GROUP MEMBERSHIP SALIENCE, SOCIAL DOMINANCE ORIENTATION AND TASK PERFORMANCE

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COMPULSORY DECLARATION:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.

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ABSTRACT

The use of teams in organisations is often plagued by reduced individual effort which is termed social loafing. Therefore the study proposed that by making people aware that they are part of a group and introducing intergroup competition, social loafing would be reduced and turned into social labouring. The study further investigated the potential mediating effect of social dominance orientation on the relationship between group membership salience and task performance.

A total of 417 undergraduate students attending the University of Cape Town participated in the study.

The study adopted an experimental design to examine the impact of group membership salience on task performance. The participants were assigned to one of three conditions which required them to work either in a group, a sub-group with intergroup competition or co-actively on brainstorming tasks.

The results indicated that an individual's performance is increased under conditions of heightened group membership salience. The study also found that social dominance orientation does not have a mediating effect on the relationship between group membership salience and task performance.

The practical implications for managers in organisations are to introduce intergroup competition when making use of teams. In the absence of intergroup competition, individuals working co-actively may outperform teams.

CHAPTER 1: LITERATURE REVIEW

In the new world of work organisations are increasingly making use of work groups and teams (Langfred, 2000). The role of work groups and teams is becoming increasingly important in organizations because it is associated with organizational success and effectiveness (Cohen & Bailey, 1997). As a result, a need for a better understanding of group functioning and dynamics within group settings has emerged (Riordan & Weatherly, 1999).

Work groups are groups of individuals working towards common goals. The benefits of using work groups includes increased productivity through synergy effects, saves time (Broom & Casison, 2002), harvesting motivation gains through collective work (Sodenkamp, Schmidt & Kleinbeck, 2005) inspires innovation, creativity and flexibility and fulfills the social needs of employees (van Dick, Tissington, & Hertel, 2009). Work groups may also encourage anti-social behaviour (Robinson & O'Leary-Kelly, 1998).

Teams are a group of individuals who are interdependent on the unique contributions of each team member in order to achieve a common goal, share the responsibility of the outcomes (Cohen & Bailey, 1997; Glassop, 2002) and may often relinquish some personal interests or ambitions (Ellemers, De Gilder & Haslam, 2004).

The defining difference between work groups and teams are the dependency between group members' efforts. Work groups are not interdependent on the efforts of group members, while the group members of teams are dependent on the efforts of others. The organisational benefits of using teams are increased workplace productivity, improvements to product or service quality, a reduced management structure, lower levels of absenteeism, reduced employee turnover, and increased industrial harmony, which ultimately result in improved

organisational performance (Glassop, 2002). Teams also improve the quality of life from an employee perspective.

One of the outcomes of both work groups and teams is the increase in productivity. An increase in productivity due to the collective efforts of a group of individuals has been termed social labouring. In contrast to social labouring, social loafing occurs when group productivity decreases due to reduced efforts by group members (Kravitz & Martin, 1986; van Dick, Stellmacher, Wagner, Lemmer & Tissington, 2009).

1.1 Social loafing

Early research on group performance focused on social loafing. Pioneering research on social loafing was conducted by Max Ringelmann in the late 1800s (Kravitz & Martin, 1986). Ringelmann found that efforts of individuals decreased as the group size increased when the individuals performed rope pulling tasks.

Renewed interest in Ringelmann's work was sparked by Steiner in the 1970s (as cited in van Dick, Stellmacher et al., 2009 and Van Dick, Tissington et al., 2009) who identified coordination loss and motivation loss as sources of social loafing. Coordination loss occurs when group members are unable to create synergic effects when working together. Motivation loss refers to decreased efforts by participants in a group when they are not able to see the significance of their individual contributions to the group's performance (free riding) or the group does not create personal meaning for them (Van Dick, Tissington et al., 2009).

Free riders do not only reduce their individual performance, they also have a negative impact on the motivation of other team members. Other team members may reduce their efforts if it appears that there is a free rider or free riders in the

group because they do not want to be exploited. Perceived unfair treatment may also reduce the motivation of group members and ultimately reduce their effort.

Shortly after the publication of Steiner's (1970) work, Ingram, Levinger, Graves and Peckham (1974) attempted to replicate the findings of Ringelmann's study. In their study the participants were also required to perform rope pulling activities and the group size varied between one and six participants. They found that the individual performance decreased significantly when the perceived group size increased to three and the individual performance levelled off as the group size increased further, therefore indicating that the decrease in performance was curvilinear as the group size increased.

Subsequent to Ingram et al.'s study the effects of social loafing have been reproduced by numerous studies under various conditions, such as performing physical activities (shouting, rope pulling and swimming), cognitive tasks (brainstorming), evaluative tasks (quality ratings of poems, editorials and clinical therapists) and perceptual tasks (maze performance and vigilance tasks) (Diehl & Stroebe, 1987; Karau & Williams, 1993; van Dick, Stellmacher et al., 2009).

1.2 Social labouring

Later research has shifted its focus towards social labouring, a more positive view of group dynamics as some studies found that individual performance does not necessarily decrease, and may even increase, when individuals work together in groups as opposed to working individually (van Dick, Stellmacher et al., 2009). Research identified four key factors which would make the group more meaningful to the individual group member, thereby reducing social loafing and eliciting social labouring (van Dick, Tissington et al., 2009).

These factors include a joint history and common future, common goals, commitment to group objectives and awareness of group membership (van Dick, Tissington et al., 2009). Group members sharing a joint history are usually part of an established group such as a work group or friends as opposed to artificially created groups a study. In an established group, group members may feel they have more in common with other group members and they may regard positive group outcomes as more meaningful. Group members sharing a common goal that goes beyond the current task and has a long term objective may create more meaning for group members. Group members who prefer working in groups are more likely to be committed to the objectives of the group and assign personal meaning to it. Group membership awareness may be increased through intergroup benchmarking.

1.3 Social loafing and social labouring research in brainstorming tasks

Research over the years have provided mixed results of social loafing and social labouring using brainstorming tasks as a measure of performance. Initially Osborn's (1957) (as cited in Diehl & Stroebe, 1987) research suggested that brainstorming increased the number of ideas and quality of ideas in group problem solving tasks which have been replicated by various researchers such as Graham and Dillion (1974) as well as Taylor, Berry, and Block (1958), Milton (1965), Harari and Graham (1975).

The effects of social loafing have also been investigated in brainstorming tasks (Diehl & Stroebe, 1987; Lamm & Trommsdorff 1973; van Dick, Stellmacher et al., 2009). Research by Diehl and Stroebe (1987) has found that nominal groups (individual performances grouped together for comparative purposes) consistently outperformed real groups during brainstorming tasks in terms of the quantity and quality of ideas generated.

The productivity loss in brainstorming tasks has been attributed to production blocking, evaluation apprehension, free riding (Diehl & Stroebe, 1987), larger group sizes, experimenter presence and intergroup comparisons (Mullen, Johnson & Salas, 1991). Social loafing during brainstorming tasks may also result from social processes such as the performance of fellow group members, information about the performance of other groups (Paulus & Dzindolet, 1993) social inhibition, cognitive uniformity (Lamm & Trommsdorff, 1973) and social anxiousness (Camacho & Paulus, 1995).

1.4 Van Dick, Stellmacher et al.'s (2009) Study

Van Dick, Stellmacher et al. (2009) argued that motivation losses occurred due to a lack of perceived meaning by participants (van Dick, Tissington et al., 2009) in group settings. They further argued that motivation gains may result if group membership becomes personally meaningful to an individual group member. They proposed that an increase in group membership salience, which is grounded in social identity theory, would create more personal meaning for group members and as a result their individual performance would increase (i.e. social labouring) during brainstorming tasks.

1.5 Social identity theory

Group membership salience is grounded in social identity theory (van Dick, Stellmacher et al., 2009). Social identity theory proposes that a person's social identity is maintained and enhanced by the group that the person belongs and is closely related to social categorisation theory. A person's social identity is part of an individual's self concept and it develops from being part of a group.

1.5.1 Intergroup processes in social identity theory

The central assumption that underlies social identity theory is that individuals aim to enhance their social identity through intergroup comparisons with other relevant groups (Ellemers et al., 2004).

Social categorisation theory states that individuals create categories or groups in order to make sense of social situations (Ellemers et al., 2004) and when individuals perceive themselves as a member of a social category then groups emerge. Group membership creates personal meaning for its members (van Dick, Stellmacher et al., 2009). As group membership salience creates personal meaning for group members it is expected that this may reduce motivation loss and result in increased group performance. Group membership salience may be manipulated by merely categorizing participants into groups and making them aware that they are part of a group (Michinov, Michinov & Toczek-Capelle, 2004).

1.5.2 Hypothesis 1

Van Dick, Stellmacher et al. (2009) designed a study that manipulated group membership salience in order to assess the impact on task performance. Group membership salience was manipulated by emphasizing group membership (low group membership salience, high group membership salience and individual condition) when brainstorming instructions were provided to participants. The participants were German school teachers and they were given a relevant computer-based brainstorming task in order to make the study more realistic.

