

Infra-humanisation of an in-group and out-group and its impact on explaining discrimination
between groups based on socio-economic status

Ayla Pacheco
Department of Psychology
University of Cape Town

Supervisors: Libby Eaton
Colin Tredoux

Word Count:

Abstract: 231

Main Body: 7495

ABSTRACT

This study investigated whether people of a high socio-economic status (SES) infra-humanise people of a SES. Infra-humanisation is a process whereby people consider their in-group as fully human and out-groups as less human and more animal-like, and on this basis attribute secondary emotions to their in-group but not to the out-group (Leyens et al., 2000). An Implicit Association Task was used in order to investigate implicit beliefs that people from a high SES feel that people from a low SES group are not fully human and therefore experience fewer secondary emotions. I had hypothesized that subjects from a high SES group would categorise more words correctly in the matched (i.e. high SES group and secondary emotions) versus the mismatched (i.e. low SES with secondary emotions) task. The results from the study however demonstrate that while there is an effect for IAT score it does not show that infra-humanisation occurs, because more secondary emotions are given to the out-group as opposed to the in-group. Race was not found to be a variable that had an impact on the IAT score. Research found a low moderate correlation between the quality of contact and the IAT score. This is important research to do in South Africa, as it is a country which has great inequality based on SES and because of its history the class inequality for the most part reflects the racial divide.

Keywords: Infra-humanisation; socio-economic status (SES); discrimination; emotions; implicit associations task (IAT); prejudice

INTRODUCTION

People tend to discriminate between what they consider their group and 'other' groups. People discriminate and justify their decision in many different ways. One theory that explains how people discriminate between groups on an everyday basis is infra-humanisation theory.

According to this theory, one of the ways in which people discriminate is to perceive members of other groups as if they are not completely human. Groups can be judged as being more or less human based on whether they have 'human essence'. Leyens, Demoulin, Vaes, Gaunt, and Paladino (2007, p. 142) define "human essence" as an essence possessing characteristics not shared with other species or other animals'. In other words, an essence is a quality that is attributed to humans in order to differentiate them from other species.

Infra-humanisation can be used to explain the prejudice that exists between groups. Human essence has two functions: Firstly, it differentiates between two groups and by doing this it unites members of a given group into a cohesive unit (Leyens et al., 2000). Essence is a social construct that people think of as making people who share it similar to each other and different to other groups. One can argue that if mechanism such as essence did not exist as a means to unite a particular group on a common characteristic and in turn helps them be different, there would not be an "in-group" and an "out-group". People assign human essence to their own group, this means that other groups can no longer receive complete essence and are therefore not completely human (Leyens et al., 2001). If one group is seen as having this essence, another group can only have it to a lesser degree.

There are different characteristics that are considered typically human. The characteristics that are cited the most as key to what makes people human: intelligence, sentiments, language, positive sociability, values and negative sociability (Leyens et al., 2000). There is already a large body of knowledge on the use of language and intelligence as a means to differentiate and discriminate between two groups. Infra-humanisation theory looks at sentiments or secondary emotions as a means to differentiate between the groups. The theory investigates the relationship between attributing secondary emotions and discrimination.

BACKGROUND

Infra-humanisation theory

In order to be able to understand infra-humanisation theory one must first distinguish between emotions and sentiments. English language has no term to differentiate between emotions considered to be ‘uniquely’ or ‘non-uniquely’ human. In the English language, emotions are seen to range on a continuum, from ‘uniquely’ human on the one side to ‘non-uniquely’ human on the other (Demoulin et al., 2004). Due to the fact that the distinction between sentiment and emotion is only found in certain languages, researchers therefore turn to the scientific distinction between primary and secondary emotions.

The manner in which laypeople and the scientific community view primary and secondary emotions differs. Other than primary and secondary emotions there are other ways to categorise emotions. Storm and Storm (1987) use the period when a person starts to use particular emotion words as a way to organise emotions. The emotion words that enter the vocabulary first, are seen as more general and have a broad meaning as opposed to the emotion words which enter the vocabulary latter. The earlier terms could be considered to be the superordinate categories and the later terms could be considered the narrow categories within the superordinate category. Izard and Buechler (1980) cited in Russell (1991) states that there are 10 fundamental emotions (interest, joy, surprise, sadness, anger, disgust, contempt, fear, shame/shyness and guilt) which can be considered to be universal, distinct and innate. Infra-humanisation theory uses primary and secondary emotions to discriminate between groups of people.

The scientific view of emotions perceives emotions as belonging to two different categories, namely primary or secondary emotions. Lay people on the other hand perceive a continuum of emotions from primary to secondary (Vaes, Paladino, Casetli, & Leyens, 2003). For lay people there is a continuum, which means that people can be seen as having varying degrees of emotions that make them more or less human, not one or the other. When people use these emotions to differentiate themselves from other groups, they may see the differences between diverse groups as being larger or smaller. In other words, one group may be viewed as more human than another group.

A possible explanation why people use infra-humanisation to discriminate (Leyens et al., 2003, p. 711) is that “secondary emotions are less visible than primary ones; it could be that

people give more secondary emotions to their ingroup than to outgroups because they may detect these specific emotions more easily in their familiar ingroup". People who belong to the in-group view each other as being similar, and because they know that they experience secondary emotions, they transfer those emotions onto the group as a whole. The idea is that if "I" experience it everyone else must too, therefore people can identify better with people who belong to the same group as them.

In studies where subjects had to place different words into categories; the results showed the following as examples of secondary and primary emotions. Alertness, tension, fear, nervousness, alarm, enjoyment, anger or surprise are examples of primary emotions and that hate, affection, guilt, resentment, envy, hope, despair or love are examples of secondary emotions (Rodriguez et al., 2005). The number of primary emotions is more limited than the number of secondary emotions, especially in terms of positive emotions. This causes a problem for researchers to match primary and secondary emotions when designing their studies. For example, primary and secondary emotions need to be matched in terms of their number as well as their valence to control for other possible explanations of why they are being attributed.

