My Group is Better Than Yours:

Perception of Personality and Character Differences Under Minimal Groups

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Abstract

Research has demonstrated that group identification creates a desire to distinguish the in-group from the out-group. A well-known mechanism of group assignment, the minimal groups paradigm, has been used to show that group differentiation occurs even when no actual distinction exists between the in-group and out-group. However, little research has been conducted looking at whether individuals perceive members of their own in-group as being characteristically different than members of the out-group, using a minimal groups assignment. The present research evaluated whether individuals differentiate in-group and out-group members on personality and character traits, even when all real differences have been removed using minimal groups. This study found that members of the out-group were rated more positively on average than members of the in-group. Additionally, members of both groups were rated more positively on socially favorable traits than less favorable or arbitrary traits. These findings suggest that minimal groupings may not be sufficient to create an association between an assigned group member and his or her in-group. In this case, heuristics such as out-group homogeneity bias and trait favorability may become more salient in the group judgment process.

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What makes the groups to which we belong different from any other group? By associating with a particular group or institution, we create an in-group – all of the people that belong to the same group – and an out-group – all people not affiliated with the group (Castano, et. al., 2002). We develop a sense of value from our group memberships and are motivated to create and maintain positive group distinctiveness (Spears, 2011; Tajfel, 1978). This desire to differentiate between our in-groups and out-groups has led to a significant body of research dedicated to evaluating the processes by which we make such distinctions.

Several studies have shown that intergroup distinctions are made, using measures such as judgments of behavior or implicit association tasks, even when all true differences are removed using the minimal groups paradigm. (Ashburn-Nardo, Voils, & Monteith, 2001; DiDonato, Ulrich, & Krueger, 2011). The minimal groups paradigm is used to randomly assign individuals to groups under the pretense that their assignment is based on some personal trait or ability. Those assigned to the minimal groups are not informed that the groupings are random. Doing this allows people to draw assumptions about the characteristics or qualities of their own group, even though no such distinctions exist due to the random construction of the groups. This assignment mechanism is widely used throughout intergroup dynamics literature. However, no empirical research has been conducted to determine whether individuals assigned to minimal groups differentiate their in-groups from their out-groups on the basis of personality and character traits, under a true minimal groups design.

In-Group Favoritism

The heuristics by which individuals form a positive perception of their in-groups or a negative perception of their out-groups are more generally classified as intergroup bias. This bias can manifest as a set of behaviors, beliefs, perceptions, or attitudes that can either favor the in-group or discriminate against the out-group. Intergroup bias is commonly divided into two main mechanisms: in-group favoritism and out-group derogation (Hewstone, Rubin, & Willis, 2002). However, research has shown that stronger group identification was associated with positive in-group affect, as opposed to negative out-group affect, suggesting that in-group favoritism is the primary driver of group differentiation (Levin & Sidanius, 1999; Otten & Moskowitz; 2000).

People are naturally inclined to perceive themselves as positive or socially favorable (Alicke, et al., 1995; Brown, 2012). This positive self-perception extends towards the in-group through a procedure known as self-anchoring (Otten & Epstude, 2006). Self-anchoring occurs when an individual projects traits or features that she holds important to her identity onto the in-group to which she belongs. In this case a cognitive gap or lack of attributable information regarding a novel in-group is filled by attaching personal features onto the group. An employee, new to her job, who considers herself to be creative, engages in self-anchoring when she forms the belief that her coworkers or the company she works for is also creative. This assumption that "my group is like me" creates a degree of positive regard and empathy toward in-group members, resulting in in-group favoritism.

Evidence for Intergroup Bias

In order to better understand the processes underlying group differentiation, Henri Tajfel decided to investigate the minimal conditions necessary to elicit some degree of intergroup bias. In his seminal study using what is now known as the minimal groups paradigm, Tajfel (1970) applied a disguised random assignment in order to create novel groupings.

In this study, participants were briefly shown each of 40 images containing a varying number of dots and were asked to estimate the number of dots that they saw. After completion of this task, all participants were isolated from each other. These participants were then randomly assigned to one of two groups, "under-estimators" or "over-estimators," and asked to allocate various sums of money to random members of each group. They were told that they would not know the person receiving the money. Tajfel discovered that even under these random groupings and without knowing anyone in either the in-group or out-group, participants gave more money to their own group than to the out-group. These findings suggest that intergroup discrimination is inherent in the in-group/out-group dichotomy and does not depend on the characteristics of the groups themselves. A later study by Tajfel, et al. (1971) replicated these results and found that the difference in reward allocation between the in-group and out-group can be increased when members of each group are being rewarded simultaneously.

