Interaction, prejudice and performance. Evidence from South Africa

Justine Burns, Lucia Corno, Eliana La Ferrara*

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Abstract

We exploit random assignment of roommates in double rooms at University of Cape Town to investigate whether interaction with a person of a different race affects stereotypes, inter-ethnic attitudes, cooperative behavior and academic performance. Our outcomes include Implicit Association Tests (IATs), survey-based measures, experimental games and administrative records. We find that living with a roommate of a different race significantly reduces white students' prejudice towards blacks, as measured by the IAT. We also find increases in inter-racial interactions among friends and study-mates. The reduction in stereotypes is accompanied by a more general tendency to cooperate, as measured in a prisoner's dilemma game and by participation in volunteering activities. We also show important effects of integration on academic outcomes: blacks who share the room with a non-black student significantly improve their GPA, pass more exams and have lower dropout rates. The positive effect on performance among black students is not driven by the ability of the roommate and is stronger the lower the degree of prejudice of the roommate. This suggests that stereotypes may act as barriers to the extent of interaction and communication among peers, so that the effect of exposure to another student with a certain ability will differ depending on that student's race and on his or her prejudice.

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1 Introduction

Contemporary societies are becoming increasingly diverse, largely due to higher geographic mobility of individuals. This increased diversity does not always translate into equal opportunities for different groups in society: concerns exist about the possibility that today's schools, workplaces and social networks display significant segregation along income or racial lines. Economists have worried about these trends for at least two reasons. First, ethnic diversity has been shown to negatively correlate with economic growth, public good provision, trust and the quality of institutions. How to reduce the costs of ethnic divisions and leverage the potential benefits of diversity is still an open question. The second reason is that, in the presence of peer effects, such income or racial segregation may widen disparities among groups in society: integration policies have thus been proposed as a means of reducing racial gaps in outcomes.[1]

On the other hand, social psychologists have long studied diversity, underlining the importance of identity and stereotype formation. In this literature, the main role served by integration is not that of improving (economic) performance, but of changing individual attitudes and stereotypes, possibly reducing prejudice and inter-group conflict.[2]

Interestingly, these two sides of the problem have seldom been examined together. This paper attempts to do precisely this, in the context of education policy: we study the effects of exposure to members of a different group on academic achievement and on prejudice at the same time. Specifically, we address the following questions: (i) does interaction with a member of a different race change individual stereotypes and prejudice towards that race? (ii) is this simply due to belief updating or does the "taste" for interacting with the other group change? (iii) does exposure to a different group induce changes in generalized prosocial behavior? (iv) what are the effects on academic outcomes: is there a trade-off between reducing prejudice and improving academic performance? and (v) are the effects on academic outcomes mediated by prejudice: do individuals learn more when they are paired with someone of another race who is not prejudiced against their group?

[1] For a review of the literature on ethnic diversity, see Alesina and La Ferrara (2005). A recent study of the economic costs of ethnic divisions is Hjort (2014). On diversity-enhancing policies, see among others Fryer and Loury (2013) for a theoretical analysis and Kling et al. (2007) for an evaluation of the Moving to Opportunity program.

[2] For a meta-analysis of the relation between inter-group contact and prejudice, see Pettigrew and Tropp (2006).

We address the above questions in the context of South Africa, a country where the experience of Apartheid made people relatively prone to stereotyping and led to the economic marginalization of the black population. We take advantage of a policy implemented by the University of Cape Town (UCT) since 2006 with the aim of promoting racial integration. This policy randomly allocates students across university residences and -in some of the residences- to roommates, thus providing a unique opportunity to test the effect of peers (i.e., those who share the same room) on students' behavior and outcomes. The random assignment allows us to identify the causal impact of peer characteristics and to eliminate the selection bias that may be present if students chose their roommates.

We recruited a sample of 504 freshmen students living in double rooms in university residences at UCT and collected two rounds of data: one at the beginning and one at the end of the 2012 academic year. Our first outcome of interest is prejudice or stereotypes held against members of different racial groups. Whether increased interaction with members of other groups would increase or decrease prejudice is theoretically unclear. According to Allport's (1954) contact hypothesis, under certain conditions inter-personal contact among groups should lead to a reduction in prejudice. On the other hand, forced integration may exacerbate divisions and lead to the opposite outcome (e.g., Barlow et al., 2012).

To gain a possibly objective measure of racial prejudice, we administered a series of implicit association tests (IATs).[3] IATs are a tool used by social psychologists and exploit variation in the time that individuals take to complete a rapid categorization task that involves associating concepts with visual cues about race. The underlying idea is that subjects who are systematically slower in associating certain pairs implicitly reveal mental processes that tend to perceive those pairs as less common. In addition to the typical "Population IAT" which elicits associations between generally "positive" concepts and race, we designed an IAT to elicit associations between academic ability and race - we refer to this as the "Academic IAT". The advantage of IATs over self-reported measures of prejudice is significant, especially in contexts where subjects may be reluctant to disclose prejudice or may not be fully aware of it. To our knowledge, ours is the first paper that uses IATs to estimate the impact of integration on racial prejudice, and we believe this constitutes an important contribution to the literature.[4]

[3]IATs were first introduced by Greenwald and Banaji (1995).

[4]Recent work by Lowes et al. (2015) uses the IAT to provide descriptive evidence on implicit attitudes towards different ethnic groups in the Democratic Republic of Congo. Barnhardt (2009) exploits a natural

Our first main result shows that exposure to members of a different race led to significant changes in prejudice: whites became relatively less prejudiced against blacks. The effect is sizeable, corresponding to .44 of a standard deviation of the Population IAT. The magnitude of the estimated coefficient suggests that the treatment closes 3/4 of the gap in prejudice between whites and blacks in Population IAT. We do not find corresponding changes in the Academic IAT, suggesting that interaction does not necessarily induce an update in beliefs on ability in a direction that is favorable to blacks. This finding is likely to reflect the differences in academic performance of the various groups, with whites having a higher entry score at UCT and a higher GPA than non-white students.

To uncover the role played by information in the reduction of prejudice, we estimate the effect of having a roommate of a different race separately for three categories of individuals: the first category is that of students who held certain beliefs at the beginning of the academic year and saw them "confirmed" by the particular realization of the roommate that they got; the second category is that of students whose roommate generated a "positive surprise" in the sense of conveying more positive information on the characteristics of blacks relative to the ex-ante beliefs of the respondent; and the third category includes students who received a "negative surprise". We find that the role played by new information differs depending on whether we examine the Academic or the Population IAT. Whites positively update their beliefs on the relative academic ability of blacks only when they are assigned a black roommate that is a "positive surprise" on academic grounds. On the other hand, the reduction in prejudice against blacks (as measured by the Population IAT) for white respondents is not driven by people whose roommate was a "positive surprise", suggesting that mere exposure to the other group led to changes in associations between race and good/bad concepts. We also find that the effect on white students' prejudice is independent of the extent of exposure to other races that they had in high school, which is not consistent with a purely Bayesian interpretation of belief updating.

Our second outcome of interest is academic performance. We investigate whether exposure to a roommate from a different group improves academic achievement at the end of the first year. We find strong effects of integration on academic performance, heterogeneous across groups.

experiment with public housing in India to study the effects of geographic proximity on religious prejudice using an IAT for the categories of Hindu and Muslim.

Grade point average (GPA) scores improve by .27 standard deviations for black students sharing a room with non-blacks. No significant effect is found for white students in mixed rooms. When we look at other outcomes, such as the number of exams taken and the probability to be eligible to continue as opposed to dropping out, large and significant positive effects emerge for black students, with no significant effect for whites.

What are the channels through which this performance effect operates? First of all, the effect is not an artifact of the fact that a black exposed to a white is on average exposed to a higher ability peer: in all regressions we control for the roommate's admission score into UCT as a proxy for ability, and the latter is typically found not to have a significant effect. Also, the effect is not driven by people who are in the same faculty and could plausibly study together. Interestingly, we find that the positive effect on performance for black students is stronger if they are paired with less-prejudiced roommates: black students with a white roommate improve their GPA by more when their white roommate is (at baseline) less prejudiced against blacks. This points to a channel that is not pure academic interaction. While other work has examined the effect of random roommate allocation on academic performance, to our knowledge ours is the first attempt to study *how this effect varies with the prejudice level of the subjects* involved. If academic gains from interaction are to be realized, it seems plausible that prejudice would play a significant role in making the interaction viable and beneficial for the parties involved.

Most of the positive effect on blacks' academic performance remains in their second year at university: blacks in mixed rooms pass a higher number of exams in the second year and have a higher probability to continue studying, suggesting long-term effects of the policy. No effect is found instead on the GPA calculated from second-year exams.

To further explore the mechanisms of interaction, we examine the effects of exposure to a different race on a variety of attitudinal and behavioral measures. We find that exposure to a roommate of a different race increases social interactions among students from different groups: the desired as well as the actual number of friends and study-mates of a different race increases among students in mixed-race rooms compared to students in same-race rooms. This effect is particularly strong for white students. Students in mixed rooms also report that they hang out more often with people of different race. Looking at self-reported attitudes, our results show an increase in the salience of race: students in mixed rooms report talking more frequently

about race and discrimination, are less conscious of dancing with a person of a different race and of having a boyfriend/girlfriend of a different race. Finally, different measures of pro-social behavior show increases for whites paired with roommates from other groups. For this group the likelihood of participating in voluntary organizations and social services increases by 41 percent, and the likelihood of playing 'cooperate' in a prisoner dilemma game that we implemented in the lab increases by 53 percent.

While we cannot estimate the total impact of exposure to a roommate of a different race on welfare, the above results suggest that racial mixing in rooms generated significant gains in terms of prejudice reduction and prosocial behavior for white students and positive effects on the academic performance of blacks.

Our paper relates to three strands of literature in economics. The first is the literature on the effects of integration policies on inter-group attitudes. Boisjoly et al. (2006) find random matching to roommates of different races in a US university increases support for affirmative action and empathy towards other groups. Van Laar et al. (2004) use housing assignments of first-year college students at University of California and find that having a roommate from another ethnic group decreases prejudice. Both these papers use self-reported measures of attitudes or prejudice, different from our work that relies on implicit association tests. We also look at a broader set of outcomes, including academic performance. Recent papers by Barnhardt (2009) and Rao (2013) study different forms of integration in India. Barnhardt (2009) examines the effects of neighborhood religious composition on inter-religious attitudes, while Rao (2013) studies the impact of changes in the wealth composition of children's classmates on pro-social behavior and test scores in Delhi's private schools. With respect to these authors, we focus on a different dimension (i.e., race as opposed to religion or social class) and we also study the interaction between prejudice reduction and educational outcomes.[5]

A second body of literature brings the notion of identity to the forefront of economic analysis, embedding concepts developed in the social psychology literature, including the seminal work by Tajfel et al. (1971). Contributions include, among others, Akerlof and Kranton (2000), Hoff and Pandey (2006) and Shayo (2009). While we do not directly elicit notions of self-identification, some of our results on the salience of race and on revised beliefs regarding out-group members

[5] For a theoretical model of stereotype formation, see Bordalo et al. (2014).

speak to the issue of identity formation.

Finally, our paper contributes to the vast literature on the effect of peers on human capital formation.[6] Most of this literature studies the effect of peers' ability and academic performance (Sacerdote 2001, Lyle 2009, Garlick 2012) and derives implications for policies such as tracking (Duflo et al. 2011; Carrell, Sacerdote and West 2013). While we do not estimate "endogenous" peer effects, our paper aims at shedding light on the interplay between peers' ability and racial prejudice. Our results suggest that stereotypes may act as barriers to the extent of interaction and communication among peers, so that the effect of exposure to another student with a certain ability will differ depending on that student's race and on his or her prejudice.

