.029	-0.026	
		(0.080)	(0.089)	
Pre-training reverse group-attitude			-0.113	
			(0.122)	
Pre-training self-attitude	-0.024	-0.013	-0.036	-0.035
	(0.050)	(0.053)	(0.074)	(0.078)
Controls	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R-squared	0.387	0.392	0.387	0.393

## Panel B: Hindus post-training attitude towards Muslims

At least one	-0.005			
	(0.191)			
Proportion		-0.356		
		(0.300)		
Pre-training group-attitude		-0.027	-0.028	
		(0.047)	(0.047)	
Pre-training reverse group-attitude			-0.039	
			(0.053)	
Pre-training self-attitude	0.042	0.043	0.039	0.039
	(0.031)	(0.031)	(0.032)	(0.032)
Controls	Yes	Yes	Yes	Yes
Observations	646	646	646	646
R-squared	0.137	0.138	0.138	0.138

Note: See Notes of Table 3. Standard errors, clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table A4A: The role of intergroup contact on prejudicial attitudes of Muslims towards Hindus (full results)**

Post-training attitude of Muslims towards Hindus				
At least one	<b>-0.407***</b>			
	<b>(0.110)</b>			
Proportion		-0.198		
		(0.880)		
Pre-training group-attitude			0.013	0.013
			(0.045)	(0.048)
Pre-training reverse group-attitude				-0.024
				(0.066)
Pre-training self-attitude	-0.023	-0.028	-0.026	-0.026
	(0.053)	(0.055)	(0.055)	(0.055)
Caste category (Ref: Advantaged castes)	-0.027	-0.058	-0.053	-0.060
Disadvantaged Caste (SC, ST & OBC)	(0.185)	(0.211)	(0.203)	(0.207)
Age	-0.003	-0.006	-0.007	-0.006
	(0.015)	(0.014)	(0.017)	(0.017)
Years of schooling	0.044**	0.041*	0.040*	0.040*
	(0.019)	(0.020)	(0.020)	(0.021)
Marital status (Ref: Unmarried/Divorced/Widowed)				
Currently married	0.482	0.438	0.442	0.452
	(0.606)	(0.604)	(0.642)	(0.643)
Household income (Ref: Less than 4000)				
4000+-5000	-0.088	-0.143	-0.139	-0.126
	(0.367)	(0.313)	(0.334)	(0.311)
5000+-10000	0.083	0.014	0.013	0.024
	(0.385)	(0.335)	(0.343)	(0.355)
10000+	0.174	0.110	0.117	0.133
	(0.316)	(0.298)	(0.299)	(0.311)
Household size	0.066	0.065	0.062	0.062
	(0.071)	(0.073)	(0.071)	(0.070)
Activity status (Ref: Others)				
Employed	0.267	0.216	0.231	0.225
	(0.321)	(0.361)	(0.357)	(0.349)
Unemployed	-0.097	-0.108	-0.087	-0.091
	(0.380)	(0.370)	(0.388)	(0.387)
House-wife	-0.368	-0.352	-0.340	-0.354
	(0.504)	(0.522)	(0.537)	(0.532)
Student	-0.105	-0.089	-0.078	-0.085
	(0.393)	(0.409)	(0.386)	(0.377)
Constant	-0.616	-0.721	-0.830	-0.839
	(0.977)	(1.092)	(0.929)	(0.937)
Observations	118	118	118	118
R-squared	0.393	0.387	0.387	0.387

Note: See Notes of Table 3. Standard errors, clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table A4B: The role of intergroup contact on prejudicial attitudes of Hindus towards Muslims (full results)**

