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Trust and Trustworthiness with Singleton Groups

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I. Introduction

Singleton groups are groups made of one individual. They are a useful concept when seen against a non-singleton majority group which needs to interact with the singleton group member. We consider an experiment looking at the effects of having singleton group, that is groups l on trust and trustworthiness. The act of creating a singleton group based on socio-economic categories (such as race) is a pervasive phenomenon of economic and social life. It occurs whenever a subject, who has specific attributes that make him or her potentially different from the others, ceases to be an ordinary and usual person, and becomes a distinct one in the eyes of the other people. As a result, the specific intra-group social situation is one characterized by a solo-status case where there is one member who is perceived and treated differently by the other members.

Someone can be identified as a singleton group because he or she possesses some desirable qualities; therefore, the status of being identified as a singleton group can be associated with a positive social standing. For instance, a student may be identified as a singleton group by his or her classmates because he or she is the 'coolest' one, or, in a football team, a player can be identified as a singleton group to be the captain because he or she is the oldest or the most charismatic footballer of the team. A subject can also be identified as a singleton group by others because he or she possesses undesirable qualities; therefore, the status of being identified as a singleton group can coincide with a negative social standing. In line with a previous example, a student may be identified as a singleton group by his or her classmates because he or she is the 'least cool' one. Note that when the status of being identified as a singleton group is attributable to something undesirable about the socio-economic characteristics of the subject, the latter might also be object of social exclusion, marginalization, stigmatization, negative stereotypes, bullying, or, more generally, negative discrimination. In other words, the status of being identified as a singleton group can be a precondition for the aforementioned social mechanisms. This evidence is documented in social psychology research (e.g. see Heatherton *et al*., 2000; Abrams *et al*., 2005).

There are many economic contexts where the practice of identifying a member from a community, group, or team is commonly observed. In organizational and workplace settings, singleton groups can be employed as a management tool. For example, an employee can be identified as a singleton group by his or her colleagues, and made to feel unwelcome because he or she belongs to socially disadvantaged minorities (e.g. see Kanter, 1977; Yoder and

Aniakudo, 1997; Niemann and Dovidio, 1998; DePaulo and Morris, 2006). Similarly, an employee can be identified as a singleton group for his or her desirable socio-economic characteristics (e.g. age, experience, etc.), for example, to represent his or her co-employees in dealings with the employer, or simply because he or she belongs to a privileged group, such as in the case, reported by Heikes (1991), of white male nurses working in all-female environments. While in some cases there may be a consensus among the members of the group on who is the singleton group individual, in others the latter is selected by an authority, such a manager in an organizational setting: an agent who has the right and responsibility to enforce the group divide.

A singleton group subject loses the status of ordinary member, and acquires uniqueness in the eyes of the other members. In many cases, this distinctiveness is simply identified by the specific traits that the singleton group member possesses, and that make him or her different from the others. For instance, a member may be identified as a singleton group because of his or her race, sex, or ethnicity, in a group where that attribute is otherwise homogeneous (Taylor, 1981). In some cases, the newly acquired status of being identified as a singleton group provides a further source of distinctiveness to the individual. For instance, the captain of a soccer team usually wears an armband, which distinguishes him or her from the other players.

What are the consequences of singleton groups? A first effect may concern the behavioral reaction of the discriminated subject. Following the logic of social identity theory (see Tajfel and Turner, 1978; for a more recent discussion, Hogg, 2003), the subject may experience either an improvement or a threat of his or her social identity depending on whether the member is consensually liked or disliked in the group. In particular, a subject singled out because of his or her desirable characteristics may enjoy a state of positive distinctiveness in relation to the others, and, therefore, increase his or her self-concept. In contrast, a subject who has been identified as a singleton group because of his or her undesirable characteristics may experience a sense of inferiority, isolation, and loss of belonging, and, in turn, feel dislike for himself or herself (Twenge and Baumeister, 2005). In both cases, the behavioral consequences may be pro-social or anti-social.

In particular, the member who has been identified as a singleton group because of his or her desirable qualities may feel entitled to take advantage of the other subjects because of his or her higher status, and, therefore, behave more selfishly or anti-socially. At the same time, he or she may feel responsible for the integrity of the group because of his or her higher

standing within the group, or simply reciprocate the higher status's attribution, and, therefore, be less selfish or adopt pro-social behaviors towards the other members. In contrast, the member who has been identified as a singleton group because of his or her undesirable qualities may behave antisocially either to retaliate for his or her loss of social status or simply because he or she no longer feels any bond with the other members. Conversely, he or she may act in a pro-social way in order to demonstrate his or her social value to the others.

A second effect may be related to the reaction of majority group subjects to the presence of a singled out member. If the other members perceive the singleton group subject as an outsider, they may behave antisocially towards him or her (see, for example, Hargreaves-Heap and Zizzo, 2009), especially if the subject has been identified as a singleton group because of his or her undesirable qualities. At the same time, the presence of a singleton group subject may strengthen the feelings of in-group inclusion of the majority group members (Pickett and Brewer, 2005), thus inducing reciprocal favoritism among those individuals.

Both behavioral responses of the singleton and majority group members may be sensitive to whether the responsibility of identifying someone as belonging to the singleton group is attributable to everyone or to an external authority. The behavioral reaction of the singleton group subject may be less strong towards those subjects who are not directly responsible for his or her lower standing. In addition, the shift of responsibility towards an external authority may alleviate the feelings of guilt experienced by majority group subjects, and, therefore, remove their concerns for the singleton group subject's condition. This is what, in a different context, Charness (2000, p. 375) called the *responsibility-alleviation effect*, i.e. a mitigation of "internal impulses toward honesty, loyalty, or generosity" because of "shifting the responsibility for an outcome to an external authority".

To our knowledge, despite the fact that singleton groups are a common phenomenon of social and economic groups, it has received no attention so far in economics. In this paper, we try to fill this gap by running an experiment in the context of trust games. A trust game is a standard stylized setup used in the economic literature to study trusting behavior and trustworthiness. Economists are aware of the importance that both trust and trustworthiness play in economic interactions, especially with respect to the formation of social capital (e.g., Putman, 2000). In particular, they reduce the costs of transacting (Frank, 1988), promote efficiency in markets (Arrow, 1974), improve cooperation (Smith *et al*., 1995) and increase firms' ability to adapt to complexity and change (Korsgaard *et al*., 1995). Trust and

trustworthiness are also considered to be "at the core of group life" (Hogg *et al*., 2005, p. 193) since they play a fundamental role in ensuring the stability of a group. For these reasons, the trust game seems to be a natural environment where to test, as a starting point, the economic implications of singleton groups.

To test these implications, we artificially induced a status of being a singleton group member in the lab. Under a positive frame, subjects identified the *most preferred match* in the experiment, whereas under a negative frame, they identified the *least preferred match* in the experiment. We controlled for identification effects by varying the extent to which the status of being in the singleton group could be identified by majority group subjects. Furthermore, we tested the implications of having a random assignation of such status under a neutral frame. Finally, we investigated the effects of singleton groups when an authority rather than the whole group is responsible of such decision.

Our key finding is that singleton groups do not carry any benefit in terms of trust and trustworthiness; if anything the effect is negative in terms of trustworthiness. Section 2 briefly reviews some of the related literature. Section 3 describes the experimental design. Section 4 reports the main results. Section 5 provides a discussion of the findings. Section 6 concludes.