The reminder of the paper is organized as follows. Section 2 provides a background of the study setting and describes the random allocation policy in UCT residences. Section 3 describes the data we collected. Section 4 shows some descriptive statistics and discusses the identifying assumption underlying our work. In section 5 we present our empirical strategy. Section 6 contains the econometric results and section 7 concludes.

2 Institutional setting

The University of Cape Town (UCT) is a public research university located in Cape Town, in the Western Cape province of South Africa. UCT is the oldest and most prestigious university in South Africa and it enrols approximately 5000 incoming freshmen every year, more than half of whom live in university residences.[7] Incoming students were historically tracked into dormitories to live with students whose academic performances in standardized high school graduation tests was similar to their own. This tracking regime was replaced in 2006 with a policy of randomly assigning incoming students to dormitories.

Students submit applications to the university between July and October to start studying in January of the following year. UCT's admission policy is mainly based on a measure called Admission Points Score (APS), computed from the high school grades in the last year, but, it is also designed in order to build a student body that reflects the demographics of South African society.

[6] For a comprehensive review, see Epple and Romano (2011).

[7] In 2011, UCT had enrolled 4945 students, 3770 of whom were living in residences (Residence Managment Database, 2012).

In the application form, students may request to live in university residences. Only students living outside the Cape Town area can apply for accommodation. Exceptions are made for disadvantaged students as defined by the Department of Education or for those with great academic merit. The policy and criteria for admission to UCT student housing assume that a first year student will enter a first-tier (catering) residence and in subsequent years move to a second-tier (senior catering or self-catering) residence or into third-tier (semi-autonomous self-catering) accommodation. While second year students may express preference for the residence to be assigned to, freshmen assignment to residences relies on a random allocation system. Freshmen's accommodation is completely managed by the Student Housing Admission & Advocacy Service (SHAAS) which randomly allocate, through a lottery system, each first year student in one of the 15 university residences. All students who are allocated to the first-tier residences should complete an accommodation acceptance form and return it to the SHAAS.

Once first year students are assigned to residence, they are assigned to a room, which can be either single or double occupancy. All rooms are single gender. Allocation to specific rooms within the residence, either double or single, is managed by the Warden or by his/her nominee within the residence and it varies slightly by residence.[8] Our analysis focuses exclusively on ten residences with double rooms which implement a random allocation mechanism, conditional on gender. Approximately one week before the beginning of the academic year, each residence organizes an "Open Day" with the first year students to introduce residence's rules and benefits. During the open day each student is assigned to a room. In some residences, the random assignment takes the form of extracting a number from an urn, that indicates the room number to which the student has been assigned. If the room extracted is a single room, the number is removed from the urn. If it is a double room, it is placed back in the urn so that a roommate may extract it again. In other residences the wardens randomly select students and their roommates from the list of students' surnames enrolled in the residence. It is possible that wardens may "adjust" the composition of some rooms, e.g. to ensure that each floor or wing has a certain composition. While this was not described to us as a standard procedure, we cannot rule it out. We will however provide evidence that such exceptions, if they occurred, did not lead to

[8] Therefore, at UCT the random allocation of students across dormitories is a policy at university level, while the random allocation of roommates is a discretionary policy at the dormintory level.

significant deviations from a random allocation in terms of most observable characteristics.

Approximately 50 percent of undergraduate students living on campus are in shared rooms in their first year in residence. The Residence Management Services (RMS) is in charge of residence applications and records, for each student, her room number and the dates in which she moved in or out of residence. Rooms are never reserved irrevocably and may be switched. First year students may also decide to swap residences. In our sample 20 percent of the students interviewed at follow-up declare that they changed roommate since the beginning of the year. In all our analysis we will use the initial assignment, thus reporting "intention to treat" estimates.[9]

3 Data.

Our sample includes 504 freshmen students who joined UCT in 2012 and who live in double rooms in 10 out of 15 first-tier residences, selected because they applied the random allocation policy across rooms.

For this sample of students, we conducted two rounds of data collection: a baseline and a follow-up survey. The baseline survey was conducted in February 2012, at the beginning of the academic year and the follow-up survey was conducted in September 2013, at the end of the academic year, just before students took their final first year exams. As part of the data collection, we conducted a series of implicit association tests (IATs) both at the baseline and in the follow up survey. During the follow up survey, besides collecting data through questionnaires and IATs, we also conducted lab experiments with the same subjects who took the baseline survey.

Students were recruited to participate in the project through a variety of channels. First, the project was advertised during a residence meeting among wardens and students. Our field coordinator visited each participating residence before the beginning of the project to garner support from each residence's warden. The warden was requested to hold a meeting to introduce the goal of the project. Second, posters advertising the project were hung up in visible places (i.e. residence halls) about one week before the kick-off. Third, we sent an e-mail to all the students in the participating residences to schedule an appointment for the survey at their most convenient time.

[9]Note that, although 20 percent of the students change room or roommate, only two go from a mixed race room to a non-mixed room, and no one goes from non-mixed to mixed. For this reason, we do not report local average treatment effect (LATE) estimates.

The survey questionnaire, the IATs and the experimental game were conducted in each residence on laptops and under the supervision of two enumerators per residence. We did our best to ensure no communication among students during the survey. To try not to contaminate the IATs scores, we conducted them first, followed by the survey questionnaire and by the experimental game. For their participation in the survey, each student received a monetary incentive, worth approximately 3.5 US dollars.

Our initial sample size was 637 freshmen who were enrolled in the baseline survey in February 2012. Of these, 517 were traced successfully for the follow-up survey in October 2012, with a tracking rate of 79%. Appendix Table A1 summarizes the study sample and attrition. The p-value reported in the last column indicates that there is no statistically significant difference in the attrition rate across students allocated to a roommate of a different race (treatment) and students allocated to a roommate of the same race (control). In Appendix Table A2, we examine the correlates of the decision to participate in the follow-up round. Again, we find no differential attrition between respondents in the treatment and control groups (column 1). Furthermore, we also note that the attrition does not depend on the population IAT score (column 2) and academic IAT score (column 3). Looking at other controls, it emerges that white, Coloured and wealthier students (measured as their consumption) are less likely to participate in the follow-up survey compared to blacks. This is possibly due to the fact that monetary incentives for participation were relatively low, and these groups may have come from relatively richer families.

3.1 Implicit association tests

The Implicit Association Test (IAT) is an experimental method, widely used in social psychology, which is based on the idea that respondents who more rapidly pair two concepts in a rapid categorization task more strongly associate those concepts (e.g., how fast do people pair images of black versus white people with descriptions of leadership roles). Slower speed in associating certain pairs denotes mental processes that tend to perceive those pairs as less common. The seminal contributions that introduced IATs in the scientific literature were those of Greenwald and Banaji (1995) and Greenwald et al. (1998). This tool has been widely employed in social psychology to understand implicit cognition, that is, cognitive processes of which an individual may not be aware and that include among others perception, stereotyping, and memory. IATs

have been shown to be good predictor of implicit behaviors (e.g., Nosek, Banaji and Greewald, 2002) and their use is growing in other disciplines such as neuroscience, marketing research and economics (e.g., Bertrand et al., 2005; Beaman et al., 2009). For our purposes, a particularly useful feature of IAT's is that they implicitly reveal attitudes that individuals may be uncomfortable disclosing, such as racial prejudice. We thus use IATs to complement subjective and self-reported perceptions of inter-ethnic attitudes with more "objective" measures of racial bias.

As explained in detail in Appendix 1, we conducted two types of IAT's. The first was a standard test in which tasks involved pairing positive and negative attributes (e.g., "happy", "good", "terrible", "failure") with the racial categories of White South African and Black South African. Different combinations of race and qualities appeared in the top corners of the screen, for example "Black/Positive" on the left and "White/Negative" on the right. Respondents would then see a series of words or pictures of people of different gender and race in the middle of the screen and had to press the left or the right-hand key depending on which category the picture belonged to. The time taken to complete a given task is inversely related to how strongly the respondent commonly associates those categories. In the paper we refer to this as the *Population IAT*.

The second IAT was instead less standard and was designed to elicit associations between academic ability and race. We asked people to match pictures of different gender and race with different exam scores (percentile of the grade distribution). In the paper we denote this as the *Academic IAT*. The goal of conducting this second IAT was to test whether differential interaction or cooperation with members of the opposite race may reflect priors on how much one can benefit in terms of learning and academic success, based on the beliefs that one holds about the academic performance of the other race.[10]

3.2 Attitudinal and behavioral measures

Through the survey questionnaire, we collected information on student's socioeconomic background, beliefs and knowledge (i.e. subjective estimates of population shares of the different groups and of their academic performance), friendships and attitudes (towards other ethnic

[10]This notion is closer to that of statistical discrimination, as opposed to taste based discrimination or prejudice.

groups, support for integration policies). More specifically, we elicited information about the following attitudes: (i) frequency and comfort in discussing about race with friends; we asked: "In the last month, how often did you talk with any friends of yours about topics of discrimination and racial bias?" and "How comfortable do you feel in talking to people about these issues?; (ii) agreement with the following statements: "Affirmative action in University admission should be abolished", "Feels conscious in dancing with a person of another race" and "Feel conscious having a boyfriend/girlfriend of another race"; (iii) propensity to have friends from different racial groups. We explored the latter dimension through several questions: the probability that the respondent hangs out more with people of different race compared to people of his/her own race in the last month; the self-reported preferred number of people of different race in a hypothetical study group or a leisure group formed by 7 people; the share of (actual) best friends who are black or white; the share of (actual) study-mates who are black or white; (iv) pro-social behavior: we asked if the respondent was a member of any community services or volunteer organizations and how much money he/she gave to charities (excluding churches) in the last year.

As an alternative measure of pro-social behavior, we use the willingness to cooperate in an experimental game. During the follow-up survey we conducted a prisoner dilemma game among all the students who had participated in the baseline survey. The racial identity of participants was revealed using photographs.[11] For this task, two students were paired and randomly assigned to their position as player A and player B. Each player saw a photograph of their partner and had to choose whether to Cooperate with or Block their partner. The final payment depended both on the choice that player B made, as well as the choice made by player A. If both players chose cooperate, both would earn R50 each. If both players chose Block, both would earn R40 each. If one player chose Block while the other chose cooperate, then the Player who chose Block would earn R75, and the Player who chose Cooperate would earn R15.

3.3 Academic Performance

To measure the academic performance of the students in our sample we rely on administrative data. First of all, we know the Admission Point Score (APS) that the student received based

[11] Note that the photos used in the game do not include any of the subjects in our roommate sample. Experimental instructions available from the authors upon request.

on his/her performance in high school to be admitted at UCT. Specifically, the entry admission score at UCT is the sum of high school final grades, with weights depending on the specific department the student enrolls in. We denote this variable "UCT score" and we use it as a proxy for student's ability at the beginning of their career at UCT.

We then have several measures of performance at the end of the first academic year, collected by the registry after students finish their first year courses and exams. In particular, we have the total number of exams passed (test score$\geq$ 50) and failed (test score$<$50) during the first year at university and their grade point averages (GPAs). In our analysis we employ the average GPA the student obtained in the first year ("GPA"), standardized to have mean 0 and standard deviation 1. In addition to the average GPA and the number of exams passed during the first year, we use a third indicator based on students' academic evaluation by the Faculty Examination Committees.[12] This indicator, denoted as "Eligible to continue", takes value one if the student is in good standing and eligible to continue studying in the next academic year, possibly subject to passing some makeup exams.

Appendix table A3 reports summary statistics for the GPA, the number of exams passed and eligibility to continue university for the full sample, for whites and for blacks.