It is important to note that although Tajfel's studies identified a level of intergroup bias under minimal groups, the research did not discern the types of judgments that are being made with respect to the in-group and out-group. Instead, Tajfel only demonstrated that the in-group is favored over the out-group, as evidenced by greater

rewards being given to the in-group. However, since this original minimal groups study, a significant body of literature has emerged to further Tajfel's findings. Ratner, et al. (2014) investigated whether social groupings affect the perception of physical features of in-group and out-group members. The study found that participants judged faces to be more socially favorable – more intelligent, attractive, and friendly – when told that the person was a member of the in-group than if he or she belonged to the out-group. These perceptual differences persisted even under minimal groups. A similar face-rating study by Navarrete, et al. (2012) discovered an aversion response to out-group faces. These studies demonstrate that intergroup bias extends to the physical perception of individuals from both the in-group and the out-group.

Other studies have looked at the way in which people make judgments regarding the behaviors of others. A study by Gramzow, Gaertner, and Sedikides (2001) assigned participants to minimal groups, and then had them read 40 sentences. In 20 sentences, a member of the in-group was performing some action, and in the other 20 sentences it was a member of the out-group executing the action. Participants then completed three tasks. First, participants were asked to recall as many of the behaviors as they could in a free recall task. Then, each participant rated both the in-group and out-group on a series of personality traits. Lastly, participants were asked to assign each of the 40 behaviors to either the in-group or the out-group. The study found significant intergroup bias in all three tasks. More in-group behaviors were recalled than out-group behaviors, the in-group was rated higher on positive traits and lower on negative traits than the out-group, and positive behaviors were more frequently assigned to the in-group while negative behaviors were more frequently assigned to the out-group, regardless of which group initially performed the action.

The body of research investigating intergroup bias has led to important discoveries regarding the types of differentiation that occur between the in-group and out-group. However, many of these studies introduced information regarding the in-group or out-group, which nullified the construction of minimal groups. Whether participants were evaluating a member of the in-group on physical qualities or judging the actions of out-group members, these pieces of information influenced the participants by creating a basis on which to make judgments, preventing purely minimal group judgments from being made. Instead of relying solely on information heuristics such as self-anchoring, participants in these studies derived conclusions from the details that were presented. One method to avoid providing participants with any extra information is to ask for group evaluations using more conceptual measures such as the possession of certain personality traits or characteristic features. Trait ratings require more abstract judgments, which allow for direct projections of intergroup bias onto the in-group and out-group.

A study by Otten and Wentura (2001) provided participants with no information on which to base judgments, thereby maintaining true minimal groups. Instead, after a minimal groups assignment, participants were asked to rate the in-group and out-group on a series of 20 personality traits, on a scale from -4 to 4 (without 0 as a scale mid-point). A rating of -4 indicated that the trait described the out-group best and a rating of 4 indicated that the trait described the in-group best. The study found that positive traits are more likely to be associated with the in-group, while negative traits are more likely to be associated with the out-group, even in the complete absence of criteria to draw such distinctions.

Although this study did maintain a true minimal groups design, it used a measure of intergroup judgment that instigated intergroup bias. Participants did not evaluate the

in-group and out-group separately; instead, participants used a measure that explicitly contrasted the in-group with the out-group, a method that has been shown to prime bias when making intergroup judgments (Tajfel, et. al., 1971). By using a directly contrasting measure, any differences in judgment that occur under a minimal groups design become inflated, which undermines the validity of the results.

Throughout the literature investigating intergroup bias, there are no empirical studies that reliably test intergroup perceptions of personality and character under true minimal groups. The present research seeks to determine whether members of the in-group and out-group are differentiated on the grounds of character and personality traits. These judgments will be made under minimal groups, removing any information on which to make such distinctions, and forcing participants to rely solely on heuristics such as self-anchoring. As such, I hypothesize that participants will rate the in-group higher on socially favorable traits and lower on socially unfavorable traits compared to the out-group.

Methods

Participants

One hundred and ten participants were recruited through Amazon's Mechanical Turk program. They were limited to United States residents, with no age restriction placed on participation. Five participants were found to have not followed instruction during the experiment, and were removed from analysis. This left 105 total participants involved in this study.

