
# Exploring the value of Realistic Conflict Theory and Social Identity Theory for understanding in-group giving in the Minimal Group Paradigm

By Melody Eileen Mutezo, University of Kwa-Zulu Natal

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# Declaration

I, Melody Eileen Mutezo hereby declare that this research paper entitled: Exploring the value of Realistic Conflict Theory and Social Identity Theory for understanding of in-group giving in the Minimal Group Paradigm is my own work.

# Acknowledgements

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# Abstract

Studies that have been done on minimal group interactions predominantly focused on either on Social Identity theory or Realistic Conflict theory only. This study aimed to establish that both Realistic Conflict theory and Social Identity theory are complimentary theories, they both address the aspects which the other does not emphasize. To examine this, the minimal group study was replicated and expanded using a virtual environment setting to examine the effect of the nature of incentive on the development in-group favouritism. The study also compared how the level of in-group giving differs between the two incentive conditions when the groups are unequal. Additionally, because both realistic Conflict theory and Social Identity theory are group-orientated theories, the researchers were determined to examine if the assumptions of Realistic Conflict theory and Social Identity theory can be used to account for the influence that the nature of incentive have on in-group giving in inter-individual interaction. Furthermore, the study examined how the presence of the option to self-give affect patterns of interaction in minimal group context. The results revealed that the level of in-group favouritism is dependent upon the nature of incentive and that status categories impact on the level of in-group favouritism in a different manner. Furthermore, the results showed that there is less in-group favouritism in inter-individual interaction compared to intergroup relations. In terms of self-giving, the results indicated that participants engaged in in-group giving more than in self-giving. In summary, the results of this study shows that both Realistic Conflict theory and Social Identity theory are useful to understand the emergence of in-group favouritism in minimal group interaction because on one hand Social Identity theory explains in-group favouritism that occurs when there is no substantial gain for both parties in interaction whilst Realistic Conflict theory accounts for the increase of in-group favouritism when the end result entails a win for one group and a loss for another.



Key words: symbolic incentive, monetary incentive, intergroup, inter-individual, deindividuation, in-group giving, in-group favouritism, self-giving, status, group numeric.

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# Introduction

Individuals exhibit different behaviours when they are interacting in interpersonal and intergroup situations even when the groups are arbitrary. These arbitrary groups are often referred to as minimal groups in social psychology (Mcleod, 2008). These groups have been studied in a Minimal Group Paradigm (MGP). MGP is a method used to investigate the minimal conditions required for discrimination to occur between groups (Brewer, 1979). According to Tajfel, Billig, Bundy and Flament (1971) this method involves participants who had never met before being assigned into one of two or more random groups on the basis of minimal information where there is no history of group conflict or conflict of interest, to participate in a resource allocation task (Petersen & Blank, 2003).

The MGP study has since been replicated many times using different categorization techniques and evaluation measures (Brewer, 1979, Bourhis & Sachdev, 1985; Mullen, Brown & Smith, 1992). The minimal group studies have largely concluded that individuals tend to categorize their social world into distinct groups of "us and "them" which results in in-group favouritism and discrimination towards the out-group (Billig &Tajfel, 1973). The tendency of categorized members to allocate more resources to the in-group or to assess the in-group more positively relative to other groups is termed in-group favouritism (Petersen & Blank).

Many theories have evolved to describe intergroup behavior in minimal group context. Among these is Realistic Conflict theory and Social Identity theory. The present study will focus on these two theories because the aim is to explore the level of in-group favouritism under different economic conditions. Therefore, on one hand Social Identity theory gives insight of in-group favouritism when the reward is symbolic and subsequently Realistic Conflict theory leans towards understanding how economic gain affect group interaction (Rabinowitz, 1999).

Some of the findings of the MG studies are consistent with Social Identity Theory (SIT) which asserts that in-group favouritism is a result of socio-economic processes whereby individuals in seeking a positive self-concept, increase the status of their own groups by allocating them more rewards, resulting in a positive self-identity (Hertel & Kerr, 2001). Thus, when a social group appears superior to another and is positively valued, the individual

members belonging to that group also begin to view themselves more positively. Some scholars have however argued that this is not a sufficient explanation. For instance, advocates of Realistic Conflict Theory (RCT) argue that the emergence of favouritism in minimal group studies can be attributed to competition (Campbell, 1965). Realistic Conflict theory argues that the purported outcome of interaction determines how individuals will behave under various circumstances (Mcleod, 2008). According to RCT, discriminatory behaviour arises when there are scarce resources which are deemed necessary to attain, and positive relations can only be achieved if superordinate goals are in place (Mcleod, 2008). In summary, Tajfel et al., (1971) argues that relativistic social comparison is centrally important for favouritism to emerge in intergroup interaction whereas Campbell (1965) emphasized the importance of economic self-interest.

The present study is a replication and an extension of minimal group studies conducted by Tajfel et al. (1971) and Sherif, Harvey, White, Hood and Sherif intergroup relations study of 1961. Tajfel et al. (1971) studies illustrated the effect of group categorization whilst Sherif et al. (1961) studies demonstrated the power of competition for the increase of in-group favouritism and group cohesion when there are scarce resources. This study combines the work of Tajfel and colleagues and Sherif and colleagues to examine how patterns of interaction change in minimal group situations if the nature of incentive is manipulated. Studies that have been done on minimal group interactions have focused on either on Social Identity theory or Realistic Conflict theory only. These two theories are often viewed as opposing perspectives (Insko, Schopler, Kennedy, Bourhis & Gagon, 2001). However, human behaviour is complex, for that reason, no one specific psychological theory is sufficient to explain why in-group favouritism arise in the minimal group paradigm. Social Identity theory and Realistic Conflict theory are complementary. Social Identity theory on one hand provide a cognitive description of how intergroup conflict may arise as perceived by groups whilst on the other hand Realistic Conflict theory addresses the consequences of conflict. Therefore, this study wishes to examine if both theories are equally important in accounting for in-group favouritism that occurs in minimal group paradigm.

The current study manipulated the nature of incentive in minimal group conditions to examine how it impacts on in-group giving. Experimental findings have suggested that subtle reminders of money often change individual behaviour (Frank & Schulze, 2000). According to Lea and Webley (2006) money is an essential component of everyday life that occupies the

mind regularly therefore the desire to obtain money is considered to be one of the strongest motivators of modern world. Borstein (2003) stated that the use of monetary incentives enables researchers to create an actual conflict in a laboratory setting under controlled conditions. In the present study, the impact of monetary incentives was manipulated in one condition and compared against the symbolic condition in which the outcome has no material value to subjects. The focus is to examine if manipulation of money will affect patterns of interaction relative to in-group giving.

Consistent with Social Identity theory, the first hypothesis of this study assumes that in-group favouritism may arise in both conditions because of mere categorization of participants into different groups and the need for positive distinctiveness (Tajfel & Turner, 1986). The second hypothesis based on Realistic Conflict theory assumption will be that in the first condition (symbolic incentive), in-group favouritism is expected to be minimal since the reward does not have any material value hence it is not a scarce resource. Conversely, in the second condition (monetary incentive), in-group favouritism is expected to be high because of the desire obtain the maximum monetary incentives (Sherif et al., 1961). The study will also compare how the level of in-group giving differs between the two incentive conditions when the groups are unequal. The tokens will be manipulated such that one group will start with more tokens than the other group.

Both theories are group-orientated. Studies that have compared intergroup relations and individual interactions have significantly concluded that there is more in-group favouritism in intergroup relations than in inter-individual interactions (Insko et al, 1992). Therefore the study will also examine if the assumptions of Social Identity theory and Realistic Conflict theory can be used to account for the impact of the nature of incentive on in-group giving in inter-individual interaction. Furthermore, in the original minimal group experiments, subjects could not self-allocate tokens. In the present study, researchers wishes to explore if the option to self-give affects patterns of interaction in a minimal group context.

The present study implemented an interactional environment into the minimal group paradigm through the use of Virtual Interactive Application (VIAPPL) software. The Virtual Interaction Application (VIAPPL) software program created by Durrheim, Quayle and Tooke (Durrheim and Quayle, 2012) enables researchers in the present study to replicate a minimal group experiment in a novel way within a virtual environment. The new instrument allowed for the observation of dynamic interaction among participants. VIAPPL also allows visibility

of emergent norms, such as favouritism by allowing participants to see the allocation patterns just after they occur and this allows one to answer questions regarding other possible explanations for findings of intergroup favouritism besides social identity theory. In addition, the possibility of extraneous variables such as physical appearance or personality traits of individual participants which could affect the allocation behaviour of participants toward others in the experiment are removed as each participant is represented by a uniform avatar on a computer screen. The study therefore, through the use of VIAPPL software will be able to detect normative patterns of behaviour from the emerging social networks between participants.

# Review of Literature

A review of studies that informed both Realistic Conflict theory and Social Identity theory will be presented. A critical analysis of both theories will be examined and an extension of both theories in unequal minimal group paradigm as well as in interpersonal interaction will be explored

## Realistic Conflict Theory

Realistic conflict theory is a social psychological model of intergroup conflict that was termed by Donald Campbell (1965). Realistic Conflict theory assumes that intergroup conflict occurs when there is competition for scarce resources and accordingly, positive relations can only be achieved if superordinate goals are in place (Campbell, 1965, ). Therefore the severity and length of conflict is dependent upon the perceived value and scarcity of the given resource (Mcleod, 2008).

Brewer (1979) stated that the primary hypothesis of Realistic Conflict perspective is that intergroup discrimination and competition occurs whenever economic resources are scarce. This theory stipulates that favouritism may emerge in competitive situations over resources in which a win for one group entails a corresponding loss for the other group (Brown, 1988). The hypothesis of Realistic Conflict theory directly translates into the notion that competition exists when the outcomes are monetary due to the fact that money has an economic value therefore groups/individuals will compete to acquire the maximum value.

Realistic Conflict theory was largely generated from the outcomes of Sherif and colleagues Robbers' Cave experiments. Understanding the Robber's cave experiment is necessary as it informs the theoretical basis of the present study. The Robbers's Cave experiment gives a detailed explanation of group formation process according to Sherif and colleagues (1954). Furthermore, the Robber's Cave study illustrated the power of competition for the increase of in-group favouritism and group cohesion and as a result Realistic Conflict theory was formulated.

# Robber's Cave Experiment

The Robber's Cave experiment used twenty two young boys who were divided into two equal groups the "Rattlers" and "Eagles".. The participants unwittingly participated in the study which was guised as a three-week long summer camp in Robbers Cave State Park in Oklahoma (Tajfel & Billig, 1974). The participants were recruited on condition that they were unknown to each other, similar in socioeconomic status, who were known to be well-adjusted psychologically, and of similar ethnicity, religious and educational background (Sherif et al., 1961). These conditions ensured that it could be assumed that any friction between groups was not the result of pre-existing or general social prejudices. The aspect of no prior history of hostility established in the Sherif and colleagues study is centrally the basic component of creating minimal groups.

The experiment was structured into three stages. The first stage involved group formation, the second stage involved the introduction of conflict between the test groups and the third stage involved the resolution of conflict through the introduction of superordinate goals. The groups formed a social hierarchy during the first stage (Bornsteri, 2003). Sherif et al. (1961) pointed that hierarchical structures form in groups as a means to achieve group objectives. In order to facilitate the formation of group cohesion, participants were also encouraged to develop their own group goals and leisure activities.

Tajfel (1982) however argued that there is no need for category members to bond for them to identify with members of their in-group prior to interaction with another group. He argued that mere categorization of subjects into groups is sufficient enough for them to identify with the in-group. The current study didnot provide subjects the opportunity to bond, groups are anonymously created therefore the participants are not aware of the identity of other in-group and out-group members. The purpose of this study is to explore if subjects instantly identify with their group and show favouritism towards their in-group without having gone through any bonding phase.

The second phase was aimed at producing conflict between the two groups. In order to achieve this, Sherif and colleagues arranged a series of competitive activities that were in the form of a tournament of events that resulted in cumulative scores with a reward for the members of the winning group (Hertel & Kerr, 2001). As the groups competed, conflict and division between the groups increased (Sherif et al, 1961). Lastly, phase three was the most

crucial and significant aspect of the Robbers Cave experiment. The experimenters deliberately attempted to bring about cooperation between the two groups following a stage of conflict by arranging them to work towards a superordinate goal (Sherif et al., 1961). The aim of this phase was to study the process of reducing group tensions. This was achieved by giving the boys activities that required them to work together to reach a similar goal because the resources and efforts of a single group were inadequate to attain the solution to the problems (Sherif et al., 1961). This forced the groups to work together (Hill, 2009)

The researchers in the Robber's cave experiment introduced competition as a variable into the study during the second stage. Competition was introduced in the form of competitive games such as baseball and tug-of-war. The study showed that the introduction of competition succeeded in creating conflict between the groups. Sherif, et al. (1961) hypothesised that competition over scarce resources would lead to formation of negative attitudes toward the out-group resulting in formation of stereotypes and the accentuation of in-group and out-group differences.

The Robber's cave experiment showed that competition could lead to formation of in-group favouritism and hostility between groups at a group level. Generally, Realistic Conflict theory considers group identification as a consequence of intergroup conflict. Kelly & Thibaut (1978) pointed that minimal group studies however highlighted that it is not a requirement for groups to organize or have established set of norms for them to exhibit out-group discrimination and hostility. The minimal group studies showed that groups created on a cognitive basis can develop in-group favouritism even in the absence of interaction (Tajfel and Turner, 1986).

## Limitations of realistic conflict theory

The purpose of the Robber's cave experiment was to create a conflict resolution model. The underlying assumptions about the formation of groups that were proposed by Sherif and colleagues (1961) were observed. The formation of a social hierarchy, the development of norms, in-group favouritism and intragroup cohesion are seen as valuable contributions to theoretical understanding of groups. However, other theorists such as Tajfel et al. (1971) reject the assertion that in-group favouritism emerges as a result of competition. Tajfel and colleagues' minimal group studies successfully showed that norms, in-group favouritism and

intragroup cohesion does not need the variable of competition or the existence of a social hierarchy to develop if superordinate goals are in place (Billig, 1976). In addition, the Robbers' Cave experiments allowed confounding variables, such as personal characteristics to affect the interaction in the study. The current study will test the level of in-group favouritism in a virtual interaction environment in which the confounding variables stated above that undermines the validity of Sherif and colleagues experiments will be controlled.

## Tajfel and the Minimal Group Paradigm

The minimal group studies were initiated in response to Sherif and colleagues' (1961) assumption that in-group favouritism is a result of competition towards out-groups. The aim of the original MGS was to prove that competition was sufficient but not necessary for the development of in-group favouritism (Hertel & Kerr, 2001).

Sherif's study occurred in a natural environment, therefore cofounding variables interfered with the results. Tajfel and colleagues drew on the work of Sherif, but did so in an artificial environment, thus removing cofounding variables and stripping the study to the bare minimum (Hogg & Terry, 2000). Tajfel's minimal group studies were designed in a way that minimised the requirements for a collection of individuals to consider themselves a group. The study was therefore an experimental design which enabled researchers to remove the effects of individuals' special environment (Tajfel et al., 1971). This isolated the act of social categorisation from other confounding variables (Billig, 1976). The aim of their study was to analyse the impact of social categorisation on intergroup behaviour (Tajfel et al., 1971).

Tajfel et al. (1971) hypothesized that the simple act of categorization and mere existence of group boundaries is enough to create a sense of belonging which leads to in-group favouritism. Social categorisation refers to how one mentally categorises people into different groups, such as 'them' and 'us', or the 'in-group' and the 'out-group' (Hertel & Kerr, 2001). According to Tajfel, the issue of "us" and "them" produces in-group favouritism. In-group favouritism refers to a tendency to favour the in-group in behaviour, attitudes, and preference (Tajfel, 1979). To prove that categorization of subjects is sufficient to produce in-group favouritism, Tajfel and colleagues conducted minimal group experiments.