4 Descriptive statistics and randomization

Our working sample consists of those students successfully interviewed at baseline and follow-up with non missing values for both IAT tests, that is, 504 out of the 517 students who took both rounds of the survey. The racial composition of this sample is as follows: out of 504 respondents, 338 are black, 116 are white, 18 are Coloured and 32 are Indian, Asian or other race. Notice that this composition mechanically generates differences in the probability of being in a mixed room for different races, with the more numerous group (blacks) having lower probability of being in a mixed room.[13]

[Insert Table 1]

[12] The students' evaluation is conducted at the end of the academic year and takes into account the number of exams passed and their grades.

[13] In our sample the fraction living with a roommate of a different race is .22 for blacks, .35 for whites, .46 for Indians, Asians and others and 1 for Coloureds, who all happen to be allocated to non-Coloured roommates.

Table 1 shows summary statistics at baseline for the main outcome variables of interest and the controls, for the full sample (columns 1-2) as well as separately by treatment status, i.e., students in mixed room versus students in non-mixed rooms (columns 3 to 6). Out of 504 students, 155 are allocated to a roommate of a different race and 349 are sharing the room with a student of their own race. The last two columns show the difference in means between control and treatment and the associated p-value. Panel A reports balance on IAT scores and Panel B on individual socio-demographic characteristics. Overall, baseline characteristics in Panel B are similar for students allocated to mixed versus non-mixed rooms, suggesting that the randomization policy was successfully implemented. Particularly interesting is the fact that the UCT admission score, a proxy for academic ability at baseline, is on average identical for students in mixed and non-mixed rooms. As for other controls, it is worth noting that in our sample the share of females is higher (66%) compared to men (34%) and the share of foreign students is small and equal to 11%. Looking at the IATs scores (Panel A), the mean of the Population and Academic IAT score is -0.21. Negative values of the IATs scores indicate prejudice against blacks. Prejudice against blacks is found both among respondents who have a roommate of a different race, and among those who have a roommate of the same race, without statistical difference. The Academic IAT is also the same across treatment and control groups. In Appendix Table A4, we report summary statistics at baseline and difference in means between treatment and control group separately for white and black students. The variables analyzed in Table 1 remain balanced across treatment arms by looking at the sub-samples of white, non-white and black students separately.

[Insert table 2]

As an additional check, in table 2, we report the coefficients of a regression of the treatment dummy on individual pre-treatment characteristics, for the full sample and separately by race.[14] For our key outcome variables, the Population and Academic IAT scores, no evidence of sorting appears at baseline, and this is true also for academic ability, as proxied by the UCT admission score. Most of the other coefficients are also not statistically significant, with the exception of race dummies in columns 1 and 3. This is however to be expected: the fact that whites,

[14]The number of observations in columns 2 and 3 do not sum up to 504 because Coloureds and other races are also included in the full sample. The same regression for the sample of Coloured and other races is reported in Table A5.

Coloureds and other races have lower population shares in the sample mechanically increases their probability of having a roommate of a different race.

5 Empirical strategy

We are interested in the effects of exposure to a roommate of a different race on measures of prejudice (IAT scores), on academic performance, on attitudes and pro-social behavior. For each dependent variable, we estimate two specifications, both on the full sample and on subsamples constituted by whites and blacks. Appendix table A6 reports results for a subsample constituted by blacks, Coloureds, Indians and other races, i.e. pooling all groups different from whites.

We estimate the average effect of being exposed to a roommate of a different race as follows:

$$Y_{ikt} = \alpha Y_{ik0} + \beta MixRoom_{ik0} + \boldsymbol{\gamma} Race_i + \lambda X_{ik0} + \mu X_{jk0} + \delta_k + \varepsilon_{ikt} \quad (1)$$

where Y_{ikt} is the outcome for student i paired with student j, in residence k, in the follow-up survey (time t) and Y_{ik0} is the baseline (time 0) value of the same variable; $MixRoom$ is a dummy equal to 1 if, at baseline, the student was assigned a roommate of a race different from his/her own race; $Race_i$ is a vector of race dummies (White, Coloured, Indian or Asian or Other, with Black as omitted category); X_{ik0} is a set of individual controls measured at baseline which include gender, UCT admission score, a variable indicating if the respondent was enrolled in a private high school, a principal component index for durable goods (computer, fridges, TV, landline telephone and mobile phones, bicycles, motorbikes, cars) held by the respondent's household divided by the household size; the monthly consumption (in Rands) on lunches, dinners, food, alcohol, cigarettes, cell phone minutes, entertainment (i.e. cinema, theatre, bars, disco, etc.); a dummy equal to one if the respondent is not from South Africa;[15] X_{jk0} is the same set of controls for the roommate; δ_k is a set of residence dummies, and ε_{ikt} is the error term. In the specification where the dependent variable is academic performance, we also add a set of dummies indicating the program in which the student is enrolled in. In the specification where the dependent variable is the likelihood of cooperating in the prisoner dilemma game, we also control for whether the respondent knows the game player he/she has been matched with.

[15] To avoid restricting the sample due to missing values of some control variables, for the following controls we replace missing values with the means and include in the regression dummies taking value one for those observations in which the missing value has been replaced: UCT admission score, durable goods per capita, foreign student and the indicator for private high school.

Our coefficient of interest is β. For regressions where the dependent variable is the IAT, a positive value of this coefficient indicates a reduction in prejudice against blacks (recall that negative values of IATs indicate prejudice against blacks and positive values prejudice in favor of blacks).

We estimate (1) using OLS with robust standard errors. For those attitudinal variables that are categorical (and ordered), we employ an ordered logit model.

6 Results

6.1 Implicit association tests

Figure 1 shows the density of the population (panel A) and the academic (panel B) IAT scores at baseline separately for whites and blacks.[16]

[Insert Figure 1]

Higher values of the IATs score indicate a lower degree of prejudice against blacks. In the population IAT (Figure 1) whites students are, at baseline, more prejudiced towards blacks, while no significant difference across races emerges when looking at the academic IAT (Figure 2). This is interesting because it shows that the academic IAT is more likely to reflect statistical discrimination, while the population IAT may be closer to taste-based prejudice.

[Insert Table 3]

Table 3 reports the estimated coefficients for equation (1) for the full sample and for whites and blacks separately. In the full sample (columns 1 and 2), results show that being exposed to a roommate of different race has no significant effect on prejudice on average, as measured by the population IAT. However, when we split the sample between respondents of different races (columns 3-6), we find that exposure to a roommate of different race reduces prejudice against blacks for white students and increases it for blacks, compared to students who have been allocated to a roommate of their own race. Notice that due to the way in which the IAT is defined, it only captures relative prejudice towards one group versus the other, so what our results suggest is that each group becomes less prejudiced towards the other group. Also, the

[16] The pattern when we pool blacks, Coloureds and other races in a single category is very similar to that of blacks alone.

effect on blacks becomes insignificant once we control for roommate characteristics (column 6). In columns 7-12, we look at the effect the policy on stereotypes regarding academic performance, as measured by our Academic IAT. This variable captures the belief on the relative academic ability of blacks versus whites at the end of the first year, i.e. after the respondent has seen the performance of the roommate but also of other students at UCT. Results show that on average the simple exposure to members of another race does not change stereotypes on academic ability.

Our main takeaway from table 3 is therefore that living during the first year at university with a roommate of a different race led to a reduction in prejudice towards blacks held by white students. The magnitude of the effect is sizeable: the coefficient of .22 corresponds to almost half of a standard deviation of the IAT score, and is also the difference in the average IAT score of whites (-.38) and blacks (-.15). In what follows we try to understand why and how changes in prejudice occur.

[Insert Table 4]

Table 4 focuses on the role played by information and belief-updating. We are interested in understanding whether the reduction in prejudice experienced by whites in mixed rooms is driven by a change in their taste for interacting with the other race, or rather -holding preferences constant- by the new information that they acquired on the other groups during the course of the first year.

In Panel A, we estimate the effect of having a roommate of a different race on the Population and Academic IAT separately for three categories of individuals: the first category is that of people who held certain beliefs at the beginning of the academic year and saw them "confirmed" by the particular realization of the roommate that they got. The second category is that of people whose roommate generated a "positive surprise" in the sense of conveying more positive information on the characteristics of blacks relative to the ex ante beliefs of the respondent; and the third category includes people who received a "negative surprise" in the sense that the characteristics of their roommate conveyed negative information on blacks compared to the ex ante beliefs.

To operationalize the concept of positive and negative surprise, we exploit two variables we collected at baseline. The first is the academic IAT: we classify people with a higher than average

Academic IAT score at baseline as people with "high (ex ante) beliefs" on black students' achievement. The second variable is the UCT score of the roommate, which measures the academic skills of the roommate when he/she entered UCT. We classify people with an above-mean UCT score as "high achievers". The "surprise" variables are constructed based on various combinations of these indicators. "Positive surprise" takes value 1 when a white respondent with "low beliefs" had a "high-achieving" black roommate or when a black respondent with "low beliefs" had a "low-achieving" white roommate. In both cases, the respondent should update upwards his/her prior on the academic prospects of blacks versus whites. "Negative surprise" takes value 1 when a white respondent with "high beliefs" had a "low-achieving" black roommate or if a black respondent with "high belief" had a "high-achieving" white roommate: in this case the respondent should update downwards his/her prior on the academic achievement of blacks versus whites. The residual category is that of people whose ex ante beliefs were confirmed.

The first three columns of Table 4 employ as an outcome variable our measure of racial prejudice at follow up, i.e. the population IAT. As before, no effect emerges for the full sample. For the white subsample (column 2), the coefficient on Mixed Room is positive and significant, similar in magnitude to that in table 3. This suggests that prejudice is reduced even for people whose roommate did not convey "positive new information" regarding the relative academic ability of blacks. The interactions with the variables "positive" and "negative surprise" have the expected sign but are not significant. When we take as dependent variable the Academic IAT (columns 4-6), a new result emerges. While the coefficient on the standalone Mixed Room variable is not significant for whites, the interaction with positive surprise is positive and highly significant. This suggests that our measure of academic stereotypes does respond to new information regarding ability, and that the Population and Academic IAT capture different notions and evolve in different ways.

In Panel B of Table 4 we perform a different test. We investigate if the reduction in prejudice depends on the extent to which people have been exposed to the other race before joining UCT. Specifically, we interact the variable Mixed Room with "Different race high school", a dummy equal to one if the respondent declared at baseline that he or she attended a racially

heterogeneous high school.[17] None of the interaction terms is statistically significant, suggesting that the effect of the treatment on population IAT does not depend on previous exposure. One caveat about the results in Panel B, however, is that attendance of a racially heterogeneous high school is not exogenous and may reflect unobserved characteristics of the respondent. We should also note that the share of people of a different race in high school is not necessarily a proxy for interaction, as people may segregate into homogeneous groups. The advantage of our setting is that sharing a room with another person necessarily implies some degree of interaction.

[Insert Table 5]

Finally, in table 5 we test whether the reduction in prejudice among white students is linked to a change in the salience of race. To this aim, we construct a new dependent variable using a question we collected during the follow-up survey: "What do you think is the share of black and white people in South Africa?". We compare each respondent's answer with the actual share of whites and blacks in the 2011 Census. The dependent variable "Overestimate the share of whites in SA" is equal to one if the respondent declares a share of whites in South Africa higher than the real share, and similarly for the variable "Overestimate the share of blacks in SA".[18] Column 3 shows that white students in mixed rooms are significantly less likely to overestimate the fraction of blacks in South Africa. The magnitude of the coefficient indicates that, other things equal, exposure to a black roommate brings to zero the probability that a white overestimates the share of blacks in the country. We interpret this evidence as consistent with the interpretation that (i) whites become more interested in the other group and gather more accurate information about it; and/or (ii) whites feel less threatened by the other group.