The authors predicted social loafing in the low salience condition and social labouring in the high salience condition. The results found that the high salience condition groups outperformed both the low salience condition and the individual condition which supported their hypothesis. This study aims to replicate the

findings of van Dick, Stellmacher et al.'s (2009) study and therefore aims to investigate the relationship between group membership salience and task performance. Therefore the following hypothesis is proposed:

Hypothesis 1:

> *An increase in group membership salience leads to better individual performance.*

1.6 Van Dick et al. (2009) study – Mediating variable

Van Dick, Stellmacher et al. (2009) established that previous research on the relationship between group membership salience and task performance did not conclude as to why such a relationship existed. The researchers theorized that there could be a psychological variable that may mediate the relationship between group membership salience and performance. They noted that in a similar study by Worchel, Rothgerber, Day, Hart and Butemeyer, (1998) the group membership salience and task performance relationship was the strongest in the presence of an out-group (as cited in van Dick, Stellmacher et al., 2009). Therefore they assumed that in-group identification mediated the relationship. However the results of van Dick, Stellmacher et al.'s study failed to establish the mediating effect of in-group identification.

The researchers ascribed the lack of a meditating effect of in-group identification to various factors. It may be plausible that the performance on brainstorming tasks is largely determined by abilities and prior learning as opposed to psychological variables such as ingroup identification. A lack of identification may be due to large number of participants in each group or condition (group size varied between 60 and 100 participants) and the participants may have deemed their individual performance less relevant to the overall performance of the group.

Achievement motivation may not have been increased as the task may not have been in line with the with the group's norm, thus reducing in-group identification.

Therefore the question remains as to which psychological variable affects the group salience and individual performance relationship. Bornstein, Gneezy and Nagel (2002) investigated the role of intergroup competition on performance (as cited in van Dick, Stellmacher et al., 2009). They concluded that group performance is increased under group competition conditions. Personal meaning for group members may also be created through team benchmarking by introducing another group against which the group may be compared (Van Dick, Tissington et al., 2009).

It is plausible that it is not the in-group identification that makes people try harder and elicit social labouring, but rather how much people want their group to do better than others. This may be represented by their desire for group hierarchy, which social dominance theory expresses as a person's level of social dominance orientation.

1.7 Social dominance orientation

In society people tend to organise themselves and others into group-based social hierarchies and as a result dominant and subordinate groups tend to emerge (Pratto, Sidanius & Levin, 2006). The dominant groups tend to seize more than their equal share of social value and oppressing the subordinate groups. The social value includes material resources or symbolic resources, such as political power, wealth, safety, security and fulfilment of basic human needs.

Social dominance theory attempts to integrate various perspectives in order to make sense of how the group-based social hierarchies emerge and evolve (Pratto et al., 2006). Some of the various perspectives which social dominance

theory incorporates includes cultural theories of ideology, realistic group conflict theory, neoclassical elitism theory, social identity theory, Marxism, feminist anthropological analyses of family and labour and evolutionary psychology.

Social dominance theory views human societies as systems which operate at multiple levels which include cultural ideologies and policies, institutional practices, in-group and out-group relations of individuals and psychological predispositions of individuals (Pratto et al., 2006). The psychological predisposition may imply that an individuals' social dominance orientation is influenced by their temperament and personality. Research has indicated that an individuals' social dominance orientation is relatively stable over time, however it is also relatively stable across situations (Pratto et al., 2006).

Social dominance theory proposes that people have differing attitudes towards intergroup relations which may vary from equality to inequality. This attitude is expressed as an individual's social dominance orientation (Pratto et al., 2006).

1.7.1 Intergroup processes in social dominance orientation

Social dominance theory seeks to explain how the nature of intergroup relations is used to create and maintain social inequality between groups (Pratto et al., 2006). Social inequality or discrimination is created and maintained by legitimising myths or shared social ideologies through the collaborative activities of dominant and subordinate groups.

Legitimising myths are to shared values, attitudes, beliefs, stereotypes and cultural ideologies (Pratto et al., 2006). Hierarchy enhancing legitimising myths favours the dominant groups and it provides justifications for the inequality for example racism and sexism. On the other hand, hierarchy-attenuating

legitimising myths favour the subordinate groups in order to promote equality between groups for example feminism and human rights.

The collaborative activities, which favours the dominant group, is achieved by asymmetrical in-group bias and self-debilitation (Pratto et al., 2006). Asymmetrical in-group bias states that dominate group members tend to have more in-group favouritism with their fellow dominant group members than subordinate group members have with their fellow subordinate group members. Self-debilitation occur when members of subordinate groups act out the self-destructive behaviours and negative stereotypes which ultimate fuels hierarchy enhancing legitimising myths.

1.7.2 Hypothesis 2

The study by van Dick, Stellmacher et al. (2009) failed to validate in-group identification as a mediating variable between group membership salience and task performance. As research has not found why the relationship between group membership salience and task performance exists, therefore it is plausible that there may be another psychological variable that mediates the relationship.

It may be inferred from the literature review that it is plausible that a persons' social dominance orientation may mediate the relationship between group membership salience and task performance. Therefore a further aim of the study is to explore social dominance orientation as a possible mediating variable. The second hypothesis of this study may be stated as follows:

Hypothesis 2:

> *'An increase in group membership salience leads to better individual performance mediated through group members' social dominance orientation'*

CHAPTER 2: METHOD

This study's procedure is based on van Dick et al.'s (2009) experimental research, in which the degree of group membership salience is manipulated. It also extends on van Dick et al.'s (2009) work by exploring whether social dominance orientation is a potential mediator between group membership salience and task performance. This chapter begins with an overview of the research design. Thereafter the procedures and measures as well as the sample are described. An outline of the data analysis procedures concludes the chapter.

2.1 Research design

The study adopted an experimental design. Group membership salience as the independent variable was manipulated in order to assess its effect on task performance, measured as the number of items generated in a brainstorming task. The independent variable was manipulated by emphasizing group membership salience to varying degrees. Participants were randomly assigned to one of three conditions: low group membership salience, high group membership salience and individual condition. The individual condition served as a control.

2.2 Procedure and measures

A questionnaire was administered to undergraduate Organisational Psychology students at a South African University. The students participated in the study during their first Organisational Psychology tutorial in the second semester of 2010 (August 2010). Tutorials are small group classes offered by the University over and above lectures to facilitate learning. The tutorials are conducted by tutors which are usually postgraduate students. Students who did not want to participate in the study were allowed to leave the tutorial class. Thus participation in the study was voluntary.

In order to attract participants to participate in the study, Psychology students were awarded one Student Research Participation Point (SRPP). Students in the Department of Psychology are required to participate in research as an academic requirement. In order to ensure anonymity, students were not allowed to write their names or student numbers on the surveys. Psychology students provided their names and student numbers on a separate sheet in order to allocate the SRP points. As a result the researcher was not able to match a survey to a specific person, thereby ensuring anonymity. After the tutorial the completed surveys were provided to the researcher. Access to the raw data was limited to the tutors and researcher to ensure confidentiality of the data.

The surveys were administered by the tutors responsible for each of the Organisational Psychology courses. Prior to tutorials, the tutors received a briefing on how to administer the questionnaires. The tutor briefing included in Appendix B explained the objective of the study and it clarified and elaborated on the concepts of social labouring, group membership salience and social dominance orientation. Thereafter the tutor briefing provided an overview of each experimental condition and it included the specific instructions tutors had to give when administering the questionnaires to the students. The instructions stated if the brainstorming task should be completed on an individual or group basis. It also provided the exact wording to be used by the tutors when introducing the study to students. The tutors were also informed that participating Psychology student would receive SRPP points. Lastly, the tutor briefing explained how tutors could access the questionnaires to be administered and how the completed questionnaires would be returned to the researcher.

The study consisted of the following elements in the order provided:

2.2.1 Assessment of brainstorming ability

Task performance, the dependent variable, was assessed by means of brainstorming tasks. Brainstorming ability was measured by the number of unique ideas a student generated in the allocated time of five minutes. Brainstorming tasks were used as it is easier to score or measure performance by simply summing the number of non-redundant ideas that were generated by a participant. Thus, the researcher counted the number of ideas that were generated. The content of the ideas was not analysed as it was irrelevant to the study. Brainstorming tasks were also useful as they can be scored on an individual basis while introducing the illusion that the group's performance was assessed. As the participants were students, relevant brainstorming topics were chosen in order to make the tasks more realistic and applicable to them.

Participants were requested to participate in an initial brainstorming task. For this task, all participants received the same instructions. The first brainstorming task was completed on an individual basis to establish participants' brainstorming ability. In other words, it served to establish a baseline in order to be able to control for the differing levels of brainstorming skills participants may have.

For this brainstorming task, participants received the following instructions:
"Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I will stop you after 5 minutes. Please use a new line for each new idea. Any questions?
The topic is: How could the Organisational Psychology lectures be improved?"

2.2.2 Group membership salience manipulation and second brainstorming task

In order to manipulate group membership salience, the participants were required to participate in a second brainstorming task following the initial brainstorming. During this task the participants were made to believe that they either participated in the task as a group, or participated against other groups or worked alone depending on the condition the tutorial group of the participant was assigned to. The three different study conditions were created by providing the students with different instructions. These instructions were:

Condition 1: Low group membership salience

Participants in the low salience condition received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. I will again stop you after 5 minutes. Please use a new line for each new idea. However, this time, we will not look at how many answers each of you came up with, we will only look at the total number of answers that your tutorial group came up with. Any questions?