The first experiment Tajfel and colleagues conducted was aimed at establishing in-group categorisation (Deihl, 1990). The subjects were presented with a screen flashing dots. They

were instructed to estimate and record the number of dots that were flashed each time in succession on a prepared score sheet (Tajfel et al., 1971). After they had completed the estimation task, the experimenters randomly assigned subjects into two groups. However, subjects were led to believe that one group had over estimators and the other had under-estimators. Thereafter, they were given a booklet of matrices and were tasked to give real money for rewards and penalties to others (Tajfel, et al., 1971). The identity of the other subjects to whom they were allocating rewards and penalties was anonymous. There were only aware of the code number for each subject and the group to which they belonged (Billig, 1976).

The outcomes of the estimation task showed that the majority of subjects gave more rewards to members of their in-group than to members of their out-group, hence the subjects exhibited in-group favouritism. To explore the factors that influenced the subjects's decisions that led into in-group favouritism, Tajfel and colleagues conducted a second experiment (Tajfel et al., 1971). The subjects were also randomly assigned in the second experiment but were however led to believe that the groups were based on their preference of paintings. They were asked to select their preference from either a painting by Klee or Kandisky (Tajfel and Billig, 1973).

The experimenters investigated three variables in which there was a pair of rewards and punishment (Billig, 1976). These variables were:

1. Maximum joint profit: where subjects could give the largest reward to members of both groups
2. Maximum in-group profit: where the subjects could choose the largest reward for the member of their own group regardless of the reward to the boy from the other group.
3. Maximum difference: where subjects could choose the largest possible difference reward between in-group and out-group members benefiting the in-group members.

Below is an example of a matrix used by Tajfel et al. (1971)

<u>An example of Tajfel's Matrices</u>

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Boy No. 1 (in-group) | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Boy No. 2 (out-group) | 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 |

The last column in the rows is the maximum joint profit. Choosing that option of maximum rewarding to the in-group for instance 19 meant that the out-group would obtain 25. The findings of Tajfel et al. (1971) showed that maximum joint profit, which is rewarding both groups with the highest reward did not seem to affect the participants' choices (Turner, 1984). The participants chose maximum in-group profit and maximum difference in favour of the in-group. When the participants had a choice between maximum joint profit for all and maximum profit for their in-group, they acted on behalf of their own group. Participants chose to give more to their in-group and less to the other group, yet the maximum joint profit did not mean that giving less to their own group.

Tajfel's study illustrated in-group favouritism. Participants favoured their own group when allocating rewards and penalties. They aimed to achieve a maximum difference between in group and out-group (Tajfel, 1971). Tajfel et al. (1971, p. 172) stated in their findings that "allocations were unambiguously directed at favouring members of their in-group as against members of the out-group". Group members were more concerned with making sure that less money was allocated to the out-group than the in-group (Tajfel et al., 1971), in fact, the subjects were willing to take less as long as they were relatively more advantaged than the out-group.

Fairness was not manipulated, but it proved to be importat when it came to the determination of the subject's choices when allocating money (Tajfel et al, 1971). Subjects discriminated significantly in favour of the in-group while at the same time still keeping their choices very near to the point of fairness (Tajfel et a.l, 1971). Turner, Brown and Tajfel (1979, p.190) noted that "subjects seem to be striving to outdo or excel the out-group in some competition which they have spontaneously introduced into the situation". Therefore they concluded that competition naturally arises as category members identify with their group in situations where there are two or more groups, although the allocations are still fair.

Tajfel and colleagues studies had set out to explore the minimum requirements or characteristics an individual needs to become part of a group. Their 1971 study found that "mere perception of belonging to one of two distinct groups is sufficient for in-group favouritism to emerge in the distribution of monetary rewards" (Turner et al., 1979, p.188). Sherif (1963) however had established that conflict was a necessary condition for in-group favouritism (Tuner et al., 1979). According to Turner et al. (1979) conflicting group interests may lead to in-group favouritism, but it is not necessary. In-group favouritism is not

restricted to situations of conflict, and does not necessarily result in out-group dislike (Turner, 1999).

The minimal group studies are important because they illustrate the eagerness displayed by individuals to adopt group norms and enact these in their intra- and intergroup interactions (van Knippenberg, 2000). The results of these studies led to the development of Social Identity theory.

## Social Identity Theory

The premise of Social Identity theory is to explain intergroup behaviour at a collective level (Tajfel 1982; Turner, Hogg, Oakes, Reicher & Wetherell, 1987). Festinger (1984) holds the view that people are essentially motivated to evaluate reality socially. Based on this view, Social Identity theory argues that people will often participate in social comparison at an intergroup as well as an individual level (Turner, 1981). According to Sachdev and Bourhis (1984) this theory suggests that individuals integrate the characteristics of the group into their own individual identity.

Therefore from a Social Identity perspective, behaviour is motivated by cognitive processes that originate from the process of categorization which categorised members use to make sense of interaction that occurs between groups. Tajfel and Turner (1986) pointed that these cognitive processes are underpinned by three principles.

The first principle is that Social Identity theory suggests that behaviour toward members of the in-group and out-group is motivated by the need to maintain a positive social identity. This is often achieved through the process of social comparison where group members compare their own group to other relevant groups (Ellemers, 1993; Seta, 1982; Sidanius & Pratto, 1999). Tajfel and Turner (1986) stated that one of the central assumptions of Social Identity theory is that categorizing people into different groups is enough to produce discriminating behaviours even if there is no history of group conflict or conflict of interests. The assumption argues that a group identity is internalized by its members and as a result, this forms a single collective identity amongst group members (Turner, 1999).

The second principle of Social Identity theory proposes that groups will have differential levels of status within a social system. Brown (1988) suggested that the more similar groups are, the more likely they will strive to differentiate themselves in order to maintain a sense of

uniqueness. Hertel and Kerr (2001, p.16) argued that findings of minimal group paradigm experiments have shown that participants allocate significantly more resources to the members of their in-groups than the out-group. They pointed that in-group favouritism according to Social Identity theory is as a result of the socio-motivational processes in which people are determined to increase the status of their groups to maintain positive distinctiveness in social comparisons since the groups are part of their social self-concept (Hertel & Kerr, 2001, p.317). When individuals positively evaluate their group, this increases their self-esteem and self-image (Abraham & Hogg, 1990). Therefore Social Identity theory argues that competition over resources is not a necessary component for favouritism to emerge in minimal groups (Tajfel & Turner; 1981).

The third principle of Social Identity theory asserts that a conflict of identity arise as the individual tries to interact with others as an individual or a category member. According to Tajfel (1978) a person moves along continuum of interpersonal-intergroup in interactions with the group. Social Identity however does not provide an in-depth framework that distinguishes social and individual identity. This gap has been filled by Social Categorization theory. Social Categorization theory asserts that individuals come to be group members when they have internalized the group identity and make it part of their self-concept (Turner, Oakes, Haslam & Mcgart, 1994). Furthermore, it states that individuals begin to act as group members when they extend categorization process to making social comparisons between their group and other relevant groups. The act of comparison is said to increase a sense of cohesiveness through cognitively distinguishing between groups that eventually translates into “us’ and “them” (Turner, 1978)

## Limitations of Social identity theory

Tajfel and colleagues experiments have been criticised for assuming that the simple act of categorisation is enough to create discrimination (Hertel & Kerr, 2001). Rabbie, Schot and Visser (1989) observed that in Tajfel’s study, participants tried to gain as much money for their groups as possible, due to the fact that they could not self-allocate therefore participants relied on other group members to allocate money more to in-group members than to out-group. Gartner and Insko (2000) also share the same sentiments with Rabbie et al., (1989).

Gartner and Insko (2000) replicated the minimal group paradigm study hypothesizing that social categorization alone is not sufficient for favouritism to emerge in intergroup relations. They argued that favouritism in minimal group paradigm is confounded with outcome dependence. To examine this, Gartner and Insko (2001) manipulated outcome dependence in two experiments using monetary allocation. In their first experiment, they independently manipulated social categorization and outcome dependence. They observed that categorized participants discriminated in favour of the in-group only when their outcome was dependent upon the allocations of others. This showed that very few participants were keen to positively identify with the in-group instead, participants were only concerned with their outcome (Gartner & Insko, 2000).

The outcome dependency hypothesis suggests that favouritism towards the in-group arise as a result of the desire to maximize economic self-interest (Yamagish, Jin & Kiyonari, 1999; Weber & Hertel, 2007). Studies that have tested this hypothesis have shown that category members follow a norm of reciprocating and exchanging favourable allocations with in-group members. This reciprocity is bound by the expectation that in-group category members will assign more resources to their category members if category members have allocated more resources to them in the previous trial (Deikmann, 2004). Rabbie et al., (1989, ) also study showed that in-group favouritism occurs as a result of subjects' need to attain more rewards as opposed to the desire to boost their self-esteem in. They argued that subjects would discriminate in favour of their in-group with the expectation that they would reciprocate by allocating them tokens.

Rabbie et al., (1989) further stated that because subjects cannot directly allocate money to themselves in the standard minimal group paradigm, they can however do it indirectly by simply favouring the in-group based on a reasonable assumption that the other in-group members will do the same to them. They pointed out that this process can be phrased as "implicit cooperative interaction". Furthermore, they asserted that this can be explained as a rational link between economic self-interest and strategy of in-group favouritism. Therefore, the aspect of outcome dependency hypothesis is consistent with Realistic Conflict theory in arguing that subjects are concerned with their outcomes more than positive identity. According to Realistic Conflict theory, economic self-interest is centrally important for intergroup favouritism to occur in intergroup interaction (Campbell, 1965).

Additionally, Tajfel and colleagues experiments have been criticised for the way they interpreted their results (Ellemers, 1999). For instance, the behaviour of the boys in the original minimal group study can be seen in terms of fairness as much as discrimination (Brown, 1988). Although the boys demonstrated favouritism toward their own group this was not very extreme and appeared moderated by a sense of fairness (Brown, 1988). Other theories such as equity theory have tried to account for fairness that was observed in the Tajfel and colleagues experiments (Ng, 1984).

Equity theory is based on the assumption that when subjects have the same amount of tokens they are more likely to fairly allocate tokens between the in-group and out-group (Adams and Jacobsen, 1964). Subsequently, when resources are unfairly distributed, the group with fewer tokens will try to seek justice by allocating tokens to their in-group. Tajfel and colleagues however did not conduct comparative experiments to examine if favouritism will be different between equal and unequal conditions when incentives are symbolic in one condition and monetary in another. Sherif also did not address the aspect of in-group favouritism among unequal groups.

## Inequality distribution in minimal group paradigm

The central assumption of Social Identity theory is that people define themselves based on their group membership. Turner (1984) argued that group characteristics are determined by relative social comparison with other groups. According to Ellemers (1993) from a Social Identity perspective, this means that if a group compares favourably to other relevant groups this may contribute to positive social identity. Therefore, the outcome of various intergroup comparisons is supposed to reflect the relative status position of a group (Wright, Taylor & Moghaddam, 1990).

Social Identity theory asserts that relative status position of a group is the main determinant of people's willingness to identify with the group (Ellemers, 1993). Therefore, striving for a positive social identity may influence people to either identify themselves as member of the in-group or it may prompt them to a more individualistic orientation. For instance, if a group is positively differentiated from relevant other groups it means that it is positively distinguished and is classified as a high status group. Subsequently, a group that is negatively distinguished will be considered to be a low status group (Ellemers, 1993). In summary,

Social Identity theory assumes that it is possible to predict that people are more likely to identify with a group if it has high status or positively distinguished compared to when the group has a low status or being negatively distinguished.

Though many studies have reviewed that high-status groups tend to have less in-group favouritism compared to low status group, there is equally compelling evidence that argues that high status groups exhibit in-group favouritism as much as the low status groups (Brown, & Gartner, 2008). Social Identity theory hypothesize that members of the high status group are more likely to identify with their group whereas members of the low status group are expected to try and change their group membership by acquiring a more positive social identity (Rothgerber & Worchel, 1997).

Commins and Lockwood (1979b) also found that members of high status group tend to exhibit more in-group favouritism because their group is positively distinguished therefore associating closely with their group is desirable. Furthermore, Doosje, Spears, Ellemers and Koomen (1999) stated that members of high status group engage in in-group favouritism to maintain their positive identity. This is consistent with social identity theory's argument that despite the status of the group, all groups are inclined to establish a positive identity (Ellemers, 1999).

Turner (1987) asserted that members of the low status group may acquire positive identity through individual mobility that ultimately results in the individual associating with the high status group. Individual mobility can only be realized if the social structure has permeable boundaries where by individual orientation can lead to upward mobility to a high status group However, when the boundaries are impermeable, individuals have no other option but to identify with their group and strive for positive distinction through group mobility (Ellemers, 1993). For the purpose of this study, we will focus on the latter context, where positive distinction can be achieved through group mobility.

According to Rubin, Badea and Jetten (2014) social identity theory states that members of low-status groups may engage in in-group discrimination as a way of elevating the status of their group above that of the high status out-group. Yzerbyt, (2010) conceptualized it as social competition that is motivated by in-group's need to acquire positive distinctiveness as well as positive self-identity at an individual level. Scheepers, Spears, Doosje and Manstead (2006) described this as an instrumental manner of reversing the intergroup status hierarchy

such that the formerly low status group becomes a high status group and conversely the high-status becomes the low status group.

Though Social Identity theory states that intergroup discrimination is awakened by the desire to attain social prestige (Turner, 1971), from Realistic Conflict view, one may argue that status maybe considered a scarce resource that could cause groups to enter into social competition. This aspect has not been fully addressed using both Social Identity theory and Realistic Conflict theory to account for favouritism and competition that occurs in minimal group interaction when groups have unequal tokens. Therefore there is need to explore the level of favouritism and competition in minimal group interaction where groups have unequal tokens, that can be translated as high status group with more tokens and low status group with fewer tokens. And importantly, to explore if symbolic and monetary incentives accounts different levels of favouritism and competition.

Rubin et al (2014) pointed that low status group may engage in in-group favouritism with the desire to elevate their status so that it becomes equal to the out-group high status. In this regard Rubin et al (2014) argued it is not always the need to acquire positive distinctiveness that results in in-group favouritism but rather in-group favouritism may be used to achieve fairness. Rabbinowitz (1999) also supports this assertion. In his study, he found that members of the low status group strive to enhance their socioeconomic status such that it becomes equal to that of the high status group. Rabinowitz (1999) explained that the injustice of inequality enforces the low status group to mobilise and elevate their status.

Nadler and Halabi (2006) summarised that low status groups' in-group favouritism can either be competitive favouritism or compensatory favouritism. Competitive favouritism elevates the low status group to a better level than the high status group whilst compensatory favouritism elevates the low status group to the same level as high status group. The aspect of competitive and compensatory favouritism addressed by Rubbin et al (2013) merges well with Realistic Conflict theory and Social Identity theory respectively. It is plausible to hypothesise from a Realistic Conflict perspective that when incentives are monetary, the low status group is likely to engage in competitive favouritism aimed at maximising their outcome. Subsequently Social Identity view would hypothesise that low status group will engage in compensatory favouritism so that they can be positively distinguished by being on the same level as the high status group therefore in-group favouritism is expected even if the outcomes are symbolic.