6.2 Academic Performance

An important motivation underlying the policies of many universities that apply random assignment of roommates is to mix students that have different academic achievement. It is

[17] In the survey, we included the following question and potential answers: "How would you describe the racial composition of your high school?"; "All same race as me", "Mostly same race as me" "Half same race as me and half different" "Mostly different race than me" "All different race except for me". The variable "High School Diff" takes value one if the respondent answered "Mostly different race than me" or "All different race except for me", and zero otherwise. This definition should capture situations in which it would have been difficult for the respondent to self-segregate with members of his/her own racial group.

[18] The two variables do not necessarily mirror each other, due to the presence of other groups (e.g., Coloureds, Asians, etc.).

therefore natural to investigate the effect of having a roommate of a difference race on a student's academic performance.

[Insert figure 3]

Figure 3 shows the distribution of the average (standardized) GPA for blacks and whites at the end of their first academic year.[19] In line with previous studies, white students have a higher academic performance compared to non-white and black students. The gap is substantial: the mean GPA for whites is about .6, while that for blacks is $-.17$.

[Insert table 6]

In table 6 we test whether having a roommate of a different race significantly affects this gap. In columns 1 to 3 the dependent variable is the average GPA at the end of the first year. Regressors (not shown) include all the controls we had in the benchmark specification of table 3 both for the respondent and for the roommate, plus academic program fixed effects.[20] We find that the average effect on GPA of being allocated to a roommate of a difference race is positive and statistically significant in the full sample, and interestingly, two opposite effects emerge when splitting the sample between white and black students. GPA scores decrease among white students sharing a room with non-whites compared to those sharing the room with another white, albeit not significantly. On the other hand, the policy significantly improves the academic performance of black students, improving their GPA by .27 of a standard deviation. To understand where the gains and losses are concentrated, it is useful to look at the GPA distribution.

[Insert figure 4]

Figure 4 reports the density function of the GPA by race separately for students allocated in mixed versus non-mixed rooms. Starting from the white students (left panel) we see that the reduction in the GPA for students in mixed rooms is due to a shift of some individuals from the middle part of the distribution to the lower-middle part. On the other hand, for black students (right panel) the gains in GPA from being in a mixed room are generated by the lowest

[19] Again, the pattern when we pool blacks, Coloureds and other races in a single category is very similar to that of blacks.

[20] This is a subdivision of college tracks within each faculty.

achieving students improving their performance and by some students in the upper-middle part of the distribution moving to the top end.

The remaining of table 6 considers two alternative measures of academic performance. The dependent variable in columns 4-6 is the number of exams passed during the first year (ranging from 0 to 9). Being allocated to a mixed race room increases the number of exams passed in the first year by .49 on average. This effect is particularly strong among black students (an increase of .80 exams) and, interestingly, there is no significant impact on the number of exams passed by white students in mixed rooms.

In columns 7-9 we consider an assessment made by Faculty Examination Committees based on the number of exams passed and the grades of each student. In particular, the dependent variable takes value one if the student is declared eligible to continue studying, possibly subject to passing makeup exams, and zero otherwise. Once again, students in mixed rooms are more likely to be eligible to continue and this effect is driven by the black students in the sample. The mean of the dependent variable for the control group (students in non-mixed rooms) for this sample is .87, so the increase of 12 percentage points implied an increase of 14% in the probability to be eligible to continue university for students in mixed rooms.

We next try to uncover the mechanism through which the improvement in academic performance of blacks in mixed rooms occurs. A first hypothesis is that blacks who have a non-black roommate are on average matched with someone who has a stronger academic background. As noted above, due to the affirmative action policy adopted by UCT, black students have on average lower UCT entry scores compared to other groups (see Appendix figure A1). One may thus conjecture that it is not exposure to a different race but exposure to a higher-achieving peer that generates the gains in academic performance for blacks. While plausible, this explanation is not supported by the data. The regressions in table 6 directly control for roommate's ability (proxied by UCT entry score) and this variable is never significant. A further indication in this respect comes from Appendix table A7. Here we control for whether an individual and his/her roommate are in the same faculty (31 percent of the students in our sample are). For freshmen in the same faculty it should be easier to study together and help each other on coursework. When we interact Mixed Room and Same Faculty, almost none of the interactions is significant, suggesting that academic interaction is not entirely responsible for our results.

[Insert table 7]

In table 7, we start exploring to what extent non-academic interaction between roommates matters for academic performance. Specifically, we test whether having a roommate of a different race has a heterogeneous impact depending on the roommate's own prejudice level, by including an interaction between Mixed Room and Roommate Population IAT at baseline. Notice that, because the roommate is randomly assigned, the roommate's prejudice level at baseline is exogenous. The idea behind this estimation is that a black student paired with a roommate of a different race, may be able to improve her academic performance by more if the roommate is not prejudiced. The results are quite striking. In column 1, the coefficient on the interaction term is positive and significant at the 5 percent level, suggesting that in the full sample students randomly allocated with less prejudiced roommates of a different race improve their GPA score by more. When we disaggregate by race, this coefficient is positive both for whites and for blacks but statistically significant only for blacks. We could do the following thought experiment. Suppose we placed a black student in a room with an average white student and we changed the white student's IAT score from the sample average for whites (-.37) to absence of prejudice (IAT score =0). Based on our estimates, other things equal, the GPA of the black student would increase by an extra .13 standard deviations compared to a black student with a white roommate who has average prejudice. For number of exams passed (column 6) and eligibility to continue (column 9) the direction of the impact is similar but not statistically significant.

The above results are consistent with at least two (non mutually-exclusive) explanations. The first is that students of different races have a more positive social interaction when they are paired with someone who is not prejudiced against them. This leads to greater well-being and allows them to perform better academically. The second explanation is related to the stereotype threat literature (e.g., Steele and Aronson, 1995). To the extent that black students paired with white roommates realize that the prejudice of the latter is reduced, they may perceive a lower risk of confirming negative stereotypes about their own group, and this could improve their performance in the exams.

Finally, we investigate the effect of this type of integration policy for the students in our sample on the academic performance in their second year. Appendix table A8 shows that some

of the positive changes shown in table 6 are persistent over time: freshmen students randomly allocated to a mixed room are more likely to pass a higher number of exams and to be eligible to continue studying even during their second year. As before, these effects are driven by black students. On the other hand, the GPA calculated on second-year exams is not significantly different for students who were allocated to mixed rooms in the first year.

6.3 Attitudinal and behavioral measures

We now turn to estimating the impact of having a roommate of a different race on a series of behavioral and attitudinal measures that we collected through our survey and through lab experiments.

Friendships

[Insert Table 8]

In Table 8, we analyze the effect of living in a mixed room on friendships. In columns 1-6 we estimate ordered logit models for the frequency of inter-racial interaction and we find that having a roommate of a different race increases the number of times and the frequency with which students hang out with people of a different race. This holds true in the full sample (columns 1 and 4), but is especially pronounced for whites (columns 2 and 5). In the subsequent columns, we investigate how living with a roommate of a different race influences preferences for the racial composition of study or leisure groups.

In columns 7-12, we estimate the effects of the roommate allocation policy on actual friends and study group members. Friends were defined as "those you can turn to for help if needed" and we asked respondents to list the first name, gender, age and race of up to five friends. The results show that the share of reported friends of a different race from one's own, excluding the roommate, significantly increases for students allocated in a mixed room. Looking at the sub-samples of whites and blacks we find that the effect is driven by white students (column 8). We also find an interesting result when looking at the number of students with whom the respondent mainly studies (columns 10-12): respondents in mixed rooms report a higher share of study mates of a race different from their own. This effect is significant in the full sample and, once again, it seems to be driven by white students.

In columns 13 to 18, we consider *hypothetical* leisure or study groups. We asked our respondents how many people of different race they would want in a group of 7 people (including themselves), and they could choose a number between 0 and 6. Our dependent variable is equal to one if the respondent states that she would like to have less than half of the members from a different difference race from her own in a leisure (columns 13-15) or study (columns 16-18) group. This captures a situation where the respondents wants to retain a majority of group members of their own race. When looking at the results on the desired composition of a group for leisure activities, we note that students in mixed rooms are on average more likely to choose a more racially heterogenous group compared to students with a same race roommate. The effect is found also in the subsamples of white and black respondents, although it is only significant for whites. When looking at the effect on the desired composition of study groups, the effects point in the same direction but are not statistically significant.

Overall, the above findings suggest that exposure to a roommate of a different group does lead to some changes the pattern of social interactions. In line with the results on the IAT score, this is especially true for white students.

Self-reported attitudes

[Insert Table 9]

Table 9 examines the effect of living with a roommate of a difference race on self-reported attitudes. In columns 1-3, our dependent variable measures how often the respondent talks about topics of discrimination, prejudice and racial bias. The dependent variable ranges from 1 to 5, where 1 means "never talk" and 5 "always talk". We estimate this regression using an ordered logit model. Results show that living with a roommate of a different race is associated with talking more about issues of race on average (column 1), but the effect is negative and insignificant for whites (column 2). For black students, instead, the coefficient on "Mixed Room" is positive and statistically significant at the 1 percent level: black students with a non-black roommate are more likely to talk about discrimination and related issues compared to blacks paired with blacks. Also, on average students in mixed rooms are more comfortable in talking about these issues (column 4).

We next examine the effects on support for affirmative action. The dependent variable in columns 7-9 is a binary indicator assuming value one if the respondent agrees with abolishing

affirmative action: no difference emerges between students in mixed and non-mixed room. Finally, in the last six columns of table 9, we use as dependent variable a dummy equal to one if the individuals agree with the following statements: "I would feel conscious dancing with a person of another race" (columns 10-12) and "I would feel conscious having a boyfriend/girlfriend of another race" (columns 13-15). The coefficients on Mixed Room in the full sample are negative and statistically significant at 5%, indicating that students exposed to a roommate of a different race are less likely to feel conscious of dancing or of having a boyfriend/girlfriend of a different race. In line with the IAT results, these results are particularly strong for white students.

Pro-social behavior

[Insert Table 10]

Finally, in table 10 we analyze the effect of exposure to other races on different measures of pro-social behavior. In columns 1-3 our dependent variable is the probability of being a member of any social services or volunteer organizations. The coefficient on Mixed Room among whites is positive and significant at the 10 percent level, suggesting that the policy fostered prosocial behavior among white students. The magnitude of the coefficient is also quite large: starting from an average of .45 for whites in same-race rooms, being paired with a non-white roommate increases the probability of volunteering by 20 percentage points, that is almost a 45 percent increase. No significant relation emerges between the Mixed Room variable and the amount of money given to a charity in the last month (columns 4 to 6).

In columns 7 to 12, we focus on experimental measures of pro-social behavior elicited through a prisoner dilemma game. In our sample, 58 percent of the subjects chose to cooperate and 42 percent chose to 'block' their partner in the game. Column 8 shows that white students in mixed race rooms are 26 percentage points more likely to cooperate in this game, a very large effect significant at the 5 percent level. No significant effect is found for blacks. Note that the higher propensity to cooperate for white players does not seem to be driven by more positive beliefs on the likelihood that the other player will cooperate (column 5).

Subsequent residential choice

In Appendix table A9, we report the residential choice for the student in our sample after the first year. On average, 15.3 percent of the students still live in a residence during the second year. Being in mixed room is not significantly correlated with the probability of staying in residence (panel A). Also, the t-test reported for the probability of being in a in double room and choosing the same roommate, conditional on living in residence in the second year, does not show any statistically significant differences between students in mixed and non-mixed room at baseline (Panel B).