Boccatto et al. (2007) indicated that subjects responded quicker to secondary emotions when these emotions were related with the in-group rather than with the out-group. The distinction between the time it took subjects to attribute secondary emotions to either group shows that they associate secondary emotions with their in-group and not the out-group, making it difficult to attribute secondary emotions to the out-group. This indicates that attribution of secondary emotions differs between the in-group and the out-group but the attribution of primary emotions does not. In addition, there is no difference between time taken to allocate primary emotions as they are seen as being expressed even by animals and are therefore easy to allocate to both the in-group and the out-group.

Members of an in-group attribute secondary emotions to themselves, there by making them human, while in turn denying these emotions to an out-group, causing them to be seen as less human and therefore more animal like. This view causes people to favour the in-group as opposed to favouring the out-group. Furthermore, it causes people to interpret information from the in-group under a more positive light, as well as interpreting ambiguous behaviour from an in-group in a more favourable manner (Leyens et al., 2000). Whether the secondary emotions are negative or positive should have no impact on infra-humanisation process; what matters is that

secondary emotions make the in-group superior to the out-group. This indicates that infra-humanisation is not the same as in-group favouritism, where the in-group is seen in a positive light and is therefore superior.

Vaes et al. (2003) add that neither status differences nor unfamiliarity with the out-group are necessary preconditions to infra-humanising the out-group. They may facilitate the process; however, they are insufficient to cause infra-humanisation on their own. The same can be said for categorisation. Categorisation is all that is necessary for in-group favouritism to occur; however, on its own categorisation is insufficient to produce infra-humanisation. Infra-humanisation requires more than simple categorisation: the groups need to be seen as meaningful (Demoulin et al., 2009). Identification with the group seems to be essential for the process of infra-humanisation to occur (Demoulin et al., 2005). If a person does not identify with the in-group or the out-group then the process of infra-humanisation cannot occur. This is because if people do not see themselves as being the same as other people in their group then there is no need to differentiate from another group. If there is no need to differentiate, no group is superior or more human.

Studies that have found infra-humanisation between different groups

Studies that have been done on this topic tend to focus on applying infra-humanisation theory to different race and ethnic groups, in order to explain discrimination against these groups. Studies conducted looked at people from different regions as well as different races. For example, Demoulin et al. (2005) investigated the infra-humanisation of Canarians versus mainland Spanish citizens respectively; they also looked at Belgian Walloons versus French, Belgian Walloons versus Belgian Flemish and Americans versus Mexicans. Demoulin et al. (2009) investigate the importance of meaningfulness of the groups. There were three groups one formed randomly and the other two groups were based on a colour and type of job. Research found that subjects in the two meaningful groups attributed more secondary emotions to in-groups and therefore infra-humanising. This indicating that the group has to be meaningful in order for people to discriminate based on belonging to that group. Leyens et al. (2001) investigate infra-humanisation applied to students from Canary Islands and mainland Spain. The subjects were given a booklet with words and were told to attribute primary and secondary emotions that the subjects think they feel and which emotions they think the out-group feels. Both groups attributed

more secondary emotions to their group (the in-group) and fewer to the out-group. The research also found that the in-group attributed more secondary emotions irrespective of whether the secondary emotions are positive or negative. This demonstrates that both people from the Canary Islands and mainland Spain infra-humanise each other.

Vaes et al. (2003) examined infra-humanisation through e-mails from people who belong to an organisation and people who do not. The study demonstrated that when members of the in-group used secondary emotions in an email the response conformed. On the other hand when people from the out-group used secondary emotions it caused the person who replied to distance themselves from the sender. Vaes, Paladino & Leyens (2006) primed subjects with either Belgian names or North –African names. Boccato et al. (2007) looked at infra-humanisation between black faces and white faces and found that subjects were quicker to attribute secondary emotions to the white faces (the in-group) thus illustrating infra-humanisation. After examining the research that has been done on infra-humanisation one can conclude that the research conducted looks specifically at groups based on race or nationality and that infra-humanisation occurs between these groups.

Consequences of infra-humanisation

Infra-humanisation has important consequences in society due to the fact that it is used on a regular basis in order to differentiate between groups. As people in the in-group see themselves as being more human, people from the out-group who use secondary emotions and therefore claim to be human may be met with resistance and negative consequences.

The heightened awareness that in-group members are more human increases the perceived similarity between in-group members and increases cohesion in a group; in contrast, an upgrade to human level will increase the need to differentiate from an out-group member (Vaes et al., 2003). People who are in the in-group obtain the benefit of being similar to other people in the in-group; this however may cause them to want to distance themselves from the out-group, in order to make the connection with the in-group much stronger. This has twofold effect for a person who may move from the out-group to the in-group and who may want to integrate further into the in-group by placing as much distance as possible between the out-group and themselves as possible.

To conclude, the literature demonstrates that infra-humanisation theory explains how primary and secondary emotions are used in order to discriminate, by attributing fewer secondary emotions to the out-group. The research that has been conducted demonstrates how infra-humanisation theory can be applied to specific groups. From the research it is clear that groups formed on the bases of race and nationality infra-humanise each other. There is a need to broaden the types of groups, which are studied so that the theory can be generalized to explain discrimination in different populations. There is also a need to investigate other important factors that people may use to create their identity and thus use to discriminate.