II. Related Literature

In the economic literature, we did not locate any papers which specifically analyze the economic implications of singleton groups. However, an area of economic research somewhat related to our study is the one that examines experimentally the impact of group identity. In our experiment, we manipulate the social identity and status of one member, the singleton group subject (and, therefore, indirectly that of the other members, the non-singleton group subjects), within the reference group, thus creating *de facto* two potential distinct groups, one of which is represented by only one individual. This manipulation may have implications in line with the findings of the economic literature on group identity. This literature has shown that group membership affects economic behavior in prisoner's dilemma and battle of sexes games (e.g. Charness *et al*., 2007; Goette *et al*., 2006), public goods game (e.g. Tan and Bolle, 2007), bargaining settings (e.g. Hargreaves-Heap and Varoufakis, 2002), two-person sequential games (Chen and Li, 2009), coordination games (Chen and Chen, 2011), and trust games (e.g. Hargreaves-Heap and Zizzo, 2009). A general conclusion that can be drawn from these works is that group membership can produce positive discrimination

in favor of insiders and/or negative discrimination against outsiders. Two recent papers of this literature are particularly relevant for our study. The first is Tsutsui and Zizzo (2010). In this study, the authors investigated the role played by majority versus minority groups, and high status versus low status groups in the context of trust games.[1] They observed that minority and low status subjects dislike being in such condition, and discriminate generally less. The second study is Chakravarty and Fonseca (2010), who studied the effects of social fragmentation and group identity on public good contributions. While their vehicle of research (i.e. a six-player public good game) differs from the one used in our experiment (i.e. a two-player trust game), in one treatment they induced a social fragmentation resembling that of our experiment (i.e. one subject experiencing solo status). They found that minority group subjects contribute more to the public good than majority group and middle-sized group subjects.[2]

Some of the behavioral implications which might result from singleton groups might also be linked to psychological phenomena which has been studied in the psychological research with respect to social exclusion/inclusion, marginalization, stigmatization, and stereotyping (for an overview of this literature, see Heatherton *et al*., 2000; Abrams *et al*., 2005). This literature usually focuses on attitudes rather than behavior (e.g., Sekaquaptewa and Thompson, 2002; Thau *et al*., 2007), and extensively uses deception as a way to manipulate the behavior when the latter is the object of interest (e.g., Twenge *et al*., 2001; Twenge *et al*. , 2007; Derfler-Rozin *et al*., 2010).

III. Experimental Design

A. Outline

The experiment was conducted between March and July 2011 at our university with a total of 324 subjects divided into 54 sessions (6 subjects per session). The participants were mostly students with a variety of different backgrounds.[3] The experiment was fully computerized with the z-Tree software (Fischbacher, 2007). Subjects received both

[1] The group size varied from 4 subjects (minority) to 8 subjects (majority). Group status was manipulated by labeling the high status group in terms of Blue group, whereas the low status group in terms of subjects who do not belong to any group (Tsutsui and Zizzo, 2010).

[2] Note, however, that these results might be driven by reputational effects. In particular, largely in treatment 5-1, and weakly in treatment 4-2, minority group individuals are easily detectable even if the software randomized the display order of the individual contributions.

[3] Details of the socioeconomic background of the experimental participants, and experimental instructions can be found in the online appendix.

computerized and printed instructions at the beginning of each experimental task. The presentation of the experimental instructions was as neutral as possible avoiding terms such "trust", "truster", or "trustee". The experiment employed a fictional currency, the *experimental credit*, which was converted to pounds at the end of the experiment at the rate of 20 UK pence per experimental credit. Subjects earned on average £11.78 (around 18-19 US dollars), including a show-up fee of £1.50. Earnings were paid privately and anonymously at subjects' stations at the end of the experiment. Each session lasted around 35 minutes. Subjects were allowed to participate in no more than one session.

The experiment consisted of seven treatments, described below: the baseline (B), the black sheep treatment (BS), the golden sheep treatment (GS), the random sheep treatment (RS), the privately informed black sheep treatment (PIBS), the privately informed golden sheep treatment (PIGS), and the authority and black sheep treatment (ABS). We ran eight sessions per treatment (seven in PIBS and PIGS).

B. Beginning of the Experiment and Ranking Phase

In each session, subjects were randomly assigned to computer terminals, which were separated by partitions in order to avoid facial or verbal communication between subjects. After being assigned to computer stations, subjects were asked to fill in a questionnaire with their personal information. In particular, we asked subjects to indicate their gender, age, current university status, country of origin, whether their main field of studies was related to Economics or not, their religion, whether they used Facebook or not, their current relationship status, and whether they smoked or not. After completing the questionnaire, subjects received the instructions for the first experimental task (i.e. trust game).

Once everyone had finished reading the instructions, each subject was informed about these characteristics for the other participants, and asked to rank them according to how much she or he would like to be matched with them in the experiment (from the most preferred match to the least preferred match).[4] Without informing the participants *ex ante*, the computer allocated to each subject a certain number of points corresponding to the rank assigned by each other participant to that specific individual (i.e. five points for being ranked first, four for being ranked second, and so on), and ordered the subjects from the participant with the most points (*the most preferred match*) to the one with the least points (*the least preferred*

[4] Ties in the ranking were not allowed.

match).[5] In other words, the computer applied a Borda count to the individual rankings in order to determine a consensus-based preference ordering of the participants.

A disadvantage of the Borda count is that it may induce strategic behaviors or a false revelation of own preferences. This is not a problem in our experiment because subjects were not informed *ex ante* about the aggregation procedure and why they had to rank the other participants (i.e. selection of the singleton group subject). Furthermore, we are not interested in the results of the Borda count *per se*, but only as a framing tool to induce singleton groups.

C. The Baseline (B) Treatment

The experimental treatments differed in what followed the ranking phase.[6] We first describe the B treatment. After all the subjects submitted their rankings, they were not told how the computer processed these data. The participants simply proceeded to the next phase. In particular, they filled in a control questionnaire designed to check their understanding of the instructions. Clarifications were individually given to subjects with incorrect answers. The experimental task was a standard Berg *et al*. (1995)'s trust game. In this set-up, a truster (the *first mover*) must decide how much to invest/keep of an endowment X (48 experimental credits in our case). Calling the amount invested T, the investment gives $3 \times T$. This investment's return is sent to the trustee (the *second mover*) who must decide how to share the received amount with the truster. If she keeps Y, the total payoffs will be $(X - T) + 3 \times T - Y$, for the truster, and Y for the trustee, respectively. T measures the amount of trust, $3 \times T - Y$ measures trust fulfilling and therefore, trustworthiness. There were 4 rounds of the trust game. In each round, each subject was matched with a different co-participant (absolute stranger matching). In this way, we avoided reputation building, which could stem from re-matching the same subjects more than once. Each subject was also randomly assigned the role of trustee for half the time and truster for the other half. No information about a co-participant (e.g. participant's ID, gender, nationality, and so on) was revealed to the subjects.

Once subjects completed this experimental task, a new set of instructions for an incentivized individual task was given. This new task was a standard Holt and Laury (2002) questionnaire in the domain of gains. The aim of the task was to measure risk attitude by counting the number of times subjects chose the safer option. The task details are in the

[5] Ties in the ranking were dealt with by the computer with a random draw.