In summary, some studies have found that higher status group tend to exhibit more in-group favouritism whilst other studies have reviewed high status group exhibit less in-group favouritism as compared to low status groups. The empirical inconsistency highlight the need to explore how both high and low status group behave when the incentives are symbolic in one condition and monetary in another

## Expanding to Inter-individual Interaction

Rabbie and Howirtz (1992) stated that prejudice is mostly understood as an intergroup problem than as an individual problem. Brown (1988) pointed that there is an apparent discontinuity between intergroup relations and inter-individual interactions in that intergroup relations are considered to be more competitive and hostile than inter-individual interactions. Lodewijkx, Wildschut, Syroit, Visser and Rabbie (1998) also asserted that intergroup relations are generally more competitive when compared to individual relations under the same functional conditions.

Theories that have tried to explain discrimination and conflict have generally focused on intergroup context. Both Realistic Conflict theory and Social Identity theory are group oriented (Insko et al, 1992). Though Realistic Conflict theory and Social Identity did not address competition and conflict in inter-individual interactions, the basic assumptions of these theories can be useful to understand in-group giving in inter-individual interactions. The present study will draw hypothesis from these two theories to explore the level of competition in inter-individual interactions. Therefore the study will compare if there is any difference in levels of in-group favouritism between intergroup and inter-individual interaction under the same functional conditions of incentive and status.

## Self-giving in minimal group interaction

The aspect of outcome dependency discussed above also invites another area worth exploring. In the the original minimal group experiments, participants were unable to benefit directly from the allocation task as they were unable to self-allocate tokens (Rabbie et al., 1989). Gartner and Insko (2000) and Rabbie et al. (1989) pointed out that the participants in Tajfel experiments gave more tokens to members of their in-group because their outcome was dependent upon the allocations of others. This assertion assumes that individuals are

more inclined to identify with their group when they cannot self-give tokens. The present study therefore wishes to examine how individuals will behave in minimal group relations if there are presented with an option to self-give. Both Sherif and Tajfel studies did not explore this aspect in their studies.

It was mentioned earlier that Social Identity theory does not provide a framework that distinguishes between social and individual identity. Though social comparison theory filled this gap, there is need to explore this aspect further in terms of emphasizing the impact of categorization of people into groups and the need to strive for positive distinction when upward mobility is possible only through group solidarity. Social Identity theory mentions that behaviour is attributed to the adoption of a self-concept that is entwined with the identity of the group to which the person belongs (Gartner & Insko, 2001). This assertion of Social translates the assumption that subjects in minimal group context are likely to engage in in-group giving even when they are given an option to self-give because they will be identifying their self in terms of the group.

The aspect of individuals being entangled in the group as asserted by Social Identity theory was termed deindividuation by Festinger, Pepitone and Newcomb (1952). According to Prentice-Dunn and Rogers (1989) the process of deindividuation is often realized when individuals are exposed to situations that require group cohesiveness. As a result, individuals may become absorbed to the group context such that self-awareness will be lowered and group identification will increase (Prentice-Dunn & Rogers, 1989,Reicher & Levine, 1994a). Dierner and Kasprzyk (1978) also examined the effects of deindividuation. They found that an increased sense of group unity and decreased sense of self -awareness could be stimulated when participants focused attention toward the group than on the self.

The findings of Prentice- Dunn and Rogers (1989) and Dierner and Kasprzyk (1978) highlight the need to explore how individuals will behave in minimal group relations if there are presented with an option to self-allocate. The aim is to examine if participants will quickly be immersed in the group because of mere categorization as proposed by Social Identity theory (Reicher, Spears & Postmes, 1995; Reicher, Levine & Gordin, 1998) and as a resulting in deindividuation such that will careless to self-allocate or if they will identify with the group as a way of striving for upward mobility.

## Gap in literature

This research differs from the original minimal studies in five ways. Firstly, it is conducted in a virtual setting environment. The study used VIAPPL (Virtual Interaction Application) which is a virtual environment tool with a computer interface that minimises interaction between participants by providing absolute anonymity to participants (Durrheim and Quayle, 2012). This method of interaction was chosen because it creates an environment that enables participants to interact freely with their groups without any outside interference to their choices. Spears, Postmes, Martin and Wolbert (2002) have contributed to the argument regarding the extent in to which a virtual environment is true representation of realistic social interaction by pointing that virtual setting offers the same social psychological principles as face-to-face interaction. Spears and Lea (1994) argue that in some instances, a virtual setting actually enhances the outcomes of interaction between groups instead of limiting it.

Secondly, the original minimal group studies did not observe the effect of the nature of incentive on favouritism and competition in minimal group context. Therefore, this study wishes to explore this aspect employing assumptions from both Realistic Conflict theory and Social Identity theory. The two theories will be treated as complimentary perspectives to understand the patterns of interaction.Thirdly, both theories are group orientated, however, the basic assumptions of these theories can be useful to understand favouritism and competition in inter-individual interactions. Insko et al., (1992) mentioned that studies that have compared intergroup relations and individual interactions have significantly concluded that there is more competition in intergroup relations than in inter-individual interactions. Therefore the study will examine if the assumptions of Social Identity theory and Realistic Conflict theory can be used to account for the impact of the nature of incentive on the development of favouritism and competition in inter-individual interaction. The study will also compare if there is any significant difference in levels favouritism of between intergroup and inter-individual relations under the same functional conditions.

The fact that the original minimal group experiment only observed favouritism and competition in an equal setting is a limitation because, according to Bobo (1983) in real world situations, wealth and status is often not equally distributed among groups. Though ‘ Tajfel et al.’ studiesstudies revealed that inequality was an end result of in-group favouritism, they did not explore the effect of inequality on in-group favouritism and competition if the

groups had been unequal during formation. It is equally important to examine how inequality affects favouritism and competition in both intra and intergroup situations.

Ellemers (1999) and Ng (1986) found that there was more in-group favouritism and competition when groups were placed in conditions of inequality. Ellemers (1999) findings showed that groups in lower positions immediately took initiative to advance their status from low status to high status. Commins and Lockwood (1979a) however, found that members of high status group tend to exhibit more in-group favouritism because their group is positively distinguished therefore associating closely with their group is desirable. Therefore, the empirical inconsistency indicates the need to explore how both high and low status groups behave when the incentives are manipulated in both intergroup and inter-individual interaction.

The fifth aspect relates to the option of self-allocating. The original minimal group experiments, did not allow participants to benefit directly from the allocation task since they could not self-allocate. As a result, Social identity theory does not provide a framework that distinguishes between social and individual identity. The current study wishes to explore how individuals will behave in terms of identifying with the group if there is an option to self-allocate and benefit from it in both conditions of group and categories of status.

## Conclusion

To conclude, the literature reviewed above have indicated that Sherif and colleagues experiments illustrated the power of competition in the development of in-group favouritism while Tajfel and colleagues experiments showed that categorization is the minimum criterion needed for in-group favouritism to develop. The present study aims to explore the the importance of Realistic Conflict theory and Social Identity theory in modelling minimal group interactions under different identity and economic conditions.. Both theories address the aspects which the other does not emphasize. To establish this, the present study will manipulate the nature of incentive and status categories to observe the level of in-group favouritism. The study will also compare if similar patterns of in-group favouritism will be observed in in the inter-individual condition. Additionally the study will also explore the effect of the self –allocating option in minimal group situation.

# Methodology

## Aims and rationale

The studies examined in the above literature have led to comprehensive theories that explain the importance of social mechanisms. Minimal group experiments led to the creation of a solid foundation of knowledge that influenced the way groups are studied today. Sherif and Tajfel studies of intergroup behaviour provide the theoretical foundation of intergroup relation, however, there are still many areas that can be explored in great detail. Expanding the minimal group studies provide insights into the complexities of intergroup behaviour. Therefore, this study is an expansion of the minimal group studies using a virtual environment setting to examine the effect of the nature of incentive on the development of favouritism and competition in both intergroup interactions and inter-individual relations in different conditions of status.

In summary, this study aims to answer the following research questions.

1) Does the nature of incentive affect in-group giving in different ways?
2) Is the level of in-group giving different between intergroup and inter-individual relations under the same functional conditions?
3) Is there a difference in levels of in-group giving between equal and unequal categories of status under the same functional conditions?
4) Does the option to self-give prompt individuals to give less to the in-group?

## Hypothesis

Hypothesis 1:

H0: There is no significant difference in levels of in-group giving in both intergroup and inter-individual interaction between monetary and symbolic incentives in any condition of status and group numeric.

H1: There is significantly more in-group giving in both intergroup and inter-individual interaction when incentives are monetary compared to when then is symbolic in any condition of status and group numeric.

*Hypothesis* 2:

H0: There is no significant difference in levels of in-group favouritism between intergroup interaction and inter-individual interaction under the same functional conditions.

H1: There is significantly more in-group favouritism in intergroup interaction than in inter-individual interaction under the same functional conditions.

*Hypothesis 3:*

H0: There is no significant difference in levels of in-group favouritism between the three categories of status (high/low/equal) in both conditions of incentive and group numeric

H1: There is a significant difference in levels of in-group favouritism between the three categories of status (high/low/equal) in both conditions of incentive and group numeric.

*Hypothesis 4*

H0: There is no significant difference in levels of self-giving between intergroup interaction and inter-individual interaction in the three categories of status.

H1: There is significantly difference in levels of self-giving between intergroup interaction and inter-individual interaction in the three categories of status.

## Design

To examine the above mentioned aims, a quasi-experimental design was selected for the study. This design was chosen because it is easy to set up and is efficient (Dinardo, 2008) for our purposes since the experiments were conducted in 2013 and 2014 whereby the symbolic incentive was utilised in 2013 and monetary incentive was manipulated in 2014. Therefore it was impossible to randomly assign subjects into 2013 and 2014 conditions. Moreover, quasi-experiments are generally not vulnerable to ethical violations because participants are selfselected (Campbell, 1988), in this study participants chose to participate voluntarily.

In addition, it is not possible for experimenters to manipulate conditions in a true experimental design (Morgan, 2000), and the primary objective of this study is to examine how the nature of incentive affects in-group giving. Quasi-experimental design enables experimenters to manipulate conditions, which the experimenters did with the nature of

incentive. The study had three multi-level independent variables and two dependent variables. The three independent variables were the nature of incentive with two levels (symbolic/monetary), group numeric with two levels (group/individual) and status with three categories (high/low/equal). The dependent variable was the number of tokens given to the in-group which was conceptualized as tokens to in-group and the number of tokens given to self over forty rounds. A round encompassed allocation of one token by each participant. The symbolic condition was replicated six times and the monetary condition was replicated four times. Replication meant that each experiment was repeated six or four times with different participants

The study experimental design is presented in table 3.1 below,

Table 3.1

| | Symbolic Incentive | | Monetary Incentive | |
|---|---|---|---|---|
| | Equality | Inequality | Equality | Inequality |
| Group | N=14, 7 players in each group, 40 rounds, 6 replications | N =14, 7 players in each group, high status 30 token per player and low status 10 tokens per player, 40 rounds, 6 replications | N=14, 7players in each group, 40 rounds, 4 replications | N=14, 7 players in each group, high status 30 tokes per player and low status 10 tokens per player, 40 rounds,4 replications |
| Individual | N =14, 20 tokens per player, 40 rounds, 6 replications | N =14, 7 high status players with 30 tokens each and 7 low status players with 10 tokens each, 40 rounds, 6 replications | N =14, 20 tokens per player, 40 rounds, 4 replications | N=14, 7 high status players with 30 tokens each and 7 low status players with 10 tokens each, 40 rounds. 4 replications |

## Sample

This study used convenience sampling since it required a large pool of participants. Convenience sampling enabled the researchers to recruit many participants for the study in a short space of time and there were no advertising costs incurred. However, it should be noted that the results of this study cannot be generalised to a wider population since the sample was conveniently drawn, therefore it is not an actual representation of the general population with regards to gender, race, age, and culture as well as socio economic status.

The sample was drawn from the University of Kwa-Zulu Natal Pietermaritzburg campus. A sample of five hundred and fifty-seven (557) participants was used in this particular study. Only those who were eighteen years and above were recruited on condition that they were registered students at the university. There was no gender or racial specifics required to participate in the study.

Participants were recruited between July and September of 2013 and 2014 respectively.. The experiments were conducted between 8 am and 4 pm during from Monday to Friday. Participants were recruited from various points of the campus. The researchers would give a general description of the study during recruitment. Those who were interested were then taken to the Psychology laboratory were the study was being done. Once all the participants had settled in the laboratory, a full description of the study was given and consent was done for every participant

## Procedure

The experiments took place at the department of Psychology computer laboratory. The computer laboratory with fourteen computers was set up prior to participants' arrival. An information sheet and informed consent form (appendix 1) and pens where each placed next to the computers. Each game had fourteen participants for both intergroup and inter-individual conditions for all incentive and status conditions as well. Upon arrival, each participant had their left index finger scanned to the database to ensure that they have not participated in the study before as this would have affected the outcomes of the study due to experience. Any form of communication among participants was prohibited; they were instructed to switch off their mobile phones to avoid distractions. Each game lasted for at least forty-five minutes to an hour.

When all the fourteen participants had settled on a computer, the experimenter went through the information sheet and participants were allowed to ask questions or clarity were they did not understand. Afterwards, the participants were given time to read through the consent form before signing. When the consent process was done, the experimenter read the instructions which were on a standardised script that was used for all experiments (appendix 2). The instruction script was standardised to reduce possible experiment effects that may arise since the experiments were conducted by different experimenters.

After the experimenter had finished going through the instructions the participants were instructed to open the VIAPPL program on the desktop of each computer. Like in the original minimal group studies, in this study, in the group condition, participants were meant to believe that they were being assigned to a group based on their choice of art either by Klee and or by Kandisky yet they were randomly assigned. The paintings are shown in figure 3.1 and 3.2 below

Figure 3.1 Painting by Klee

Figure 3.2 Painting by Kandisky

## Virtual Interaction Application

VIAPPL is a versatile application that can be manipulated to create several conditions that allows the experiments to observe dynamic interaction in a controlled laboratory within a

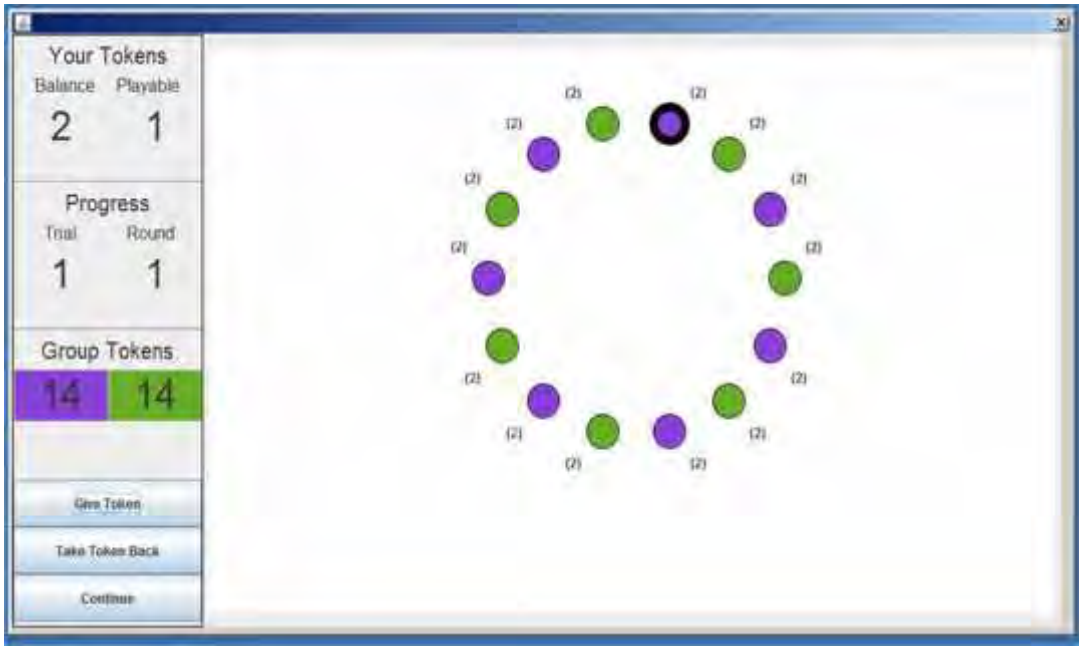
virtual arena (Durrheim and Quayle, 2012). The instrument that was used to observe favouritism and competition within VIAPPL was the Give and Get game. This game requires participants to allocate tokens to other players and this enabled the researchers to observe how participants allocated tokens each other.