Specific aims and hypotheses

Infra-humanisation theory has not been applied to groups formed on the basis of socio-economic status (SES). It is unclear whether the members of a high SES group would view this group as meaningful enough to discriminate based on this characteristic, or whether their identity as part of a different group such as race would override the process. A possible reason why no research which looks at this particular social category is that SES does not seem to be a salient feature in Spain or Belgium, where most of the research has been conducted there is a large middleclass.

In South Africa SES is an important feature in the way people create their identity, this may be because there is such a large lower class and small middleclass. Although SES is important feature in how people view themselves, race tends to be more salient, because of our history. This leads to a unique situation where people have two different groups that are relevant to them, but may not overlap to include the same people. If they identify with a group based on their SES, they would be in a racially mixed group whereas if they identify with a group based on race, they would be in a group that mainly had a low SES or a high SES. Whereas in the past almost all black people belonged to a low SES, there was no need to choose a group as both groups would include the same people. In modern South Africa because of policies like Black Economic Empowerment, many black people are now considered to belong to a high SES group. This produces a situation where a person belongs to two different groups that depending on which group they choose will mean they identify with two different groups of people.

The purpose of this study is to determine whether people from a high SES group infra-humanise people from a low SES group in South Africa. The study will then examine whether race plays a role in this process. The subjects were primed with pictures of white or black people

to determine if white and black people respond differently to people of a low SES based on their race. If race is seen to have an impact on infra-humanisation, then the next question is, whether subjects from a white or black high SES group infra-humanise white and black people from a low SES differently. The research will also examine whether the race of the low SES group has an effect on infra-humanisation.

I hypothesise that infra-humanisation based on SES does take place in South Africa. Affluent South Africans infra-humanise the poor by attributing fewer secondary emotions to the poor than they do to the affluent. One could therefore conclude that the high SES groups in South Africa view people from the low SES group as only partially human. I hypothesise that the race of both the high SES and low SES group do not impact on the infra-humanisation process. People from a high SES group will infra-humanise people from a low SES group irrespective of whether they are the same race as the person in question or not. I hypothesis that there is a correlation between the explicit measures of prejudice and the IAT measure, as people who have implicit beliefs of prejudice, will express this belief explicitly to some degree.

METHODS

Research design and setting

This study is a cross-sectional comparison of two groups: a white high SES group and a high black SES group. It is a quantitative experiment, which used an implicit association task (IAT). This was the most appropriate method because it tests subjects' beliefs and attitudes, without asking them what they think directly. Asking subjects directly may have caused them to try and be politically correct or resulted in them giving the responses that they thought the researcher wanted. In South Africa, our history has caused people to become very sensitive to discrimination and appearing to hold those views goes against what is acceptable. If subjects were asked explicitly whether they thought low SES groups were less human and did not experience certain emotions, it is extremely unlikely that they would have admitted these views to the full extent to which they may have felt them, therefore an implicit measure must be used.

In order to determine if race plays a role, the subjects were divided into two groups based on their race; the groups were matched on their SES. The white high SES and black high SES groups were then divided in half. Half the subjects from both the white high SES and black high SES received an IAT with pictures of white people, while the other half received an IAT with pictures of black people. This was done to investigate if race played a role in infra-humanisation of people from different SES groups. I hypothesised that subjects for a high SES will take longer to attribute secondary emotions to the out-group (the low SES group) than primary emotions. This is because they had difficulty in associating the two concepts.

Testing took place at the UCT Department of Psychology, in the lecture rooms. Subjects completed the task in groups ranging from 1 person to 6 people at a time. Subjects were tested in a quiet room free of distractions, in order to ensure that the results were accurate.

Subjects

Ninety-five subjects were recruited from the University of Cape Town. All the subjects were university undergraduates who completed the study for course credits. Twenty subjects were excluded from the study. Four subjects were excluded based on their SES score. 13 subjects were excluded because they had an error rate of 40% or more, indicating that they had not understood the task correctly. Three subjects were excluded because they completed the task incorrectly.

This resulted in a sample of 75 students (69 females and 6 males). The subjects ranged from 18 to 28 years of age. Thirty-two of the subjects formed part of a black high SES sample, while 43 of the subjects formed a white high SES sample. The students began by filling out a questionnaire (see Appendix A), which was used to screen the students who do not meet the criteria of belonging to a high SES group. Based on the questionnaire students were given a point for each parent that was employed, as well as a point for each item on the list they owned. Subjects were given points based on the bedroom to person ratio (half a room per person = 1; 1 room per person = 2; 1.5 rooms per person = 3 and 2 rooms per person = 4). Subjects who score 7 or more were considered to belong to a high SES group and could therefore be included in the study. Subjects were then scored on a scale of 1 to 11 based on the number of points they had gotten. The sample ($M = 8.5$, $SD = 0.94$) had a range between 7 and 10 and can therefore be considered to belong to a high SES group.

Materials

Demographic questionnaire

Subjects completed a demographic questionnaire, which integrated questions of age and gender with questions that would allow the researcher to calculate a SES score. This score was then used to determine if the subject belong to a high SES group.

Picture prime

In order to determine whether race was a variable that impacted on infra-humansiation across SES groups. Half of the subjects were given 10 pictures of white people, 5 from a high SES group and 5 from a low SES group (see Appendix B). The other half of the subjects were given 10 pictured of black people, 5 from a high SES group and 5 from a low SES group (see Appendix C). This meant that half of the white subjects were primed with white pictures, while the other half was primed with black pictures. The same occurred in the black subjects group.

Implicit Associations Test

The Implicit Associations Task (IAT; Greenwald et al. 1998) is a measure that is used to assess people implicit beliefs and attitudes. In the social sciences it has been used to identify prejudice a

person may feel toward a particular person or group. The IAT utilises the time it takes subjects to classify words in order to determine memory-based associations. (Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). The time it takes subjects to classify the words is assumed to measure the individuals association between the categories. In an IAT the subjects are asked to classify words into their categories. In this study the categories used were: group 1, group 2, primary emotions and secondary emotions.