7 Conclusions

This paper takes advantage of a policy of random allocation of roommates in some residences at University of Cape Town to investigate the effects of exposure to individuals of a different race on inter-ethnic attitudes, cooperative behavior and academic performance.

We find that living with a roommate of a different race during the first year of university reduces white students' prejudice towards blacks, as measured by the Implicit Association Test (IAT). This effect is quite remarkable because a number of transformation initiatives have happened in post-apartheid South Africa that have made inroads in reducing the salience of race. Yet, the interaction generated by the random policy allocation is able to further reduce prejudice. We also find significant positive effects on inter-racial attitudes and friendship patterns and experimental measures of prosocial behavior. Finally, we show an overall positive effects of the integration policy on academic performance: students in mixed rooms improved their GPA, passed more exams and are more likely to be eligible to continue university. However, the effects are heterogeneous by race, with the gains concentrated among blacks. The prejudice level of the roommate is a key ingredient in explaining academic gains: blacks paired with whites do better, the less prejudiced their roommate is. The changes in the academic performance of the freshmen students allocated in mixed rooms are persistent even in their second year.

Our findings point to the importance of assessing the impact of integration policies on both attitudinal measures (e.g., stereotype reduction) and performance, given that there seems to be a positive reinforcement among the two.

Appendix 1. Implicit Association Tests

In our survey we implemented a shorter version of Greenwald et al.'s (1998) Implicit Association Test (IAT). The procedure included the following five tasks.

- Task 1: The respondent was asked to categorize stimuli into two categories, Black South-Africans and White South-Africans, which appeared in the top left-hand and top right-hand corner of the screen. In the middle of the screen there was a picture of a person, either Black or White. For each picture that appeared in the middle of the screen, the respondent had to sort it into the appropriate category by pressing the left-hand or the right-hand key.

- Task 2: The respondent had to complete a similar sorting task with a positive/negative attribute in the Population IAT, or with a High/Low academic performance in the Academic IAT. For example, the words "Positive" and "Negative" would appear in the top corners of the screen, and a series of pleasant or unpleasant works appeared in the middle of the screen, e.g.: "good, joy, love, peace, wonderful, pleasure, glorious, laughter, happy" and "bad, agony terrible, horrible, nasty, evil, awful, failure, hurt". For the Academic IAT, categories were defined in terms of grades, e.g. 99%, 85%, 78%, etc., for a total of 12 categories ranging from 50% to 99%. The respondent had to sort each word as being either positive or negative, or high/low performing, by hitting the left or right key.

- Task 3: The respondent had to perform a combined task that included both the categories and attributes from the first two tasks. Different combinations of race and qualities appeared in the top corners, for example "Black/Positive" may appear on the top left and "White/Negative" would appear in the top right. Respondents would then see a series of pictures in the middle of the screen and had to press the left or the right-hand key depending on which category the picture belonged to.

- Task 4: This was a repetition of Task 1, with the variation that the position of the two target words was reversed.

- Task 5: This was a repetition of Task 3, except that race and qualities were paired in the opposite way compared the that task.

A score is produced at the end of the procedure, which reflects the time taken to complete a task in relation to other tasks. If is race is differently associated with the attributes proposed (positive/negative, or high/low performing), then it is expected that the pairing that a respondent implicitly believes in is easier (takes less time), for him or her. The score takes on negative values when the participant is "prejudiced" against blacks, and positive ones when the "prejudice" is in favor of blacks and against whites.

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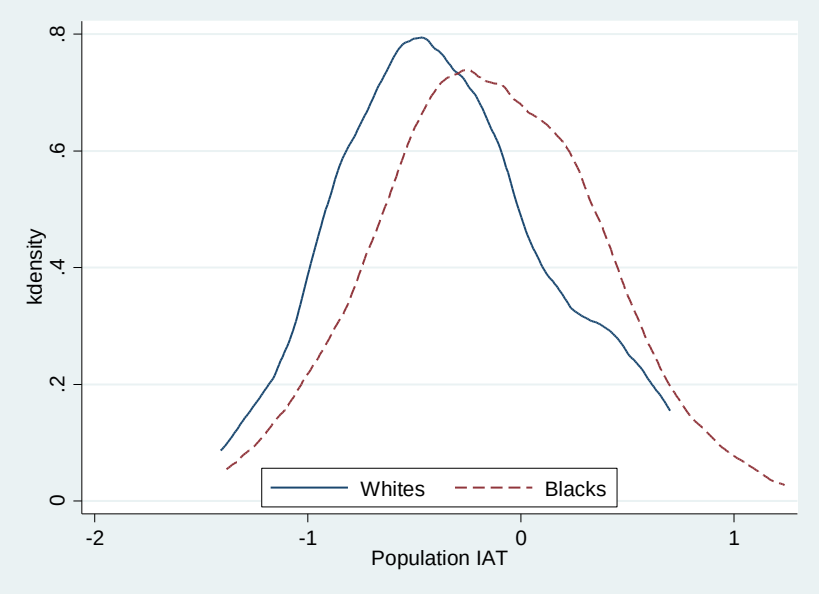
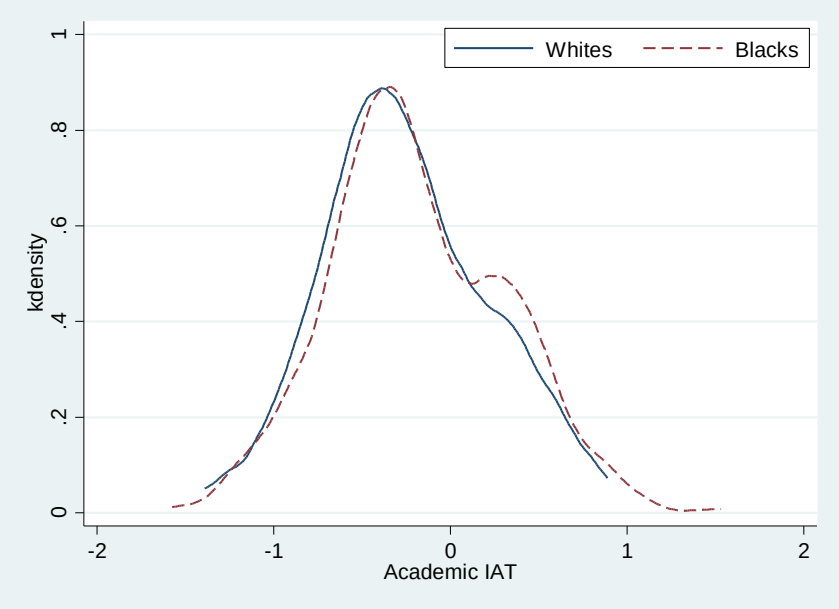
Figures and Tables

Figure 1: Stereotypes as measured by IAT at baseline



Panel A: Population IAT



Panel B: Academic IAT

Figure 3: GPA distribution, by race

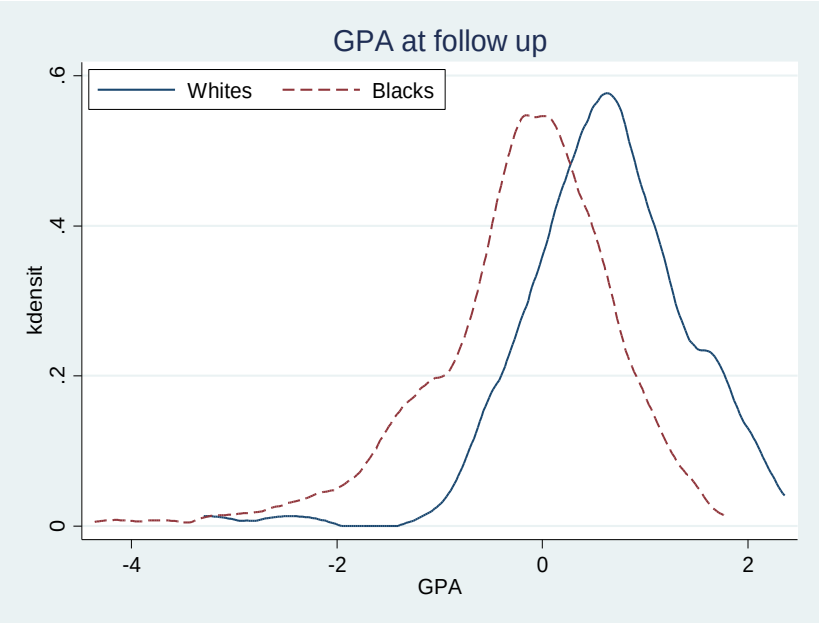
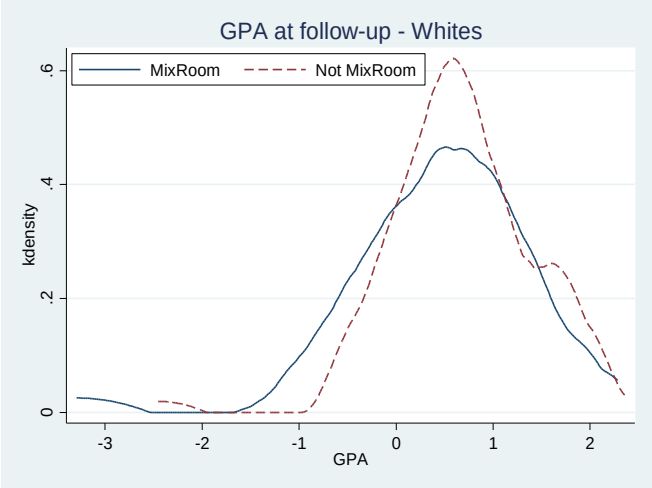
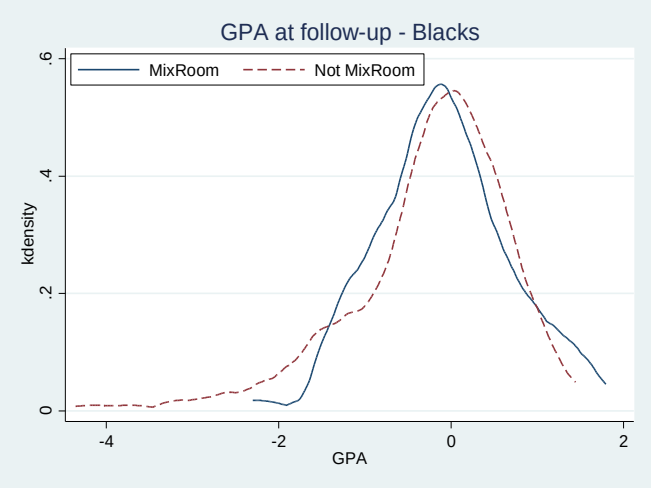


Figure 4: GPA distribution, by race and treatment





Tables

Table 1: Summary statistics at baseline and difference in means between treatment and control

	Full sample		*Mixed rooms*		*Non mixed rooms*		*Non mixed - Mixed*	
	Mean	*Std. Dev.*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*Difference*	*P-value*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Implicit Association Tests								
Population IAT	-0.21	0.50	-0.25	0.50	-0.19	0.51	0.06	0.24
Academic IAT	-0.21	0.49	-0.21	0.52	-0.21	0.48	0.00	0.98
Panel B: Socio-demographic characteristics								
Female	0.66	0.47	0.66	0.48	0.66	0.47	0.01	0.88
UCT admission score	0.46	0.05	0.47	0.05	0.46	0.05	0.00	0.36
Household durables p/c	4.46	2.75	4.63	2.60	4.38	2.81	-0.24	0.36
Consumption	0.92	0.85	0.99	0.92	0.89	0.82	-0.10	0.22
Foreign	0.11	0.31	0.14	0.34	0.10	0.30	-0.04	0.25
Private high school	0.61	0.42	0.62	0.38	0.60	0.44	-0.02	0.64
No. Obs.	504		155		349		504	

Notes: The p-value in col. 8 is for the two-sided test that the difference in means between cols. 3 and 5 is zero. "UCT admission score" is the sum of high school final grades, with weights depending on the specific department the student enrols in; "Household durables p/c" indicates the number of computer, fridges, TV, landline and mobile phones, bicycles, motorbikes and cars held by the respondent's household divided by the household size; "Consumption" is the monthly consumption in Rands on lunches, dinners, food, alcohol, cigarettes, cell phone minutes, entertainment (i.e. cinema, theatre, bars, disco, etc.); "Foreign" is a dummy equal to one if the respondent is not from South Africa, “Private high school” is equal to one if the respondents was enrolled in a private high school before joining UCT.