## The Give and Get game

For each experiment, the game was designed to run over two trials. The first trial was a practice trial for participants to get familiar with the game and ask questions or assistance to the experimenter. The experimenter ran through the first trial with participants using the standardised script as a guide. The participants were shown their identifier in the game which was a circle with a bold line and the other circles representing the other players in the game. If it was a group condition, the participants' group was either purple or green as shown in the figure 3.3 below.

In the individual condition however group membership was masked such that on the surface participants interacted as individuals. There were not aware of their group membership they were meant to believe that they were interacting as individuals. The masking enabled the researchers to examine if in-group favouritism was intertwined with group membership.

Figure 3.3

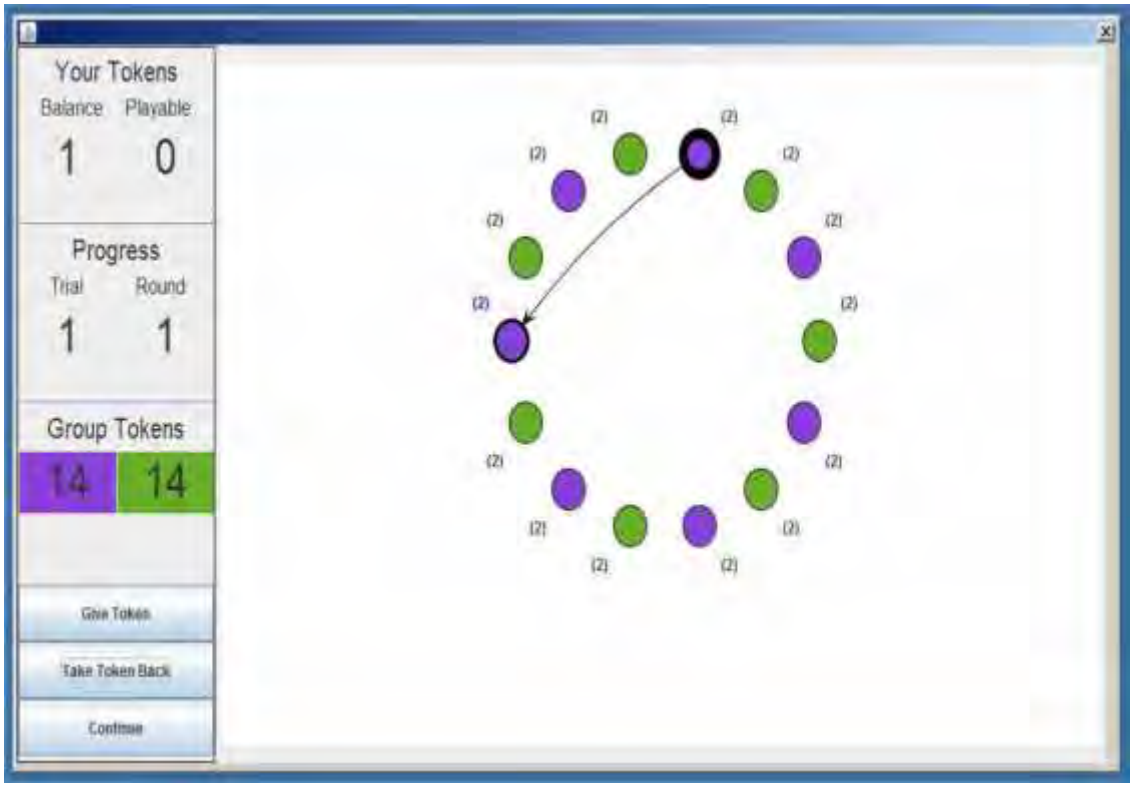


The box on the left side of the screen where it says “Your Tokens”, the balance is the number of tokens the participant has and the playable is the number of tokens which the participant can allocate to other players. Where it says “Progress”, the round is indicating the round which the game is on at that moment. “Group Token” is indicating the number of tokens each group have. In the equal condition all the groups or individuals started with same number of tokens and in the unequal conditions one group or some participants had more tokens than the other.

Afterwards, the participants were shown how to allocate a token to by clicking on the circle of their choice, a thin bold line would appear around that circle. The participant would then click were it says “ Give Token” and a line indicating the token allocation would appear as shown in Figure 3.4 below.

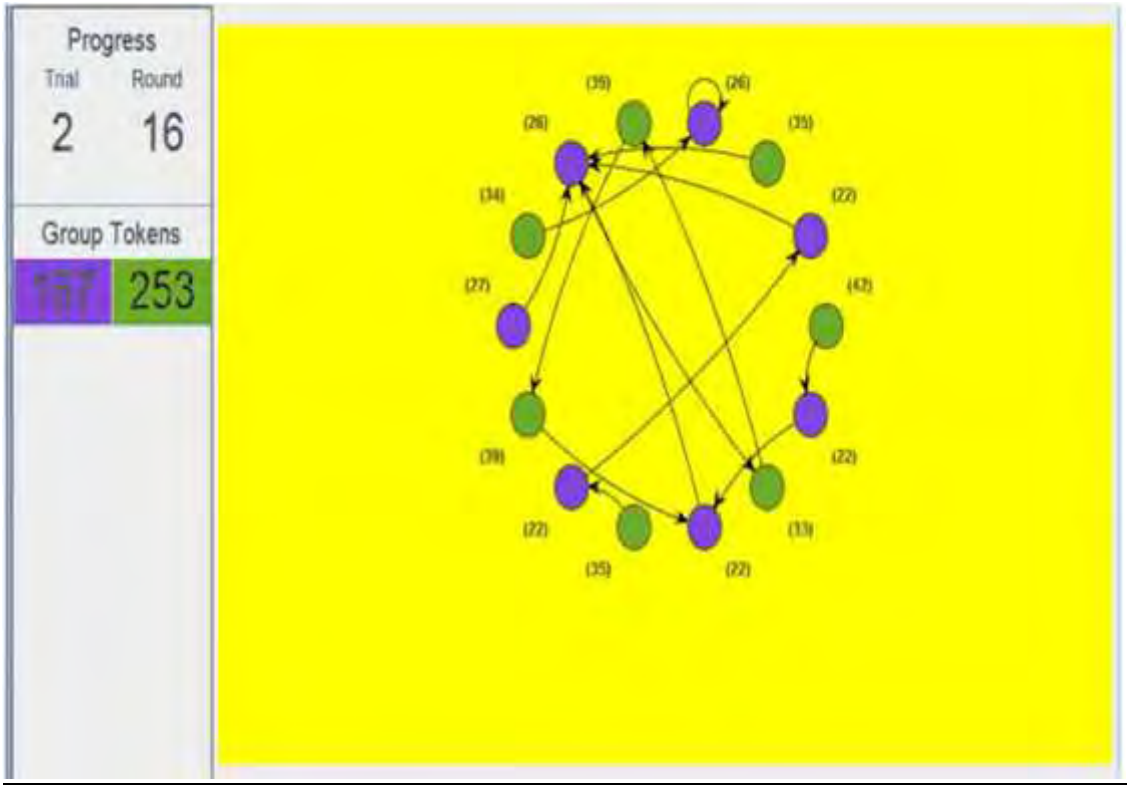
The game also had a “Take Token back” option which the participants could use if they no longer want to give the participant they had given at first, after taking back the token the participant would allocate it to another participant because it was mandatory that the participants allocate a token in each round. Some participants realized that they could self-allocate as shown Figure 3.4 below.

Figure 3.4



The “Continue” option was only to be used when the participant is sure of their choice of allocation. After all the participants had given their tokens and clicked continue, the “round moves screen” would appear showing how participants had allocated their tokens for that round as shown in Figure 5 below. The participants would then click continue so that another round would commence with the new balance.

Figure 3.5




## Validity

Internal validity of this study was ensured by standardising data collection procedures throughout the study. Standardising data collection procedures minimized experimenter effect because all the experimenters were using one standardised script to follow procedures (Durrheim 2013). All the study conditions were analysed in the same setting. Unfinished games due to technical fault or participants dropping out were discarded from data analysis. Participants’ finger prints were scanned before they played the game to ensure that they only play the game once.

Participants were not allowed to communicate with each other in the lab and neither were they aware of each other’s position or group membership. Therefore there token allocation

was based on what they were seeing on the screen. This increased validity because maturation and testing effects were able to be controlled.

The experiments were conducted in 2013 and 2014 therefore there is a possibility that the study might have been affected by history effects. In 2013, all participants were given an incentive of R20. In 2014 the incentive was dependent upon the number of tokens one would have accumulated in the experiment and each token was worth R1. Therefore it is possible that students were mostly motivated to participate in 2013 because they were all getting the same amount and at that time R20 could buy a decent lunch for a student. Contrastingly, because all participants were given the same amount in 2013 regardless of the number of tokens they would have acquired, one may argue that participants were less driven to be competitive in interaction. However, in 2014 it may be argued that because each token was worth R1 participants might have been reluctant to participate knowing that there is a possibility of getting nothing or a small amount of money. It is also reasonable to assume that 2014 participants were more enthusiastic to participate because of the competitive nature of the incentive.

## Reliability

This study used VIAPPL as an instrument for data collection, therefore reliability was ensured through repetition of trials using the same criteria. Consistency of the results was managed by randomly assigning subject to either one of the conditions and comparisons were made between different conditions and levels.

## Generalizability

The sample was only drawn from University of Kwa-Zulu Natal Pietermaritzburg Campus, this not a representation of the entire population. Therefore the results are not generalizable to the general population. Additionally, the study was conducted in an experimental lab which is a controlled setting therefore the results are not generalizable to the entire population since the study was not done in a natural environment. According to Campbell (1986) the aim of an experimental design is to achieve high levels of internal validity and not to generalize the results to the larger population. The experimental nature of our study is to evaluate the in-group favouritism and competition that arise due to interaction between participants.

## Ethical Considerations

The study was granted ethical approval by the University of KwaZulu-Natal ethics board (appendix 3) and gate keeper consent (appendix 4).
Informed consent requires that participant are given the necessary information concerning the research and their role in the research prior to agreeing to participate in the research (List, 2008). The researchers gave a description of the study using a standardised script and an information sheet was also provided to participants before they signed the informed consent form.

For the purpose of increasing the willingness of students to participate in the study and appreciating the time they took to participate in the study out of their busy schedules as well as to examine some of our research questions, monetary incentives were given to participants. Nevertheless, participation was completely voluntary, this was emphasized prior to giving consent to participate in the study. Participants were also informed that they were free to with draw their consent at any time during or after the study had commenced.

To avoid testing effects, all participants' finger prints were scanned into the study database to ensure that participants were not repeating the experiment there by affecting the outcome of the study. The fingerprints were kept in database without any identifiable information of particular individuals. In addition, participants' confidentiality was assured through the use of pseudo user names to login the game. Therefore there are no possible identifiers of particular individuals in the database. The data was archived in the programme at the end of the study, as a result participants were informed that it is possible that it could be used for further analysis in the future.

The study used passive deception. Participants were deceived into believing that they were being assigned into groups based on their preference of the two paintings. The objective of the study was to examine the allocation behaviour in a minimal group context. Therefore the use of deception was essential in the study to establish a sense of similarity among group members and to avoid threats to internal validity since revealing the researcher's intentions prior to interaction could have influence the participants allocation choices.

However, in actual fact, the participants were randomly assigned into groups. Participants were informed of this deception when they had finished playing the game. At the end of the experiments, participants were debriefed and the true nature of the research was revealed including the use of deception and was given platform to ask or raise concerns should they might have had. In addition, participants were informed that provisions were made with Child and Family Centre at Pietermaritzburg campus to assist them if they felt that they might have been harmed in the study.

## Data analysis

The aim of this study is to examine if the nature of incentive "symbolic" or "monetary" have different effect on favouritism and competition in minimal group context and to explore if this is also influenced by group numeric (intergroup/inter-individual) and status (high/low equality). Separate Factorial analysis of variance (ANOVA) was used to compare the mean difference between groups that have been split on three independent variables (incentive, group numeric and status) and to examine if an interaction exists between the three groups using SPSS Statistics. The two independent variables were tokens to in-group and tokens to self.

Factorial ANOVA only appropriate if the data passes the six assumptions.

The first assumption require the dependent variable being measured to be continuous, this assumption is satisfied because the two dependent variables; the number of tokens given to the in-group and the number of tokens given to self are continuous.

The second assumption pertains to independent variables, factorial ANOVA requires that the independent variables should each consist of two or more categorical independent groups. The assumption is met because variable incentive has two categories (symbolic/monetary), variable group numeric has two categories (group/individual) and variable status has three categories (high/low/equal).

The third assumption asserts that there must be independence of observations, this means that there should be no relationship between the observations in each group or the groups themselves. This assumption is met since each subject participated in only one game, therefore each group had different subjects.

The first three assumptions are particularly concerned with study design. The last three assumptions require certain statistics to be performed to ensure that the data is appropriate for analysis with ANOVA. The fourth assumption is that there should be no significant outliers. This assumption is met as there are no outliers in the boxplot below show in figure 3.6; 3.7; 3.8; 3.9; and 3.9. The Boxplots for dependent variable tokens to in-group for all conditions do not have significant outliers.

For dependent variable tokens to self, there are outliers but there are not substantial because the sample size for that variable was small. Osborrne and Overbay (2004) pointed out that the sample size has an impact on the probability of the outlying values. The number of tokens of self-giving was only analysed for the monetary incentive condition only. Moreover, according to Osborne and Overbay (2004) some outliers indicate a potential focus of inquiry. They asserted that at times extreme scores are indicators of important issues that may require further analysis. Therefore, in this study, it should be noted that participants were not informed of the option to self-give, they had to discover it on their own and because the researchers did not want to influence the interaction process interacting as groups, perhaps this might have caused participants' to be reluctant with the self-giving option.

The fifth assumption asserts that the dependent variable should be approximately normally distributed for each combination of the groups of the three independent variables. This assumption according to Howell (1997) can be violated and still provide valid results since ANOVA is a robust statistical procedure. The Boxplots for the amount of tokens given to the in-group dependent variables seem to be normally distributed but we can confirm this further by analysing homogeneity of variance and this is also applicable to the sixth assumption. With regards to the amount of tokens given to the self, the box plots are not normally distributed because of the small sample size and outliers outlined above.