In total there are 20 stimulus words. Ten are used to represent emotions; five refer to primary emotions and five to secondary emotions. In this study only positive primary and secondary emotions were used in order to ensure that valence of emotions was not a confounding variable. The primary and secondary emotions used were selected based on previous research (Demoulin et al., 2001) which found them to be prototypical examples of the categories. The primary emotions that were chosen: desire, joy, attraction, surprise and pleasure. The secondary emotions that were chosen are amazement, admiration, hope, compassion and love. The other 10 stimulus words referred to SES groups; 5 refer to high SES groups (group 1) and 5 refer to low SES groups (group 2). The 5 words which were used for group 1 were: high social class, rich, well off, privileged and high socioeconomic status. The 5 words used for group 2 were: low social class, poor, badly off, underprivileged and low socioeconomic status (see Appendix D).

In the example task, the subjects need to classify words as either, insect, flower good or bad. In the one task the categories are matched (i.e. flowers/good and insects/bad) and in the other task the categories are mismatched (i.e. flowers/bad and insects/good). Subjects are instructed to look at the words that belong in each category for a minute. They are then instructed to go down the list without skipping and categories as many as they can as quickly and accurately as possible. Subjects were told not to stop if they made a mistake but rather to just carry on. Subjects generally classified more words when the categories were correctly matched as opposed to when they were mismatched.

Each IAT consisted of two pages (which were counterbalanced, do that order was not a confounding variable. In order to determine if people from a high SES group infra-humanise people from a low SES group, the subjects needed to categorise the words in each category when the categories were matched (i.e. group 1/secondary emotions and group 2/primary emotions) on one page and mismatched (i.e. group1/ primary emotions and group 2/secondary emotions) on the second page. Subjects are instructed to classify as many words as possible from the list of

twenty words, in the center of the page, into the four categories in 25s. The variable of interest was the difference between the number of correct responses on the matched page and the number of correct answers on the mismatched page.

Explicit measures

In order to determine whether subjects were prejudice to people of a low SES they were given a questionnaire (see Appendix E) which contained four questions designed to measure prejudice based on quality of contact, quantity of contact, affective prejudice and social distance

. The first question measured the quality of contact between the people in the sample (high SES) and people of a low SES, as experienced by the subjects. There are six sub questions and each has a range of 1 – 5, subjects received a score between 6 and 30. A low score indicates good quality of contact while a high score represents poor quality of contact

The second question determined how often the subjects came into contact with people of a low SES. There were eight sub questions which had a range of 1 – 5; subjects received a score between 8 and 40. The lower the score the less contact the participant had with the low SES group, while the higher the score the more contact that person had with people of a low SES.

The third question measured affective prejudice. There were six sub questions that ranged from 1 – 7; subjects were given a score between 6 and 42. The higher the score the better people from a low SES were viewed by subjects. The lower the score the more negatively people from a low SES were rated.

The last question measured social distance, how far the subjects want people of a low SES from their social systems. There were six sub questions which ranged from 1 – 5; subjects received a score between 6 and 30. The higher the score the less people wanted people from a low SES in their immediate social systems.

Procedure

The subjects signed-up for the study on the Student Research Participation Program (SRPP) board. The task was administered in English, as the subjects were all UCT students; it was assumed that they had a basic grasp of the English language in order to understand the instructions and stimuli. The morning of the task the subjects that had signed up for the study that day, were smsed to remind them of the time and venue of the study. When the participant arrived

to complete the task, they were given a prearranged package, which consisted of: a consent form, a demographic questionnaire, a practice IAT, the picture prime, the infra-humanisation IAT, explicit measures of prejudice and a sheet that explained the aim of the study. Subjects began by signing the consent form and filling in the demographic questionnaire, they then stopped and waited to complete the IAT tasks together so that they could be timed.

Data Analysis

All the data was sorted and cleaned. All cases where the subjects had an error rate of more than 40% will be excluded from the analysis. A t-test with a single sample was run in order to determine whether there was an effect for the IAT score. Once it is determined that there is an effect for the IAT score a factorial ANOVA was conducted. A three-way ANOVA (Subject race \times picture race \times order) was conducted in order to determine whether race is a variable, in whether people from a high SES group infra-humanise people from a low SES. It was also essential to ensure that the order in which the subjects received the matched versus mismatched tasks did not account for the effects found. In order to determine whether there is a relationship between the explicit measures and the implicit IAT score a correlation was conducted. Lastly to try and determine if a model can be built which predicts the implicit score a hierarchical multiple regression was completed.

Ethical considerations

This study followed the ethical guidelines for research with human subjects outlined by the University of Cape Town (UCT) Codes for Research. The students received 1 SRPP point for their participation in the study which contributed to fulfilling the necessary requirement to get DP (Duly Performed). There were no anticipated risks for subjects either psychologically or through social harm because of having participated in this study. The IAT test is an implicit measure and therefore the true purpose of the study was not made clear to the subjects. The researcher debriefed the subjects after they had completed the task. During the debriefing, the researcher thanked the subjects for their participation and explained the purpose of the research.

All subjects received a consent form (see Appendix F) before they began the test. The consent form informed subjects briefly of the overall purpose of the task and that the task was used to look at attitudes and beliefs as well as the period it took to complete. All the data obtained

through the test were kept confidential as the subjects did not include their name. The package was numbered so that each participant had a number and this was how they were known. The data was kept in files for easy access and to refer back to if necessary.

While the researcher never received written confirmation that the ethics had been approved, it was assumed that ethics was granted.