Materials

Dot Stimuli. Eleven images were randomly generated, containing 40, 55, or 70 dots. These images were presented to the participant randomly, with the first being a practice trial and the remaining 10 images being test trials. All 11 images were the same for each participant. See Appendix A for example stimuli.

Trait Evaluation. Participants were asked to make ratings on a series of 16 traits. For each trait, ratings were made using a Likert scale from 1 to 7. These traits consisted of personality traits based on the "Big Five" personality traits, character and behavioral traits adapted from Brown (2012), and a series of arbitrary attributes on which no difference is expected, to serve as a control. Each of the character and behavioral traits was coded as socially favorable or socially unfavorable – such as generosity and selfishness – randomized and counter-balanced between subjects. The favorable and unfavorable variations of each character trait were presented equally across all participants. The coding of social favorability for each of the traits was taken from Brown (2012). See Appendix B for a list of evaluated traits.

Procedure

Participants were informed that the study involves variations in sensory perception and memory. After a briefing of what participation entailed, consent was acquired. Participant briefing consisted of the following: "If you agree to be in this study, we will have you complete several tasks. First, you will be asked to estimate the number of dots that appear on a series of images. Later, you will be asked a series of questions that test your memory for this dot estimation task. In order to properly test your memory, a delay period between the dot estimation and the questions is required. We will have you

complete a short questionnaire during this delay. After completing this study, you will be asked to fill out a short personality questionnaire."

Minimal Groups Assignment. Standard procedure in minimal groups literature was followed to randomly assign participants to the under-estimator and over-estimator groups. Each participant was presented with 11 images containing various numbers of dots. Each image appeared for 1 second, and then participants were asked to estimate how many dots were present. This estimation period was not timed. The first trial was a practice trial to familiarize the participant with the process. After all images were estimated, a screen appeared reading, "Please wait while your results are calculated." This screen appeared for 8 seconds, and then participants were informed that they belong to either the Under-Estimator Group or the Over-Estimator Group. They were led to believe that their group assignment was a direct result of their performance during this phase of the study. Participants were then told that the next set of questions would test their short-term memory. However, they were instructed that a delay period was required before that section of the study in order to properly evaluate encoding into long-term memory. During this delay, participants were asked to complete a filler questionnaire about the over-estimator and under-estimator groups. Although the questionnaire was presented to participants as a time-filler, it served as the predominant dependent measure of this experiment.

Group Evaluation. The second phase of this experiment asked each participant to evaluate either the average member of their in-group or the average member of their out-group on a series of 16 traits. Each participant only rated one group (in-group/out-group), which was balanced between subjects. Ratings were made using a Likert scale from 1 to 7, with a 1 indicating the trait does not describe the average member of the group, and a 7

indicating that the trait perfectly describes the average member. Socially unfavorable traits were reverse-scored during analysis, so that high ratings always indicated the social desirability of the trait. The order in which these traits were presented was randomized between subjects.

Distractor Questionnaire. The third phase of this study returned to the dot estimation task, asking participants to answer a series of questions about their performance. These questions included items such as, "Were you an under-estimator or an over-estimator?" and "What was the greatest number of dots you were presented with?" This section served as a manipulation check for this study.

Self Evaluation and Debrief. Participants then took a Ten-Item Personality Inventory (TIPI) created by Gosling, Rentfrow, and Swann (2003). The scores on this personality inventory were compared with the group ratings of the five personality traits to determine if self-anchoring had occurred. Participants were then debriefed on the purpose of this study. They were told the following: "The purpose of this study was to evaluate the way in which people make group judgments. Your grouping into either the under-estimator or over-estimator group was made randomly. The group you were assigned to is not a reflection of your performance on the initial dot estimation task, and does not identify any tendencies that may exist in the estimation of dots." Participants were then thanked and paid $0.20 for their time.

Results

Trait Ratings

The present study was interested in whether individuals differentiate their in-groups and out-groups on the basis of character and personality traits. Using trait ratings

as the dependent measure, I hypothesized that in-groups would receive more favorable, and therefore more higher ratings than out-groups across all traits. Additionally, I expected that character and personality traits would receive higher ratings than the arbitrary traits, regardless of the group being rated. Average trait ratings for each condition are given in Table 1.