Figure 3.6

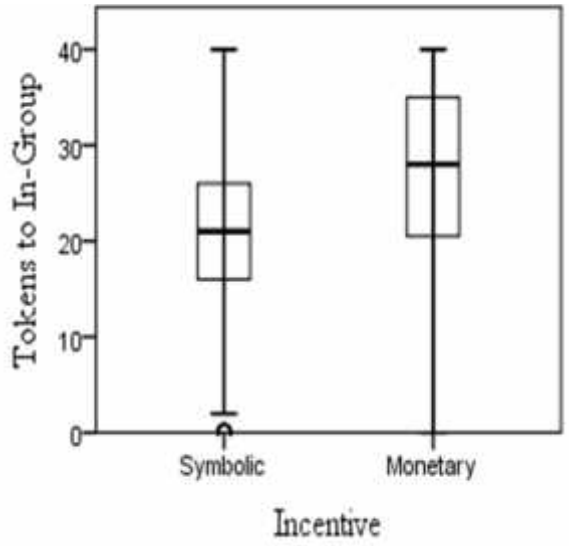



Figure 3.7

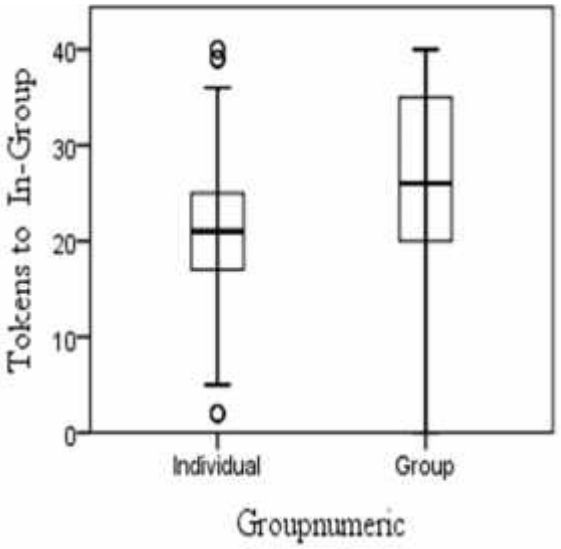



Figure 3.8

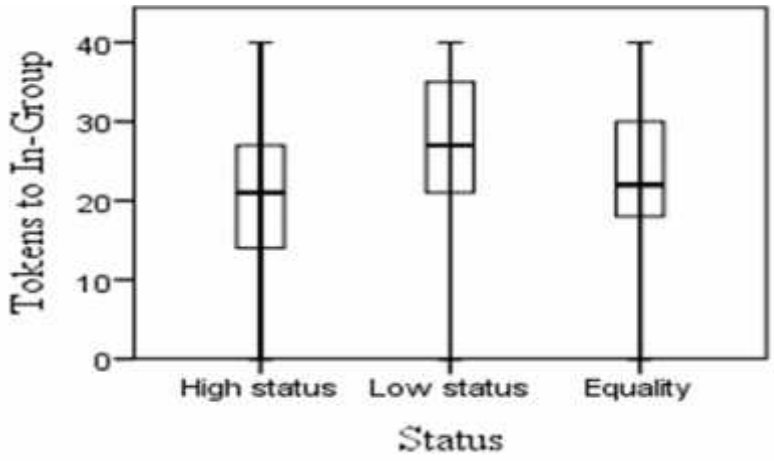


Figure 3.9

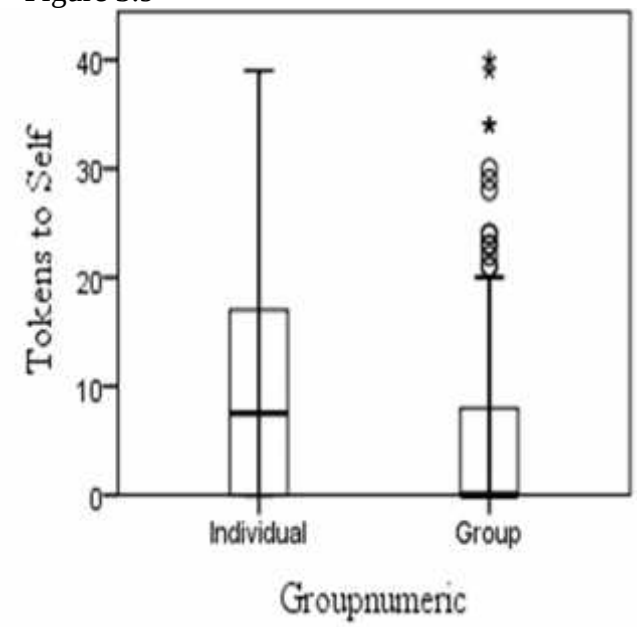
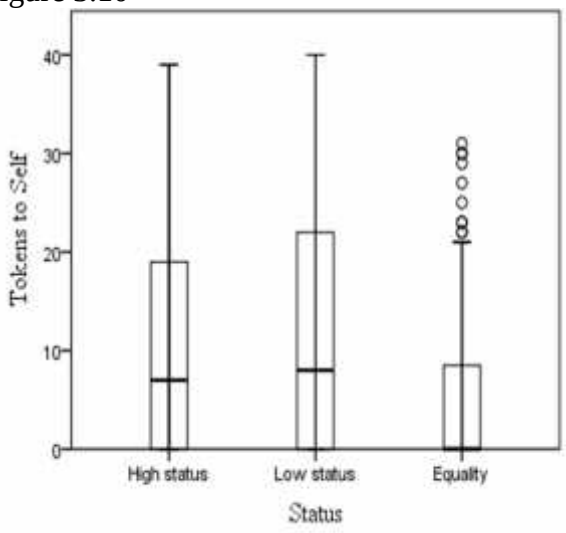



Figure 3.10




The sixth assumption states that there need to be homogeneity of variances for each combination of the groups of the three independent variables. This assumption is tested using Levene's test for homogeneity of variance. The data set was subjected to Levene's test for homogeneity of variances. The F value was significant for both dependent variable as shown in table 3.2 and 3.3, therefore we reject the null hypothesis of equality of variance. This assumption can be violated because all the games analysed in this study had fourteen participants. Howell (2013) indicated that the assumption of homogeneity of variance can be violated provided that the number of subjects in each cell is equal. The dataset however had unbalanced design as a whole but then separate ANOVAs were run for each independent variable. It should be noted that because separate ANOVAs were done the chances of making type 1 error and decreased power increased because the sample size became small for each independent variable.

Table 3.2

*Levene's Test of Equality of Error Variances*[a]

Dependent Variable: Tokens to In-Group

| *F* | *df1* | *df2* | *Sig.* |
|---|---|---|---|
| 12.900 | 11 | 545 | .000 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group numeric + Incentive + Status + Incentive * Group numeric * Status

Table 3.3

*Levene's Test of Equality of Error Variances*[a]

Dependent Variable: Tokens to Self

| *F* | *df1* | *df2* | *Sig.* |
|---|---|---|---|
| 4.856 | 5 | 218 | .000 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group numeric + Status + Group numeric * Status

# Results

The results of Factorial Analysis of Variance that was run is SPSS is presented below. The tables and graphs are presented in APA format.

Table 4.1

*Descriptive Statistics*

Dependent Variable: Tokens to In-Group

| Incentive | Groupnumeric | Status | *Mean* | *Std. Deviation* | *N* |
|---|---|---|---|---|---|
| Symbolic | Individual | High status | 15.52 | 5.773 | 42 |
| | | Low status | 24.12 | 5.138 | 42 |
| | | Equality | 19.69 | 4.716 | 84 |
| | | Total | 19.76 | 5.917 | 168 |
| | Group | High status | 19.76 | 12.773 | 41 |
| | | Low status | 22.83 | 13.557 | 41 |
| | | Equality | 24.61 | 7.401 | 83 |
| | | Total | 22.96 | 10.769 | 165 |
| | Total | High status | 17.61 | 10.039 | 83 |
| | | Low status | 23.48 | 10.163 | 83 |
| | | Equality | 22.14 | 6.654 | 167 |
| | | Total | 21.35 | 8.802 | 333 |
| Monetary | Individual | High status | 22.36 | 7.509 | 28 |
| | | Low status | 29.25 | 8.409 | 28 |
| | | Equality | 21.50 | 7.130 | 56 |
| | | Total | 23.65 | 8.171 | 112 |
| | Group | High status | 26.32 | 7.129 | 28 |
| | | Low status | 34.61 | 5.600 | 28 |
| | | Equality | 30.14 | 10.106 | 56 |
| | | Total | 30.30 | 8.904 | 112 |
| | Total | High status | 24.34 | 7.525 | 56 |
| | | Low status | 31.93 | 7.577 | 56 |
| | | Equality | 25.82 | 9.728 | 112 |
| | | Total | 26.98 | 9.155 | 224 |
| Total | Individual | High status | 18.26 | 7.296 | 70 |
| | | Low status | 26.17 | 7.055 | 70 |
| | | Equality | 20.41 | 5.847 | 140 |
| | | Total | 21.31 | 7.154 | 280 |
| | Group | High status | 22.42 | 11.256 | 69 |
| | | Low status | 27.61 | 12.430 | 69 |
| | | Equality | 26.84 | 8.981 | 139 |
| | | Total | 25.93 | 10.668 | 277 |
| | Total | High status | 20.32 | 9.665 | 139 |
| | | Low status | 26.88 | 10.077 | 139 |
| | | Equality | 23.62 | 8.216 | 279 |
| | | Total | 23.61 | 9.355 | 557 |

The results presented below indicated that there was significantly more in-group giving in both conditions of group numeric and all categories of status when incentives were monetary than when they were symbolic, therefore the null hypothesis was rejected. The amount of tokens given to the in-group was subjected to a three-way analysis of variance on the influence of three independent variables (group numeric, incentive, status). Group numeric included two conditions (individual/group), Incentive had two types (symbolic/ monetary) and Status consisted of three categories (high/low/equal). All main effects were statistically significant at .05 significance level. The main effect for Group numeric yielded an F ratio of $F$ (1, 545) = 33.12, $p$ = .000, $\eta 2$= .057, indicating that participants in the individual condition ($M$ = 21.31, $SD$ = 7.15) showed less in-group favouritism compared to those in the group condition ($M$ = 25.93, $SD$ = 10.67). The main effect for Incentive yielded an F ratio of $F$ (1,545) = 70.36, $p$ = .000, $\eta 2$= .114, indicating that participants in the monetary condition ($M$ = 26.98, $SD$ = 9.16) exhibited more in-group favouritism than those in the symbolic condition ($M$=21.35, $SD$ = 8.80). The main effect for Status yielded an F ratio of $F$ (2,545) = 22.48, $p$ = .000, $\eta 2$= .076. Participants in the low status group had the highest levels of in-group favouritism ($M$=26.88, $SD$ = 10.08) compared to those in the equality status group ($M$=23.62, $SD$ = 8.23) and those in the high status group ($M$=20.32, $SD$ = 9.67). Both the two-ways and three-way interaction effect was significant for all variables p =.000. Owing to the significant interaction reported, Turkey's HSD test for comparison on all the three levels of status was significant, $p$ =.000.

The primary objective of this study was to examine the in-group giving in minimal group interactions. The three-way analysis of variance reported above indicates a significant interaction between all the three variables. However using three-way analysis of variance is a bit complex to examine all the three variables in detail in order to answer our research questions. Therefore a two-way analysis of variance was conducted for intergroup condition and inter-individual condition separately.

## Group versus Individual condition

The results presented below indicated that there is significantly more in-group favouritism in the intergroup condition than the inter-individual condition in both the two conditions of incentive and in all categories of status. Therefore the null hypothesis is rejected.

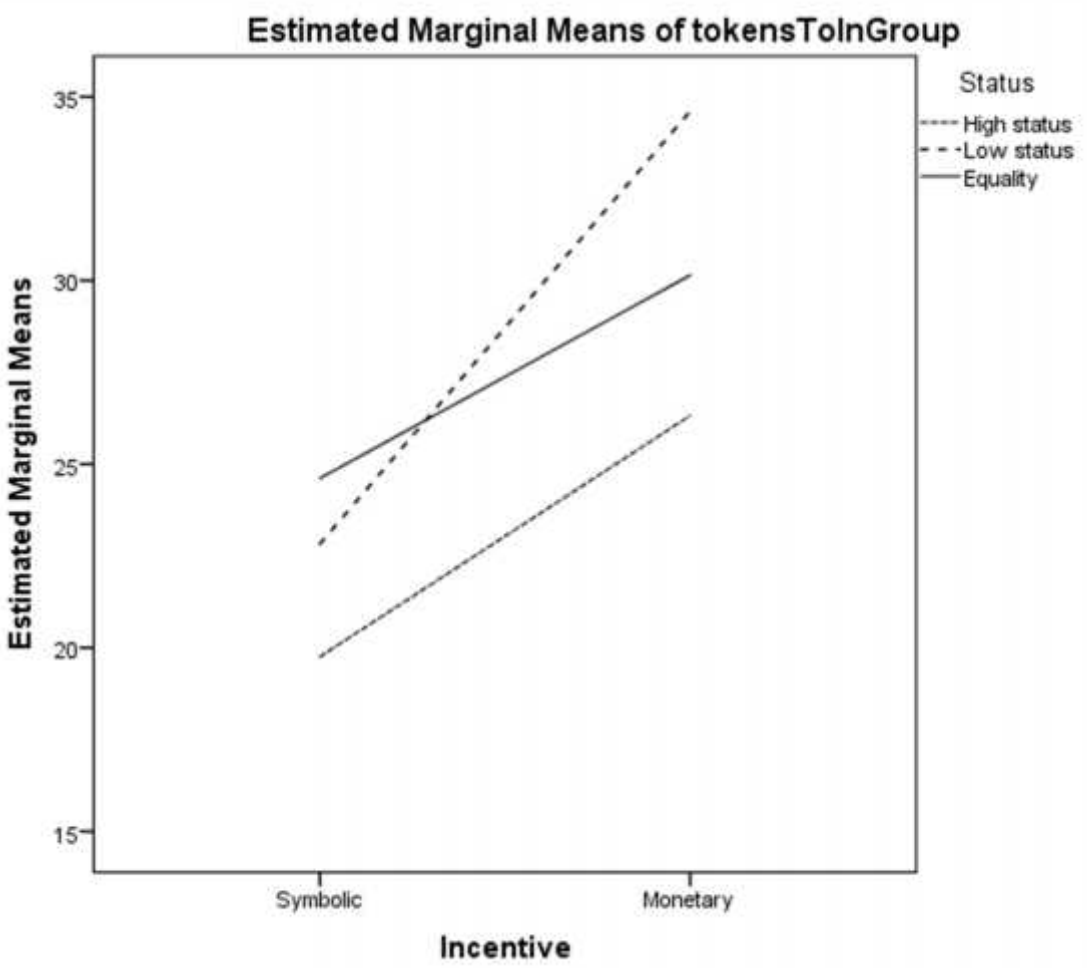
The number of tokens given to the in-group was subjected to a two-way analysis of variance on the influence of two independent variables (incentive type, status categories). Incentive type included two levels (symbolic/monetary) and status consisted of three levels (equal/ high/low). All main effects were statistically significant at the .05 significance level.

## Intergroup interaction

The main effect for Incentive type yielded an F ratio of $F$ (1, 271) = 39.26, $p$ = .000, $\eta 2$= .127, indicating that participants in the Monetary incentive group ($M$ = 30.30, $SD$ = 8.90) showed more in-group favouritism compared to those in Symbolic incentive group ($M$ = 22.96, $SD$ = 10.77) and. The main effect for Status yielded an F ratio of $F$ (2,271) = 6.33, $p$ = .002, $\eta 2$= .045, indicating a significant difference on the levels of in-group favouritism between, High status ($M$ = 22.42, $SD$ = 11.26) and Low status ($M$ = 27.61, $SD$ = 12.43) and Equal status ($M$=26.84, $SD$ = 8.98). The interaction effect was not significant $F$ (2, 271) =2.31, $p$ = .101, $\eta 2$=.017. Because Incentive has only two levels, the results are easily interpreted by inspecting the group means. For Status, Turkey's HSD test was conducted to examine the difference between conditions.

The results of Turkey's HSD test shown above for Status indicate that the High status group is significantly different from Low status group ($p$= .006) and Equality group ($p$ = .007). There is no significant difference between the Low status group and the Equal status group ($p$ = .857). The comparison shows that participants in Low status group and Equal status group express similar levels of in-group favouritism which is significantly higher than that of the subjects in the High status group.