[6] A critical reader might argue that the ranking phase might change later trust game play. However, all we are interested in this paper is across-treatment differences, and these cannot be explained by the ranking phase, which equally preceded all treatments.

experimental instructions. A further questionnaire was then given, in two parts. The first part was the 17-item Social Desirability Scale (Stöber, 2001). This scale measures the desire to present oneself in a positive light. For each item of the scale, a subject has to decide if the statement describes himself/herself or not (true-or-false type of scale). The second part of the questionnaire was the Rosemberg's (1965) self-esteem scale, widely used in psychology to measure state self-esteem. For each of the ten items of the scale, a subjects has to indicate how much he or she agree with the statement on a four-point scale (from strongly agrees to strongly disagree). Final payments were based on the earnings of one randomly chosen trust game round, plus the earnings from the Holt and Laury (2002) task.

D. Other Treatments

Now we turn to the description of the other treatments. These were identical to the B treatment except in what follows. In the black sheep (BS treatment), after all the subjects submitted their rankings, the computer explained how it processed these data to determine which one was considered the *least preferred match* in the experiment, i.e. the participant that everyone else least wanted to interact with in the experiment. Subjects were also told that whenever a participant was matched with the least preferred match during the experiment, the least preferred match would be identified with a mark (i.e. an asterisk). The real identity of the least preferred match was not revealed at any point of the experiment. Through this procedure, we artificially induced an identifiable status of being singled out which was based on consensually undesirable attributes.

The golden sheep (GS) treatment was similar to the BS treatment except that the computer explained how it processed the data on the individual rankings to determine which participant was considered the *most preferred match* in the experiment, i.e. the participant that everyone else most wanted to interact with in the experiment. Each subject was then informed whether he or she was the most preferred match. The most preferred match was identified with an asterisk during the trust game. In contrast to the BS treatment, the aim of the GS treatment was to induce an artificial identifiable status of being singled out which was based on consensually desirable attributes.

In the privately informed black sheep, PIBS (privately informed golden sheep, PIGS), treatment, after the ranking phase, the computer informed the subjects about how the least (most) preferred match was selected from the individual rankings, and told the least (most) preferred match about his or her status. However, the singled out participant was not marked

with an asterisk during the experiment. In other words, the singleton group subject could not be identified by the other participants during the trust game. This treatment was designed to disentangle the "pure" effect of being singled out, which comes from the personal recognition of the singleton group subject to be consensually disliked (liked), from the effect of being identifiable as the singleton group subject by the others.

In the authority and black sheep (ABS) treatment, after the ranking phase, the computer informed the subjects that the individual ranking of one randomly selected participant from the experiment (i.e. the *authority*) determined who was considered the least preferred match in the experiment. In particular, the least preferred match was the participant that the authority least wanted to interact with in the experiment according to his or her individual ranking. As in the BS treatment, the least preferred match was identified with an asterisk. Subjects were also told whether they were the authority or not, and that the authority could not be matched with the least preferred match during the experiment.[7] Here, we wanted to investigate the effects of singleton groups, under a negative frame, when an authority rather than the whole group is responsible of such decision.

Finally, in the random sheep (RS) treatment, subjects were simply told that one of them was going to be randomly singled out by the computer and identified with an asterisk for the rest of the experiment. This treatment was designed to pick up the effect of a random attribution of distinctiveness under a neutral frame, and when no participant was responsible for such attribution.

As noted earlier, these treatments were identical to the B treatment except for the points noted above, e.g. subjects filled in an initial control questionnaire designed to check their understanding of the instructions, and had a Holt and Laury (2002) and a psychological questionnaire at the end. Table 1 summarizes the main features of our treatments. In BS, we induced a negative identifiable status of being singled out in order to study its implications on trust and trust fulfilling within a group of individuals. GS was identical to BS except that we induced a positive identifiable status of being singled out. In PIBS and PIGS, we controlled for the possible effect that being identifiable as singleton group subject has on the behavior of this latter individual. In other words, we removed the effect of identification. RS tested whether the identification mark *per se* affects the behavior of the singleton group subject, when no other subject is responsible for his or her status. Finally, in ABS we investigated the

[7] This is because we wanted to isolate the behavioral reaction of the singleton group subject towards those who were not responsible of his or her status.

implications of having a singled out member within a group of subjects when an authority is the only one to blame for the status of the singled out individual.

[Table 1 about here]

III. Experimental Results

A. Bivariate Tests

Our focus in this paper is on the results of the trust games.[8] The *giving rate* identifies the proportion of endowment that the truster transfers to the trustee, while the *return rate* measures the amount returned by the trustee to the truster as a fraction of the total amount received from the truster (i.e. three times the amount given by the truster).

Cooperation towards singleton group subjects. Tables 2 and 3 show average giving and return rates for each experimental treatment, while Figure 1 display giving and return rates for each experimental treatment.

[Table 2-3 and Figure 1 about here]

Result 1. Subjects who have not been singled out gave less on average to singled out than non-singled out individuals, in all the treatments where the status of being "singled out" was revealed to all the participants (BS, GS, RS and ABS).

Result 1 achieves statistical significance (Wilcoxon $p = 0.011$),[9] a result driven by the RS treatment where the difference is largest (Wilcoxon $p = 0.036$).

Turning to the return rate, there is no evidence of discrimination in aggregate (Wilcoxon $p = 0.399$). A closer examination of the RS and ABS treatments suggests that return rates in the two treatments exhibit a similar pattern. We find no statistically significant evidence of a different mean return rate to singleton group subjects between the two treatments (Mann-Whitney $p = 0.676$). The singleton group subject is selected by the computer (i.e. through a random draw) in RS, and by the authority (i.e. the participant whose individual ranking determined who was considered the least preferred match) in ABS: in both treatments subjects matched with the singled out individual were not responsible for her/his status.

[8] We have also analyzed matching preferences as revealed in our unincentivized initial ranking phase. These are presented in the online appendix.

[9] Throughout the paper, except where otherwise specified, session averages are used as the unit of observation for statistical tests, and the reported p values are two tailed.

In 10 out of 15 sessions of RS and ABS pooled together,[10] the mean return rate was lower when interacting with a singled out than with a not singleton group subject (Wilcoxon $p = 0.038$). In contrast, the mean return rate to singleton group subjects did not differ from the mean return rate to non-singled subjects in both BS and GS treatment (Wilcoxon $p = 0.176$ and 0.866 respectively).

Result 2. There is preliminary evidence that, when subjects were not responsible of the distinct status of the singled out individual, they were less trustworthy towards him or her. When they were responsible, trustworthiness was the same as towards non-singleton group subjects.

Of course, the return rate may depend on the amount sent by the truster, i.e. the giving rate of the trustee's counterpart. This is because of several psychological reasons such as inequality aversion (Fehr and Schmidt, 1999), reciprocity (Falk and Fischbacher, 2006), and trust responsiveness (Guerra and Zizzo, 2004). This problem will be controlled for in the regression analysis presented later in the paper.

We can compare giving and return rates towards singled out and non-singleton group subjects[11] against giving and return rates in the B treatment in order to determine whether the discrimination is positive or negative, i.e. whether they are treated better or worse than baseline subjects. The aggregate mean giving rate to singleton group subjects did not differ from that in the B treatment (Mann-Whitney $p = 0.417$). This result is also robust across treatments. The aggregate mean return rate to singleton group subjects did not differ in aggregate from that in the B treatment (Mann-Whitney $p = 0.214$). However, if we compare the mean return rates of RS and ABS with the return rates of the B treatment, we mildly reject the hypothesis that return rates to singleton group subjects are the same as in the baseline (Mann-Whitney $p = 0.059$). This will be investigated further in the regression analysis since, as noted earlier, the return rate may depend on the giving rate received by the trustee.