A 2(Group Assignment) x 2(Group Rated) x 3(Trait Category) repeated measures ANOVA was conducted using trait rating as the measure. This analysis found a significant effect for the group being rated ($F(1,104) = 4.018$, $p = .0476$, $\eta_p^2 = .002$). The out-group ($M = 4.54$) received significantly higher ratings than the in-group ($M = 4.40$). No significant main effect was found for group assignment ($F(1,104) = 1.698$, $p = .193$, $\eta_p^2 = .001$). There was no difference between participants assigned to the under estimator group ($M = 4.47$) and those assigned to the over estimator group ($M = 4.50$).

Table 1
Average trait ratings for all three trait categories

	Under-Estimator		Over-Estimator	
	In-Group	Out-Group	In-Group	Out-Group
Personality	4.66	4.50	4.39	4.71
Character	4.42	5.00	4.60	4.93
Arbitrary	4.10	4.03	4.23	4.10

Note: These means were calculated from 1,680 total ratings from 105 participants

The three-way repeated measures ANOVA also found a significant effect for trait category ($F(2,208) = 7.204$, $p < .001$, $\eta_p^2 = .009$). An interaction between trait category

and group being rated was considered, but found to be non-significant ($F(2,208) = 2.929$, $p < .054$, $\eta_p^2 = .004$). Post-hoc analyses found no significant difference in ratings for character traits and personality traits ($p = .076$). However, arbitrary traits were rated lower than both personality ($p < .001$) and character traits ($p < .001$). These effects are given in Figure 1. The average ratings given for each of the individual traits are given in Appendix C.

Personality Trait Correlation

In addition to group differences in trait ratings, this research was also concerned with whether a person engages in self-anchoring when making judgments about a group to which they belong. I hypothesized that ratings given for the in-group would be similar to the ratings given on the Ten-Item Personality Inventory (TIPI), which would indicate that self-anchoring had occurred.

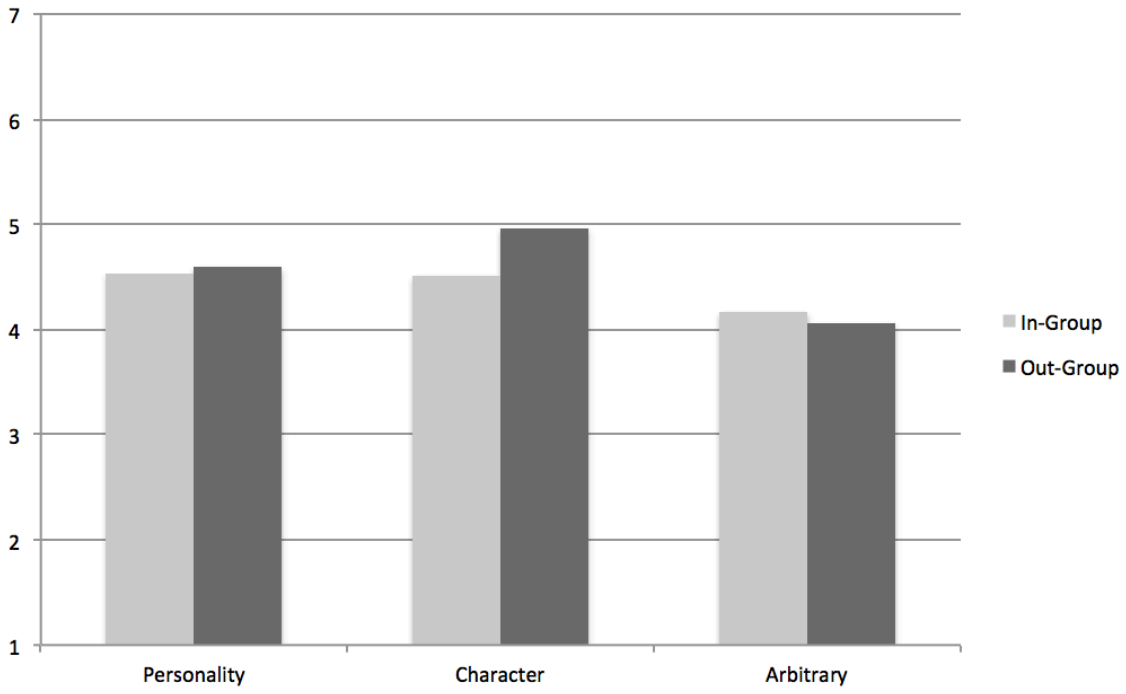

Figure 1: Comparison of average trait ratings for the in-group and out-group on three categories of traits

In order to evaluate whether self-anchoring was present when participants were making group ratings, the ratings given to the in-group on personality traits were analyzed for correlation with the self-ratings on the personality inventory. Pearson's *r* was determined for each of the five personality traits, and these values are given in Table 2. None of the correlations were found to be significant.