The topic is: How can students deal with stress at university?"

The participants, who worked alone on the second the brainstorming task without interacting with any of the other participants present, were made to believe that their performance would be assessed on a group basis. The task was completed on a 'group basis' in order to determine if a participant's individual performance changed as a result of the instructions. This means, if being made aware that a person was part of a group or that his/her performance was assessed on a group basis had an influence on their performance taking into account baseline performance determined in the first brainstorming task.

Condition 2: High group membership salience

The participants received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. Please use a new line for each new idea. You will again work on your own, but this time, we will not count the number of ideas you came up individually. Instead we will take the average score over four to five students and then compare those scores across the different subgroups (at this point, split them into groups of 4-5 by labelling them as "Group A", "Group B" etc). I will again stop you after 5 minutes. Any questions?

The topic is: How can students deal with stress at university?"

The participants worked alone on second the brainstorming task without interacting with any of the other participants. The participants were made to believe that their performance would be assessed relative to the performance of other sub-groups in their tutorial group. The task was also completed on a 'group basis' in order to determine if the participants' individual performance changed as a result of the instructions. This means, if being made aware that a person was part of a competing group or that his/her performance was assessed on a group basis relative to other groups had an influence on their performance taking into account baseline performance determined in the first brainstorming task.

Therefore, in conditions one and two an element of deception was introduced as participants were informed that their performance would be assessed on a group basis when in fact the researcher was interested and assessed the participants' performance on an individual basis. The deception was necessary in order to manipulate the independent variable (group membership salience) and did not intend or anticipate causing harm to any of the participants.

Condition 3: Individual (control condition)

The participants received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. Please use a new line for each new idea. I will again stop you after 5 minutes. Any questions?

The topic is: How can students deal with stress at university?"

The second brainstorming task was completed on an individual basis in order to determine if the participants' individual performance. The second brainstorming task was thus completed under the same condition as the first brainstorming task in this condition, with no experimental manipulations.

There was no element of deception introduced as the participants were informed that they would be assessed on an individual basis when the researcher was interested and assessed the participants' performance on an individual basis.

2.2.3 Assessment of social dominance orientation

The SDO_6 scale developed by Pratto et al. (2006) was used to measure the social dominance orientation of participants and it has been included in Appendix B. The scale is a seven point Likert scale with 16 items. The last eight items on the scale were reverse coded, so that a high score always indicates a high desire for inequality.

Participants' attitude towards social equality and social inequality were measured by statements such as "We should increase social equality" and "It would be good, if all groups could be equal". The SDO_6 scale has been found to be reliable

and valid both in South Africa (Meyer, 2004) and internationally (Pratto et al. 2006).

2.2.4 Assessment of demographic information

Demographic information collected for sample description purposes included course code, tutorial group, age, gender and race.

2.2.5 Approval and debriefing of the study

Ethics approval was obtained from the Commerce Faculty Ethics in Research Committee prior to conducting the study. The University's Executive Director for Student Affairs permitted the administration of the questionnaires to students.

Participants were debriefed after the data was collected and captured by the researcher. For the debriefing, an announcement was placed on the course websites related to the tutorial groups included in the study to ensure that the debriefing would reach all participants. The debriefing document is included in Appendix C. It explained the essence of the study. Students were informed that they were assigned to one of three conditions which required them to complete the brainstorming tasks either individually, on a group basis or on an intergroup competition basis. They were also informed of the element of deception as the researcher was only interested in their individual performance as measure by the number of ideas that was generated during the brainstorming tasks. However the content of the ideas generated was presented to academics in the Commerce Faculty. These results were included in the debriefing to students. The debriefing document also included an explanation of the concepts of social labouring, group membership salience and social dominance orientation. It also described the research questions, method, experimental conditions, sample description and results.

2.3 Participants

A total of 432 undergraduate students participated in the study. The data of 15 participants had to be excluded from the final sample as the incorrect topic for the brainstorming tasks were provided by the tutor when the questionnaires were administered leading to a final sample of 417 participants.

The undergraduate students participating in the study comprised of 194 first year students (46.5%), 115 second year students (27.6%) and 108 third year students (25.9%). Of all the participants, 122 (29.2%) were assigned to condition 1 (low group membership salience), 163 (39.1%) were assigned to condition 2 (high group membership salience) and 132 (31.7%) were assigned to condition 3 (control group).

Their mean age was 20.38 years (*SD* = 1.51) with a minimum age of 18 and a maximum age of 30. There were 328 females (78.7%) and 89 (21.3%) males who participated in the study. Seventeen participants (4.1%) preferred not to disclose their race while the remaining participants classified themselves as follows: 119 (28.6%) as Black, 79 (19%) as Coloured, 33 (7.9%) as Indian, 157 (37.7%) as White and 11 (2.7%) as other.

2.4 Data analysis

The data was captured by the researcher in SPSS PASW, version 18. The following data analysis techniques were used to analyse the data:

Hypothesis 1 was analysed using ANCOVA to determine if the dependent variables (individual performance) were statistically different depending on the

level of the independent variable (group salience condition) while controlling for an individual's a priori brainstorming ability.

Hypothesis 2 was analysed using a stepwise mediation analysis as suggested by Baron and Kenny (1986).

CHAPTER 3: RESULTS

The chapter provides descriptive statistics and describes the results of the experiment in terms of the influence of group membership salience on social dominance orientation and task performance. Group membership salience was operationalised through task instruction.

3.1 Task performance

The first hypothesis was concerned with the anticipated increase in individual performance in brainstorming tasks due to a manipulation of participants' group membership salience.

Participants in brainstorming tasks may have different brainstorming abilities. Different brain storming abilities may arise from prior learning or creativity. Therefore some participants may naturally score higher on brainstorming tasks regardless of the manipulation of variables in the experiment. In order to control for this the participants participated in two brainstorming tasks. The first brainstorming task was used to set the baseline, in other words determine the brainstorming ability of the participant.

The second brainstorming task was used to measure the participants' change in performance relative to their own ability which was measured by the first brainstorming task. As a result the hypothesis was explored by using analysis of covariance (ANCOVA) with condition as the independent variable, performance in the first brainstorming task as covariate and performance in the second brainstorming task as dependent variable. Table 1 contains the means and standard deviations of the second brainstorming task for each condition, after controlling for the effects of brainstorming task 1.

Table 1: Number of participants per condition, means and standard deviations for non-redundant ideas generated in brainstorming task 2, after controlling for the effects of brainstorming task 1.

		Experimental condition	
	Individual	**Low salience group**	**High salience group**
Number of participants	132	122	163
Average non-redundant ideas	10.28	8.50	10.40
Standard deviation	3.48	3.79	3.80

3.1.1 Analysis of covariance

ANCOVA is an analysis of variance (ANOVA) which is extended to include one or more covariates (Field, 2008). Covariates are other variables that are not part of the main experimental effect but have an impact on the dependent variable. In this case the covariate would be a participant's brainstorming ability which may influence their performance on the brainstorming task. Therefore an ANCOVA analysis makes it possible to control for the influence of brainstorming ability on the individual performance of participants.

Another benefit of using an ANCOVA analysis is that it reduces within-group error variance (Field, 2008). An analysis of variance evaluates the impact of the manipulation of the independent variable on the dependent variable by assessing the variability that can be explained by the experimental manipulation relative to the variability that cannot be explained. Therefore identifying covariates and controlling for them the unexplained variance may be reduced. It allows for stricter experimental control and the effect of the independent variable on the dependent variable may be assessed more accurately.

3.1.2 Assumption of homogeneity of regression slopes

An assumption of ANCOVA is the homogeneity of regression slopes (Field, 2008). It assumes that the overall relationship between the dependent variable and the covariate are similar, regardless of the condition they have been assigned to. However, if the relationship differs across conditions the assumption of homogeneity of regression slopes are violated and ANCOVA cannot be used to analyse the data.

In order to test the assumption of homogeneity of regression slopes for this study a Levene's test was performed. The Levene's test was not significant ($F_{2,414}$ = 1.924, p = 0.275; n.s.). This indicates that the group variances were equal and the assumption of homogeneity was not violated, hence ANCOVA could be used to test the first hypothesis.

3.1.3 Main analysis

The data was analysed using the General Linear Model Univariate procedure in SPSS (PASW Statistics 18) with the condition as the independent variable (fixed factor), performance in the first brainstorming task as covariate and performance in the second brainstorming task as dependent variable. The overall model was significant ($F_{2,413}$ = 4.25, p <.05).

In order to establish which condition/s had a significant effect on individual performance in the second brainstorming task a post hoc test with Sidak correction was performed. It indicated that participants in the high salience group condition produced more non-redundant ideas in comparison to participants in the low salience group condition (p < .05). However, individuals in the high salience group condition did not produce more non-redundant ideas in comparison to participants in the individual condition (p = .83). The lower performance in the low salience group compared to participants in the individual

condition which would have replicated a social loafing effect was not statistically significant (p = .124).