Post-training attitude of Hindus towards Muslims				
At least one	<b>-0.531***</b>			
	<b>(0.138)</b>			
Proportion		<b>-1.486**</b>		
		<b>(0.567)</b>		
Pre-training group-attitude			<b>-0.105**</b>	<b>-0.105**</b>
			<b>(0.049)</b>	<b>(0.049)</b>
Pre-training reverse group-attitude				-0.064
				(0.042)
Pre-training self-attitude	0.048	0.047	0.036	0.037
	(0.031)	(0.032)	(0.033)	(0.033)
Caste category (Ref: Advantaged castes)				
Disadvantaged Caste (SC, ST &OBC)	0.082	0.074	0.083	0.087
	(0.180)	(0.180)	(0.184)	(0.184)
Age	0.016	0.016	0.014	0.014
	(0.010)	(0.010)	(0.010)	(0.010)
Years of schooling	0.008	0.008	0.009	0.009
	(0.014)	(0.014)	(0.014)	(0.014)
Marital status (Ref: Unmarried/Divorced/Widowed)				
Currently married	-0.018	-0.032	0.018	0.029
	(0.170)	(0.176)	(0.185)	(0.187)
Household income (Ref: Less than 4000)				
4000+-5000	-0.131	-0.116	-0.129	-0.132
	(0.244)	(0.243)	(0.241)	(0.241)
5000+-10000	-0.231	-0.226	-0.207	-0.213
	(0.213)	(0.212)	(0.207)	(0.207)
10000+	-0.180	-0.177	-0.186	-0.191
	(0.222)	(0.222)	(0.220)	(0.221)
Household size	0.011	0.011	0.008	0.008
	(0.021)	(0.021)	(0.020)	(0.020)
Activity status (Ref: Others)				
Employed	-0.038	-0.021	-0.032	-0.021
	(0.240)	(0.243)	(0.236)	(0.236)
Unemployed	0.239	0.243	0.231	0.242
	(0.202)	(0.202)	(0.203)	(0.202)
House-wife	0.021	0.033	-0.010	-0.010
	(0.273)	(0.276)	(0.281)	(0.283)
Student	0.164	0.164	0.145	0.147
	(0.215)	(0.215)	(0.221)	(0.221)
Constant	-0.593**	-0.595**	-0.470*	-0.471*
	(0.239)	(0.239)	(0.237)	(0.236)
Observations	646	646	646	646
R-squared	0.145	0.146	0.146	0.147

Note: See Notes of Table 3. Standard errors, clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table A5: The effect of having at least one member of the other religion in one's group on prejudicial attitudes with individual scores**

Panel A: Muslims post-training attitude towards Hindus					
	Q1	Q2	Q3	Q4	Q5
<i>At least one</i>	<b>-0.454**</b> <b>(0.193)</b>	<b>-0.453*</b> <b>(0.219)</b>	-0.026 (0.091)	0.081 (0.071)	<b>-0.284**</b> <b>(0.090)</b>
Pre-Q1	0.021 (0.103)				
Pre-Q2		0.154 (0.098)			
Pre-Q3			0.002 (0.112)		
Pre-Q4				<b>0.129*</b> <b>(0.068)</b>	
Pre-Q5					-0.007 (0.078)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	118	118	118	118	118
R-squared	0.407	0.340	0.361	0.121	0.220
Panel B: Hindus post-training attitude towards Muslims					
	Q1	Q2	Q3	Q4	Q5
<i>At least one</i>	-0.087 (0.060)	-0.365 (0.256)	-0.179 (0.199)	0.010 (0.161)	<b>-0.470**</b> <b>(0.182)</b>
Pre-Q1	-0.015 (0.045)				
Pre-Q2		<b>-0.077*</b> <b>(0.044)</b>			
Pre-Q3			-0.048 (0.048)		
Pre-Q4				-0.029 (0.036)	
Pre-Q5					0.051 (0.038)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	646	646	646	646	646
R-squared	0.191	0.181	0.146	0.263	0.114

Note: See Notes of Table 3. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects have also been controlled for in each of the regressions. Bold indicates statistically significant coefficients. Individual scores (instead of the attitude index) are based on responses to the following five statements individually: Q1: It really upsets me to hear anyone say anything negative about Muslims (reverse coded); Q2: Muslims have some very bad characteristics; Q3: I have very positive attitudes towards Muslims (reverse coded); Q4: There is little to admire about Muslims; Q5: Sometimes I think India would be better off without so many Muslims. In Panel A, individual scores are based on the same statements about Hindus. Responses were provided on a five-point scale (1=agree to 5=disagree). The pre-attitudes are responses of the women from the baseline or pre-training phase for each of the five statements Q1-Q5.