[10] One session displayed identical mean return rates, whereas four sessions displayed higher mean return rates when interacting with a singleton group subject. Note also that one observation in the RS treatment is missing because in one session the singleton group subject did not trust at all the other subjects. This explains why we have 15 observations instead of 16.

[11] Giving and return rates towards non-singleton group subjects do not include those from singleton group subjects.

Behavior of singleton group subjects. We now consider the behavior of singleton group subjects. A first result concerns the trusting behavior of singleton group subjects. In 30 out of 46 sessions mean giving rates from singleton group subjects were lower than non-singleton group subjects (Wilcoxon $p = 0.040$).

Result 3. In aggregate, there is evidence that singleton group subjects trust other people less than non-singleton group subjects.

We do not detect any statistically significant difference in mean return rates between singled out and non-singleton group subjects (Wilcoxon $p = 0.214$). As shown by Figure 1 (Panel D), two different behavioral patterns seem at work respectively in BS and PIBS treatments, and GS and PIGS treatments relative to the return rate of singleton group subjects. [12] There is preliminary evidence that the least preferred matches returned significantly less than subjects who had not been singled out (Wilcoxon $p = 0.003$)[13] and baseline subjects (Mann-Whitney $p = 0.004$). In contrast, differences in central tendency between the return rates of the most preferred matches and those of non-singleton group subjects were not significant (Wilcoxon $p = 0.798$).

Result 4. Least preferred singled out matches, i.e. singleton group subjects under a negative frame, return significantly less than non-singleton group subjects.

We can also compare the giving and return rates from singleton group subjects against the baseline. In aggregate, neither the mean giving nor return rate from singleton group subjects were statistically significantly different from the mean giving and return rate in the B treatment (Mann-Whitney $p > 0.100$). The mean giving rate from singleton group subjects also does not appear to differ across treatments. Mean return rates from the least preferred matches in BS and PIBS treatments are lower than the mean return rate in the baseline sessions (Mann-Whitney $p = 0.004$) as well as in RS (Mann-Whitney $p = 0.009$) and ABS sessions (Mann-Whitney $p = 0.007$). Conversely, there is no evidence that mean return rates from the most preferred matches in GS and PIGS treatments were different from the mean

[12] Return rates in BS and PIBS display a similar pattern (Mann-Whitney $p = 0.464$), as do the return rates in GS and PIGS (Mann-Whitney $p = 0.952$).

[13] This result is robust if we conduct a test on each treatment separately. The Wilcoxon signed-ranks p-values are respectively 0.017 and 0.063 for BS and PIBS.

return rate of the B treatment (Mann-Whitney $p = 0.696$), nor from other treatments (Mann-Whitney $p > 0.100$).

[Figure 2 about here]

A closer look at the distribution of the mean return rates (Figure 2) reveals why the statistical tests for GS and PIGS provide null results. In BS and PIBS singleton group subjects display only low return rates (between 0 and 0.117 in BS, and 0 and 0.167 in PIBS), while Figure 2 shows a different, bimodal pattern for GS and PIGS, with either high or low return rates.[14] We can therefore derive the following result.

Result 5. Most preferred singled out matches, i.e. singleton group subjects under a positive frame, behave bimodally, with either high or low return rates.

Result 5 implies that the variance of return rates of most preferred matches should be higher than that of return rates of baseline subjects; Siegel-Tukey tests support this ($p = 0.007$).[15] Conversely, the BS and PIBS return rates variance is not statistically different from that in the B treatment ($p = 0.271$).[16]

Behavior of authorities. In the ABS treatment, the mean giving rate of authorities did not significantly differ from the mean giving rate of singleton group subjects (Wilcoxon $p = 0.575$) or of non-singled subjects (Wilcoxon $p = 0.327$). In contrast, we do have evidence that authorities returned significantly less than singleton group subjects (Wilcoxon $p = 0.068$) and non-singleton group subjects (Wilcoxon $p = 0.030$). Furthermore, while the mean giving rate of authorities did not differ from the baseline (Mann-Whitney $p = 0.401$), we do find strongly significant evidence of lower return rates from authorities relative to the baseline (Mann-Whitney $p = 0.045$).

Result 6. There is preliminary evidence that the subject randomly assigned the role of authority returned significantly less because of being assigned to the role of authority.

[14] BS and PIBS return rates have a standard deviation respectively of 0.049 and 0.082, while in B return rates are smoothly distributed between 0.042 and 0.392 with a standard deviation of 0.125. In contrast, the return rates lie between 0 and 0.483 in GS and between 0 and 0.5 in PIGS, with a standard deviation respectively of 0.224 and 0.226.

[15] A treatment-by-treatment comparison gives similar results (the p-values are 0.001 and 0.076 for respectively B versus GS and B versus PIGS).

[16] A treatment-by-treatment comparison again gives similar results (the p-values are 0.561 and 0.611 for respectively B versus BS and B versus PIBS).

B. Regression Analysis

In the regression analysis we treat each individual as the unit of observation.[17] We employ Tobit regressions[18] with clustered robust standard errors in order to control for the possible correlation of the error term between observations within a same session. Regressions 1-2 in Table 4 and regressions 3-4 in Table 5 use the giving and return rate respectively to non-singleton group subjects as dependent variable, while regressions 5-6 in Table 6 and regressions 7-8 in Table 7 use respectively the giving and return rate to singleton group subjects. This distinction between giving/return rate to non-singleton group subjects and giving/return rate to singleton group subjects allows us to test whether singleton group subjects discriminate against non-singleton group subjects and/or the reverse.

The regressions employ dummy variables for the experimental treatments, either individually (BS = 1 for BS treatment observations, and similarly for GS, RS, PIBS, PIGS and ABS) or in combination (RS+ABS = 1 for RS or ABS treatments observations, and similarly for BS + PIBS and for GS + PIGS). In regressions 2 and 4 we use a single dummy variable ("All Treatments") for all treatments with a singleton group subject; in regressions 6 and 8 we employ a single dummy variable ("Asterisk") for all treatments where the singled out was identified by an asterisk. In regressions 1-4 we also employ dummy variables, one for each treatment, which take value 1 if the subject was a singleton group subjects in BS and PIBS or alternatively in GS and PIGS; we also use a further dummy variable for the authority (Authority = 1 for authorities). In the return rate regressions (Table 5 and 7), an extra explanatory variable is the giving rate received by the trustee. All the regressions include demographic variables, such as age, gender (=1 for men), economics background (=1 if applicable), nationality (UK=1 for UK subjects, and India =1 for Indian subjects), religion (Christian = 1 for Christian subjects, Muslim = 1 for Muslim subjects), whether the subject smokes or not (Smoker = 1 for smoker subjects), whether the subject is a MPhil/PhD student or not (PhD = 1 for MPhil/PhD students) and relationship status (Single = 1 for subjects who were not in a relationship or were unmarried), and psychological measures (i.e. social

[17] Therefore, the *i* observation on the giving/return rate corresponds to the average giving/return rate of the *i*-th subject over the four round of the trust game.