Table 2: Probability of being in a mixed room at baseline

Dependent variable = 1 if roommate of a different race at baseline			
Sample:	*Full Sample*	*Whites*	*Blacks*
	(1)	(2)	(3)
Population IAT	-0.021	0.056	-0.041
	(0.041)	(0.092)	(0.050)
Academic IAT	0.023	-0.017	0.033
	(0.041)	(0.114)	(0.050)
White	0.138**		
	(0.057)		
Coloured	0.800***		
	(0.028)		
Indian/Other	0.526***		
	(0.088)		
Female	0.028	-0.043	0.054
	(0.041)	(0.100)	(0.050)
UCT admission score	-0.198	-0.270	-0.074
	(0.432)	(1.219)	(0.496)
Household durables p/c	-0.007	-0.021	-0.007
	(0.007)	(0.019)	(0.008)
Foreign	0.083	0.186	0.074
	(0.076)	(0.196)	(0.087)
Private high school	-0.022	-0.108	0.002
	(0.041)	(0.112)	(0.049)
Consumption	0.013	0.017	0.022
	(0.026)	(0.057)	(0.032)
Constant	0.279	0.422	0.225
	(0.197)	(0.634)	(0.224)
R-squared	0.17	0.07	0.02
No. Obs.	504	116	338

Notes: OLS estimates with robust standard errors in parentheses. All the regressions include residence fixed effects. *** p<.01, ** p<.05, * p<.10.

Table 3: Prejudice and exposure to a roommate of different race

Dependent variable:	*Population IAT*						*Academic IAT*					
Sample:	*Full sample*		*Whites*		*Blacks*		*Full sample*		*Whites*		*Blacks*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mixed Room	-0.049	-0.029	0.217*	0.247*	-0.111*	-0.069	-0.069	-0.066	0.004	-0.033	-0.059	-0.050
	(0.052)	(0.054)	(0.124)	(0.142)	(0.065)	(0.071)	(0.045)	(0.046)	(0.102)	(0.104)	(0.055)	(0.059)
IAT at baseline	0.054	0.043	0.056	0.053	0.051	0.040	0.145***	0.137***	0.136	0.202**	0.111**	0.102*
	(0.045)	(0.045)	(0.113)	(0.129)	(0.051)	(0.054)	(0.043)	(0.043)	(0.100)	(0.091)	(0.052)	(0.052)
White	-0.283***	-0.263***					-0.122**	-0.144**				
	(0.069)	(0.069)					(0.057)	(0.059)				
Coloured[(a)]	0.054	0.051					0.133	0.142				
	(0.122)	(0.123)					(0.129)	(0.120)				
Indian/Other	-0.389***	-0.368***					0.046	0.003				
	(0.086)	(0.090)					(0.087)	(0.092)				
Female	0.038	0.005	0.041	0.058	0.029	-0.061	0.103	0.109	0.030	-0.004	0.216*	0.167
	(0.091)	(0.092)	(0.143)	(0.153)	(0.158)	(0.154)	(0.097)	(0.100)	(0.159)	(0.171)	(0.126)	(0.133)
UCT admission score	0.444	0.461	-0.766	-0.973	0.566	0.623	0.370	0.217	-1.637	-2.116	0.756	0.576
	(0.493)	(0.498)	(1.383)	(1.324)	(0.556)	(0.568)	(0.479)	(0.472)	(1.443)	(1.388)	(0.565)	(0.560)
Household durables p/c	0.021***	0.019**	0.048**	0.046*	0.019**	0.017*	0.011	0.011	0.023	0.023	0.005	0.002
	(0.008)	(0.008)	(0.024)	(0.026)	(0.010)	(0.010)	(0.008)	(0.008)	(0.023)	(0.023)	(0.009)	(0.009)
Foreign	-0.009	0.009	-0.203	-0.114	0.078	0.108	0.147**	0.147**	0.290	0.320*	0.139*	0.148*
	(0.097)	(0.095)	(0.255)	(0.271)	(0.106)	(0.104)	(0.074)	(0.074)	(0.185)	(0.181)	(0.081)	(0.081)
Private high school	-0.059	-0.057	-0.115	-0.147	-0.047	-0.044	-0.029	-0.038	-0.078	-0.194*	-0.037	-0.037
	(0.046)	(0.047)	(0.129)	(0.151)	(0.054)	(0.055)	(0.042)	(0.042)	(0.102)	(0.101)	(0.051)	(0.051)
Consumption	-0.019	-0.020	-0.065	-0.063	0.003	0.000	0.007	0.009	-0.058	-0.048	0.026	0.026
	(0.027)	(0.027)	(0.055)	(0.062)	(0.038)	(0.036)	(0.026)	(0.026)	(0.048)	(0.046)	(0.036)	(0.034)
Constant	-0.350	-0.283	-0.754	-0.959	-0.409	-0.240	-0.740**	-0.987***	0.265	0.270	-1.018***	-1.117***
	(0.303)	(0.334)	(0.723)	(0.980)	(0.349)	(0.394)	(0.301)	(0.325)	(0.733)	(0.774)	(0.334)	(0.365)
Roommate controls[(a)]		X		X		X		X		X		X
Mean control group	-0.167	-0.167	-0.414	-0.414	-0.088	-0.088	-0.207	-0.207	-0.298	-0.298	-0.185	-0.185
R-squared	0.111	0.134	0.166	0.215	0.064	0.096	0.073	0.104	0.168	0.321	0.065	0.107
No. Obs.	504	504	116	116	338	338	504	504	116	116	338	338

Notes: OLS estimates. Robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. Higher values of the dependent variable (IAT) indicate less prejudice against blacks. All the controls are measured at baseline. All the regression include residence fixed effects. (a) Controls for roommate in cols. 2, 4, 6, 8, 10, 12 include: UCT admission score, Household durables p/c, , Foreign, Private high school and Consumption.

Table 4: Information and prejudice

Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Belief Updating						
Dependent variable:	*Population IAT*			*Academic IAT*		
Mixed Room	0.008	0.237*	-0.012	-0.088*	-0.088	-0.059
	(0.058)	(0.135)	(0.081)	(0.050)	(0.099)	(0.068)
Mixed Room*Positive Surprise	0.011	0.115	-0.088	0.294***	0.474***	0.055
	(0.189)	(0.414)	(0.216)	(0.111)	(0.179)	(0.168)
Mixed Room*Negative Surprise	-0.199*	-0.148	-0.242*	-0.012	0.131	0.001
	(0.109)	(0.284)	(0.131)	(0.104)	(0.299)	(0.136)
Mean in the control group	-0.167	-0.414	-0.086	-0.204	-0.298	-0.181
R-squared	0.140	0.220	0.100	0.120	0.370	0.110
No. Obs.	498	115	333	498	115	333
Panel B: Previous exposure to other group						
Dependent variable:	*Population IAT*			*Academic IAT*		
Mixed Room	0.016	0.276**	-0.075	-0.098*	-0.057	-0.113*
	(0.063)	(0.135)	(0.087)	(0.051)	(0.104)	(0.065)
Mixed Room*Different race high school	-0.141	-0.612	0.071	0.058	0.183	0.193
	(0.110)	(0.569)	(0.143)	(0.106)	(0.324)	(0.156)
Different race high school	0.122*	0.593	0.058	-0.025	-0.186	-0.056
	(0.070)	(0.407)	(0.077)	(0.069)	(0.233)	(0.080)
Mean in the control group	-0.178	-0.422	-0.099	-0.201	-0.282	-0.181
R-squared	0.14	0.25	0.10	0.110	0.296	0.119
No. Obs.	481	112	321	481	112	321

Notes: OLS estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. Higher values of the dependent variable (IAT) indicate less prejudice against blacks. All regression include residence fixed effects, the dependent variable at baseline, controls and roommate controls at baseline as in table 3. In the full sample, we also control for respondent's race. In Panel A, "Positive surprise" is a dummy equal to one if white (black) respondents' Academic IAT is lower than the mean (more prejudiced against blacks) and that his black (white) roommate's ability is higher than the mean (as captured by UCT score at baseline); "Negative surprise" is the opposite (omitted category: no updating). In Panel B, "Different race high school" is an indicator for whether the respondent attended a high school where most students were of a different race.

Table 5: Salience of race

Dependent variable:	*Overestimate the share of whites in SA*		*Overestimate the share of blacks in SA*	
Sample:	*Whites*	*Blacks*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)
Mixed Room	0.141	0.005	-0.210**	0.041
	(0.158)	(0.053)	(0.101)	(0.057)
Mean in the control group	0.714	0.922	0.224	0.093
R-squared	0.220	0.100	0.370	0.110
No. Obs.	115	333	115	333

Notes: OLS estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All regression include residence fixed effects, the dependent variable at baseline, controls and roommate controls at baseline as in table 3. Overestimate the share of whites (blacks) in South Africa is equal one if respondent's answer to the question "what do you think is the share of white (black) people in South Africa" is greater that the real share of white (black) people in SA.

Table 6: Impact on academic performance

Dependent variable:	*GPA*			*Number of exams passed*			*Eligible to continue*		
	Full sample	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mixed Room	0.177*	-0.112	0.267**	0.491**	-0.376	0.807***	0.122***	0.016	0.156***
	(0.096)	(0.242)	(0.127)	(0.197)	(0.547)	(0.260)	(0.031)	(0.065)	(0.041)
UCT entry score	7.693***	9.648***	5.643***	13.324***	11.128*	12.038***	0.785**	-0.248	1.021**
	(1.071)	(2.596)	(1.309)	(2.259)	(6.439)	(2.924)	(0.370)	(0.895)	(0.488)
Roommate's UCT entry score	-0.199	1.963	-0.110	-0.309	1.206	-0.798	0.220	0.789	0.142
	(0.679)	(1.756)	(0.896)	(1.307)	(3.649)	(1.774)	(0.183)	(0.517)	(0.248)
White	0.616***			0.461*			0.023		
	(0.121)			(0.260)			(0.039)		
Coloured	-0.022			-0.549			-0.052		
	(0.191)			(0.355)			(0.045)		
Indian/Other	0.119			0.219			-0.011		
	(0.209)			(0.343)			(0.058)		
Controls	X	X	X	X	X	X	X		
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X
Academic program fixed effects	X	X	X	X	X	X	X	X	X
Mean of the control group	-0.033	0.673	-0.254	4.887	6.481	4.385	0.870	0.922	0 .85
R-squared	0.420	0.564	0.383	0.705	0.710	0.716	0.428	0.360	0.388
No. Obs.	496	116	334	496	116	334	496	116	334

Notes: OLS Estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the regressions include residence fixed effects. Controls are measured at baseline and are the same as in table 3. (a) Controls for roommate in cols. 2, 4, 6, 8, 10, 12 include: UCT admission score, Household durables p/c, , Foreign, Private high school and Consumption.