**Table A6: The effect of the proportion of members of the other religion in one's group on prejudicial attitudes with individual scores**

Panel A: Muslims post-training attitude towards Hindus					
	Q1	Q2	Q3	Q4	Q5
<i>Proportion</i>	-0.573 (0.989)	-0.064 (0.614)	-0.173 (0.706)	0.387 (1.162)	0.068 (0.949)
Pre-Q1	0.024 (0.098)				
Pre-Q2		0.142 (0.091)			
Pre-Q3			0.000 (0.117)		
Pre-Q4				<b>0.129*</b> <b>(0.070)</b>	
Pre-Q5					-0.011 (0.079)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	118	118	118	118	118
R-squared	0.401	0.332	0.362	0.122	0.217
Panel B: Hindus post-training attitude towards Muslims					
	Q1	Q2	Q3	Q4	Q5
<i>Proportion</i>	-0.086 (0.350)	<b>-1.561***</b> <b>(0.512)</b>	-0.258 (0.494)	-0.434 (0.366)	-0.752 (0.883)
Pre-Q1	-0.016 (0.044)				
Pre-Q2		<b>-0.078*</b> <b>(0.044)</b>			
Pre-Q3			-0.048 (0.048)		
Pre-Q4				-0.027 (0.036)	
Pre-Q5					0.050 (0.038)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	646	646	646	646	646
R-squared	0.191	0.187	0.146	0.264	0.110

Notes: See notes to Table 3 and Table A5.

**Table A7: Non-linear effects of the proportion of members of the other religion in one's group on prejudicial attitudes**

	Muslims post-training attitude towards Hindus	Hindus post-training attitude towards Muslims
Proportion=0.20	<b>-0.331***</b> <b>(0.080)</b>	<b>-0.313***</b> <b>(0.104)</b>
Proportion=0.25	-	<b>-0.685***</b> <b>(0.200)</b>
Proportion=0.40	<b>1.024*</b> <b>(0.530)</b>	<b>-0.716***</b> <b>(0.222)</b>
Proportion=0.60	-0.044 (0.104)	<b>-1.692***</b> <b>(0.397)</b>
Proportion=0.75	0.562 (0.533)	-
Proportion=0.80	0.370 (0.256)	-0.443 (0.352)
Pre-training self-attitude	0.020 (0.077)	0.053 (0.031)
Controls	Yes	Yes
Observations	118	646
R-squared	0.440	0.152

Note: There are a total of 144 groups with five women each with 11 groups of four women each (due to 11 women not participating in the training despite being invited). Proportion is the proportion of members of the other religion in the participant's four, or five, member group. The reference category for proportion is groups with no women of the other religion in them. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects have also been controlled for in each of the regressions. Bold indicates statistically significant coefficients. We also employ the same controls as in Table 3.

**Table A8A: The role of personality traits (agreeable vs not agreeable) on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus								
Respondent is agreeable	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-1.107**</b> <b>(0.421)</b>	0.153 (0.533)						
Proportion			0.280 (1.179)	1.058 (1.334)				
Group-attitude					0.070 (0.101)	-0.123 (0.128)	0.006 (0.145)	-0.116 (0.082)
Reverse group-attitude							0.350 (0.350)	<b>-0.327*</b> <b>(0.171)</b>
Self-attitude	0.132 (0.100)	-0.075 (0.147)	0.080 (0.112)	-0.086 (0.116)	0.078 (0.094)	-0.062 (0.162)	0.088 (0.091)	-0.105 (0.127)
Wald-statistics		<b>6.73</b>		0.35		<b>2.95</b>		<b>3.68</b>
p-value		<b>0.010</b>		0.554		<b>0.086</b>		<b>0.055</b>
Observations	72	46	72	46	72	46	72	46
R-squared	0.523	0.612	0.497	0.618	0.499	0.616	0.517	0.632