Table 2
Pearson's correlation for each of the five personality traits, ratings are averaged across all participants who evaluated their in-group (N = 56)

Trait	In-Group Rating	TIPI Rating	Pearson's r
Open	4.339	4.929	-0.095
Conscientious	4.518	5.500	0.053
Outgoing	4.411	3.688	0.029
Agreeable	4.554	5.179	0.021
Secure	4.804	4.973	-0.178

Note: No correlations were found to be significant.

Discussion

Previous literature into intergroup bias has demonstrated that individuals tend to favor the groups to which they belong, when comparing these groups to any groups to which they do not belong (Gramzow, Gaertner, & Sedikides, 2001; Otten & Wentura, 2001). Contrary to these studies, this experiment found that the out-group was rated higher on personality and character traits than the in-group. Since higher ratings indicate a greater social favorability, this finding implies that the out-group was rated as being more positive than the in-group. One possible explanation for this is out-group homogeneity bias, which suggests that a person is likely to perceive other groups as being relatively constant or unvarying (Boldry, Gaertner, & Quinn, 2007; Linville, Salovey, &

Fischer, 1989). If out-group homogeneity bias affected group ratings, participants should rate the out-group more severely (either positively or negatively) than the in-group, demonstrating that it is easier to make judgments regarding the out-group than the in-group. Consistent with this interpretation, the in-group was rated closer to the midpoint of the rating scale than the out-group, which indicates that participants were more likely to make stronger trait judgments for the out-group than the in-group. It is important to note that this rating difference had a relatively small partial eta-squared, which means that the effect of differentiating between the in-group and out-group resulted in a significant, but rather small difference in ratings for the two groups.

This finding of out-group homogeneity bias instead of in-group favoritism contributes to our understanding of the heuristics that underlie group judgments that are made in the absence of relevant, salient information. It is certainly true that individuals tend to prefer their own groups over groups to which they do not belong (Otten & Moskowitz, 2000; Tajfel, 1970). Based on the evidence from this experiment, such favoritism for the in-group fails to manifest when the individual making group judgments does not identify with the differentiating criteria between the in-group and out-group. This creates a weak or even non-existent connection between the individual and the in-group, resulting in little or no in-group favoritism. However, since the in-group and out-group are still defined, more general group heuristics that do not rely on the strength of association with a particular group, such as out-group homogeneity bias, become more heavily relied upon when group judgments are made.

In addition to the perceived variability of the in-group and out-group, I was also interested in how the social favorability of the traits being rated impacted the ratings of the participants. When differentiating between the three types of traits that were being

evaluated, this study found that character and personality traits were rated significantly higher than the arbitrary traits. This follows what was hypothesized, since social desirability has been shown to be a key factor when trait judgments are made (Brown, 2012). The arbitrary traits served as the control, and were not rated significantly differently from the midpoint of the rating scale. This would suggest that no judgment, either positive or negative, could be made for these traits. On the other hand, both personality and character traits were rated significantly higher than these arbitrary traits, regardless of the group being rated. Because the desirability of each trait is rather salient, participants may have used the nature of the trait as a basis for their judgment more so than the group they were evaluating. Participants did not associate strongly with their in-groups, reducing the effects of in-group favoritism and out-group derogation on the trait ratings that were made. Instead, participants might have relied on any available information to make group judgments, the most salient being the social favorability of the trait being rated. This prediction is supported by the effect sizes calculated for the effects of the group being rated and the category of the trait being rated.

A final question of interest in the present research was to consider how people relate with the groups to which they belong. Many studies have shown that individuals anchor themselves in their group by assuming that the rest of their group must be similar to themselves (Otten & Epstude, 2006). From this, I hypothesized that participants would rate their own group on personality traits similarly to how they rated themselves. Contrary to this prediction, however, there was no correlation between the self-ratings on five personality traits and the ratings given by participants that rated the in-group. The criteria used to define the groupings in this experiment did not create a sufficient group distinction. As such, participants did not associate with their assigned group strongly

enough for self-anchoring to occur. This lack of self-anchoring provides a greater explanation for why in-group favoritism did not have significant impact on the trait-rating task. Since participants did not associate with their assigned in-group, their positive self-perception failed to attach to the in-group, resulting in trait ratings that fell close to the scale midpoint.