The results indicated that an increase in group membership salience (from low group membership salience to high group membership salience) leads to higher individual performance and thus support the hypothesis.

3.2 Social dominance orientation

KMO and Bartlett Test of Sphericity was found to be significant (KMO = .876; χ^2_{120} = 2509.64; p < .01). This indicates that there is a relationship between the items in the SDO_6 scale and therefore principal component analysis may be performed.

3.2.1 Principal component analysis

A principal component analysis revealed three factors with eigenvalues greater than 1. However, the bulk of the variance is explained by one factor 36.17% (eigenvalue of 5.79), the remaining two factors variances were 11.50% and 7.52% (eigenvalue of 1.84 and 1.20 respectively). The eigenvalues and the amount of explained variance are shown in table 2.

Table 2: Eigenvalues and explained variance of factors

Factor	Eigenvalue	Explained variance
Factor 1	5.79	36.17%
Factor 2	1.84	11.50%
Factor 3	1.20	7.52%
Total		55.19%

All the items had a loading of at least .22 on the first factor as illustrated in Appendix D. As the eigenvalues of the 2nd and 3rd factors are relatively small compared to the 1st factors the SDO_6 scale was considered unidimensional for the purposes of this study.

3.2.2 Reliability of the SDO_6 scale

The SDO_6 scale had a high internal consistency (Cronbach's $\alpha = .87$; $n = 403$). The corrected item-total correlations ranged from .388 to .641. They are provided in Appendix E.

The mean SDO_6 score for participants was 2.39 (*SD* = 0.95; *Min* = 1.00; *Max* = 6.19), indicating that on average, participants desired little hierarchy between groups.

3.2.3 Mediation analysis

In order to test whether SDO mediated the relationship between condition and performance as stipulated in the second hypothesis, a stepwise mediation analysis was conducted. This involved a series of regression models as outlined by Baron and Kenny (1986). Baron and Kenny suggested that in order to establish mediation the following series of regression equations should be conducted:

1 - Regressing the mediator on the independent variable

2 - Regressing the dependent variable on the independent variable

3 - Regressing the dependent variable on both the independent variable and the mediator

In order to establish mediation the follow conditions must all hold in the predicted direction:

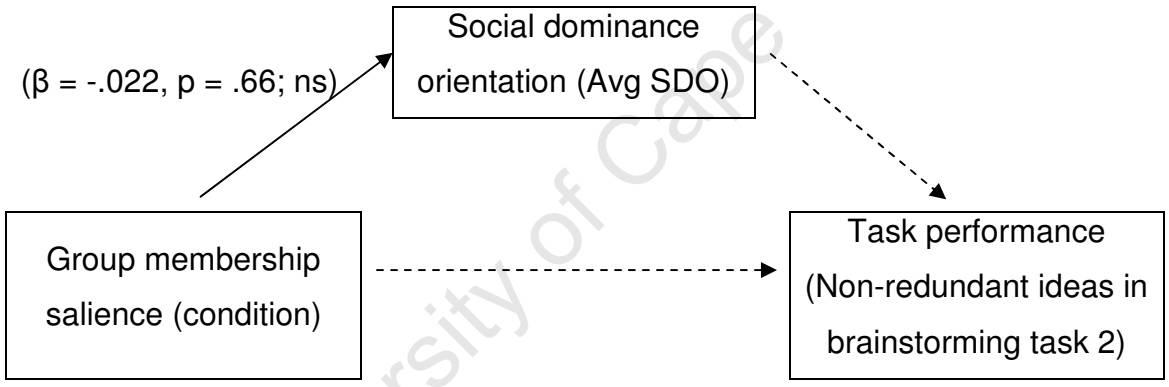
1 - The independent variable must affect the mediator

2 - The independent variable must affect the dependent variable

3 - The mediator must affect the dependent variable

If all three conditions hold then the effect of the independent variable on the dependent variable must be less in the third equation as identified by Baron and Kenny (1986) than in the second equation for mediation to be present.

FIGURE 1: Results of mediation analysis



Regression analysis was used to test if the group membership salience significantly predicted participants' social dominance orientation. Low group membership salience, high group membership salience and the individual condition were included in the mediation analysis. The results indicated that the predictor explained 0.95% of the variance in the average SDO scores (R^2 = .0, F(1,414) = .193, p = .66). Group membership salience did not predict a participant's level of social dominance orientation (β = -.022, p = .66). Therefore the first condition for mediation as suggested by Baron and Kenny, 1986) was not met and mediation failed.

No further statistical analysis was performed as the mediation analysis requires that all three conditions hold in the predicted direction in order to establish a mediation effect. Thus the results do not support the second hypothesis, which stated that an increase in group membership salience leads to better individual performance, mediated through individuals' social dominance orientation.

CHAPTER 4: DISCUSSION

This study sought to investigate the relationship between group membership salience and individual task performance. The study further explored the potential mediating effect of social dominance orientation on the relationship between group membership salience and group performance. In this chapter the results related to the hypothesis will be discussed.

4.1 Group membership salience and task performance

The individual performance of participants in the high salience condition was higher than the individual performance in the low salience condition in the brainstorming tasks after controlling for individual differences in brainstorming ability. The results of the study support the first hypothesis which stated that an increase in group membership salience (from low to high) leads to better performance. The results of the study are consistent with the findings of van Dick et al.'s (2009) research. Thus introducing intergroup competition when making people aware they are involved in group work elicits social labouring compared to when people are simply part of a group.

However individual performance in the high salience condition was not higher than when people participated individually. This is not consistent with the findings of van Dick et al.'s (2009) study which found that individuals in highly salient groups outperform people who are working individually, i.e. outside of a group context.

The social loafing that occurred in the low salient condition during brainstorming tasks may also have resulted from social processes such as the perceived performance of fellow group members, information, or lack there of, about the performance of other groups (Paulus & Dzindolet, 1993).

The fact that the high salience, competitive condition made individuals work harder than in the low salience condition but not when working individually may have occurred because the consequence of the results was not significant to the participants. The groups were created specifically for the purpose of the study. There were no consequences or rewards for participation in the study, other than SRPP points which were allocated to Psychology students participating in the study.

Another reason that the participants in the individual condition did not perform differently from those in the high salience group is that University students are generally used to working on their own. Most of their marks are based on their individual efforts and not on group work, therefore they may thrive working on an individual basis.

4.2 Social dominance orientation

The results showed that even though higher group membership salience achieved through inter-group competition leads to better individual performance, social dominance orientation was not found to be a mediating variable. This implies that a person's need for group hierarchy or intergroup discrimination does not influence their performance and that people may be socially competitive for reasons other than wanting to feel superior, such as enjoying the challenge or fulfilling a social need.

Another possible explanation for the lack of mediation may be the fact that social dominance is multi-layered and influenced by not only by a persons' psychological predispositions but also their cultural ideologies, institutional practices, in-group and out-group relations of individuals (Pratto et al., 2006). In South Africa there has been a surge of notions of equality for all citizens by the

Government through employment equity policies and legislations as well as institutional practices of organisations. These legitimising myths of humanitarianism and equality may have influenced and effectively lowering the social dominance orientation levels of the students who participated in the study.

4.3 Limitations of the study

4.3.1 Cognitive tasks as a measure of task performance

Brainstorming tasks are cognitive tasks. Some argue that brainstorming is a learned behaviour and students that previously participated in brainstorming tasks would outperform students who have not participated in brainstorming tasks. Creativity may also influence a participant's brainstorming ability. As this may have influenced the results, brainstorming ability was introduced as a covariate.

Brainstorming is a very minimalistic and less complex task than most tasks that would be encountered in the workplace. It is thus possible that factors other than group membership salience might be more important on an individual's performance in the workplace, which has not been controlled for in the study, for example evaluation apprehension, free riding (Diehl & Stroebe, 1987) and other social processes which includes perceived performance of fellow group members, information about the performance of other groups (Paulus & Dzindolet, 1993) social inhibition, cognitive uniformity (Lamm & Trommsdorff, 1973) and social anxiousness (Camacho & Paulus, 1995).

4.3.2 Laboratory setting

The groups were artificially created for the purposes of the study and there were no rewards or adverse consequences for the university students participating in the study, therefore they did not have an incentive to motivate them to work harder. In addition, the results of the study may not generalisable to the organisational setting. Therefore it is recommended to replicate the study in an organisational setting where work performance is measured, assessed and rewarded to see if the results hold in a work environment and not just in a laboratory setting.

A further limitation may have been that the one brainstorming tasks may not have been perceived at the same level of difficulty as the other brainstorming task by the participants. For this reason, participants may have scored higher on one brainstorming task than the other. In order to make the experiment as realistic as possible and minimise the potential adverse impact of making conclusions based on the inaccurate results, brainstorming tasks were developed which students could relate to.

It may be argued that the first brainstorming was more practical in nature and required students to have attended lectures. If they did not attend lectures they would not have known in what areas the lectures were lacking and would thus not have been able to generate more ideas on how to improve the lectures, which would have affected their performance on the brainstorming task.

On the other hand, the second brainstorming was more theoretical in nature and students who had a good understanding of the theory of stress, which may have been covered in some of the undergraduate Psychology courses, may have influenced their performance, regardless the experimental manipulation. Therefore the nature of the brainstorming questions may have influenced the performance of the participants in the brainstorming tasks which may have been more prevalent in one of the conditions than the other. Thus an attempt was

made to minimise the potential adverse impact of making conclusions based on the inaccurate results.