Panel B: Hindus post-training attitude towards Muslims								
Respondent is agreeable	Yes	No	Yes	No	Yes	No	Yes	No
At least one	-0.253 (0.242)	<b>-0.881***</b> <b>(0.318)</b>						
Proportion			-0.684 (0.939)	<b>-2.147***</b> <b>(0.676)</b>				
Group-attitude					-0.086 (0.055)	-0.119 (0.071)	-0.085 (0.055)	-0.119 (0.071)
Reverse group-attitude							-0.018 (0.045)	-0.092 (0.076)
Self-attitude	0.115 (0.068)	-0.016 (0.046)	0.114 (0.069)	-0.018 (0.046)	0.106 (0.069)	-0.026 (0.046)	0.106 (0.069)	-0.023 (0.046)
Wald-statistics		1.80		1.95		0.22		0.96
p-value		0.179		0.163		0.638		0.328
Observations	324	322	324	322	324	322	324	322
R-squared	0.197	0.237	0.197	0.235	0.201	0.226	0.201	0.229

Note: See Notes of Table 3. We create an agreeableness index using responses to two statements from the ten questions in the Ten-Item Personality Inventory (TIPI) questionnaire. The statements are: “I see myself as critical, quarrelsome” (reverse coded), and “I see myself as sympathetic, warm” where responses to each statement is on a scale of 1 (disagree strongly) to 7 (agree strongly). An individual is referred to as (relatively) agreeable in nature if she has a score that is greater than, or equal to, the average of the other group members’ score. Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly in the consecutive columns respectively. Standard errors, clustered, at the slum level are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.

**Table A8B: The role of personality traits (emotionally stable vs. not emotionally stable) on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus								
Emotionally stable	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-1.027***</b> (0.200)	0.265 (0.295)						
Proportion			<b>-2.197*</b> (1.009)	0.769 (1.058)				
Group-attitude					0.231 (0.179)	-0.155 (0.256)	0.267 (0.217)	-0.140 (0.259)
Reverse group-attitude							0.165 (0.256)	-0.212 (0.122)
Self-attitude	-0.108 (0.131)	0.037 (0.158)	-0.150 (0.098)	0.041 (0.146)	-0.161 (0.138)	0.034 (0.148)	-0.170 (0.140)	0.032 (0.137)
Wald-statistics	<b>16.40</b>		<b>9.69</b>		1.86		2.34	
p-value	<b>0.000</b>		<b>0.002</b>		0.173		0.126	
Observations	58	60	58	60	58	60	58	60
R-squared	0.466	0.653	0.466	0.656	0.446	0.658	0.454	0.671

Panel B: Hindus post-training attitude towards Muslims								
Emotionally stable	Yes	No	Yes	No	Yes	No	Yes	No
At least one	<b>-0.385*</b> (0.200)	<b>-0.647***</b> (0.165)						
Proportion			-1.008 (0.748)	<b>-2.129***</b> (0.422)				
Group-attitude					<b>-0.112***</b> (0.039)	-0.083 (0.078)	<b>-0.109***</b> (0.038)	-0.084 (0.078)
Reverse group-attitude							<b>-0.088***</b> (0.031)	-0.109 (0.102)
Self-attitude	0.059 (0.063)	0.043 (0.059)	0.057 (0.063)	0.044 (0.059)	0.040 (0.065)	0.043 (0.058)	0.041 (0.065)	0.043 (0.058)
Wald-statistics	<b>2.76</b>		2.47		0.18		0.07	
p-value	<b>0.097</b>		0.116		0.673		0.797	
Observations	341	305	341	305	341	305	341	305
R-squared	0.176	0.216	0.175	0.219	0.181	0.211	0.184	0.214