RESULTS

Testing the pen-paper IAT

In order to ensure that the IAT effects found for the infra-humanisation IAT are due to implicit beliefs and not the methods used, subjects complete a practice IAT. The practice IAT measures the implicit attitudes that flowers are good and insects are bad. The computer version of the IAT has indicated that there is a positive bias towards the matched categories (insects/bad and flowers/good) than mismatched categories (insects/goods bad flowers/bad). The score of correct answers from the matched and mismatched combinations were put into an algorithm to consider individual speed differences. The scores were then inserted into the following algorithm $X/Y * \text{square root of } (X - Y)$. In this equation, X is the larger score of either the matched or the mismatched condition, while Y was the smaller (Lemm, Lane, Sattler, Kahn & Nosek, 2008). In the cases where the score from the mismatched condition was higher than the matched condition the final score was multiplied by -1 to keep the directionality. 16% of the cases did not follow the expected pattern of more correct answers for matched versus mismatched. 76% of the cases however followed the expected pattern. Once all the raw scores were converted into a score that could be analysed a t-test was conducted to investigate whether there was an effect for the IAT. The results indicated that there was a significant difference between the IAT scores ($M = -1.43$, $SD = 2.95$) and zero, $t(74) = -4.19$, $p < 0.01$. This indicates that the computer version of the IAT and the pen-paper version show the same implicit attitudes. The method therefore is not a confounding variable when explaining the results of the IAT where subjects attribute primary and secondary emotions to high and low SES groups, in order to determine whether infra-humanisation occurs.

Whether infra-humanisation occurs between high and low SES groups

The subjects completed two IATs in the first IAT the categories were matched (i.e. high SES group was paired with secondary emotions and low SES group was paired with primary emotions). In the second one they were mismatched (i.e. high SES was paired with primary emotions and low SES was paired with secondary emotions) and received a score based on the number of correct responses for each. The raw scores were inserted into the same algorithm as the scores from the practice IAT. In the IAT used to predict discrimination based on the

attribution of secondary emotions 60% of the cases did not follow the expected pattern. In other words 60% of the cases attributed more secondary emotions to low SES group as apposed to the high SES group. Only 31% of the cases showed the expected results. Once all the raw score had been converted into a score that could be analysed a t-test was conducted to investigate whether there was an effect for the IAT.

The results indicated that there was a significant difference between the difference scores ($M = -1.43$, $SD = 2.95$), from correctly categorised terms in the mismatched and matched conditions, and zero $t(74) = -4.18$, $p < 0.01$. This indicates that there is a difference in the manner in which people attribute primary and secondary emotions to low and high SES groups. If you recall the main aim was to determine whether people from a high SES infra-humanise people of a low SES, while infra-humanisation was found it was in the opposite direction than suspected. It seems that people of a high SES attribute more secondary emotions to people from a low SES than people from a high SES.

Whether race plays a role in infra humanising between SES groups

In the South African context race is very important, due to the country's political history. It was therefore important to determine whether race influenced infra-humanisation across SES groups. Table 1 illustrates the breakdown of the sample into different races as well as the race of the pictures that they were given.

Table 1. *Descriptive statistics for participants based on subject race and the race of the pictures they were given*

Subject race		Race in pictures	
		White	Black
White	n	20	23
	M	-1.16	-1.36
	SD	2.7	2.32
Black	n	16	16
	M	-2.5	-0.9
	SD	3.23	3.28

A three way ANOVA (subject race \times race in pictures \times order) was conducted with subject race, race in picture and order as the independent variables and IAT score as the dependent variable. It was not significant as table 2 indicates. This means that the subjects' race did not have a significant impact on the IAT scores. The races in the pictures as well as the order were also not significant in influencing the IAT score, see table 2.

Table 2. ANOVA summary table

Source	SS	df	MS	F	p
Subject race	4.14	1	4.14	0.49	0.49
Race in pictures	7.31	1	7.31	0.87	0.35
Order	3.35	1	3.35	0.4	0.53
Subject race * Race in pictures	16.76	1	16.76	1.99	0.16
Subject race * Order	5.25	1	5.25	0.62	0.43
Race in pictures * order	0.57	1	0.57	0.07	0.79
Subject race * Race in pictures * Order	0.02	1	0.02	0.002	0.96
Error	564.25	67	8.42		
Total	599.83	74			

In order to determine if people from a high SES group have explicit bias towards people from a low SES group, subjects were given a quality of contact, quantity of contact, affective prejudice and social distance scales. A Pearson correlation was used to determine if these explicit measures were correlated with the implicit bias shown by the IAT score. It was hypothesised that there would be a correlation between at least one explicit scale and IAT score, as it was expected that some people would explicitly demonstrate their prejudice.

Table 3. *Descriptive stats of explicit measures and IAT score*

	n	M	SD
Quality of contact	75	14.87	4.11
Quantity of contact	75	22.61	5.28
Affective prejudice	75	19.64	6.03
Social distance	75	13.72	4.7
IAT score	75	-1.43	2.94

Table 4. *Correlation matrix for explicit prejudice scales and IAT scores*

	1	2	3	4	5
1. IAT score	1	-0.28*	0.08	0.11	-0.20
2. Quality of contact		1	-0.33**	0.29**	0.58**
3. Quantity of contact			1	-0.35**	-0.43**
4. Affective prejudice				1	0.4**
5. Social distance					1

* $p \leq 0.05$ ** $p \leq 0.01$

The correlations which are shown in Table 4 suggest there is a negative low correlation with IAT score and quality of contact, $r = -0.28$. This indicates that there is a small relationship between IAT score and quality of contact. When the quality of contact increases, the IAT score will decrease. This could be because the person from a high SES group will get to know people from a low SES group and will therefore infra-humanise them less. There is no correlation between the quantity of contact and IAT score, this means that it does not matter how often people from a high SES and low SES interact, unless there is quality contact it will not decrease on whether they infra-humanise. Quality of contact and quantity of contact have a negative low correlation, $r = -0.33$, indicating that as quality of contact increases the quantity of the contact decreases. Social distance correlates moderately with quality of contact ($r = 0.58$), indicating as the one increases or decreases so will the other. Social distance has a moderate negative relationship with quantity of contact ($r = -0.43$), therefore if the quantity of contact decreases the social distance will

increase. Affective prejudice and social distance have a positive moderate relationship, $r = 0.40$, therefore if affective prejudice increase so will social distance.