4.4 Directions for future research

The study contributes to the knowledge on group membership salience, social dominance orientation and task performance in that it helps to provide a better understanding of group functioning and dynamics within group settings. However to the limitations of the study, there are various areas for future research.

Like van Dick et al.'s, (2009) research this study used cognitive tasks as a measure of performance as it was relatively easy to measure and isolate individual performance in a group setting as compared to performing physical activities, evaluative tasks or perceptual tasks. In van Dick et al.'s) research both cognitive tasks (brainstorming) and physical activities (simple motor tasks) were used as a measure of performance. The results indicated that high group salience outperformed both low group salience and individual conditions using brainstorming tasks and simple motor tasks as a measure of performance. Therefore future research may use other forms of tasks as a measure of performance in order to replicate the results of the study.

The study was conducted in a laboratory like setting using University students. Future research may be conducted in an organisational setting using existing work groups and work related tasks where there are rewards and consequences for performance.

The results have indicated that an increase in group membership salience through the use of intergroup competition increases task performance. However, the social dominance orientation which is a person's attitude towards group inequity and discrimination between groups does not mediate the relationship

between group membership salience and task performance. Thus the question remains: Why does enhancing group membership salience lead to better performance? Future research may aim to identify other variables that could be relevant to explain individual performance differences in different group versus non-group settings.

4.5 Implications for organisations

The role of work groups and teams is becoming increasingly important in organisations because the use of work groups and teams is associated with organisational success and effectiveness (Cohen & Bailey, 1997).

The results of this study have indicated that social labouring may be elicited by increasing group membership salience. The practical implications of the results of the study are that organisations may introduce an element of intergroup competition in order to elicit social labouring when making use of teams. This could be achieved by creating a relevant out-group or comparison group (van Dick et al., 2009). In other words, there should be other teams for a team to compete against.

Intergroup competition may also be promoted through an organisational culture that supports and rewards collaborative efforts. This may be achieved through formal and informal recognition structures, such as linking remuneration to group performance or prizes for best performing groups, as well as providing opportunities for social interaction, such as prize giving functions. The performance of the teams may be linked to the performance management system of the organisation in order to provide the teams with rewards and consequences for performance and to foster intergroup competition. Reward systems may also be used to create group cohesiveness through proving group incentives for good performance.

The results have also indicated that there was no significant difference in individual performance between individuals working in high salience groups and as individuals outside a group.

Therefore it is very important for the organisation to determine if the task or project at hand requires a team or a work group. If the task at hand requires individuals to work together independently towards a common goal the organisation may want to introduce work groups. In other words individuals may be performing the same job but they are not dependent on the output of others. Organisations may even introduce intergroup competition in work groups. For example car sales personnel may be grouped into 'teams' even though they still sell cars individually, Instead of providing individual rewards, team based incentives may be provided which may increase individual performance.

4.6 Conclusion

The purpose of this study was to investigate the relationship between group membership salience and task performance. The study further explored the potential mediating effect of social dominance orientation on the relationship between group membership salience and group performance.

The results confirmed the first hypothesis which stated that an increase in group membership salience leads to better performance. However the second hypothesis which proposed that social dominance orientation impacts the relationship between group membership salience and task performance was not confirmed by the results.

Limitations and directions for future research were identified.

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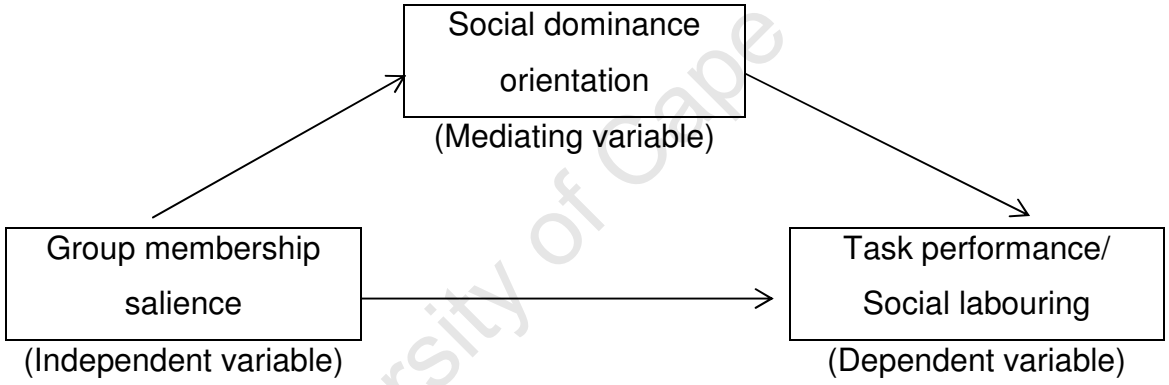
APPENDIX A: TUTOR BRIEFING

Title: Group membership salience, social dominance orientation and task performance

SRPP - points for participation

Objective of the study

The objective of this study is to investigate the relationship between group membership salience and group performance. The study will further explore the mediating effect of social dominance orientation on the relationship between group membership salience and group performance.



Task performance/ Social labouring

In the new world of work organisations are increasingly making use of work groups, as it increases productivity and task performance through synergy effects and fulfills the social needs of employees compared to working individually. This effect has been termed social labouring. In contrast to social labouring, social loafing occurs when group productivity decreases due to reduced efforts by group members.

Group membership salience

Group membership salience is grounded in social identity theory which proposes that a person's social identity is maintained and enhanced by the group that they

belong to and that group membership creates personal meaning for participants. As group membership salience creates personal meaning for group members it is expected that this may reduce motivation loss and result in increased group performance.

Social dominance orientation

Social dominance orientation proposes that people have differing attitudes towards intergroup relations which may vary from equality to inequality (hierarchal or dominance). It seeks to explain how the nature of intergroup relations is used to create and maintain social inequality. Social dominance orientation theory proposes that people have differing attitudes towards intergroup relations which may vary from equality to inequality. This attitude is expressed as an individual's social dominance orientation.

Experimental design: 3 Conditions - random assignment; Condition 1

1 - Low group membership salience - group participation (tutorial group)

Brainstorming task 1 should be completed on an individual basis to set a baseline

Brainstorming task 2 should also be completed on an individual basis, however the tutorial group's performance as a whole would be assessed

Instructions to students:

Brainstorm 1:

Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I will stop you after 5 minutes. Please use a new line for each new idea. Any questions?

The topic is: How could the Org Psych lectures be improved?

When questions have been clarified ask them to start and stop the time after exactly 5 min.

Brainstorm 2:

Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. I will again stop you after 5 minutes. Please use a new line for each new idea. **However, this time, we will not look at how many answers each of you came up with, we will only look at the total number of answers that your tutorial group came up with.** Any questions?

The topic is: How can students deal with stress at university?

When questions have been clarified ask them to start and stop the time after exactly 5 min.

Experimental design: 3 Conditions - random assignment; Condition 2

2 - High group membership salience - inter group competition participation (sub-tutorial group)

Brainstorming task 1 should be completed on an individual basis to set a baseline

The class should be sub divided into smaller groups of 4-5 students.

Brainstorming task 2 should also be completed on an individual basis, however each sub group's performance would be assessed and compared to the other groups.

Instructions to students:

Brainstorm 1:

Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I

will stop you after 5 minutes. Please use a new line for each new idea. Any questions?
The topic is: How could the Org Psych lectures be improved?
When questions have been clarified ask them to start and stop the time after exactly 5 min.

Brainstorm 2:
Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. Please use a new line for each new idea. **You will again work on your own, but this time, we will not count the number of ideas you came up individually. Instead we will take the average score over four to five students and then compare those scores across the different subgroups** (at this point, split them into groups of 4-5 by labelling them as "Group A", "Group B" etc). I will again stop you after 5 minutes. Any questions?
The topic is: How can students deal with stress at university?
When questions have been clarified ask them to start and stop the time after exactly 5 min.

Experimental design: 3 Conditions - random assignment; Condition 3
3 - Control group - individual participation in tutorial setting

Brainstorming task 1 should be completed on an individual basis to set a baseline

Brainstorming task 2 should be completed on an individual basis and individual performance would be assessed.

Instructions to students:
Brainstorm 1:

Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I will stop you after 5 minutes. Please use a new line for each new idea. Any questions?

The topic is: How could the Org Psych lectures be improved?

When questions have been clarified ask them to start and stop the time after exactly 5 min.

Brainstorm 2:

Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. Please use a new line for each new idea. I will again stop you after 5 minutes. Any questions?

The topic is: How can students deal with stress at university?

When questions have been clarified ask them to start and stop the time after exactly 5 min.

Process of administration

Collect tutorial pack from Fazeela's office prior to the tutorial for your tut group

The tutorial pack will include the following:

1 - Instructions for tutor to follow - please read in advance
2 - Introduction/overview to study
3 - Brainstorming task 1 (5min)
4 - Brainstorming task 2 (5min)
5 - Social dominance orientation scale (5min)
6 - Demographics
7 - SSRP receipt - give copy of receipt to student as proof of participation

Each tutorial group will be allocated to one of the 3 conditions.