Note: See Notes of Table 3. We create an emotional stability index using responses to two statements from the ten questions in the Ten-Item Personality Inventory (TIPI) questionnaire. The statements are: “I see myself as anxious, easily upset” (reverse coded) and “I see myself as calm, emotionally stable” where responses to each statement are on a scale of 1 (disagree strongly) to 7 (agree strongly). An individual is referred to as (relatively) emotionally stable in nature if she has a score that is greater than or equal to the average of the other group members’ score. Wald statistics show if the coefficients of at least one, proportion, group attitude and reverse group attitude differs significantly in the consecutive columns respectively. Standard errors, clustered at the slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Bold indicates statistically significant coefficients.



**Table A9: The role of ability measured by results in the post-training exams on the effect of intergroup contact on reducing prejudice**

Panel A: Muslims post-training attitude towards Hindus				
At least one	<b>-0.568***</b>			
	<b>(0.149)</b>			
Proportion		-0.312		
		(0.966)		
Pre-training group-attitude			0.004	0.007
			(0.035)	(0.032)
Pre-training reverse group-attitude				-0.050
				(0.093)
Pre-training self-attitude	-0.025	-0.032	-0.032	-0.024
	(0.053)	(0.056)	(0.047)	(0.050)
Exam marks of own community			-0.121	-0.079
			(0.121)	(0.128)
Exam marks of out-group community				-0.094
				(0.102)
Exam marks (own)	<b>-0.321*</b>	<b>-0.254*</b>	<b>-0.237*</b>	<b>-0.233*</b>
	<b>(0.147)</b>	<b>(0.134)</b>	<b>(0.114)</b>	<b>(0.117)</b>
Controls	Yes	Yes	Yes	Yes
Observations	118	118	118	118
R-squared	0.409	0.397	0.399	0.402
Panel B: Hindus post-training attitude towards Muslims				
At least one	<b>-0.516***</b>			
	<b>(0.134)</b>			
Proportion		<b>-1.451**</b>		
		<b>(0.565)</b>		
Pre-training group-attitude			<b>-0.107**</b>	<b>-0.106**</b>
			<b>(0.047)</b>	<b>(0.047)</b>
Pre-training reverse group-attitude				-0.065
				(0.041)
Pre-training self-attitude	0.048	0.047	0.035	0.036
	(0.031)	(0.032)	(0.033)	(0.033)
Exam marks of own community			-0.029	-0.022
			(0.077)	(0.084)
Exam marks of out-group community				-0.020
				(0.059)
Exam marks (own)	-0.044	-0.045	-0.055	-0.052
	(0.049)	(0.050)	(0.053)	(0.055)
Controls	Yes	Yes	Yes	Yes
Observations	646	646	646	646
R-squared	0.147	0.147	0.148	0.150

Note: See Notes to Table 3. Exam marks from both the multiple choice and practical tests are standardized marks of others in the group from own religion (row 6), from the other religion (row 7) and the participant's own exam marks (row 8). Exam marks is on a scale of 0 to 40 (20 from the multiple choice test and 20 from the practical test). We also include the usual additional controls. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects are also controlled for in each of the regressions. Bold indicates statistically significant coefficients.