Using explicit measures of prejudice to create a model to predict the implicit bias in the IAT scores

The researcher tried to build a model to predict IAT scores from quality of contact, quantity of contact, affective prejudice and social distance scores. The final model contained quality of contact, as it was the only significant variables in a hierarchical regression. The overall model is significant $F(1,73) = 6.05, p = 0.01$. The test for individual slope coefficient for quality of contact is significant $t(73) = -2.46, p < 0.01$. 8% of the variance of quality of contact is explained by other variables. Table 5 illustrates the goodness of fit ANOVA for the model, it is significant $F(1,73) = 6.05, p = 0.01$.

Table 5. ANOVA

	SS	df	MS	F	p
Regress	49.32	1	49.32	6.05	0.01
Residual	494.5	73	8.14		
Total	643.8				

Further breakdown of the data

In order to try to understand, what could have caused the unexpected results, the correct answers were broken down to indicate how many group 1, group 2, primary and secondary emotions were completed correctly in the matched and mismatched tasks. Table 6 show the breakdown. This illustrates that certain subjects did not complete any primary or secondary emotions correctly. In order to determine if these cases are influencing the data, these cases will be excluded and the t-test and ANOVA will be repeated.

Table 6. *Descriptive statistics of breakdown of correct answers*

		n	M	SD
Matched	High SES	75	3.19	1.09
	Low SES	75	2.7	1.06
	Primary Emotions	70	2.63	1.18
	Secondary Emotions	71	2.01	0.96
Mismatched	High SES	75	3.57	0.93
	Low SES	75	3.1	1.02
	Primary Emotions	75	3.21	1.13
	Secondary Emotions	69	2.38	1.06

Based on categorising incorrectly either no primary or no secondary emotions 12 cases were excluded from the analysis. However removing these cases did not have a great impact on the results. The t-test shows a significant effect when measured against zero, $t(62) = -3.50, p \leq 0.01$. The 3 way ANOVA was still not significant as illustrated by Table 7.

Table 7. *ANOVA summary table*

Source	SS	df	MS	F	p
Subject race	0.91	1	0.91	0.11	0.74
Race in pictures	13.25	1	13.25	1.59	0.21
Order	1	1	1	0.12	0.73
Subject race * Race in pictures	21.24	1	21.24	2.55	0.11
Subject race * Order	0.22	1	0.22	0.02	0.87
Race in pictures * order	9.11	1	9.11	1.09	0.3
Subject race * Race in pictures * Order	1.24	1	1.24	0.14	0.7
Error	458.07	55	1.24		
Total	493.13	62			

DISCUSSION

Whether infra-humanisation occurs

Infra-humanisation is a process whereby people consider their in-group as fully human and they allocate more secondary emotions to the in-group and an out-group is considered less human and more animal-like. (Leyens et al., 2000) If you recall the main question asked by this study was whether people from a high SES group infra-humanise people from a low SES group by allocating more secondary emotions to the in-group. The results from the t-test indicate there is an effect, so more secondary emotions are attributed to one group, however due to the directionality of the effect this can not be considered to be infra-humanisation. Subjects were more likely to attribute more secondary emotions to the out-group than to the in-group. For the process to be considered infra-humanisation the in-group would need to be allocated more secondary emotions than the out-group. The only way that this could be considered to be infra-humanisation was if the subjects viewed themselves as belonging to the low SES group, instead of belonging to the high SES group. The researcher must turn to the theory to determine possible explanation for why infra-humanisation did not occur. The literature illustrates the necessary conditions for infra-humanisation to occur.

In order for infra-humanisation to occur the group that is being used needs to be considered as meaningful by the subject (Demoulin et al., 2009). One could conclude that the subjects in the study do not view SES as an important characteristic, if this were the case belonging to the high SES group would not be meaningful and the participants may therefore not discriminate and infra-humanisation would not occur. Students at UCT may have other characteristics that they would consider more relevant ground to discriminate based on. Another important characteristic that should be present in order for infra-humanisation to occur is that the subject must identify with the group (Leyens et al., 2003). It is possible that the subjects in the study did not identify with a high SES group. This is very possible in the new South Africa, where people from different background and communities are now mixing at a university level. It is possible that subjects grew up in a poor community and still associate more with people from a low SES group. According to Leyens et al. (2003) people could belong to a given group but hardly identify themselves as being the same as other people in that category.

Infra-humanisation can not be considered binary, where people infra-humanise or they do not it should rather be considered to fall on a continuum, where people can infra-humanise to a greater or lesser degree (Leyens et al., 2000). This would mean that people from a high SES group could infra-humanise people from a low SES group, however this sample falls in the lower half of the scale. It is important to remember that 31% of the sample attributed more secondary emotions to the in-group than to the out-group. It can be difficult to deny secondary emotions to certain types of groups and there may be other means to deny them the status of being fully human (Leyens et al., 2000). It is possible that people of a high SES discriminate people from a low SES based on another characteristic that makes people human. The other two commonly used means to distinguish humans from animals are intelligence and language (Vaes et al., 2003). People from a high SES may discriminate and not consider the low SES group as human based on how intelligent they consider them or on the language they use.