It is important to reconcile the findings of this study with the results by Otten and Wentura (2001) discussed in the introduction. Using a similar minimal groups design as the present study, Otten and Wentura had participants rate their in-group and out-group on a series of 20 traits. These ratings were made using a scale from -4 to 4, with no midpoint. This scale was constructed to directly compare the in-group with the out-group. Otten and Wentura found that positive traits were more likely to be associated with the in-group, and negative traits were more likely to be associated with the out-group. These findings would suggest that some degree of in-group favoritism had been present when participants were making judgments, an occurrence not found in the present research. The main cause of this discrepancy is in the comparative nature of the judgments being made. Direct comparisons between the in-group and out-group prime intergroup bias (Tajfel, et al., 1971). This instigation of bias may account for both the in-group favoritism and out-group derogation present in Otten and Wentura's experiment. The current research had participants make isolated group judgments where only the in-group or the out-group was considered. Contrary to the Otten and Wentura findings, this study found no evidence of in-group favoritism in the participants' ratings. This would suggest that under a true minimal groups design, the in-group is favored over the out-group only when the two groups are directly compared. When judgments are made for one group without

consideration for the other, however, the preference for the in-group at the expense of the out-group disappears.

One limitation that may have led to the lack of an association between the participants and their in-group is the mechanism by which this experiment was conducted. All participants completed this study online using Amazon's Mechanical Turk program. This creates a rather impersonal setting, where each participant is answering questions without the presence of an experimenter and with any and all distractions that may occur wherever they decided to take the study. In this case, the present experiment may have been taken in order to pass the time or as one of numerous studies being taken by a participant on M-Turk. These situations may have led to a lack of attention paid to the experiment, which could have caused the disconnect between the in-group and the participant. Amazon's M-Turk presents an intriguing consideration between ease of data collection and authenticity of results. Using tools such as M-Turk decreases the digital distance between experimenter and participant, but may also allow for additional confounds to affect results. A follow up to this study could be to replicate the methodology, but administer the experiment in person.

Another possible explanation for the lack of in-group association is the manner in which the group judgments were framed. The questionnaire that asked participants to make judgments regarding either their in-group or out-group was presented to the participants as a "filler" questionnaire. This would suggest that it is unimportant and only serves as a distraction. Participants may not have given much consideration to the judgments they were making, and instead went through each question quickly. This interpretation appears to be supported by the fact that the social favorability of the trait was a stronger predictor of trait rating than the group being rated. Under this assumption,

participants seemed to quickly make judgments about the trait they were asked to rate, using the salient cue of social favorability, instead of considering the group they were supposed to be rating.

Conclusion

As a whole, these findings suggest that people will use any and all information available to them when trying to make group judgments. In the case of true minimal groups, where access to such defining information is heavily restricted, individuals are still able to make judgments about the character or personality of their in-group or out-group, even when the distinction between the two groups is made arbitrarily. Previous literature has demonstrated the use of heuristics such as in-group favoritism and self-anchoring when making judgments under minimal groups. However, these heuristics require an association between the person evaluating each group and an in-group. In the case where no association between an individual and an in-group is made, the present study suggests that out-group homogeneity bias and the social favorability of the traits being evaluated have a much greater impact on eventual trait ratings.

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Appendix A: Minimal Groups Assignment Stimuli