Though the interaction effect was not significant, the mean plots are helpful to visualize the interaction. The graph below in Figure 4.1 illustrates the combined effect that the two independent variables (incentive/status) have on in-group favouritism. The plot shows that there is an interaction on incentive between high status and equal status. The different types of incentive have different effect on in-group favouritism depending on the condition of status. To interpret further the observed interactions from the graph, simple effects were conducted. Simple effects investigate the effect of the incentive factor for each level of status and vice versa. Owing to the marginally significant interaction, it is more informative to plot the interaction. Unfortunately, it should be noted that SPSS does not produce error bars for ANOVA cell mean plots. As a result, the cell means plot is presented without error bars.




Two sets of simple effects were conducted for all factors of the two independent variables. The first test reports a significance tests for the difference between the two incentive means at each level of Status. The second set of simple effects pertains to the differences between three levels of Status separately for the symbolic incentive group and monetary incentive group. The analysis suggests that monetary incentive has a significant effect in any condition of status ($p$= .003) whereas symbolic incentive has no significant effect on any condition of status ($p$ = .245).

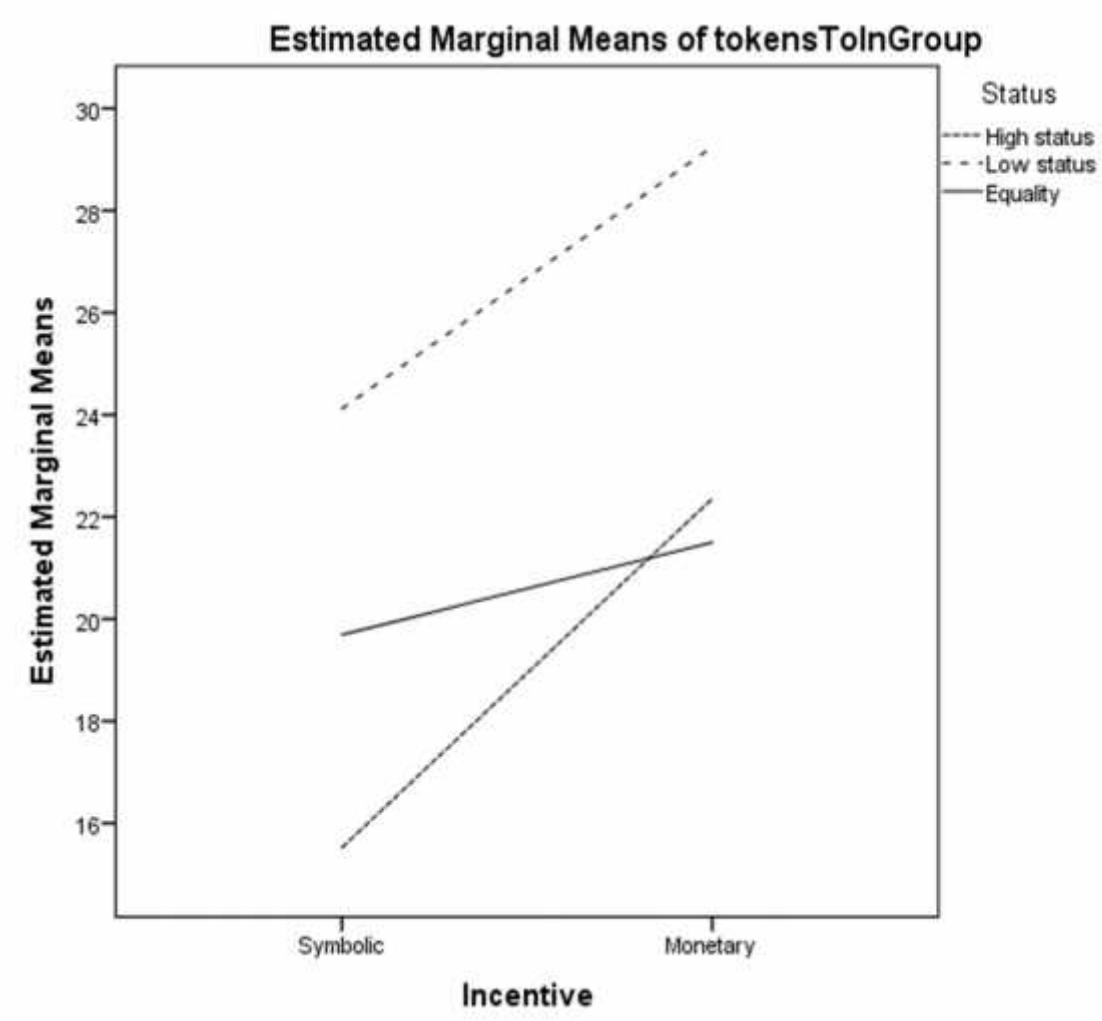
## Inter-individual interaction

The main effect for incentive type yielded an F ratio of $F$ (1, 274) = 33. 20, p = .000, $\eta 2$= .108, indicating that participants in the Monetary incentive group ($M$ = 23.65, $SD$ = 8.17) showed more in-group favouritism compared to those in Symbolic incentive group ($M$ = 19.76, $SD$ = 5.92) The main effect for Status yielded an F ratio of $F$ (2,274) = 30.34, $p$ = .000, $\eta 2$= .182, indicating a significant difference between, High status ($M$ = 18.26, $SD$ = 7.30) and Low status ($M$ = 26.17, $SD$ = 7.06) and Equal status ($M$=21.31, $SD$ = 7.15). The interaction effect was significant $F$ (2, 274) = 4.13, $p$ = .017, $\eta 2$=.029. Turkey's HSD

showedthat all conditions of status were significantly different from each other group, $p <$ .005.

The cell mean plots of interaction effect is displayed in Figure 4.2

Figure 4.2




To interpret the significant interaction presented by the means plot, two sets of simple effects were conducted for all factors of the two independent variables. The first test reports a significance tests for the difference between the two Incentive means at each level of Status, $p <$ .005. The second set of simple effects also showed a significant test for the difference between the three levels of status in both the two conditions of incentive, $p <$ .005.

## Status

The results of this hypothesis are intertwined with outcomes of the above analysis. In both intergroup and inter-individual interaction the three categories of status differed significantly regardless of the nature of incentive. Therefore the null hypothesis is rejected.

## Self-giving in the monetary condition

Table 4.11

*Descriptive Statistics*
Dependent Variable: Tokens to Self

| Group numeric | Status | *Mean* | *Std. Deviation* | *N* |
|---|---|---|---|---|
| Individual | High status | 13.18 | 10.719 | 28 |
| | Low status | 12.79 | 11.644 | 28 |
| | Equality | 7.04 | 9.563 | 56 |
| | Total | 10.01 | 10.732 | 112 |
| Group | High status | 5.86 | 9.755 | 28 |
| | Low status | 9.89 | 13.653 | 28 |
| | Equality | 3.59 | 7.045 | 56 |
| | Total | 5.73 | 9.988 | 112 |
| Total | High status | 9.52 | 10.806 | 56 |
| | Low status | 11.34 | 12.657 | 56 |
| | Equality | 5.31 | 8.538 | 112 |
| | Total | 7.87 | 10.563 | 224 |

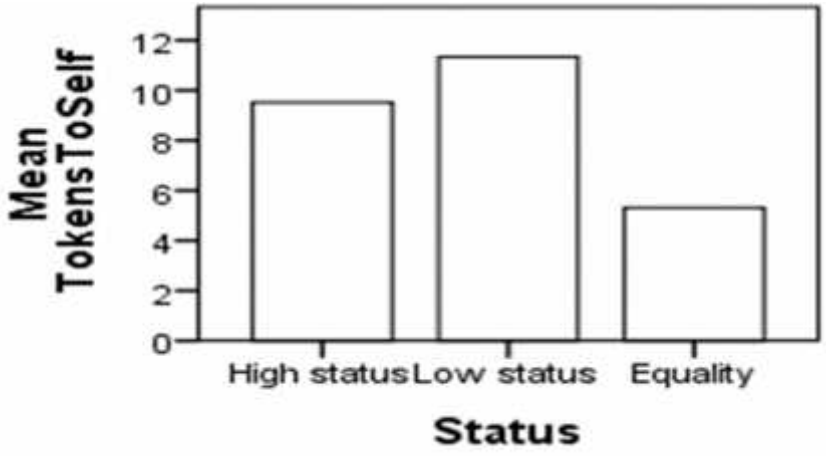
The number of tokens given to self is the monetary incentive data only, thus 2014 data only. The results presented below indicated that there is significant in levels of self-allocating between the intergroup and the inter-individual conditions in in all categories of status. Therefore the null hypothesis is rejected.

The main effect for Group numeric type yielded an F ratio of $F$ (1, 218) = 10.93, $p$ = .002, $\eta 2$= .045, indicating that participants in the Inter-individual condition ($M$ = 10.01, $SD$ = 10.73) self –allocated more compared to those in intergroup condition ($M$ = 5.73, $SD$ = 9.99) The main effect for Status yielded an F ratio of $F$ (2,218) = 7.68, $p$ = .001, $\eta 2$= .066, indicating a significant difference between, Low status ($M$ = 11.34, $SD$ = 12.66) and High status ($M$ = 9.52, $SD$ = 10.81) and Equal status ($M$=5.31, $SD$ = 8.84). The interaction effect

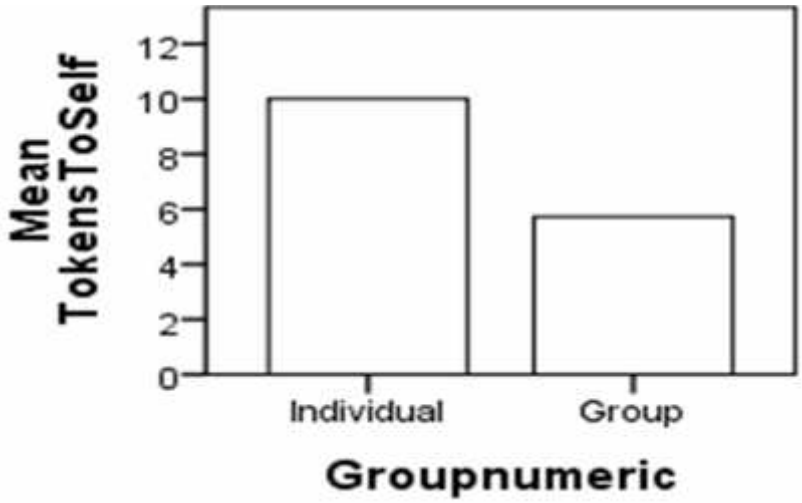
was not significant $F$ (2, 218) =.867, $p$ = .422, $\eta 2$=.008. Turkey's HSD test for comparison on all the three levels of status showed that the Equality status group is significantly different from Low status group ($p$= .001) and High status group ($p$ = .003). There is no significant difference between the Low status group and the High status group ($p$ = .605).

Two sets of simple effects were conducted for all factors of the two independent variables. The first test reports a significance tests for the difference between the two group numeric means with High status and Equal status, $p$< .005. The second set of simple effects showed a significant test for the difference between the three categories of status in both the two conditions of group numeric, $p$ < .005. Because there is no observed significant difference, histograms were employed to present the mean differences

Tokens to self: Status




Token to self: Group numeric



# Discussion

## Summary of main findings

The main purpose of this research was to expand the minimal group paradigm by examining how the nature of incentive affects the development of in-group favouritism in minimal group interaction. The study explored the effect that the nature of incentive has on in-group favouritism in different conditions of status. This aspect can be explained with the help of both Realistic Conflict theory and Social Identity theory.

The first hypothesis was that there is more in-group giving in both intergroup and inter-individual interaction when incentive is monetary compared to when it is symbolic in any condition of status. The data collected in this research supported this hypothesis. Subjects in the monetary condition gave more tokens to members of their in-group than those in the symbolic condition.

The second hypothesis aimed to compare the difference in levels of in-group giving between intergroup and inter-individual interaction under the same functional conditions. The data showed that there was a difference in the development of in-group favouritism between intergroup and inter-individual interaction. The nature of incentive and status categories accounted for the observed difference. Overally, intergroup condition had higher levels of in-group favouritism compared to inter-individual. The groups that were subjected to monetary incentive also showed more in-group favouritism in any category of status compared to those who were in the symbolic condition.

The third hypothesis aimed to establish how status categories in minimal group context affect in-group favouritism when incentive is manipulated. The hypothesis was that there is a significant difference between the three categories of status (high/low/equal) in levels of in-group favouritism. For both tokens to in-group and tokens to-self dependent variables, there was a difference between the three categories of status. There was an interaction effect between status, group numeric and incentive. The three categories of status were different in the way they affected levels of in-group giving in both incentive conditions as well as group numeric conditions.

For dependent variable tokens to in-group, an interaction between incentive and status was observed in the in-group inter-individual condition. Further analysis showed that status had

an impact on the development of favouritism in both the monetary and symbolic incentive. Conversely, in the intergroup condition, there was no interaction effect between incentive and status. The analysis showed that in the monetary incentive condition, status affected favouritism. However, in the symbolic condition the results indicated that there was no difference between the three categories of status on the development of in-group favouritism. The means of the three categories were marginally different from each other in the symbolic condition whereas in the monetary condition the means varied significantly.

The fourth hypothesis is applicable to the monetary condition group since the self-giving option was manipulated in that condition. The aim was to establish how subjects behave in both intergroup and inter-individual interactions when there is an option to self-allocate all the categories of status. We hypothesised that there is a significant difference in levels of self-giving between intergroup and inter-individual interaction under the same functional conditions of status. A significant difference was observed for both group numeric and status. However, there was no interaction between group numeric and status. The results showed that there was more self-giving in the individual condition compared to the intergroup condition in any category of status.

# Links to theory

## Effect of incentive on favouritism in minimal group paradigm

The primary objective of this study was to establish how the nature of incentive affect favouritism in minimal group interaction. The nature of incentive was manipulated such that in one condition it was monetary and in another it was symbolic. We predicted the effect that the two kinds of incentive have on in-group favouritism drawing from Campbell's Realistic Conflict theory and Tajfel's Social Identity theory respectively. Campbell (1965) emphasized the importance of economic self-interest for favouritism and competition to occur in minimal group interaction. Tajfel et al., (1971) however emphasized that relativistic social comparison is centrally important for favouritism to emerge in intergroup interaction.

The findings of this study suggest that both schools of thought are equally important to understand the impact of the nature of incentive in minimal group context. The data showed that there was in-group favouritism in both conditions of incentive. There was more in-group giving in the monetary incentive condition than in the symbolic incentive condition,

participants in the monetary incentive condition both in intergroup and inter individual interaction in any condition of status showed more in-group favouritism.

High levels of in-group giving observed in the monetary incentive condition are consistent with assumptions of Realistic Conflict theory. According to Campbell (1965), Realistic conflict theory holds the assumption that intergroup conflict is rooted in the availability of economic resources. This theory argues that intergroup discrimination and competition emerge whenever there are scarce economic resources that are deemed necessary to obtain (Jackson, 1993). These economic resources may include money, minerals and employment, only to mention a few.

According to Lea and Webley (2006) the desire to obtain money is considered to be one of the strongest motivators of modern world. In the present study, monetary incentive was manipulated as a scarce resource. Frank and Schulze (2000) asserted that experimental findings have suggested that subtle reminders of money often change individual behaviour. Borstein (2003) stated that the use of monetary incentives enables researchers to create an actual conflict in a laboratory setting under controlled conditions.