Table 7: Academic performance, heterogeneous effects by roommate's prejudice

Dependent variable:	*GPA*			*Number of exams passed in the first year*			*Eligible to continue*		
Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mixed Room	0.296**	-0.140	0.506**	0.707***	-0.352	1.172***	0.120***	-0.065	0.187***
	(0.127)	(0.233)	(0.205)	(0.256)	(0.593)	(0.375)	(0.040)	(0.072)	(0.058)
Mixed Room * Roommate pop IAT baseline	0.453**	0.528	0.679**	0.648*	0.374	0.671	0.067	0.007	0.112
	(0.201)	(0.488)	(0.332)	(0.372)	(1.190)	(0.576)	(0.060)	(0.121)	(0.111)
Roommate pop IAT baseline	-0.264**	-0.074	-0.354**	-0.416*	-0.536	-0.451	-0.086**	0.026	-0.113**
	(0.119)	(0.290)	(0.168)	(0.235)	(0.695)	(0.337)	(0.040)	(0.096)	(0.052)
White	0.579***			0.596*			0.025		
	(0.166)			(0.336)			(0.055)		
Coloured	-0.044			-0.619			-0.006		
	(0.231)			(0.461)			(0.056)		
Indian/Other	0.157			0.355			0.049		
	(0.246)			(0.427)			(0.057)		
Controls	X	X	X	X	X	X	X	X	X
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X
Academic program fixed effects	X	X	X	X	X	X	X	X	X
Mean in the control group	-0.011	0.701	-0.233	4.916	6.644	4.365	4.916	6.644	4.365
R-squared	0.442	0.636	0.395	0.714	0.762	0.720	0.350	0.520	0.440
No. Obs.	368	85	252	368	85	252	368	85	252

Notes: OLS Estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the regressions include residence fixed effects. Controls are measured at baseline and are the same as in table 3. (a) Controls for roommate in cols. 2, 4, 6, 8, 10, 12 include: UCT admission score, Household durables p/c, , Foreign, Private high school and Consumption.

Table 8: Impact on friendships

Dep. Var.:	*# Times hang out more with people of different race*			*Last time hang out with people of different race*			*Fraction of friends of a different race (excl. roommate)*			*Fraction of study-mates of a different race (excl. roommate)*			*=1 if desires <50% of members of different race in: Leisure group*			*Academic group*		
Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Mixed Room	0.658***	1.351**	0.557**	0.701**	1.849*	0.542	0.087***	0.123**	0.056	0.067*	0.133*	0.039	-0.113**	-0.218*	-0.107	-0.063	-0.110	-0.082
	(0.225)	(0.619)	(0.267)	(0.287)	(0.973)	(0.365)	(0.030)	(0.056)	(0.039)	(0.035)	(0.073)	(0.041)	(0.052)	(0.115)	(0.071)	(0.052)	(0.109)	(0.064)
White	0.957***			0.668**			-0.033			0.038			-0.102			0.063		
	(0.284)			(0.323)			(0.034)			(0.043)			(0.062)			(0.060)		
Coloured	1.675**			14.570***			0.193**						-0.234*			-0.066		
	(0.784)			(0.386)			(0.096)						(0.137)			(0.095)		
Indian/Other	1.030**			0.622			0.098						-0.275***			0.044		
	(0.474)			(0.572)			(0.064)						(0.102)			(0.108)		
Controls	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
R-squared							0.33	0.40	0.26	0.09	0.37	0.07	0.18	0.33	0.22	0.17	0.33	0.15
No. Obs.	459	107	304	444	105	292	444	106	295	396	96	300	397	98	268	393	100	262

Notes: Cols. 1-6 report ordered logit estimates; cols. 7-18 OLS estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the regressions include residence fixed effects. Controls are measured at baseline and are the same as in table 3. # times h*ang out more with people of different race in the last month*: =0 if never, =1 if once, =2 if 2-5 times, =3 if 5-10 times, =4 if more than 10 times. Last time hang out with people of different race: =0 if never, =1 if last year, =2 if last month, =3 if last week, =4 if yesterday. Roommate controls at baseline include: UCT admission score, Household durables p/c, Foreign, Private high school, and Consumption.

Table 9: Impact on attitudinal measures

Dependent variable:	*Talked about race*			*Comfortable talking about race*			*Abolish affirmative action*			*Conscious dancing with a person of another race*			*Conscious having boyfriend/girlfriend of another race*		
Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Mixed Room	0.389*	-0.521	0.788***	0.081*	0.037	0.074	-0.005	0.083	-0.024	-0.088**	-0.204**	-0.011	-0.089*	-0.177	-0.055
	(0.223)	(0.537)	(0.294)	(0.044)	(0.089)	(0.053)	(0.048)	(0.129)	(0.053)	(0.043)	(0.090)	(0.057)	(0.047)	(0.126)	(0.060)
White	-0.043			0.006			0.423***			0.054			0.302***		
	(0.246)			(0.054)			(0.062)			(0.051)			(0.061)		
Coloured	-0.714			0.015			0.127			-0.084*			-0.076		
	(0.571)			(0.082)			(0.107)			(0.046)			(0.080)		
Indian/Other	-0.464			-0.027			0.318***			-0.008			0.025		
	(0.420)			(0.085)			(0.099)			(0.080)			(0.086)		
Controls	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
R-squared				0.078	0.202	0.124	0.234	0.150	0.105	0.112	0.399	0.094	0.417	0.133	0.135
Observations	462	107	307	450	105	298	457	106	303	455	105	303	107	351	303

Notes: Cols. 1-4 report ordered logit estimates; cols. 5-12 OLS estimates. Robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All regressions include residence fixed effects. All the controls are measured at baseline and are the same as in table 3. All specifications also include the dependent variable at baseline. *Talked about race* (ordinal): "In the last month, how often did you talk with any friends of yours about topics of discrimination and racial bias?" 1 Never, 2 Rarely, 3 Sometimes, 4 Most of the times, 5 Always. *Comfortable talking about race*: =1 if comfortable or extremely comfortable talking to people about race. Right share of Africans and Whites in South Africa =1 if respondents correctly reports the right share (or +/- 1 one standard deviation) of Africans and of Whites in the population in south Africa. *Abolish Affirmative Action*: = 1 if agree or strongly agree that affirmative action in University admission should be abolished. Conscious dancing with a person of another race: = 1 if agree or strongly agree respondent feels conscious in dancing with a person of another race. Feel conscious having a boyfriend/girlfriend of another race = 1 if agree or strongly agree respondent feels conscious in having a boyfriend/girlfriend of another race. Roommate controls at baseline include: UCT admission score, Household durables p/c, Foreign, Private high school, and Consumption.

Table 10: Impact on pro-social behaviour

Dependent variable:	*Member of Volunteer Organization*			*Money given to a charity*			*Cooperate in Prisoner dilemma*			*Belief partner will cooperate in prisoner dilemma*		
Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Mixed Room	0.091	0.200*	0.060	80.169	-2.713	19.952	0.045	0.260**	0.076	0.033	0.103	0.094
	(0.055)	(0.115)	(0.074)	(70.323)	(347.050)	(41.479)	(0.055)	(0.118)	(0.069)	(0.053)	(0.123)	(0.068)
White	0.052			224.102**			-0.010			-0.061		
	(0.068)			(111.857)			(0.065)			(0.067)		
Coloured	-0.309***			-21.188			-0.019			-0.072		
	(0.119)			(95.347)			(0.124)			(0.130)		
Indian/Other	-0.109			309.042			-0.171			-0.185*		
	(0.100)			(188.793)			(0.111)			(0.105)		
Controls	X	X	X	X	X	X	X	X	X	X	X	X
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X	X	X	X
R-squared	0.086	0.402	0.082	0.111	0.270	0.115	0.090	0.365	0.087	0.051	0.235	0.058
No. Obs.	469	109	317	407	98	265	498	113	336	498	113	336

Notes: OLS Estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the estimates include residence fixed effects. Controls are measured at baseline and are the same as in table 3. In cols 1-6, controls also include a dummy indicating whether the respondent knows the partner in the game. Roommate controls at baseline include: UCT admission score, Household durables p/c, Foreign, Private high school, and Consumption.

Appendix

Figure A1: UCT admission score, by race

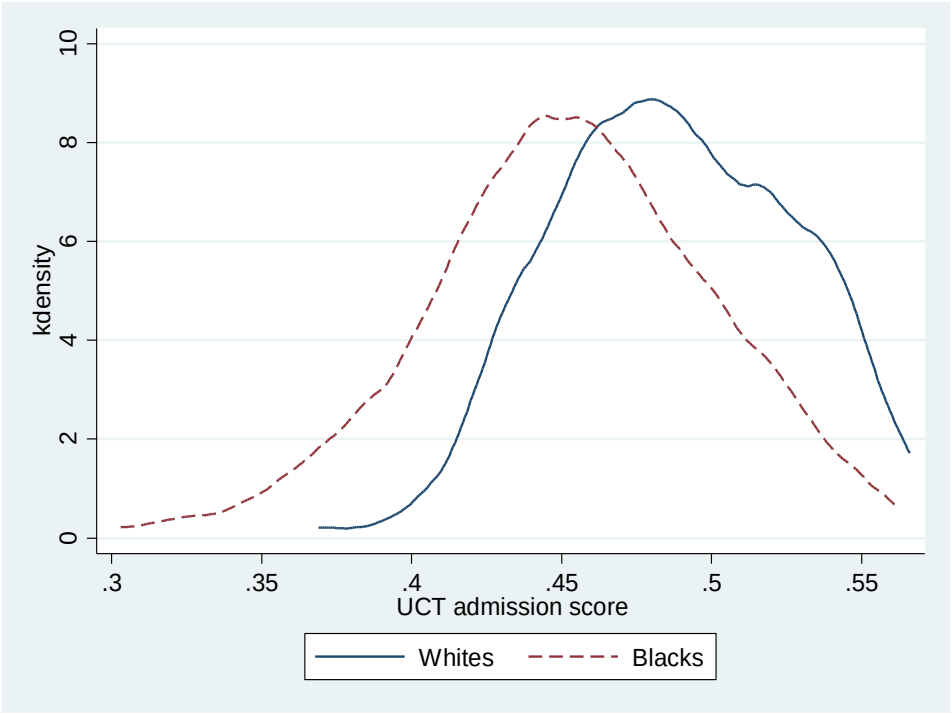


Table A1: Sample Size and Attrition

	All		*Mixed Room*		*Non Mixed Room*		*p-value*
	Obs	*%*	*Obs*	*%*	*Obs*	*%*	
Baseline	637		204		433		
Follow-up	517	81.2	161	79.0	356	82.2	0.181

Table A2: Correlates of attrition

Dependent variable = 1 if respondent participated in follow-up survey			
	(1)	(2)	(3)
1 if in mixed Room at baseline	-0.009		
	(0.038)		
Population IAT		0.010	
		(0.032)	
Academic IAT			0.030
			(0.031)
White	-0.150***	-0.149***	-0.150***
	(0.047)	(0.047)	(0.047)
Coloured	-0.169*	-0.174**	-0.170*
	(0.093)	(0.089)	(0.089)
Indian/Other	0.011	0.008	0.009
	(0.074)	(0.069)	(0.069)
Female	-0.081	-0.082	-0.079
	(0.071)	(0.069)	(0.069)
UCT admission score	0.275	0.280	0.301
	(0.387)	(0.387)	(0.387)
Foreign	0.087	0.087	0.087
	(0.058)	(0.058)	(0.058)
Private high school	-0.033	-0.033	-0.032
	(0.034)	(0.034)	(0.034)
Household durables p/c	-0.001	-0.001	-0.001
	(0.006)	(0.006)	(0.006)
Consumption	-0.041*	-0.042*	-0.042*
	(0.024)	(0.024)	(0.024)
Constant	0.583**	0.583**	0.573**
	(0.267)	(0.267)	(0.266)
Residence Fixed Effects	X	X	X
R-squared	0.09	0.09	0.09
No. Obs.	637	637	637

Notes: OLS estimates. Standard errors in parentheses. *** p<.01, ** p<.05, * p<.10.