[18] Giving and return rates lie between 0 and 1.

desirability, self-esteem, and risk attitude).[19] In the regressions of Table 5, we added interaction terms between Authority and the psychological measures.[20]

[Table 4-7 about here]

Table 4. If we first consider the findings regarding the *giving rate to non-singleton group subjects*, none of the treatment dummies is statistically significant. Among the dummy variables identifying the giving rates from singleton group subjects, none of them is statistically significant. This brings us to the following result.

Result 7. The presence of singleton group subjects did not affect mean giving rates to non-singleton group subjects.

Table 5. Turning to the *return rate to non-singleton group subjects*, and in line with previous findings on trust games, the giving rate from the truster are found to positively affect the return rate of the trustee ($p = 0.000$). We also replicate our previous findings that the least preferred match and the authority returned significantly less than other subjects ($p < 0.01$).

Result 8. Least preferred singleton group subjects, and authorities, were less trustworthy than baseline subjects.

Authority × SDS17 is statistically significant ($p < 0.05$). This implies that authorities with a high score in the SDS17 questionnaire return proportionally more; this suggests that they perceive that social pressure is put on them (Zizzo and Fleming, 2011).

The aggregate treatments dummy of regression 4 is mildly significantly negative ($p = 0.052$). In regression 3, all the coefficients of treatment variables are negative. However, only

[19] We do not introduce a dummy variable for Facebook use since only 7 subjects out of 324 in our sample stated that they do not use Facebook. Also, since the risk elicitation task was administered at the end of the experiment, it is possible that subjects made more or less risky choices depending on their expected earnings obtained in the trust game. If such a bias exists, we should observe a correlation between our measure of risk aversion and the expected payoffs from the trust game. However, this correlation is low and not significant (Spearman $\rho = 0.013$, $p = 0.818$). Hence, we conclude that there is no evidence of systematic bias in measuring risk aversion. Finally, we have also tried other specifications where we have included interactions of the dummies for most and least preferred subjects with dummies related to those attributes (i.e. UK, single, PhD) which were more likely to characterize least and most preferred subjects (see section E of the online appendix, and section 4 of the paper). None of these interaction terms resulted significant.

[20] In all the regressions, all the psychological variables as well as the 'Trust Rate as Trustee' variable are centered in order to control for the high correlation between the independent variables. In other words, we subtract the mean from every observation. For a discussion, see Marquardt (1980).

the coefficients of BS+PIBS and PG+PIGS are strongly and mildly statistically significant respectively.

Result 9. There is some evidence that the presence of a singleton group subject reduced return rates to non-singleton group subjects. This is particularly prominent in the treatments where the singleton group subject was the least preferred match.

Table 6. In the regressions on the giving rate to singleton group subjects, all the coefficients of the treatments dummies are negative, but statistically not significant.

Result 10. Once covariates are controlled for, giving rates towards singleton group subjects were not different from those towards baseline subjects.

Table 7. In the regressions on the return rate to singleton group subjects, all the treatment dummies in regression 7 are negative, though only the coefficient RS+ABS is statistically significant ($p < 0.001$). An F test restricting all the dummies corresponding to treatments where the singled out can be identified (BS, GS, RS, ABS) to 0 is rejected ($p < 0.01$). In addition, the Asterisk dummy of regression 7 is statistically significant ($p < 0.01$).

Result 11. Subjects who were not responsible of the distinct status of the singleton group subject returned about 20% less to this person.

Demographic variables. Some demographic variables appear to be statistically significant. Most notably, participants with a background in economics gave less to both non-singled and singleton group subjects; a similar behavioral pattern is observed for Muslim subjects and Indian subjects; while single participants gave and returned more to non-singleton group subjects.

Time trend of key variables. We also looked at how giving and return rates evolved over time. Giving rates only slightly decreased over time, but the trend is not statistically significant (Spearman $\rho = -0.044$, $p = 0.658$); return rates statistically significantly decreased over time ($\rho = -0.167$, $p < 0.001$).

IV. **Discussion**

One potential explanation of our findings might be that there is not a behavior change because of the creation of singleton groups. Rather, the singleton group subjects may behave differently because individual characteristics information placed them in the singleton groups (i.e., least preferred or most preferred) *and* implies that they behaved differently. The focus here is on individual characteristics information which was transmitted (e.g., age or PhD), and which may make the sample of singleton group subjects different from the sample of non-singleton group subjects. This *individual characteristics hypothesis* has a veneer of plausibility in the least preferred and most preferred singleton group subjects treatments precisely because the choice of such least preferred and most preferred singleton group subjects may be non-random, as information is provided to subjects to choose their ranking of subjects they would wish to be matched with.

We are able to control for this hypotheses in two complementary ways. First, we control directly for individual characteristics in the regression analysis presented in Tables 4 and 5, thus enabling us to identify the effects of creating a singleton group as separate to that of being a singleton group subject. Second, and more fundamentally, the online appendix (section E) shows that the sample of singleton group subjects does not differ from the sample of corresponding non-singleton group subjects in almost all of the individual characteristics. As shown in the online appendix, PhD students were more likely to be least preferred, but the PhD dummy is statistically insignificant in all regressions in Tables 4-7, implying that it made no difference.[21] Equally, UK subjects were more likely to be most preferred matches (see online appendix), but the UK dummy is again statistically insignificant in Tables 4-7, implying that they did not behave any differently from everyone else. Finally, single subjects were *less* likely to be most preferred matches, and what we find is that they were more trusting and trustworthy towards non-singleton group subjects according to Tables 4 and 5. However, we have not found any evidence, and have made no claim, that high status subjects (i.e., the most preferred matches) are less trusting and trustworthy towards non-singleton group subjects, and so this potential individual characteristic effect does not turn out to be relevant. It is, of course, anyway controlled for in the regression analysis. As we can rule out

[21] Further evidence of the irrelevance of this variable for our findings on low status subjects (i.e. least preferred matches) is that the results of the regressions do not change if we drop the observations corresponding to PhD students selected as the least preferred match (3 observations).

the individual characteristics hypothesis as an explanation of our results, we conclude that singleton groups appears to matter as such.

Insofar as we could glean from our experiment, we found no evidence suggesting that singleton groups inducement is a useful management tool, at least with respect to trust or trustworthiness. We found it is irrelevant for trust, with Result 1 pointing to a negative effect and, while this is not being statistically significant in the regression analysis (Table 6), it is clear that trust is not being raised (Results 7 and 10). In relation to trustworthiness, singleton groups are potentially disruptive.

Trustworthiness of non-singleton group subjects towards singleton group subjects. We found an overall reduction of trustworthiness of non-singleton group subjects towards singleton group subjects (Results 1 and 11), and one largely focused on the RS and the ABS treatments. In these treatments, subjects returned around 20% less to the singleton group subject compared to the baseline (Result 11), and over twice as large an effect relative to the other treatments. This effect holds even while controlling for covariates such as behavioral reciprocity (based on how much trustees were given by trusters) and any potential experimenter demand (as proxied by our social desirability scale measure). Our interpretation is that, in RS and ABS, the responsibility of choosing the singleton group subject shifted to someone else, and, therefore, any concern for the singleton group subject's condition was mitigated if not removed. Conversely, in the case of the other treatments, such concern could be present as subjects may have felt responsible for the singleton group subject. This interpretation is in line with a *responsibility-alleviation effect* discussed in the introduction (Charness, 2000). A second explanation, which is still linked with a responsibility-alleviation argument, is that, in treatments such as BS, subjects might have thought to have made mistakes in the selection process of the singleton group subject, and, therefore, did not want to take actions which could have harmed a "blameless" person.