Sidanius and Pratto (1999) pointed that social scientists such as Bernad, 1957; Blalock, 1957; Boulding, 1962; Coser, 1956 as well as Sherif, 1966 among others fundamentally theorized that the perception of one group's gain is another's loss interprets perceptions of group threats that results in in-group solidarity and prejudice against the out-group. In this study, subjects in the monetary incentive condition were rewarded according to the number of tokens they would have attained in the game. Therefore, the groups strived to obtain the maximum number of tokens so that they can be rewarded more by giving more to the category members.

Though high levels of in-group giving was observed in the monetary incentive condition, there was substantial in-group giving in the symbolic condition as well, in both intergroup and inter-individual interaction in any condition of status. Social Identity theory sufficiently accounts for this observation.

Social identity theory assumes that mere categorization of individuals into different groups is sufficient for discrimination to occur (Tajfel et al., 1971). According to this theory, individuals who are randomly assigned into different groups on the basis of minimal information where there is no history of group conflict or conflict of interest prior to

interaction can display discriminatory behaviour against members of the out-group. Tajfel and Turner (1979) stated that category members do not need to go through any bonding phase prior to interaction for them to identify with their in-group. This assumption argues that the act of mere categorisation is internalized by individuals to forms a single collective identity amongst group members (Gaertner, 2001).

The data supported the above notion raised by Social Identity theory. Subjects showed in-group favouritism even though the groups were formed on arbitrary basis. Subjects were randomly assigned into groups and were not aware of the identity of other group members, but in-group favouritism was realized. Category members significantly gave more tokens to members of their in-group in both the symbolic and monetary conditions. This observation is broadly consistent with Social Identity theory's assertion that individuals tend to favour members of their in-group because of mere categorization into different groups. Mummendey and Otten (1998) argued that the act of categorization is internalized as "us" and "them", and as such individuals will act in favour of the "us" and discriminate the "them". In the present study, individuals were meant to believe that the groups were created based on their preferred choice of either the Kadinsky or Klee painting. Therefore the subjects created their "us" and "them" based on that one deceitful aspect.

Social Identity theory states that in-group favouritism does not require the presence of variable competition for it to materialise in minimal group situations (Grieve & Hogg, 1999). Tajfel and Turner (1979) contented that favouritism is not ultimately intertwined with competition as suggested by Realistic Conflict theory. They argued that even when the end result is meaningless, individuals will significantly favour members of their in-group. In this study, though higher levels of in-group favouritism were observed in the monetary condition, individuals in the symbolic condition significantly gave more tokens to their in-group as much as the individuals in the monetary condition gave token to their in-group.

## Intergroup versus inter-individual interaction

The current study was also determined to understand patterns in-group giving for both intergroup and inter-individual relations under the same functional conditions. Empirical evidence suggests that intergroup interaction is often more competitive than inter-individual interaction. The aim of this study was to establish if this difference will be observed when

incentive and status is manipulated and if we can employ Social Identity theory and Realistic Conflict theory

The overall results of our study are consistent with existing empirical evidence. There was more in-group favouritism in the intergroup condition than in the inter-individual condition. This finding is consistent with a Social Identity theory premise that categorization is the basic component needed for in-group favouritism to arise (Tajfel & Turner, 1986)

With the above findings in mind (that there is more in-group favouritism in the intergroup condition than in the inter-individual condition) one exception emerged. The nature of incentive and status however affected favouritism in a different manner between intergroup and inter-individual relations. Members of the low status category in the inter-individual symbolic incentive condition displayed more in-group favouritism compared to those in the same category of status and incentive in intergroup condition. It was only in this condition, low status inter-individual symbolic condition that the inter-individual interaction showed more favouritism than the inter-group interaction.

The fact that there was considerable in-group favouritism in the individual condition is interesting because the participants in the individual condition were not aware of their group members. Group membership was masked such that participants interacted as individuals therefore it is surprising that in-group favouritism emerged. The researchers could not ascertain how this was possible empirically. The only possible explanation is that this could be attributed to the analysis that was conducted which was not perfect for this data set since several assumptions were violated and as a result there was a high probability of type 1 error and decreased power since the sample size was relatively small.

This could be explained by Realistic Conflict theory. Realistic Conflict theory states that intergroup conflict and competition is primarily determined by economic forces (Whitley and Kite, 2010). Therefore, because the nature of incentive was symbolic with no sentimental value to it, groups were less inclined to show favouritism. Also, Jost, Banaji and Nosek (2004) pointed out that this could be as a result of individuals trying to correct inequality and injustice.

## The effect of status in minimal group paradigm

Brown (2000) suggested that the more similar groups are, the more likely they will strive to differentiate themselves in order to maintain a sense of uniqueness. Ellemers (1993) pointed that this is often achieved through the process of social comparison where group members compare their own group to other relevant groups. This aspect of social comparison is embedded in Social Identity theory. Social identity theory argues that equal groups may engage in favouritism because of the need to acquire positive distinctiveness. Realistic Conflict theory however argues that competition is motivated by the need to obtain valuable resources. The present study examined this aspect in various conditions of equality to understand if a similar pattern of in-group favouritism exists as predicted by Social Identity and Realistic Conflict theory.

Observing findings of the equal status condition in both intergroup and individual conditions, participants gave more tokens to members of their in-group when incentive was monetary compared to when it was symbolic. This outcome is consistent with Realistic Conflict theory's assumption that subjects favour their in-group for economic self-interests (Petersen & Blank, 2003). Social Identity theory's assumption is also useful to understand favouritism in the symbolic condition because in-group favouritism was also observed despite the absence of a valuable outcome. Therefore we assume that participants exhibited in-group favouritsm because of the need to attain positive distinctiveness in social comparison.

The present study also went beyond to observe the development of favouritism in unequal interaction. The original minimal studies did not examine this aspect. Therefore the study explored this aspect with the aim to understand how the principles of both Realistic Conflict theory and Social Identity theory can be utilized to account for favouritism observed.

According to Social Identity theory it is possible to predict that people are more likely to identify with a group if it has high status or positively distinguished compared to when the group has a low status or being negatively distinguished (EllemersEllemers & Barreto, 2000). EllemersEllemers (1993) pointed that Social Identity theory asserts that relative status position of a group is the main determinant of people's willingness to identify with the group therefore individuals in the high status group are expected to show in-group favouritism since they are presumed to be more associated with their group because it is favourably comparable.

Contrary to the above assumption raised by Social Identity theory that high status group will identify with their in-group more, in the present study, subjects in the high status category in both incentive and group numeric conditions showed less in group favouritism. They showed less in-group favouritism compared to the low status group. The in-group favouritism of the high group was even less than that of the equal status group. In overall, the high status group showed less in-group favouritism than both the low and equal status groups. The findings of this study therefore are consistent with most literature that have argued that low status groups have significantly higher levels of in-group favouritism and competition compared to high status groups (Commins & Lock, 1979)

In situations where there is a high status group and a low status group, Nadler and Halabi (2006) stated that the low status group may exhibit favouritism that is influenced by either competitive favouritism or compensatory favouritism. They outlined that competitive favouritism elevates the low status group to a better level than the high status group whilst compensatory favouritism elevates the low status group to the same level as high status group so that they can be positively viewed. From a Realistic Conflict perspective, we argued that competitive favouritism is likely to emerge when economic resources are involved thus in the monetary incentive condition. Subsequently, from a Social Identity view we argued that compensatory favouritism will arise in the symbolic incentive condition.

The concept of competitive favouritism relates to higher levels of in-group favouritism by the low status group in the monetary incentive condition as hypothesized by Realistic Conflict theory is embedded in economic self-interest. The findings of this study confirm this concept. The low status group displayed high levels of in-group favouritism in the monetary incentive condition than in the symbolic incentive condition. Subjects in the low status monetary incentive group engaged in competitive in-group favouritism that elevated their group above and beyond that of the high status group.

Rubin et al (2014) argued it is not always the need to acquire positive distinctiveness that results in in-group favouritism but rather in-group favouritism may be used to achieve fairness. Rubin and colleagues' argument is consistent with the concept of compensatory favouritism hypothesized from Social Identity principle mentioned above. They pointed that low status group may engage in in-group favouritism with the desire to elevate their status so that it becomes equal to the high status group. This facet was somewhat observed in the symbolic incentive intergroup condition.

The mean of the low status symbolic tokens to in-group in the intergroup condition was slightly higher than that of the high status group. Comparing the level of in-group favouritism displayed by the low status group in the symbolic incentive intergroup condition to that of the low status in the monetary incentive intergroup condition as well as the inter-individual symbolic/monetary incentive conditions, one may conclude that the low status group in the intergroup symbolic incentive strived to be similar to the high status group. Conversely, the low status group in other conditions strived to be significantly higher than the high status group.

The results of this study suggest that the low status group may indulge in-group favouritism with the aim of uplifting their status to be on the same level or equal to the high status group if the end result is not substantial. This finding is also consistent with Realistic Conflict theory's assumption that individuals will engage in competition when there are economic resources to be gained (Jackson, 1993). In this scenario, favouritism was minimal because there was no economic gain involved therefore both groups high and low status were not compelled to compete because the status differentials were not attached with valuable gain.

The aspect of compensatory in-group favouritism aimed at achieving fairness that was hypothesized for the low status symbolic incentive condition was observed in the intergroup condition only. In the inter-individual symbolic incentive condition, the low status group differed from the high status group. Therefore, the in-group favouritism shown by the low status group in the inter-individual symbolic condition was beyond compensatory favouritism, it was more of competitive favouritism. To account for this, Realistic Conflict theory argues that other than competing for economic resources, conflict may arise due to competition for symbolic resources such as political strength and status (Glaser, 1994). For that reason, our findings suggest that in the inter-individual symbolic incentive condition, favouritism emerged because status was considered a scarce resource to compete for.

To summarize, the low status gave more tokens to members of their in-group, followed by the equal status group and the high status group respectively. The same sequence was also observed in both intergroup and inter-individual conditions. Moreover, the similar sequence was observed in the intergroup monetary incentive condition and in the inter-individual symbolic incentive condition. The sequence was however different in the inter-individual monetary condition and conditions in thee intergroup symbolic incentive. In the inter-individual monetary incentive condition, the low status gave the most to their in-group

followed by the high status group and the equal status group in that order. In the intergroup symbolic condition, most tokens to in-group were given in the condition of equality status followed by low status and high status in that order.

## Exploring the aspect of self-giving in minimal group interaction

The instrument used in this study allowed self-giving of tokens. This option was not mentioned by the researcher to the participants prior to interaction. Participants had to discover the possibility of self –giving on their own. The aim was to examine the identification process of individuals with their groups, to understand if individuals will identify with the group even when they can self-give and benefit from giving themselves.

Social identity theory content that self-concept is intertwined with the identity of the group (Gartner & Insko, 2001; Tajfel, 1982; Tajfel & Turner, 1986). It argues that the individual can be understood in terms of the group. According to Social Identity theory mere categorization of people into groups is enough to produce in-group favouritism (Duckitt, 1994). This assertion translates into the assumption that categorized individuals instantly identifies with their group and the self is absorbed in the group.

In the current study, we examined if categorized individuals will identify with the group even in the presence of a self-giving option. The finding of this study confirms Social Identity theory's assertion that categorized individuals perceive their self-concept in relation to the group (Tajfel, 1978). Participants in the intergroup condition self-allocated less than those in the individual condition suggesting that the self is intertwined with the group.

Another perspective closely linked to Social Identity theory that can account for observed less self-giving in this study is Social Identity model of deinidviudation effect (SIDE. According to Kugihara (2001) the concept of social identity deindividuation effect tries to explain conformity of salient group norms by individuals as a way of regulating group behaviour. Douglas and Mcgarty (2001) asserted that this model proposes that group behaviour is regulated according to the good of the whole. If the individual perceive the group as important and identify the self in relation to the group, the individual is most likely to act in accordance with norms set by the particular group (Reicher, 2000, Reicher &Levine, 1994b,). Therefore, ascertaining of group identity by individual is depended upon the salience of the group.

The findings can also be explained in terms of the notion that groups promote altruism. From a psychological view, altruism or selflessness is regarded as a motivational state that is concerned with welfare of others (Knorr, 1991). Batson (1991) contented that altruism serves four primary functions. These are, altruism aimed at benefiting the self, the other person, a group and to uphold moral principles. In the present research, we suggest that participants displayed altruism to benefit the group because there was the option to self-give but theywere reluctant to use it.

The fact that this option was not revealed to participants during the practice trial could indicate that they did not utilize the option simply because there were not aware of it. Therefore it is important to point out that participants' altruism might have been to benefit the self from a reciprocity perspective. This means that they gave tokens with expectation that they will be reciprocated (Molm, Schaefer &Collet, 2007). Moreover, the benefit of the group was inseparable with the benefit of the self because they were rewarded based on the number of tokens accumulated by the group, perhaps this influence participants, in-group giving.

Altruism aimed at benefiting the self and the group is in line with Social Identity theory's conception that if upward mobility is possible through group solidarity, identification will be realized and the group will work towards the betterment of the group (Kelin & Azzi, 2001). The study was designed in a way that did not permit individual upward mobility, it was not possible for categorized individuals to change groups. Therefore, individuals had to strive for upward mobility as a group and as a result this might have reinforced their identification with the group, thus engaged in in-group giving

Altruism for the benefit of the group is similar to the concept of Ubuntu in African setting. Ubuntu refers to the aspect of togetherness where the whole is bigger than the sum of its parts (Swanson, 2007). The study was conducted in an African setting and the majority of participants were African. Though it is farfetched, one may be obliged to suggest that this might have affected the interaction process and prompted individuals to engage in in-group giving more than self-giving because they were socialized to embrace ubuntu. This assertion has no basis but it is an interesting aspect to consider when analyzing patterns of interaction in minimal group context to establish the motives underlying the concentration of the self in the group.

In the inter-individual condition, self-allocating was higher than the intergroup condition but not higher than the amount of tokens given to the in-group. This was expected because

participants were not categorized therefore they interacted as collection of individuals. Status also proved to be important when it with regards to self -give. In overall, the low status category group self-gave the most followed by the high status group and equal status group in that manner. In the intergroup condition, the low status category group self-allocated the most followed by high status group and equal status group respectively. In the inter-individual condition, the high status group self-allocated the most followed by the low status group and the equal status group in that order. The self-give option was not suggestively utilized, participants did not self- allocate the most.

## Implications and Directions for Future Research

The present research shows that the nature of incentive affects the level of in-group favouritism in minimal group context. It was observed that participants engage in more in-group giving when the end result is monetary compared to when it is symbolic. The nature of incentive seemed to have the same impact in both inter-group and inter-individual conditions under the same functional conditions of status categories. These findings were able to be explained using assumptions of both Realistic Conflict theory and Social Identity theory. This is essentially an innovative outcome. Realistic Conflict theory and Social Identity theory have often been treated as rivalry theories. In contrast, the current research shows that these two theories are complimentary in the way they account for in-group favouritism in the minimal group paradigm.

Though the nature of incentive proved to have an effect on the level of in-group favouritism, with higher levels being observed in the monetary condition and lower levels in the symbolic, the study was limited in that it was not able to establish other motivational processes that underlie participants' in-group giving. The researchers were not able to ascertain if in-group favouritism was a function of in-group bias and out-group discrimination. To explore this aspect, there is need to include a function that explicitly shows out-group discrimination in interaction.

The present research compared intergroup and inter-individual interactions. Though this aspect has been explored before, this study investigated this notion manipulating the nature of incentive and status categories to examine if there are any substantial similarities and disparities. The results showed that there is more in-group favouritism in the intergroup condition than inter- individual condition consistent with existing research.