One can therefore conclude that based on the results from this study people from a high SES do not infra-humanise people from a low SES group. Therefore the hypothesis is rejected. The results that were found can not be considered to be due to using the pen and paper version of the IAT as opposed to the computerized version, as the scores from the practice IAT reflect the expected results. The pen and paper version has been used successfully in other research (see Teachman et al., 2003)

The second hypothesis states that the race of the subject and the race in the pictures had no impact on the IAT effect. An ANOVA was not significant and one can therefore conclude that race did not contribute to the IAT effect in this study. The hypothesis therefore is true. The last hypothesis stated that there was a correlation between the IAT score and explicit measures of prejudice.

Correlation between IAT effect and quality of contact

The data demonstrated that there was a low negative correlation ($r = -0.28$) between the IAT score and quality of contact. This indicates that there is a relationship between quality of contact and implicit beliefs. This means that if the quality of contact increases the amount of implicit prejudice will decrease. In other words as the quality of contact increases the high SES group would attribute less secondary emotions to the low SES group. It is unclear whether they would

then attribute more secondary emotions to their in-group or whether, they would just attribute less secondary emotions and therefore decrease their prejudice for the in-group.

The literature indicates that quality of contact can either decrease prejudice or have no effect based on the type of prejudice, which is being assessed (Tropp & Pettigew, 2005). Therefore, the quality of contact may decrease prejudice. If the out-group had been attributed more secondary emotions because subjects felt sorry for them, good quality contact may decrease the view as them as a group to pity but rather as individuals who in certain cases can be held responsible for being so destitute, the subject may then decrease the number of secondary emotions given to them. The hypothesis that an explicit measure is correlated with the implicit IAT score can therefore be considered true.

Limitations and future directions

The study has a small sample size that could be increased in future research in order to increase the power of the study. In order to determine whether the unexpected results were due to this particular sample, there need to be more investigatory studies conducted. It is unclear whether SES is not a meaningful characteristic in South Africa by which people associate as a group. It could be that the sample did not associate with a high SES group and therefore the group was not meaningful. It would be beneficial to screen people by how important they consider SES to ensure it is meaningful and therefore can produce infra-humanisation. The low SES group illustrated by the pictures may not accurately reflect low SES groups but rather the very desolate, causing people to feel sympathetic. The picture primes in future research should be pre-test in order to ensure that they identify the correct SES group and do not evoke sympathy from the participant. A computerised version of the IAT might be a useful tool to gain more insight into whether people of different SES infra-humanise each other. As there are more practise trials and the subjects will be more familiar with which emotions are classified as primary and secondary. In order to determine whether the unexpected results were due to this particular sample, there need to be more investigatory studies conducted. Overall the results found in the study were perplexing and future research is needed in order to try an understand why such results were found

It would also be valuable to investigate whether people from a low SES group infra-humanise people from a high SES group. A low SES group may be more meaningful to people as affects their daily lives and they may think about it often.

CONCLUSION

One can therefore conclude that based on the results from this study people from a high SES group do not infra-humanise people from a low SES group base on attributing more secondary emotions to the out-group. The confounding results of the IAT can not be seen as an effect of the method chosen as the practice IAT produced the expected results. It can also be concluded that race does not play a role in the IAT effect that was found, where subjects allocated more secondary emotions to the out-group. Lastly there is a correlation between the quality of contact and the implicit prejudice IAT score which was found.

REFERENCES

- Boccatto, G., Cortes, B. P., Demoulin, S., & Leyens, J. P. (2007). The automaticity of infra-humanization. *European Journal of Social Psychology, 37*, 987-999.
- Demoulin, S., Leyens, J. P., Paladino, M. P., Rodriguez, R. T., Rodriguez, A. P., & Dovidio, J. F. (2004). Dimensions of “uniquely” and “nonuniquely” human emotions. *Cognition and Emotion, 18*, 71-96.
- Demoulin, S., Leyens, J. P., Rodriguez, R. T., Rodriguez, A. P., Paladino, M. P., & Fiske, S. T. (2005). Motivation to support a desired conclusion versus motivation to avoid an undesirable conclusion: The case of infra-humanization. *International Journal of Psychology, 40*, 416-428.
- Demoulin, S., Cortes, B. P., Viki, G. T., Rodriguez, A. P., Rodriguez, R. T., Paladino, M. P., & Leyens, J. P. (2009). The role of in-group identification in infra-humanization. *International Journal of Psychology, 44*, 4-11.
- Greenwald, A. G., McGhee, D. E., & Schwartz, L. K. (1998). Measuring individual differences in implicit cognition: the Implicit Associations Test. *Journal of Personality and Social Psychology, 74*, 1464-1480.
- Lemm, K.M., Lane, K.A., Sattler, D.N., Khan, S.R., & Nosek, B.A. (2008). Assessing implicit cognitions with a paper-format Implicit Associations Test. In Morrison, M.A., & Morrison, T.G. *The Psychology of Modern Prejudice* (123-145). New York: Nova Science Publishers Inc.
- Leyens, J. P., Paladino, P. M., Rodriguez, R. T., Vaes, J., Demoulin, S., Rodriguez, A. P., et al. (2000). The emotional side of prejudice: the attribution of secondary emotions to in-groups and outgroups. *Personality and Social Psychology Review, 4*, 186-197.