Table A3: Summary statistics for academic performance - follow-up

	Full sample		*Whites*		*Blacks*	
	Mean	*Std. Dev.*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*
	(1)	(2)	(3)	(4)	(5)	(6)
GPA	0.01	0.96	0.60	0.83	-0.22	0.91
N. of exams passed	4.96	2.83	6.33	2.21	4.47	2.85
Eligible to continue	0.89	0.32	0.93	0.25	0.87	0.34

Table A4: Summary statistics at baseline and difference in means between treatment and control, by race

	Full sample		*Mixed rooms*		*Non mixed rooms*		*Non mixed - Mixed*	
	Mean	*Std. Dev.*	*Mean*	*Std. Dev.*	*Mean*	*Std. Dev.*	*Difference*	*P-value*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Whites								
Implicit Association Tests								
Population IAT	-0.36	0.49	-0.34	0.46	-0.37	0.51	-0.03	0.77
Academic IAT	-0.25	0.46	-0.23	0.49	-0.26	0.45	-0.03	0.71
Socio-demographic characteristics								
Female	0.67	0.47	0.64	0.49	0.69	0.47	0.05	0.61
UCT admission score	0.49	0.04	0.49	0.04	0.49	0.04	0.00	0.91
Household durables p/c	5.99	2.23	5.70	2.01	6.13	2.34	0.43	0.33
Consumption	1.18	0.92	1.18	1.01	1.18	0.87	0.00	0.99
Foreign	0.07	0.25	0.10	0.31	0.05	0.22	-0.05	0.31
Private high school	0.73	0.44	0.69	0.47	0.75	0.43	0.06	0.49
No. Obs.	116		39		77		116	
Panel B: Blacks								
Implicit Association Tests								
Population IAT	-0.15	0.51	-0.18	0.54	-0.14	0.50	0.04	0.52
Academic IAT	-0.19	0.49	-0.16	0.52	-0.20	0.48	-0.04	0.58
Socio-demographic characteristics								
Female	0.68	0.47	0.72	0.45	0.67	0.47	-0.05	0.37
UCT admission score	0.45	0.05	0.45	0.05	0.45	0.05	0.00	0.93
Household durables p/c	3.78	2.59	3.72	2.25	3.80	2.68	0.08	0.81
Consumption	0.81	0.80	0.88	0.90	0.79	0.77	-0.09	0.40
Foreign	0.12	0.32	0.15	0.36	0.11	0.31	-0.04	0.39
Private high school	0.53	0.50	0.53	0.50	0.53	0.50	0.00	1.00
No. Obs.	338		75		263		338	

Notes: The p-value in col. 8 is for the two-sided test that the difference in means between cols. 5 and 3 is zero. "UCT admission score" is the sum of high school final grades, with weights depending on the specific department the student enrols in; "Household durables p/c" indicates the number of computer, fridges, TV, landline telephone and mobile phones, bicycles, motorbikes and cars held by the respondent's household divided by the household size; "Consumption" is the monthly consumption is Rand on lunches, dinners, food, alcohol, cigarettes, cell phone minutes, entertainment (i.e. cinema, theatre, bars, disco, etc.); "Foreign" is a dummy equal to one if the respondent is not from South Africa.

Table A5: Probability of being in a mixed room at baseline

Dependent variable = 1 if roommate of a different race at baseline	
Sample:	*Blacks, Coloureds, Other races*
	(1)
Population IAT	-0.041
	(0.045)
Academic IAT	0.025
	(0.045)
Coloured	0.800***
	(0.027)
Indian/Other	0.519***
	(0.089)
Female	0.053
	(0.045)
UCT admission score	-0.216
	(0.459)
Household durables p/c	-0.005
	(0.008)
Foreign	0.059
	(0.083)
Private high school	0.002
	(0.045)
Consumption	0.014
	(0.029)
Constant	0.264
	(0.208)
Residence fixed effects	X
R-squared	0.21
No. Obs.	388

Notes: OLS estimates with robust standard errors in parentheses. *** p<.01, ** p<.05, * p<.10.

Table A6: Effect of mixed race room among the sample of Black, Coloured, Indian and other races

	IAT			Academic Performance	
Dependent variable:	*Population IAT*	*Academic IAT*	*GPA*	*Number of exams passed*	*Eligible to continue*
	(1)	(2)	(3)	(4)	(5)
Mixed Room	-0.087	-0.092	0.238**	0.674***	0.156***
	(0.064)	(0.056)	(0.120)	(0.246)	(0.039)
R-squared	0.12	0.10	0.37	0.72	0.36
No. Obs.	388	388	380	380	380
	Attitudes				
Dependent variable:	*Talked about race*	*Comfortable talking about race*	*Abolish affirmative action*	*Conscious dancing*	*Conscious having boyfriend/girlfriend*
	(6)	(7)	(8)	(9)	(10)
Mixed Room	0.558**	0.124**	0.008	-0.026	-0.044
	(0.278)	(0.052)	(0.051)	(0.052)	(0.054)
R-squared		0.10	0.15	0.10	0.13
No. Obs.	355	345	351	350	351
	Friendships				
Dependent variable:	*# times hang out more with people of different race*	*Desires <50% of diff. race in group:*		*% of friends of a different race (excl. roommate)*	*% of study mates of a different race (excl. roommate)*
		friends	*study-mates*		
	(11)	(12)	(13)	(15)	(15)
Mixed Room	0.521**	-0.100	-0.080	0.064*	0.039
	(0.261)	(0.067)	(0.061)	(0.038)	(0.041)
R-squared	0.18	0.21	0.17	0.37	0.07
No. Obs.	388	299	293	338	300
	Pro-social behaviour				
Dependent variable:	*Member of Volunteer Organization*	*Money Given to a Charity*	*Cooperate in prisoner dilemma*		*Belief partner will cooperate in prisoner dilemma*
	(16)	(17)	(18)		(19)
Mixed Room	0.090	70.737	0.026		0.065
	(0.067)	(58.464)	(0.067)		(0.064)
R-squared	0.09	0.17	0.081		0.052
No. Obs.	360	309	385		385

Notes: Table reports OLS estimates everywhere except for cols. 6 and 11 which reports ordered logit estimates. Robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. In cols. 1-2, higher values of the dependent variable (IAT) indicate less prejudice against blacks versus whites. All regressions include residence fixed effects, controls and roommate controls at baseline as defined in table 3. Cols. 1-2 and 8 to 17 also include the dependent variable at baseline. Cols. 3 to 7 include academic program fixed effects. Cols 18 and 19 include a dummy indicating whether the respondent knows the partner in the game.

Table A7: Academic performance, heterogenous effect by same faculty

Dependent variable:	*GPA*			*Number of exams passed in the first year*			*Eligible to continue*		
Sample:	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mixed Room	0.171	-0.052	0.193	0.393*	0.149	0.458	0.177***	0.020	0.202***
	(0.107)	(0.203)	(0.153)	(0.213)	(0.553)	(0.307)	(0.034)	(0.058)	(0.049)
MixRoom*Same Faculty	-0.074	-0.401	0.127	0.121	-2.344*	1.007**	-0.103	-0.075	-0.046
	(0.208)	(0.658)	(0.240)	(0.425)	(1.389)	(0.505)	(0.069)	(0.195)	(0.083)
Same Faculty	-0.017	-0.071	-0.044	-0.072	0.468	-0.335	0.021	-0.077	0.015
	(0.108)	(0.280)	(0.137)	(0.237)	(0.458)	(0.314)	(0.040)	(0.092)	(0.049)
White	0.590***			0.450			0.008		
	(0.130)			(0.286)			(0.041)		
Coloured	-0.001			-0.518			-0.073		
	(0.193)			(0.361)			(0.050)		
Indian/Other	0.145			0.313			-0.044		
	(0.213)			(0.355)			(0.063)		
Controls	X	X	X	X	X	X	X	X	X
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X
Academic program fixed effects	X	X	X	X	X	X	X	X	X
R-squared	0.432	0.573	0.388	0.699	0.725	0.720	0.329	0.453	0.418
No. Obs.	468	111	312	468	111	312	468	111	312

Notes: OLS Estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the regression include residence fixed effects. Controls are measured at baseline and are the same as in table 3. Roommate controls at baseline include: UCT admission score, Household durables p/c, Foreign, Private high school, and Consumption.

Table A8: Impact on academic performance in year 2

Dependent variable:	*GPA*			*Number of exams passed*			*Eligible to continue*		
	Full sample	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*	*Full sample*	*Whites*	*Blacks*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mixed Room	-0.002	-0.130	0.029	0.740***	0.145	0.914**	0.100**	-0.057	0.112*
	(0.050)	(0.111)	(0.071)	(0.278)	(0.907)	(0.414)	(0.040)	(0.081)	(0.060)
UCT entry score	3.505***	7.322***	1.655**	4.045	-3.958	5.655	0.725	0.154	0.629
	(0.611)	(1.249)	(0.750)	(3.175)	(9.866)	(4.059)	(0.462)	(0.877)	(0.725)
Roommate's UCT entry score	0.429	0.664	0.712**	1.734	4.656	0.985	0.608*	0.385	0.632
	(0.309)	(0.683)	(0.335)	(1.832)	(4.404)	(2.293)	(0.347)	(0.543)	(0.473)
White	0.295***			0.832***			0.033		
	(0.058)			(0.311)			(0.040)		
Coloured	-0.040			-0.561			-0.108		
	(0.133)			(0.669)			(0.107)		
Indian/Other	0.056			0.852*			-0.153*		
	(0.107)			(0.486)			(0.080)		
Controls	X	X	X	X	X	X	X		
Roommate controls[(a)]	X	X	X	X	X	X	X	X	X
Academic program fixed effects	X	X	X	X	X	X	X	X	X
Mean in the control group	0.378	0.685	0.239	5.433	6.100	5.096	0.892	0.957	0.877
R-squared	0.507	0.778	0.448	0.530	0.649	0.580	0.263	0.516	0.373
No. Obs.	348	104	205	348	104	205	347	104	204

Notes: OLS Estimates with robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All the regressions include residence fixed effects. Controls are measured at baseline and are the same as in table 3. (a) Controls for roommate in cols. 2, 4, 6, 8, 10, 12 include: UCT admission score, Household durables p/c, Foreign, Private high school and Consumption.

Table A9: Residential choices at the end of the first year

Panel A: Dependent Variable = Still in Residence in year 2			
Sample:	*Full sample*	*Whites*	*Blacks*
Mixed Room	0.047	0.030	0.030
	(0.038)	(0.054)	(0.053)
White	-0.083**		
	(0.041)		
Coloured	0.009		
	(0.093)		
Indian/Other	-0.053		
	(0.067)		
R-squared	0.189	0.174	0.224
No. Obs.	504	116	388

Panel B: T-test - Same Roommate in year 2			
	1 if in mixed Room at baseline	*1 if not in mixed Room at baseline*	*p-value*
Full sample	0.19	0.18	0.54
Whites	0.67	0.40	0.76
Blacks	0.16	0.21	0.64

Notes: Panel A reports OLS estimates. Robust standard errors in parenthesis. * p<.10, ** p<.05, *** p<.01. All regressions include residence fixed effects, controls and roommate controls at baseline as in table 3.