**Table A10: Impact of exposure to high-, medium-, and low cognitive ability members of the other religion by terciles on prejudicial attitudes**

	Muslims post-training attitude towards Hindus	Hindus post-training attitude towards Muslims
Number of low cognitive ability out-group members	-0.126 (0.206)	<b>-0.333*</b> <b>(0.175)</b>
Number of medium cognitive ability out-group members	0.282 (0.256)	<b>-0.362***</b> <b>(0.087)</b>
Number of high cognitive ability out-group members	0.168 (0.235)	-0.046 (0.203)
Pre-training self-attitude	-0.049 (0.039)	0.047 (0.031)
Controls	Yes	Yes
Observations	118	646
R-squared	0.404	0.147

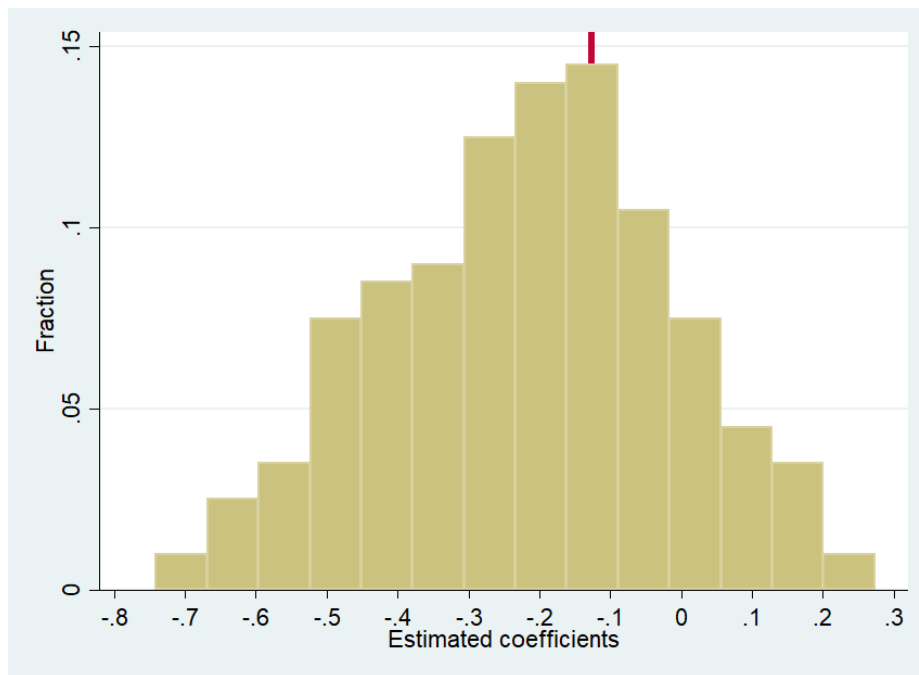
Note: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed. The following controls have been included in the OLS regressions: age (in years); years of schooling; dummy variable = 1 if the participant belongs to a disadvantaged caste (Scheduled Caste (SC), Scheduled Tribe (ST) or Other Backward Classes (OBC)); dummy variable =1 if the participant is currently married; monthly household income in Indian rupees; usual activity status (dummies for whether the participant is employed, unemployed, housewife, student or others); and household size of the participant. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects have also been controlled for in each of the regressions. Bold indicates statistically significant coefficients. We also employ the same controls as in Table 3.

**Table A11: Impact of exposure to high-, medium-, and low-ability members of the other religion by quantiles on prejudicial attitudes**

	Muslims post-training attitude towards Hindus	Hindus post-training attitude towards Muslims
Number of out-group members in bottom quantile by cognitive ability	-0.431 (0.401)	-0.165 (0.241)
Number of out-group members in second quantile by cognitive ability	0.028 (0.271)	-0.457 (0.277)
Number of out-group members in third quantile by cognitive ability	0.429 (0.285)	<b>-0.405***</b> <b>(0.086)</b>
Number of out-group members in fourth quantile by cognitive ability	0.097 (0.205)	0.204 (0.377)
Number of out-group members in top quantile by cognitive ability	0.626 (0.475)	<b>-0.377**</b> <b>(0.180)</b>
Pre-training self-attitude	-0.058 (0.043)	0.046 (0.032)
Controls	Yes	Yes
Observations	118	646
R-squared	0.411	0.152