Please return completed and unused documents to Fazeela's office after the tutorial.

Please provide a tutorial list with all the students that participated with their names and student numbers in order to award the SSRP points. The students name or student number should not appear anywhere on the questionnaire. Therefore it should not be possible to link a student on the tutorial list to the questionnaire that he or she has completed.

Contact details:
Corlia Botha
corlia.botha@uct.ac.za

APPENDIX B: QUESTIONAIRRE

Dear Student

For my Master's in Organisational Psychology thesis, I am conducting a study on individuals' brainstorming abilities and the relationship with certain attitudes. I would appreciate your participation.

In this study, you will be asked to complete the following:

- Two brainstorming tasks
- A short questionnaire assessing your attitudes
- Demographic information

If you are a Psychology student and would like to receive SSRP points for this study please sign your name and student number in the sheet provided by the tutor before you leave the room.

Participation in the study is voluntary and anonymous. The information collected for the purposes of this study will be kept confidential. If you choose not to participate you may leave the tutorial now.

If you would like feedback on the study's results, please contact me (corlia.botha@uct.ac.za).

Thank you very much for your participation.

Yours sincerely
Corlia Botha

Brainstorming Task 1:

Your tutor will give you instructions regarding this brainstorming task.
Remember that one of the principles of brainstorming is to write down any idea that comes to your mind.
Do not first think whether it is a good idea.

- Write each idea in a new field –

- Work as fast as possible –

- Your tutor will stop you after 5 minutes -

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.

- **Wait for your tutor's signal before you turn over the page -**

Brainstorming Task 2:

Your tutor will give you instructions regarding this brainstorming task.
Remember that one of the principles of brainstorming is to write down any idea that comes to your mind.
Do not first think whether it is a good idea.

- Use a new field for each new idea –
- Work as fast as possible –
- Your tutor will stop you after 5 minutes -

1.
2.
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4.
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11.
12.
13.
14.
15.

- **Wait for your tutor's signal before you turn over the page -**

Below are a series of statements with which you may either agree or disagree.
For each statement, please indicate the degree of your agreement/disagreement
by ticking the appropriate number from "1" to "7".
Remember that your first response is usually the most accurate.

	Strongly disagree/ disapprove						*Strongly agree/ favour*
1. Some groups of people are just more worthy than others.	1	2	3	4	5	6	7
2. In getting what your group wants, it is sometimes necessary to use force against other groups.	1	2	3	4	5	6	7
3. It's OK if some groups have more of a chance in life than others.	1	2	3	4	5	6	7
4. To get ahead in life, it is sometimes necessary to step on other groups.	1	2	3	4	5	6	7
5. If certain groups of people stayed in their place, we would have fewer problems.	1	2	3	4	5	6	7
6. It's probably a good thing that certain groups are at the top and other groups are at the bottom.	1	2	3	4	5	6	7
7. Inferior groups should stay in their place.	1	2	3	4	5	6	7
8. Sometimes other groups must be kept in their place.	1	2	3	4	5	6	7
9. It would be good, if all groups could be equal.	1	2	3	4	5	6	7
10. Group equality should be our ideal.	1	2	3	4	5	6	7
11. All groups should be given an equal chance in life.	1	2	3	4	5	6	7
12. We should do what we can to equalise conditions for different groups.	1	2	3	4	5	6	7
13. We should increase social equality.	1	2	3	4	5	6	7
14. We would have fewer problems, if we treated different groups more equal.	1	2	3	4	5	6	7
15. We should strive to make incomes more equal.	1	2	3	4	5	6	7
16. No one group should dominate in society.	1	2	3	4	5	6	7

Please provide the following information for sample description purposes:

Course code:

BUS1007S ☐

BUS2015S ☐

BUS3003S ☐

Tutorial group:

☐

Age (in years):

☐

Gender:

Male ☐

Female ☐

Race:

☐ Black

☐ Coloured

☐ Indian

☐ White

☐ Other

☐ Prefer not to answer

Thank you for completing this questionnaire.
Your results are anonymous and the results you have provided will be kept confidential.

APPENDIX C: DEBRIEFING OF PARTICIPANTS

Dear Student

Thank you very much for participating in the study for my Master's in Organisational Psychology at the beginning of this semester. As part of the debriefing process, this document will provide an overview of the study and findings.

In the study, you were required to complete the following during your first tutorial for BUS1007S, BUS2015S or BUS3003S:

- Two brainstorming tasks
- A short questionnaire assessing your attitudes
- Demographic information

I wanted to assess if people put in more or less effort into a task, if they believe that:

(a) their individual results count,
(b) their group results count or
(c) their group results count and there is competition between groups.

For this reason, the tutors gave different instruction in the different tutorial groups. In some groups, students were told that I would look at each student's individual brainstorming results, in others that I would look at the ideas the entire tutorial group came up with. A third instruction was that I would compare the number of ideas generated by small groups within the tutorial.

In actual fact, I counted the numbers of ideas for each person, regardless of the instructions given. I compared whether, on average, the number of ideas a person had brainstormed differed depending on the instruction given. I also

investigated, if the instruction given had an influence on people's attitudes towards hierarchy between groups and whether this influenced how many ideas people generated. I was only interested in the number of ideas you came up with, not in the content.

I however presented the suggestions you had given to academics in the Commerce Faculty, so that they can take into considerations the ideas you had for improving lectures and dealing with stress.

If you are interested in a more detailed description of the study and initial results you can have a look at the attached document.

The SRPP points have been allocated to the psychology students who participated in the study and provided their names on the SRPP point's lists after the tutorial. If you have any queries relating to the allocation of the SRPP points, please contact me.

The participation in the study was voluntary and anonymous. The raw data collected for the purposes of this study will be kept confidential.

If you would like feedback on the study's results, please contact me (corlia.botha@uct.ac.za).

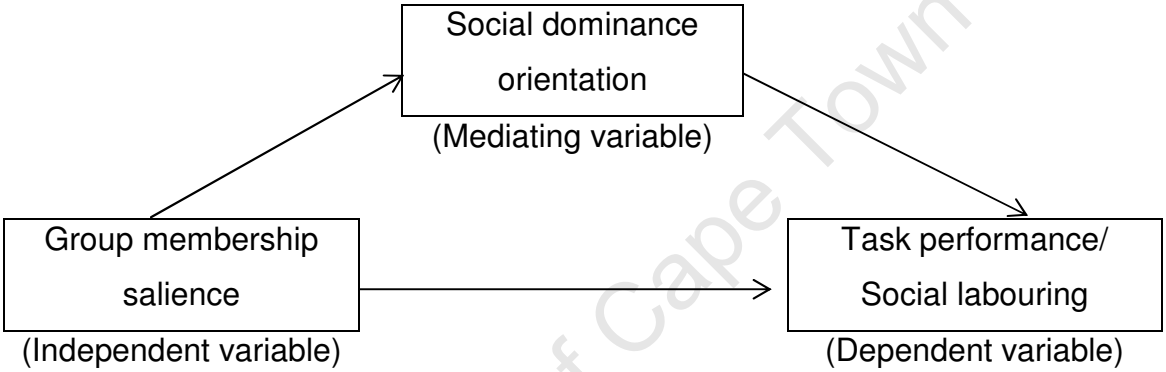
Yours sincerely
Corlia Botha

1. Title of the study

Group membership salience, social dominance orientation and task performance.

2. The objective of the study

The objective of this study was to investigate the relationship between group membership salience and performance. The study further explored the mediating effect of social dominance orientation on the relationship between group membership salience and group performance.



Task performance/ Social labouring

In the new world of work organisations are increasingly making use of work groups, as it increases productivity and task performance through synergy effects and fulfils the social needs of employees compared to working individually. This effect has been termed social labouring. In contrast to social labouring, social loafing occurs when group productivity decreases due to reduced efforts by group members.

Group membership salience

Group membership salience is grounded in social identity theory which proposes that a person's social identity is maintained and enhanced by the group that they belong to and that group membership creates personal meaning for participants. As group membership salience creates personal meaning for group members it

is expected that this may reduce motivation loss and result in increased group performance.

Social dominance orientation

Social dominance orientation proposes that people have differing attitudes towards intergroup relations which may vary from equality to inequality (hierarchal or dominance). It seeks to explain how the nature of intergroup relations is used to create and maintain social inequality. Social dominance orientation theory proposes that people have differing attitudes towards intergroup relations which may vary from equality to inequality. This attitude is expressed as an individual's social dominance orientation.

Task performance/ Social labouring

In the new world of work organisations are increasingly making use of work groups, as it increases productivity and task performance through synergy effects and fulfils the social needs of employees compared to working individually. This effect has been termed social labouring. In contrast to social labouring, social loafing occurs when group productivity decreases due to reduced efforts by group members.

3. Research questions

Hypothesis 1: An increase in group membership salience leads to better individual performance.

Hypothesis 2: An increase in group membership salience leads to better individual performance, mediated through group members' social dominance orientation.

4. Method

This study adopted an experimental design. Group membership salience as the independent variable was manipulated in order to assess the effect on task performance. The independent variable was manipulated by emphasizing group

membership. The participants were randomly assigned to the 3 conditions: low group membership salience, high group membership salience and individual (control group). The group membership salience was manipulated by providing different instructions to each condition.