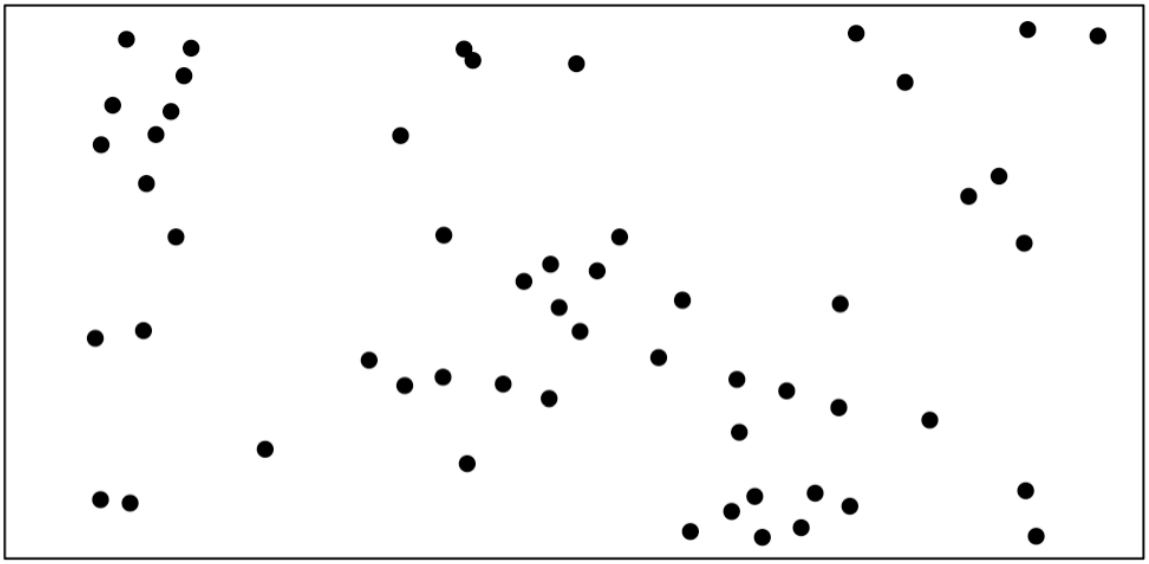

Figure A1: Example stimulus for the minimal groups assignment task containing 55 dots

Appendix B: Traits Used For Group Evaluation

Personality Traits:

Outgoing
Agreeable
Open
Conscientious
Secure

Characteristic/Behavioral Traits (Favorable -- Unfavorable):

Courageous -- Cowardly
Generous -- Selfish
Intelligent -- Naive
Trustworthy -- Untrustworthy
Honest – Deceitful
Creative -- Dull

Arbitrary Traits
Tall
Fashionable
Busy
Religious
Formal

Appendix C: Supplementary Results and Figures

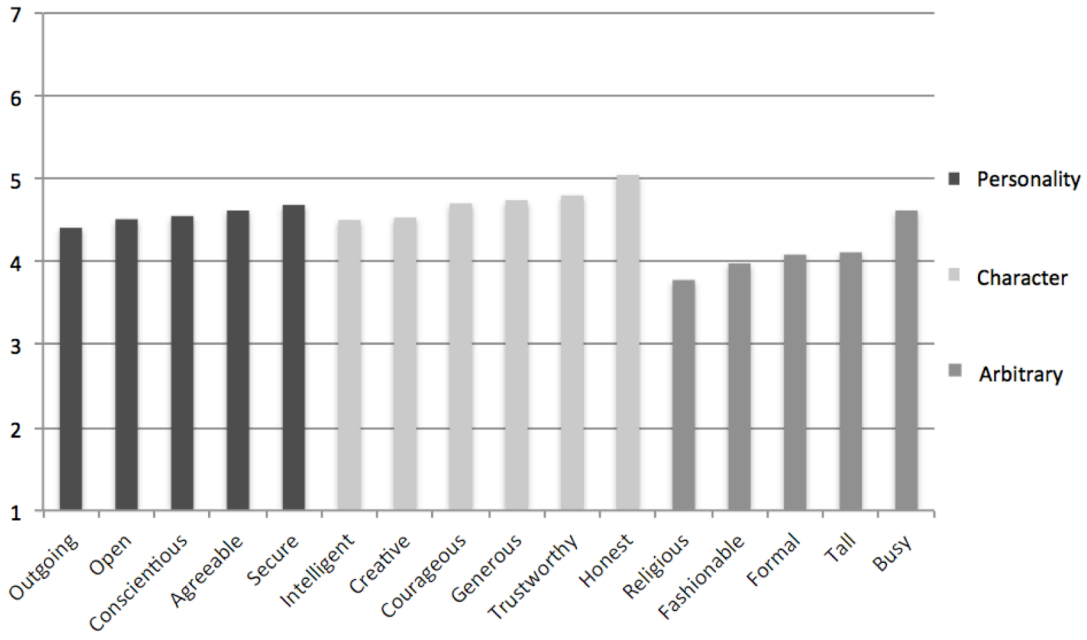

Figure C1: Average ratings for each of the 16 traits, divided by trait category