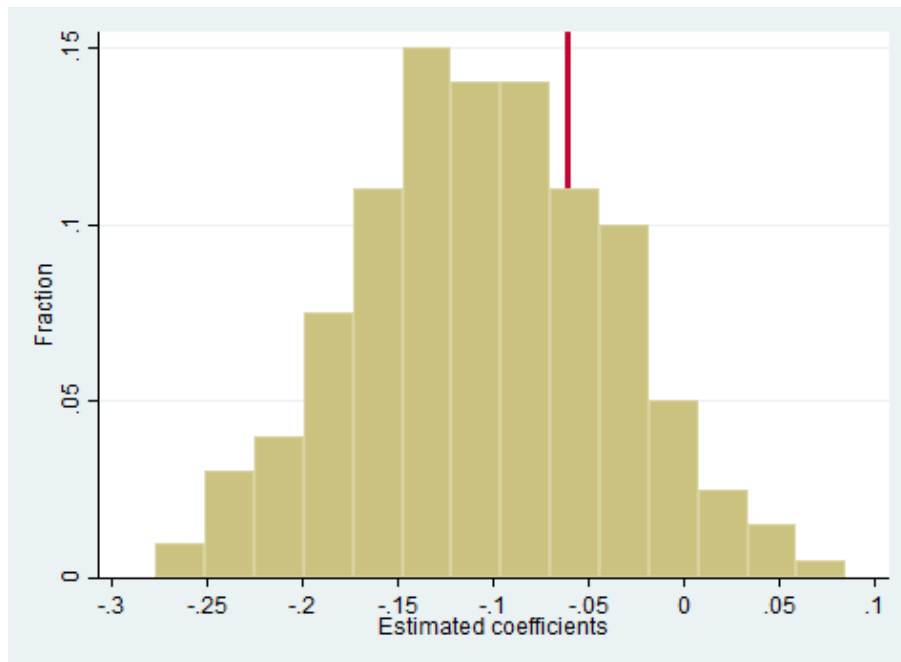
Note: A total of 764 women (118 Muslims and 646 Hindus) were surveyed at baseline and one week after the training. A randomly selected sample of 345 women (68 Muslims and 277 Hindus) were surveyed six months after the training was completed. The following controls have been included in the OLS regressions: age (in years); years of schooling; dummy variable = 1 if the participant belongs to a disadvantaged caste (Scheduled Caste (SC), Scheduled Tribe (ST) or Other Backward Classes (OBC)); dummy variable =1 if the participant is currently married; monthly household income in Indian rupees; usual activity status (dummies for whether the participant is employed, unemployed, housewife, student or others); and household size of the participant. Standard errors, clustered at slum level, are reported in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Slum fixed effects have also been controlled for in each of the regressions. Bold indicates statistically significant coefficients. We also employ the same controls as in Table 3.

**Figure A1: Distribution of estimated coefficients from the randomization test:  
Muslims attitude towards Hindus**



Notes: This is the distribution of the coefficients estimated from the randomization test with own attitude as the dependent variable and group attitude as the independent variable, run over 200 randomly assigned counterfactual matches. The vertical line is the estimated coefficient from the randomization test, presented in Table 2. The simulated distributions of estimated coefficients under the null hypothesis of a random assignment are centred at -0.217, with 68.5% of the simulated coefficients being smaller than that estimated from the sample, -0.127. We conclude from this that the  $p$ -value is 0.685: we cannot reject the null hypothesis of random assignment.

**Figure A2: Distribution of estimated coefficients from the randomization test  
Hindus attitudes towards Muslims**



Notes: This is the distribution of the coefficients estimated from the randomization test with own attitude as the dependent variable and group attitude as the independent variable, run over 200 randomly assigned counterfactual matches. The vertical line is the estimated coefficient from the randomization test, presented in Table 2. The simulated distributions of estimated coefficients under the null hypothesis of a random assignment are centred at -0.106, with 75% of the simulated coefficients being smaller than that estimated from the sample, -0.061. We conclude from this that the  $p$ -value is 0.75: we cannot reject the null hypothesis of random assignment.