- Leyens, J. P., Rodriguez, A. P., Rodriguez, R. T., Gaunt, R., Paladino, M. P., Vaes, J., et al. (2001). Psychological essentialism and the differential attribution of uniquely human emotions to in-groups and outgroups. *European Journal of Social Psychology, 31*, 395-411.
- Leyens, J. P., Cortes, B., Demoulin, S., Dovidio, J. F., Fiske, S. T., Gaunt, R., et al (2003). Emotional prejudice, essentialism, and nationalism. *European Journal of Social Psychology, 33*, 703-717.
- Leyens, J. P., Demoulin, S., Vaes, J., Gaunt, R., & Paladino, M. P. (2007). Infra-humanization: the wall of group differences. *Social Issues and Policy Review, 1*, 139-172.
- Rodriguez, R. T., Leyens, J. P., Rodrigues, A. P., Rodriguez, V. B., Quilles del Castillo, M. N., Demoulin, S., et al. (2005). The lay distinction between primary and secondary emotions: A spontaneous categorisation? *International Journal of Psychology, 40*, 100-107.
- Russell, J.A. (1991). Culture and the categorization of emotions. *Psychological Bulletin, 110*, 426-450.
- Storm, C., & Storm, T. (1987). A taxonomic study of the vocabulary of emotions. *Journal of Personality and Social Psychology, 53*, 805-816.
- Teachman, B.A., Gapinski, K.D., Brownell, K.D., Rawlins, M., & Jeyaram, S. (2003). Demonstrations of implicit anti-fat bias: The impact of providing causal information and evoking empathy. *Health Psychology, 22*, 68-78.
- Tropp, L.R., & Pettigrew, T.F. (2005). Differential relationships between intergroup contact and affective and cognitive dimensions of prejudice. *Personality and Psychology Bulletin, 31*, 1145-1158.

- Vaes, J., Paladino, M. P., Castelli, L., & Leyens, J. P. (2003). On the behavioural consequences of infra-humanisation: the implicit role of uniquely human emotions in intergroup relations. *Journal of Personality and Social Psychology*, *85*, 1016-1034.
- Vaes, J., Paladino, M. P., & Leyens, J. P. (2006). Priming uniquely human emotions and the in-group (but not the out-group) activates humanity concepts. *European Journal of Social Psychology*, *36*, 169-181.

APPENDIX B

Picture prime of white people

The following people belong to group 1:



bxp253266 fotosearch.com



The following people belong to group 2:



©2008 Ted Szukalski. <http://www.digital-photo.com.au/>

APPENDIX C**Picture prime of black people****The following people belong to group 1:****The following people belong to group 2:**

APPENDIX E**Explicit measures of prejudice**

Question 1

How would you describe the nature of your communication and interaction with people from a low social class? Please indicate your choice by crossing the circle next to the number you feel accurately describes your experience.

1a. Courteous 1 2 3 4 5 Rude

1b. Pleasant 1 2 3 4 5 Unpleasant

1c. Meaningless 1 2 3 4 5 Meaningful

1d. Spontaneous 1 2 3 4 5 Forced

1e. Uncomfortable 1 2 3 4 5 Relaxed

1f. Destructive 1 2 3 4 5 Constructive

Question 2

How often do you have contact with people of a low social class in the following situations? Please select the appropriate number by crossing the circle next to it.

2a. With Poor people in your residential area?

Never Seldom Sometimes Often Very often

2b. With Poor people at your own home?

Never Seldom Sometimes Often Very often

2c. With Poor people at the homes of other people?

Never Seldom Sometimes Often Very often

2d. With Poor people at their homes?

Never Seldom Sometimes Often Very often

2e. With Poor people at religious events?

Never Seldom Sometimes Often Very often

2f. With Poor people at social events?

Never Seldom Sometimes Often Very often

2g. Do you sit next to Poor students during lectures?

Never Seldom Sometimes Often Very often

2h. Do you have friendly conversations with Poor people?

Never Seldom Sometimes Often Very often

Question 3

Please describe how you feel about the poor population group in general. Please cross the number that best represents your feeling.

I feel the following way towards Poor people in general:

3a. Warm 1 2 3 4 5 6 7 Cold

3b. Negative 1 2 3 4 5 6 7 Positive

3c. Friendly 1 2 3 4 5 6 7 Hostile

3d. Suspicious 1 2 3 4 5 6 7 Trusting

3 e. Respect 1 2 3 4 5 6 7 Disrespect

3f. Admiration 1 2 3 4 5 6 7 Disgust

Question 4

Please cross the circle next to the word which expresses or most closely expresses your feelings in relation to the statement.

Example (do not select response):

My first feeling or reaction is to willingly allow:

Any Most Some Few No Poor people into my book club.

My first feeling is to willingly allow:

4a. Any Most Some Few No Poor students to my University.

4b. Any Most Some Few No Poor people to my street as neighbour.

4c. Any Most Some Few No Poor guests to my home.

4d. Any Most Some Few No Poor people to be my personal friends.

4e. Any Most Some Few No Poor people in my work/group study.

4f. Any Most Some Few No Poor people in close kinship by marriage.

APPENDIX F**Consent form**

Infra-humanisation of an in-group and out-group and its impact on explaining discrimination
between groups based on socio-economic status.

Researcher name: Ayla Pacheco

Address: University of Cape Town

Graduate School of Humanities

Psychology Department

Telephone: 084 6766889

Email: ayla@penatgonautobody.co.za

The study examines beliefs and attitudes. You will answer some questions and complete a short categorisation task. This study requires approximately 30 minutes.

- I agree to participate in the research project.
- I have read this consent form and the information it contains and had the opportunity to ask questions about them.
- I agree to my responses being used for educational and research on the condition my privacy is respected, subject to the following:
 - I understand that my personal details will be used in aggregate form only, so that I will not be personally identifiable
- I understand that I am under no obligation to take part in this project.
- I understand that I have the right to withdraw from this project at any stage.

Signature of participant: _____

Signature of person who sought consent: _____

Signature of principal researcher: _____

Date: _____