There was one exception. Members of the low status group in the inter-individual condition displayed more in-group favouritism when the nature of incentive was symbolic compared to the members of the intergroup condition under the same functional condition. We argued that this can be attributed to Realistic Conflict theory's assertion that intergroup conflict is largely determined by economic forces (Campbell, 1965), therefore since the outcome was symbolic, participants in the inter-group condition were less inclined to engage in-group favoritism.

However, with regards to why there was more in-group giving in the inter-individual condition than in the inter-group condition, the current study was not unable to adequately justify this observation. We argued that individuals were trying to correct the injustice. This finding therefore invites the need for future research to examine the hypothesis that perhaps it is less distressing to be in the low status category as a group than as an individual.

The impact of status categories was also examined in both conditions of the nature of incentive and group numeric. It was evidenced that participants in the low status category gave more tokens to their in-group than those who were in the high status category and equality category. From a Realistic Conflict theory perspective and Social Identity perspective, we concluded that in-group favouritism displayed by members of the low status category was both competitive and compensatory respectively. They strived to increase their status in the monetary incentive condition and in the symbolic incentive condition their in-group favouritism was driven by the desire to be on the same level with those in the high status category.

In the monetary incentive condition it was apparent that the low status category engaged in-group favouritism because the outcome was valuable. In terms of compensatory favouritism, the present study could not pin point the actual cause of it. Though we argued that this was because the outcome was symbolic therefore striving be on the same level with the high status group was just enough for them to acquire a positive identity. Scholars such as Branthwaite, Doyle and Light Brow (1979), Platow, McClintock and Liebrand (1990) and Pratto, Sidanius, Stallworth and Malle (1994) only to mention but a few argue that there are several motivational processes that may cause low status groups to engage in compensatory favouritism. These motivational processes include normative concerns, hierarchy-attenuating ideologies or interpersonal social value among others (Sing, Choo & Poh, 1998). For that reason, there is need to explore the factors underlying compensatory favouritism in detail in future research

The findings of the present research also help to redress the aspect of including the option to self-give which was not explored in the original minimal group experiments. In this study this option was included and the findings demonstrate that though participants were able to benefit from self-giving, they were reluctant to self-give and chose to engage in in-group giving. However, they might not have engaged in self-giving because they were not informed of the option to self-give they as they had to discover it during interaction. Therefore prospective research should explore the hesitancy to self-give hypothesis in minimal group paradigm.

## Limitations

The design and methodology of the study had limitations. The sample was drawn from University of Kwa-Zulu Natal, Pietermaritzburg campus only and participants were recruited on condition that there were registered students, therefore the results cannot be generalized to the entire population. To account for this limitation, future studies in this area should consider conducting multiple or network studies in various settings.

As mentioned earlier, the study is subject to internal validity threats, particularly testing effects. The symbolic incentive experiments were conducted in 2013 and the monetary incentive experiments were conducted in 2014. Therefore the nature of incentive might have influenced the way participants interacted. Also, because the study used quasi-experimental design, the absence of randomization makes it difficult to determine causality relationships between variables (Diniardo, 2008).

Another limitation was that the study required the use of computers and as a result technical problems were unavoidable. There were occasions when the software would not start and as a result participants would wait whilst the experimenters try to resolve the problem. The worst case scenario was when the system would stop working in the midst of experiments and the experimenter would have to discard and restart the experiment. As a result, some participants were not able to wait and restart the experiment which resulted in the experimenter cancelling the experiment and recruit other participants. Likewise, this might have affected the performance of participants since this can be frustrating and requires patience.

Lastly, assumption of ANOVAS were violated, Howell (2013) stated that ANOVA is robust therefore some of the assumptions can be violated with minimal effect. The data was

hierarchical, Bryk and Raundenjbush (1992) pointed out that using standard statistical procedures such as analysis of variance (ANOVA) to analyse hierarchical data may produce inadequate inferences. The dependent variable tokens to in-group were measured over forty rounds for each participant. The scores were therefore nested within a round and the rounds were nested within experiments. According to Peugh (2010) analysing nested data with ANOVA results in the violation of the assumption to independence. The use of ANOVA might have produced biased parameter estimates and spurious significant results because individual scores were not aggregated into group means and participants scores were probably correlated across rounds (Peugh, 2010; Bryk and Raundenjbush, 1992).

## Conclusion

Manipulation of the nature incentive proved that the level of in-group giving is dependent upon the perceived outcome. In the symbolic incentive condition, participants displayed in-group favouritism because of mere categorization. This confirms the basic assumption of Social Identity theory. Though in-group favouritism emerged in the symbolic incentive condition, the results indicates that in-group favouritism increases when there are valuable rewards to be gained and as a result, in-group favouritism was higher in the monetary incentive condition.

The results also indicated that intergroup interactions have higher levels of in-group favouritism more than inter-individual relations. The difference was also observed even when the nature of incentive was manipulated in both conditions. Furthermore, status categories have shown that the level of in-group favouritism is also dependent upon status, whereby in-group favouritism is mostly displayed by the low status group followed by the equal status group and lastly the high status group.

The findings of this study have proved that both Realistic Conflict and Social Identity theory are useful to understand the emergence of in-group favouritism in minimal group interaction. On one hand, Social Identity theory tries to account for favouritism that occurs when there is no substantial gain for both parties in interaction whilst on the other hand Realistic Conflict theory accounts for the increase of in-group favouritism when the end result entails a win for one group and a loss for another.

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# Appendices

## Appendix 1: Information Sheet and Consent form

Information Sheet

Dear Participant,

This is a research project on intergroup behaviour.

**Brief outline of the study**: This research study aims to explore behaviour in a social setting. The study is electronically based game, played by up to 18 players, by giving and receiving of tokens.

**What you will be required to do**: The study will take place in the Psych Lab. You will be required to play a game and answer a questionnaire. This will take about 20-30 minutes of your time.

**Voluntary participation**: Your participation is voluntary and you are not being forced to take part in this study. The choice of whether or not to participate is yours alone and there will be no consequences if you choose to not take part. You may withdraw from the research at any time by telling me that you do not want to continue. There will be no penalties for doing so.

**Anonymity**: Although we will ask you to register as a research participant, your responses will not be linked with your name or any other information by which you can be identified. In other words, you will remain entirely anonymous and your participation will remain confidential. There are no limits to confidentiality.

**Research incentive**: You will be given an amount of money after you complete the study that depends on the number of tokens you get in the virtual experiment. Each token in the game is worth R1 in reality. There will be **an average incentive of R20** per player but please note that **you may finish the experiment with less than this amount** or more or perhaps with no money at all. It all depends on what happens in the game. If you end up with get one token you will receive R1; if you end up with 20 tokens you will get R20.

I understand/do not understand that I may leave the study with little or no cash incentive.

Furthermore, you will be placed in a group at the start of the game. Some groups will start with more tokens than other groups. Based on the group you are placed in you may start with more than 20 tokens or less than 20 tokens. This will influence your tokens at the end of the game and thus your incentive money. Whether your group has more or less tokens at the beginning of the study is not personal and should not be taken as such.

I understand/do not understand that I may be placed in a group with fewer tokens in the beginning of the game and that this could reduce my final possible cash incentive.

**If you participate in this experiment you are accepting that you agree with these conditions. If you do not agree with these conditions then please do not participate in the experiment.**

**Who to contact if you have been harmed or have any concerns**: Although this research involves very little risk, if you have any questions or complaints about aspects of the research or feel that you have been harmed in any way by participating in this study, please contact:

- Project Leaders: School of Applied Human Sciences, University of KwaZulu-Natal: Professor Kevin Durrheim (Durrheim@ukzn.ac.za) and Dr. Mike Quayle (QuayleM@ukzn.ac.za)

- Human Social Science Research Ethics Committee:
  Ms. Phume Ximba (ximbap@ukzn.ac.za/ 031 260 3587)

***Consent form***

I hereby agree to participate in research on social interaction. I am aware of what is required of me, and I understand that:

- I am participating freely and without coercion.
- This is a research project whose purpose is not necessarily to benefit me personally.
- I will remain anonymous and my participation in the study will remain confidential.
- I have a right to withdraw from the study at any time, without penalty.
- I agree to the results of my participation being used for research and teaching purposes and for presentation in reports and at conferences. My name will not appear in any of these documents.
- I agree/disagree to the discussion at the end of the game being recorded for research purposes.

Signature of participant:_____Date:_____

# Appendix 2: Standardised procedure script

Experiment procedure and script:

Pre-experiment procedure:

1) After all participants' fingerprints have been taken and they are seated in the lab: "Please can you switch off your cell phones". Then, read through the information sheet. Participants to sign consent form. Collect thereafter. Place documents on table.

"We are conducting these experiments for multiple Masters research projects and for the School of Psychology. The way you answer the questions will affect the quality of the data. So, please can I ask that you concentrate while playing the game and answering the questions; also please do not talk or look around the room, this will affect the quality of the data and I will have to stop the experiment".

Experiment procedure:

1) **Create Participant accounts** (register new usernames and passwords, type in access code to enter the game).
   - Please click on the icon on the top right hand side of your screen. You will see that you need to register a new username and password. Please do that now and ask for help if you get stuck.
   - Okay, now log in with your username and password and then type in the access code which is _____.

2) **Pregame questionnaire:**
   - Once logged in, players will be presented with a pregame questionnaire to ascertain participant demographics.
   - "Click on start to open the questionnaire, once you have filled it in and pressed 'submit', please close the browser and press 'completed' on the small screen."

3) **Group assignment**:
   - Players will be presented with the preference task, if the game is a group condition. "You can now follow the screen prompts. You have to guess the number of dots onscreen and you will thereafter be assigned to groups, depending on your answer"
   - If the game is an individual condition, there will be no group assignment and trial one will being immediately.
   - If a game in the 3 group condition is played, hand out a coloured sticker according to the group membership onscreen in order to know what incentives to give at the end of the game.

4) **Trial one (practice trial)**:
   - "I will now explain how the game works in these two practice rounds. In this game, you are meant to allocate tokens to other players. Each player is represented as a circle. The circle with the bold outline is 'you'. Can you find yourself on the screen? (pause).

- “Next, let us look at the information on the screen. Note that the group or individual (depending on the game) token balances are indicated on the left of your screen”.
- “So in order to allocate a token: you have to click on a circle of your choice, then click on 'give token'. Notice the line appearing between the two players. This shows the intended token exchange. Now click on 'continue’ to make the exchange. The game waits until all of you have allocated your token in order to move on to the next phase. Remember that if you change your mind about your allocation, you can take your token back and re-allocate it. To do this, click on 'take token back' then re-allocate the token. If you run out of tokens you must still press CONTINUE, you won’t run out here because you have 2 tokens and 2 rounds…Can you see that you have 2 tokens for 2 rounds? Okay, you can play now…”
- “Notice that after the round, you are presented with the ‘Round moves’ screen. This screen shows who gave who tokens. You should be able to see your allocation from the previous round and your new token balance on this screen. Once you have completed studying this diagram, click in continue on the top left icon on your screen”.
- “Now, you can try this on your own again. After you allocate **your token please wait for my instructions.** (pause) Do not click, but notice how you did in that round. This screen tells you how you did in the round”.
- Click on ‘continue’, notice you are asked to complete another questionnaire. Before we start the questionnaire remember that when you are finished close the browser and press ‘completed’. Okay, press the start button and now you can answer the questionnaire.

5) **Trial two**

- Now we are going to play another game that is the same as the practice game we played before. This trial will consist of 40 rounds. There will also be another questionnaire based on this game, please complete it.
- To begin this game, click on ‘ok’ on your screen”.

Post experiment procedure:

- “Now that everyone has completed the questionnaire, I have to tell you that you were not part of the group you thought you were. You were randomly assigned to a group”. Say this only for the group condition
- “Now, I will come around to each of you and hand out your cash incentive. You will need to sign confirming receipt of your money. Please remain seated. While we are handing out the money, please let us know what you thought of the experiment, what it was about etc (prompt short focus group discussions about their motives and thoughts about the experiments). Thank you for your time!”

**Experiment Procedure:**

1). Stage game on the server : remember to attach the correct arena and no. of players (18 in 3 group, 14 in rest of the experiments).

2). Allow participants into the Lab, first scanning their fingerprints.

3). After each participant has had their fingerprint scanned, ask them to draw a number from the bag to be “randomly” seated.

4). Hand out and then collect informed consent sheets

5). Begin the game (if it is the 3 group condition, make sure each participant has a sticker with the colour of their group).

6). Thank the participants and explain the procedure for handing out incentives. Turn on the recorder.

Incentives:

- 3 group condition- **winning group gets R30 each, second group gets R20 and losing group gets R10**

For ties: If 2 groups ties first R25 each and losing group R10 each

If 2 groups tie second R15 each with winning group R30 each

If all 3 groups ties, R20 each.

- All other games- individuals get the amount of money as represented by their token count on their screen

7). Make sure participants sign the receipt of incentives form when you hand out incentives. Ask focus group questions while handing out the incentives.

# Appendix 4: Ethics approval letter


30 May 2014

Ms Melody Eileen Muteza 210549961
School of Applied Human Sciences – Psychology
Pietermaritzburg Campus

**Protocol reference number: HSS/0376/014M**
**Project title: Exploring the value of Realistic Conflict Theory and Social Identity Theory to understand the effect of bias and competition in the Minimal Group Paradigm.**

Dear Ms Muteza

**Notification for Approval – Class Application**

I wish to inform your application for ethical clearance has been approved. The Humanities and Social Sciences Research Ethics Committee noted that this protocol forms part of a broader research protocol which has already received ethical clearance **(HSS/0021/014).**

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.**

**Please note: Research data should be securely stored in the discipline/department for a period of 5 years.**

**The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.**

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shenuka Singh (Chair)

/px

cc Supervisor: Dr Mike Quayle
cc Co-Supervisor: Professor Kevin Durrheim
cc Academic Leader Research:
cc School Administrator: Mr Sbonelo Dlomo

Humanities & Social Sciences Research Ethics Committee
Dr Shenuka Singh (Chair)
Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: singhsh@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za
Website: www.ukzn.ac.za

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KWAZULU-NATAL
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YAKWAZULU-NATALI

27 January 2014

Prof Kevin Durrheim
School of Applied Human Sciences
Pietermaritzburg Campus

Dear Prof Durrheim

Protocol reference number: HSS/0021/014
Project title: An experimental study of intergroup behaviour in a minimal group setting: Examining the impact of status and norms on ingroup bias

Full Approval – Expedited

This letter serves to notify you that your application in connection with the above has now been granted Full Approval

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach/Methods must be reviewed and approved through an amendment /modification prior to its implementation. Please quote the above reference number for all queries relating to this study. PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

Best wishes for the successful completion of your research protocol

Yours faithfully

Dr Shenuka Singh (Chair)
Humanities & Social Science Research Ethics Committee

/pm

cc Supervisor/Project Leader Professor Kevin Durrheim
cc Academic Leader: Professor DP McCracken
cc School Admin: Mr Sbonelo Dlamini

# Appendix 5: Gatekeeper consent

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

5 December 2013

Professor Kevin Durrheim
School of Applied Human Sciences
College of Humanities
Pietermaritzburg Campus
UKZN
Email: durrheim@ukzn.ac.za

Dear Professor Durrheim

**RE: PERMISSION TO CONDUCT RESEARCH**

Gatekeeper's permission is hereby granted for you to conduct a survey at the University of KwaZulu-Natal, provided Ethical clearance has been obtained. We note the title of your project is:

*"'An experimental study of intergroup behaviour in a minimal group setting: Examining the impact of status and norms on ingroup bias".*

It is noted that you will be constituting your sample by randomly handing out questionnaires to students on the Pietermaritzburg Campus.

Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

Professor J J Meyerowitz
**REGISTRAR**