Trustworthiness of singleton group subjects towards non-singleton group subjects. It mattered for singleton group subjects whether they were singled out for being the least preferred match or otherwise. Return rates by least preferred matches strikingly decreased from the 24% of the baseline to single digits (4-7%) as per Table 3. According to the regressions in Table 5, once covariates are taken into account, subjects who were seen as least preferred matches were less trustworthy by as much as 16%. It was not the act of being marked as low status that caused this reaction, since even in PIBS, when only least preferred matches knew they were the least preferred, and they knew that this was the case. We can

also exclude the fact of being placed in a singleton group as having such an effect *per se*, since we do not find the same large effect outside BS and PIBS. Rather, it was the fact of being considered by other subjects as undesirable that appears to have elicited the negative reaction. Many psychological studies show that people who have been excluded appear to engage in anti-social behaviors (e.g. Twenge *et al.*, 2001). Our manipulation does not imply exclusion. Nevertheless, some of the underlying psychological forces motivating excluded people to engage in self-defeating social behaviors might also be the same that trigger the anti-social behavior of the singleton group subject. Anger, resentment, and reciprocity might be the driving forces of such retaliatory behavior.

Most preferred singled out matches, i.e. singleton group subjects under a positive frame, behaved bimodally, with either high or low return rates (Result 5 and Figure 2). This evidence appears to reflect some of the mixed findings of the psychological research on leadership theory. Highly prototypical subjects should display more distinct group behaviors, and, therefore, more in-group favoritism (Hogg, 2001). However, the status-based gap between the highly prototypical subject and the rest of the group may transform an intra-group relationship between the consensually liked subject and the others into an inter-group relationship (Hogg, 2001). As a result, the singleton group subject may behave in a more anti-social way toward the lower status subjects. Our results suggest that both behavioral patterns may describe the singleton group subject's decision whether to fulfill trust. Which behavior turns out to happen, probably depends on whether the specific singled out individual interprets his or her relationship with the other members as an intra-group or inter-group relationship, and is worth investigating in further research.

Trustworthiness of non-singleton group subjects towards non-singleton group subjects. We found no evidence that singleton group inducement works as a bonding tool for other group members leading to greater in-group cooperation: relative to the baseline, there is no significant increase in trustworthiness from non-singleton group subjects towards other non-singleton group subjects. If anything, there is evidence the presence of a singleton group subject reduced return rates to non-singleton group subjects by around, notably (by around 10-11%) in the treatments where the singleton group subject was the least preferred match (Result 9 and Table 5). There are different possible reasons for this; we mention two. First, the presence of an a-prototypical member in the group may jeopardize the distinctiveness of the in-group as far as the singleton group subject is not excluded from the group (Hogg *et al*.,

2005). Second, non-singleton group subjects may blame other non-singleton group subjects for some responsibility for the identification of a specific subject.

Trustworthiness of authorities towards non-singleton group subjects.[22] ABS treatment authorities had a return rate of just around 7-8%. The reduction in trustworthiness is moderated by experimenter and social demand: subjects more sensitive to social pressure such as experimenter demand return comparatively more, as shown by the significance of SDS17 × Authority in the Table 5 regressions. Nevertheless, Table 5 also shows that the effect persists when controlling for our social desirability scale measure that we employ to control for experimenter demand.

We should point out that the aim of our experiment was not to study the behavior of the authority. We simply wanted to investigate the effects of singleton groups when an authority rather than the entire group is responsible for the lower-status attribution. Different conjectures might explain why the authority might behave anti-socially. We mention two. First, authorities might have felt that, since their co-participants had been assessed as comparatively worthy matches, they should be more generous in their giving. Second, they may have felt entitled to keep more money because he or she had already a service to everyone else by helping identify the least preferred match.

Demographic and psychological measures. Single subjects were slightly more prosocial towards non-singleton group subjects (Tables 4 and 5). Students with an economics background trusted less and were less trustworthy (Table 4-6).[23] Our psychological measures had limited power to explain trust game behavior. First, the risk attitude of the subjects, as measured in the Holt and Laury (2002) task, did not relate to trusting or trust fulfilling behavior, as already found in Tsutsui and Zizzo (2010) and Lönnqvist *et al*. (2010). Second, although self-esteem is a key concept of social identity theory, our measure of self-esteem does not contribute to explain the behavior in our trust game. Third, other than in relation to authorities as just remarked on, the social desirability scale appears to be unrelated to both trusting and trust fulfilling behavior. Since this measure is a proxy for experimenter demand effects (see Zizzo and Fleming, 2011), the fact that it does not correlate with trust or

[22] We do not discuss the trustworthiness of authorities towards singleton group subjects since, as noted earlier, authorities were not matched with singleton group subjects. Also, non- singleton group subjects did not know they were matched with an authority, and so could not condition their behavior on a subject being marked as an authority.

[23] There is also evidence that subjects of Indian nationality or Muslim religion trusted less (Tables 4, 6), but, given the small sample sizes involved (n = 24 and 14, respectively), these findings should be taken with due caution. For demographic frequencies data, see the online appendix.

trustworthiness in our experiment, and that our key results above are robust to controlling for it, inspires confidence for the robustness of our results to potential experimenter demand effects.

V. Conclusion

Our starting point was the fact that singleton groups a pervasive phenomenon of social and economic life, and a commonplace one in organizations. We found that singleton groups do not carry any benefit in terms of trust and trustworthiness; if anything the effect is negative in terms of trustworthiness. This is particularly the case when the singleton group subject was selected for his or her undesirable characteristics. We also found that non-singleton group subjects mainly negatively discriminate the singleton group subject when they are not responsible for his or her condition. Furthermore, the subject identified because of his or her undesirable attributes behaves anti-socially by selecting low return rates. In contrast, the subject identified because of his or her desirable characteristics selects either low or high return rates. Obviously, further research is needed and singleton groups may yet have benefits for organizations – if, for example, it is connected to social rewards and therefore can be used to elicit greater work productivity –. However, if you are a manager and you are considering singleton groups for blame and praise, you may wish to bear in mind that this may disrupt the social glue holding the team together.