Condition 1: Low group membership salience

Brainstorming task 1

The participants received the following instructions:

"Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I will stop you after 5 minutes. Please use a new line for each new idea. Any questions?

The topic is: How could the Organisational Psychology lectures be improved?"

The first brainstorming task was completed on an 'individual basis' in order to establish a participants brainstorming ability (set a baseline) in order to control for the differing levels of brainstorming skills participants may have.

Brainstorming task 2

The participants received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. I will again stop you after 5 minutes. Please use a new line for each new idea. However, this time, we will not look at how many answers each of you came up with, we will only look at the total number of answers that your tutorial group came up with. Any questions?

The topic is: How can students deal with stress at university?"

The second brainstorming task was completed on a 'group basis' in order to determine if the participants individual performance increased as a results of the instructions (being made aware that they were part of a group or that their performance is assessed on a group basis) taking into account baseline performance determined in the first brainstorming task (addressing hypothesis 1). Therefore an element of deception was introduced as participants were informed

that their performance would be assessed on a 'group basis' when in fact the researcher was interested and assessed the participants performance on an individual basis. The deception was necessary in order to manipulate the independent variable (group membership salience) and did not intend or anticipate causing harm to any of the participants.

Social dominance orientation scale (SDO_6)

The SDO6 scale was developed by Pratto, Sidanius and Levin (2006) and it was used to assess the level of social dominance orientation of the participants and to determine if it has a mediating effect on the relationship between the independent and dependent variables (addressing hypothesis 2). All the participants received the same questions and instructions.

Demographic information

The demographic information (course code, age, gender, race, ect) was required for sample description purposes. Please refer to sample description section for more details. All the participants received the same questions and instructions.

<u>Condition 2: High group membership salience</u>

Brainstorming task 1

The participants received the following instructions:

"Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I will stop you after 5 minutes. Please use a new line for each new idea. Any questions?

The topic is: How could the Organisational Psychology lectures be improved?"

The participants received the same instructions as in condition 1 and the brainstorming task was also completed to establish the baseline of the participants brainstorming skill as discussed in Condition 1.

Brainstorming task 2

The participants received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain

topic. Please use a new line for each new idea. You will again work on your own, but this time, we will not count the number of ideas you came up individually. Instead we will take the average score over four to five students and then compare those scores across the different subgroups (at this point, split them into groups of 4-5 by labelling them as "Group A", "Group B" etc). I will again stop you after 5 minutes. Any questions?

The topic is: How can students deal with stress at university?"

The second brainstorming task was completed on a 'group basis' in order to determine if the participants individual performance increased as a results of the instructions (being made aware that they were part of a group or that their performance is assessed on a group basis and intergroup competition was introduced) taking into account baseline performance determined in the first brainstorming task (addressing hypothesis 1). Therefore an element of deception was introduced as participants were informed that their performance would be assessed on a 'group basis' when in fact the researcher was interested and assessed the participants performance on an individual basis. The deception was necessary in order to manipulate the independent variable (group membership salience) and did not intend or anticipate causing harm to any of the participants.

Social dominance orientation scale (SDO_6)

The participants received the same questions and instructions as discussed in condition 1.

Demographic information

The participants received the same questions and instructions as discussed in condition 1.

Condition 3: Individual (no group membership salience – control condition)

Brainstorming task 1

The participants received the following instructions:

"Please open the second page of the questionnaire. You should see numbered lines. Your task is to generate as many ideas as you can given a certain topic. I

will stop you after 5 minutes. Please use a new line for each new idea. Any questions?

The topic is: How could the Organisational Psychology lectures be improved?"

The participants received the same instructions as in condition 1 and the brainstorming task was also completed to establish the baseline of the participants brainstorming skill as discussed in Condition 1.

Brainstorming task 2

The participants received the following instructions:

"Please open the third page of the questionnaire. It looks the same as the second page. Your task is again to generate as many ideas as you can given a certain topic. Please use a new line for each new idea. I will again stop you after 5 minutes. Any questions?

The topic is: How can students deal with stress at university?"

The second brainstorming task was completed on a 'individual basis' in order to determine if the participants individual performance increased as a results of the instructions taking into account baseline performance determined in the first brainstorming task (addressing hypothesis 1). There were no element of deception introduced as the participants were informed that they would be assessed on an 'individual basis' when the researcher was interested and assessed the participants performance on an individual basis.

Social dominance orientation scale (SDO_6)

The participants received the same questions and instructions as discussed in condition 1.

Demographic information

The participants received the same questions and instructions as discussed in condition 1.

5. Sample description

The sample consisted of 432 participants however 15 participants were excluded from the final sample as incorrect instructions were provided when the questionnaires were administered. The final sample consisted of 417 undergraduate students and sample descriptions are provided as follows:

Condition	#	%
Condition 1	122	29.2%
Condition 2	163	39.1%
Condition 3	132	31.7%
Total	417	100%

Year	#	%
1st Year	194	46.5%
2nd Year	115	27.6%
3rd Year	108	25.9%
Total	417	100%

Race	#	%
Black	119	28.6%
Coloured	79	19.0%
Indian	33	7.9%
White	157	37.7%
Other	11	2.7%
Prefer not to disclose	17	4.1%
Total	416*	100%

* Missing information

Gender	#	%
Male	89	21.3%
Female	328	78.7%
Total	417	100%

6. Results

The results confirmed the first hypothesis that an increase in group membership salience leads to better individual performance. The results however did not support the second hypothesis that an increase in group membership salience leads to better individual performance, mediated through group members' social dominance orientation.

My research was only interested in the number of ideas that was generated in the brainstorming task and not interested in the content of the ideas (whether constructive or not). As the participants put a lot of effort into participating in the study and the study generated useful information (how to improve organisational psychology lectures and how students can deal with stress at university), the

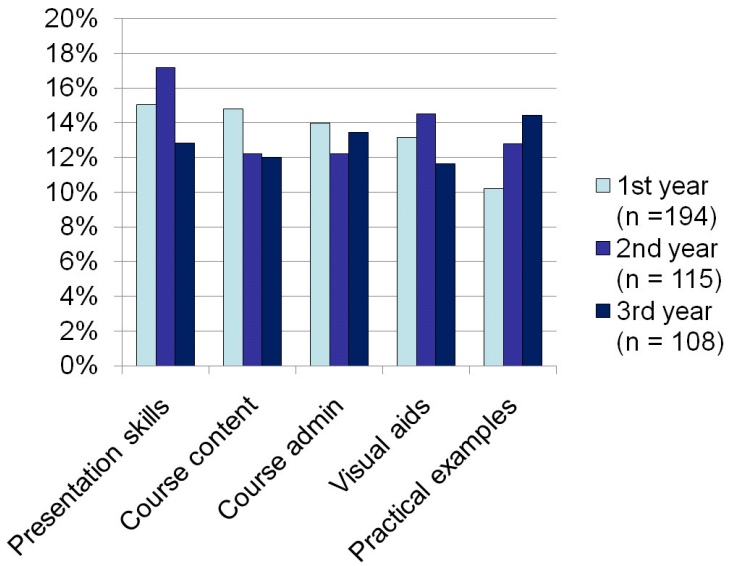
ideas from brainstorming tasks 1 and 2 were analysed and presented the Commerce Educational Group at the University of Cape Town. The results of the analysis are presented as follows:

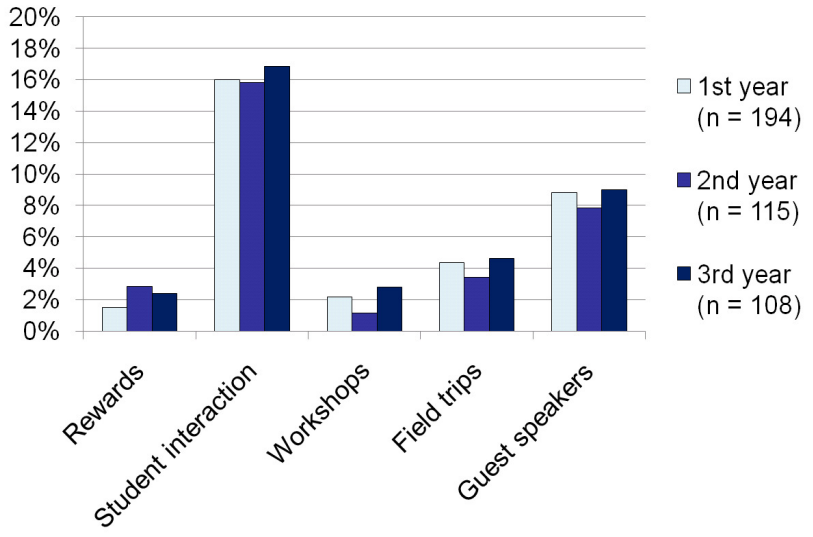
Brainstorming task 1 – How to improve Organisational Psychology lectures

The ideas were analysed and the following 10 themes emerged:

Theme	Ideas
Presentation skills	Engage students more; Pick on students; Interesting and fun lectures; Focus on important topics; Don't ask silly/retorical questions; General presentation skills; Enthusiastic lectures; Jokes; Be more resourceful; Speak well and audible; Allow time to take notes down; Lecture slides change too fast; Colourful and animated slides; Improve relationship with students; Talk slower; Use different lecturers; Get feedback from students; Not intimidate students; Patient lecturers; Time management; Preparation; Thorough explanations
Course content	Extra notes – online; Balance work load for students; Balance theory and discussion; Provide summaries; Tips how to study and what it important; How it will be tested; Overview of subject matter; Clear instructions on what lecturers want; Link theory with text book; Put slides on vula before lecture; Revision; Study guides; Register for lecture attendance; Feedback on tuts; Simplify things; Online tests; Give course readers; Better text book; Standardising marking of tutors; More frequent assessment than tests; Discuss assignments; Well structured lectures
Course admin	Reduce class size - more space; Have more lecture slots; Shorter lectures and tuts; Breaks between lectures; Lecture times; Less talking of students; More lectures; Well air

	conditioned; More time to complete tests/exams; No late comers; Punctual starting; Quicker feedback on tests/assignments; More lecture; More consultation times; Dont finish late
Visual aids	Videos; Detailed lecture slides; Colourful pictures; Record lectures; Use of technology
Practical examples	Provide practical examples; Case studies; Apply example to theory; Examples student can relate to; Examples from different companies; More practical research assignments
Rewards	Rewards for participation eg sweets and prizes
Student interaction	Presentation by students; Class discussions in groups; Pop quizzes; Games; More group work; Share experiences; Role play; Debates; Group work in lectures
Workshops	Work shops; Forums; Question and answer sessions; Focus groups
Field trips	Field trips to organisations; Help with internships/jobs; Information on higher courses; Job shadowing
Guest speakers	Appropriate guest lecturers



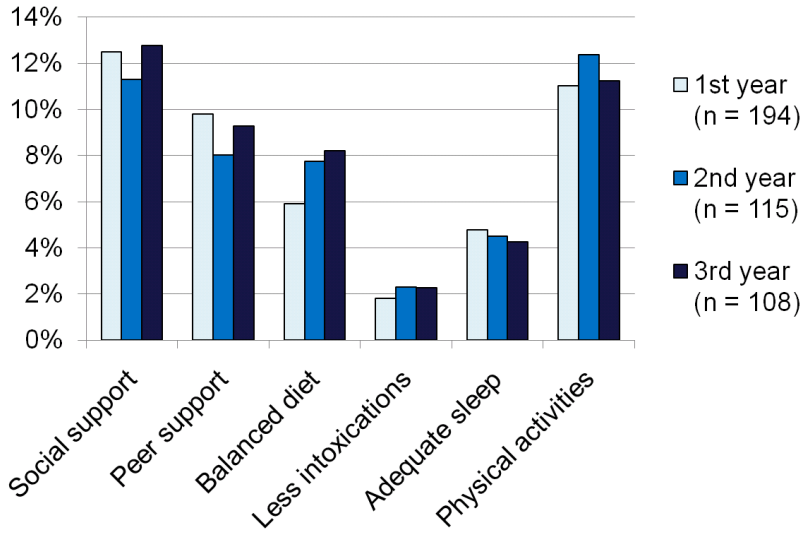


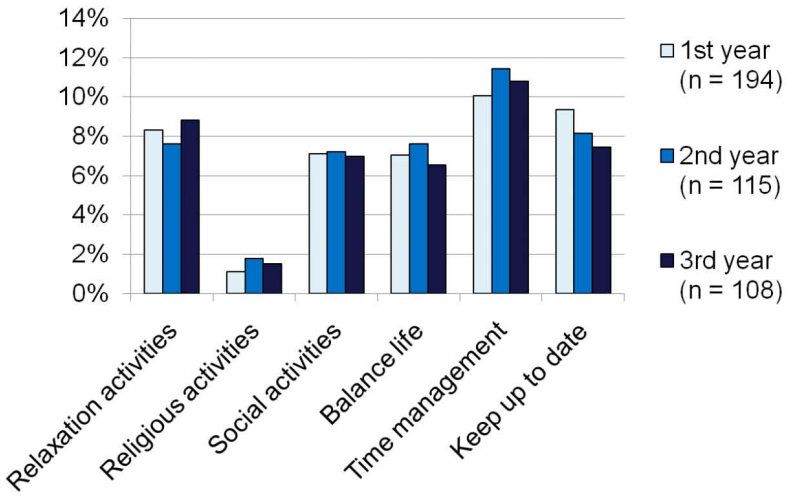
Brainstorming task 2 – How to students can deal with stress at University

The ideas were analysed and the following 16 themes emerged:

Theme	**Ideas**
Social support	Family support; Counsellor support; Mentor support; Tutor/lecturer support; Psychologist; Hot seats
Peer support	Join study group; Study buddy; Talk to someone done it before
Balanced diet	Eat healthy; Take vitamins
Less intoxications	Less drink; Less drugs; Drink water
Adequate sleep	Get enough sleep
Physical activities	Sports; Walking; Yoga; Gym; Dancing; Beach; Fresh air
Relaxation activities	Read books/magazines; Holidays; Laugh more; Meditation; Music; Massages; Surf internet; Watch movies; Have hobbies; Breathing techniques; Shopping
Religious activities	Religious activities; Praying

Social activities	Social networks; Join clubs/societies; Cultural activities; Community activities; Do good deed
Balance life	Take breaks; Take less courses; Lessen commitments; Alone time; Balance commitments
Time management	Start early; Plan ahead; Set time table; Goal setting; Don't procrastinate; Keep diary
Keep up to date	Attend lectures; Attend tuts; Read prescribed material; Work continuously; Work smart not hard; Prepare for lectures; Complete tutorials; Read wider and research topics; Read vula/emails; Concentrate in lectures; Take good notes in lectures; Have daily routine; Make summaries
Study environment	Productive study environment; Time of day study; Clean environment; Be organised; Study methods
Attitude	Positive attitude; Work hard; Appreciate little things; Study what you love; Have fun; Take responsibility; Be realistic; See bigger picture; Believe in self
Reward achievements	Reward self for goals achieved
Counter productive behaviours	Avoidance; Drink; Care less; Smoke; Quit university; Party too much; Complain; Take medication; Procrastinate

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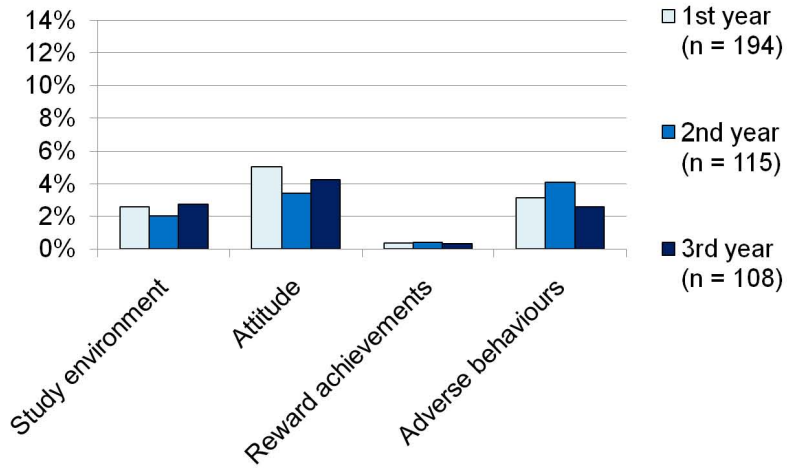
Relaxation activities
Religious activities
Social activities
Balance life
Time management
Keep up to date
1st year (n = 194)
2nd year (n = 115)
3rd year (n = 108)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Study environment
Attitude
Reward achievements
Adverse behaviours
1st year (n = 194)
2nd year (n = 115)
3rd year (n = 108)

APPENDIX D: EIGENVALUES – TOTAL VARIANCE EXPLAINED

All the items had a loading of at least .216 as illustrated in the table below:

Table 3: All Eigenvalues and explained variance of factors

Factor	Eigenvalue	Explained variance
Factor 1	5.787	36.17%
Factor 2	1.839	11.50%
Factor 3	1.203	7.52%
Factor 4	.960	6.00%
Factor 5	.898	5.61%
Factor 6	.780	4.88%
Factor 7	.716	4.47%
Factor 8	.609	3.80%
Factor 9	.546	3.41%
Factor 10	.496	3.10%
Factor 11	.482	3.01%
Factor 12	.436	2.72%
Factor 13	.402	2.51%
Factor 14	.379	2.37%
Factor 15	.251	1.57%
Factor 16	.216	1.35%
Total		100%

APPEDNDIX E: ITEM-TOTAL CORRELATIONS

The corrected item-total correlation is illustrated in the table below:

Table 4: Corrected item-total correlation for the SDO_6 scale

Scale item	Corrected item-total correlation
SDO1	.462
SDO 2	.388
SDO 3	.467
SDO 4	.467
SDO 5	.422
SDO 6	.599
SDO 7	.500
SDO 8	.520
SDO 9	.556
SDO 10	.641
SDO 11	.559
SDO 12	.602
SDO 13	.601
SDO 14	.546
SDO 15	.440
SDO 16	.551