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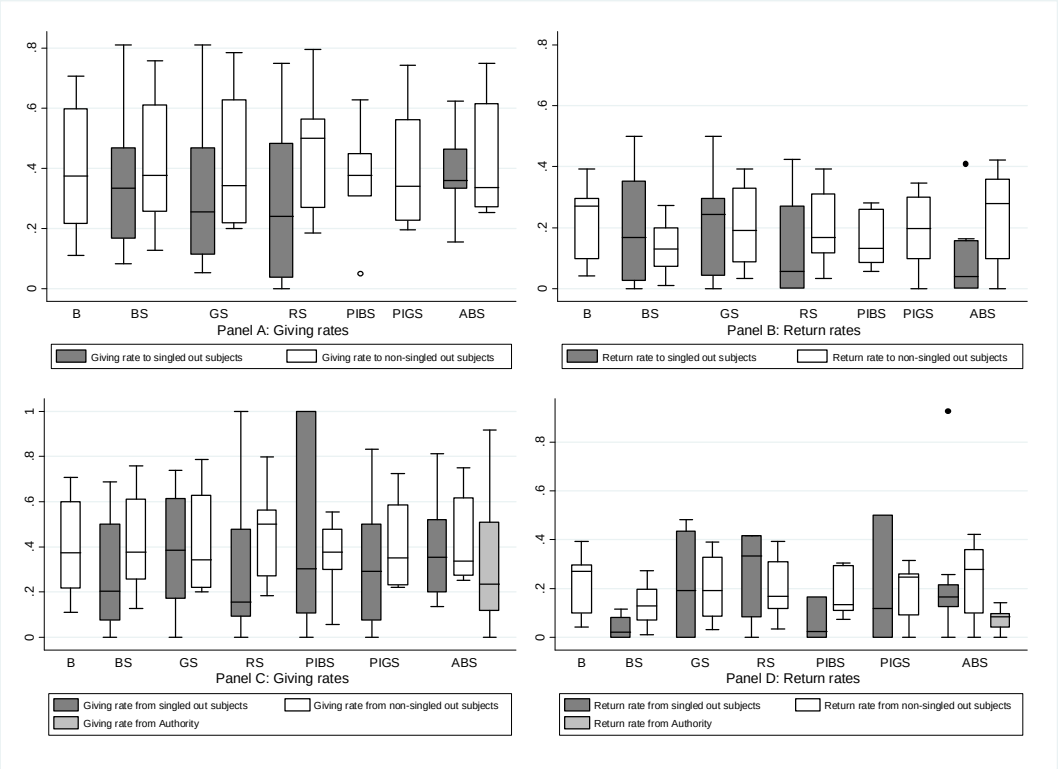
Figure 1: Giving and return rates by session per each treatment



Notes: the middle bar refers to the median value; the edges of the box correspond to the 25th and 75th percentile; whiskers extend to 1.5 times the inter-quartile range; circles identify any other observation.

Figure 2: Return Rate From Singleton group subjects

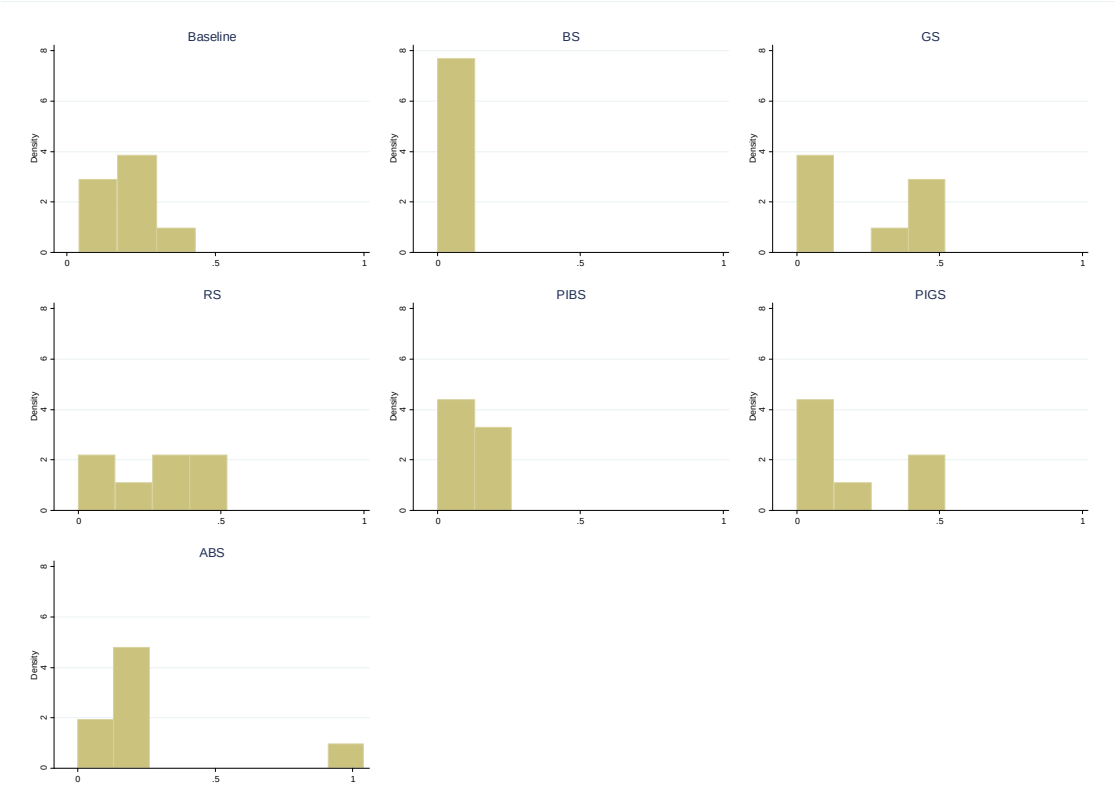


Table 1: Features of Experimental Treatments

Treatment	Sessions	Asterisk	Social standing	Being responsible
B	8	NO	NO	-
BS	8	YES	Negative	YES
GS	8	YES	Positive	YES
RS	8	YES	Neutral	NO
PIBS	7	NO	Negative	YES
PIGS	7	NO	Positive	YES
ABS	8	YES	Negative	NO

Table 2: Giving and return rates *to* singleton and majority groups

	B	BS	GS	RS	PIBS	PIGS	ABS	Tot.
Giving rate	0.400	0.387	0.398	0.402	0.367	0.405	0.400	0.394
To Singleton Group	--	0.354	0.318	0.284	--	--	0.387	0.336
To Majority Group	--	0.422	0.421	0.456	--	--	0.432	0.414
Return Rate	0.244	0.138	0.210	0.204	0.162	0.195	0.184	0.191
To Singleton Group	--	0.216	0.198	0.142	--	--	0.100	0.165
To Majority Group	--	0.147	0.212	0.201	--	--	0.246	0.206

Notes: * Tot.: Total.

Table 3: Giving and return rates *from* singleton groups, majority groups, and authorities

	B	BS	GS	RS	PIBS	PIGS	ABS	Tot.
Giving rate	0.400	0.387	0.398	0.402	0.367	0.405	0.400	0.394
From Singled Out	--	.280	.385	.307	.412	.329	.387	.349
From non-Singled Out*	--	.422	.421	.456	.358	.420	.432	.414
From Authority	--	--	--	--	--	--	.331	.331
Return Rate	0.244	0.138	0.210	0.204	0.162	0.195	0.184	0.191
From Singled Out		.037	.211	.260	.073	.204	.211	.164
From non-Singled Out*		.147	.212	.201	.185	.193	.246	.206
From Authority	--	--	--	--	--	--	.078	.078

Notes: * Tot.: Total.

Table 4: Regressions on Giving Rate to majority group subjects

	Regression 1			Regression 2		
	b	se	p	b	se	p
All Treatments				-0.010	0.10	0.923
BS+PIBS	-0.058	0.11	0.597			
GS+PIGS	0.016	0.11	0.882			
RS	0.002	0.12	0.987			
ABS	0.021	0.11	0.850			
Identified in BS	-0.109	0.14	0.439	-0.156	0.14	0.253
Identified in GS	-0.056	0.10	0.568	-0.029	0.12	0.806
Identified in RS	-0.084	0.08	0.287	-0.068	0.12	0.576
Identified in PIBS	0.086	0.20	0.670	0.040	0.21	0.847
Identified in PIGS	-0.138	0.11	0.196	-0.112	0.10	0.267
Identified in ABS	-0.002	0.07	0.981	0.030	0.08	0.697
Authority	-0.100	0.15	0.508	-0.071	0.13	0.590
Risk Aversion	-0.006	0.01	0.564	-0.007	0.01	0.470
SDS17 Score	-0.015	0.01	0.116	-0.015	0.01	0.119
RSE Score	-0.004	0.00	0.340	-0.004	0.00	0.376
Age	0.009	0.01	0.175	0.009	0.01	0.160
Gender	0.041	0.04	0.281	0.037	0.04	0.339
Economics	-0.108**	0.05	0.034	-0.106**	0.05	0.041
UK	-0.055	0.05	0.235	-0.056	0.05	0.220
India	-0.207***	0.07	0.002	-0.200***	0.07	0.003
Christian	-0.068*	0.04	0.094	-0.074*	0.04	0.061
Muslim	-0.328****	0.09	0.000	-0.327****	0.09	0.001
Single	0.088**	0.04	0.044	0.092**	0.04	0.034
Smoker	0.015	0.08	0.843	0.025	0.08	0.743
PhD	0.042	0.08	0.592	0.043	0.08	0.581
Constant	0.216	0.19	0.266	0.223	0.18	0.223
Obs	324			324		
Pseudo R-sqr	0.094			0.089		
Df	300			303		
Prob > F	0.000			0.000		

Notes: Tobit regression with clustered robust standard errors. * p < 0.1, ** p<0.05,* ** p<0.01, **** p<0.001

Table 5: Regressions on Return Rate to non-singleton group subjects

	Regression 3			Regression 4		
	b	se	p	b	se	p
Trust Rate as Trustee	0.406****	0.06	0.000	0.409****	0.06	0.000
All Treatments				-0.076*	0.04	0.052
BS+PIBS	-0.107**	0.05	0.026			
GS+PIGS	-0.078*	0.05	0.091			
RS	-0.041	0.06	0.487			
ABS	-0.047	0.07	0.496			
Identified in RS	0.105	0.11	0.359	0.143	0.10	0.141
Identified in ABS	0.109	0.13	0.398	0.138	0.10	0.185
Identified in BS and PIBS	-0.129***	0.05	0.007	-0.160***	0.05	0.001
Identified in GS and PIGS	0.064	0.08	0.420	0.060	0.07	0.418
Authority	-0.170****	0.05	0.000	-0.143****	0.04	0.001
Risk Aversion	0.004	0.01	0.574	0.002	0.01	0.742
SDS17 Score	-0.005	0.01	0.379	-0.006	0.01	0.332
RSE Score	-0.007*	0.00	0.094	-0.006	0.00	0.127
Authority ×SDS17	0.048***	0.02	0.003	0.048***	0.02	0.002
Authority ×RSE	0.004	0.01	0.471	0.003	0.01	0.514
Authority ×Risk Aversion	-0.008	0.02	0.653	-0.006	0.02	0.711
Age	0.003	0.01	0.630	0.003	0.00	0.594
Gender	0.011	0.03	0.718	0.009	0.03	0.761
Economics	-0.083**	0.04	0.049	-0.081**	0.04	0.047
UK	-0.060	0.05	0.185	-0.060	0.05	0.193
India	-0.058	0.06	0.323	-0.056	0.06	0.350
Christian	-0.002	0.04	0.958	-0.007	0.04	0.845
Muslim	-0.118	0.08	0.161	-0.122	0.08	0.146
Single	0.067**	0.03	0.024	0.067**	0.03	0.021
Smoker	-0.012	0.04	0.758	-0.009	0.04	0.817
PhD	-0.013	0.06	0.821	-0.010	0.06	0.856
Constant	0.151	0.14	0.273	0.152	0.12	0.217
Obs	307			307		
Pseudo R-sqr	0.393			0.382		
Df	281			284		
Prob > F	0.000			0.000		

Notes: Tobit regression with clustered robust standard errors. * p < 0.1, ** p<0.05,* ** p<0.01, **** p<0.001

Table 6: Regressions on Giving Rate to singleton group subjects

	Regression 5			Regression 6		
	b	se	p	b	se	p
Asterisk				-0.127	0.11	0.270
BS	-0.069	0.14	0.632			
GS	-0.130	0.15	0.396			
RS	-0.203	0.18	0.269			
PIBS	-0.070	0.12	0.568	-0.071	0.12	0.566
PIGS	-0.013	0.12	0.918	-0.012	0.12	0.921
ABS	-0.111	0.12	0.369			
Risk Aversion	-0.007	0.01	0.589	-0.006	0.01	0.630
SDS17 Score	-0.007	0.01	0.525	-0.007	0.01	0.527
RSE Score	-0.006	0.01	0.385	-0.006	0.01	0.376
Age	0.012	0.01	0.205	0.013	0.01	0.156
Gender	-0.018	0.06	0.756	-0.023	0.06	0.677
Economics	-0.150*	0.08	0.065	-0.156*	0.08	0.056
UK	-0.033	0.07	0.640	-0.035	0.07	0.611
India	-0.221**	0.09	0.013	-0.215**	0.09	0.013
Christian	-0.049	0.06	0.421	-0.045	0.06	0.459
Muslim	-0.427***	0.14	0.002	-0.431***	0.14	0.002
Single	0.060	0.06	0.306	0.059	0.06	0.323
Smoker	0.056	0.11	0.602	0.053	0.11	0.628
PhD	-0.123	0.10	0.199	-0.121	0.09	0.203
Constant	0.200	0.24	0.409	0.189	0.23	0.408
Obs	196			196		
Pseudo R-sqr	0.087			0.084		
Df	177			180		
Prob > F	0.017			0.009		

Notes: Tobit regression with clustered robust standard errors. * p < 0.1, ** p<0.05,* ** p<0.01, **** p<0.001

Table 7: Regressions on Return Rate to singleton group subjects

	Regression 7			Regression 8		
	b	se	p	b	se	p
Trust Rate as Trustee	0.437****	0.08	0.000	0.416****	0.07	0.000
Asterisk				-0.130***	0.05	0.005
BS	-0.016	0.09	0.858			
GS	-0.063	0.06	0.297			
PIBS	-0.070	0.04	0.109	-0.076*	0.04	0.087
PIGS	-0.082	0.06	0.157	-0.091	0.06	0.119
RS+ABS	-0.201****	0.06	0.000			
Risk Aversion	-0.004	0.01	0.606	-0.002	0.01	0.766
SDS17 Score	0.005	0.01	0.433	0.004	0.01	0.496
RSE Score	-0.005	0.00	0.330	-0.005	0.00	0.231
Age	0.007	0.01	0.245	0.007	0.01	0.239
Gender	-0.027	0.04	0.448	-0.020	0.04	0.575
Economics	-0.048	0.05	0.323	-0.063	0.05	0.195
UK	0.031	0.05	0.532	0.024	0.05	0.623
India	-0.077	0.05	0.140	-0.098*	0.05	0.054
Christian	-0.048	0.04	0.199	-0.049	0.04	0.195
Muslim	-0.138*	0.08	0.098	-0.094	0.09	0.312
Single	0.032	0.04	0.371	0.036	0.04	0.326
Smoker	0.018	0.05	0.717	0.013	0.05	0.799
PhD	0.037	0.07	0.586	0.031	0.07	0.657
Constant	0.056	0.14	0.695	0.047	0.15	0.754
Obs	179			179		
Pseudo R-sqr	0.491			0.438		
Df	160			162		
Prob > F	0.000			0.000		

Notes: Tobit regression with clustered robust standard errors. * p < 0.1, ** p<0.05,* ** p<0.01, **** p<0.001