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The Effects of Team-Building and Personality on Social Loafing

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Abstract
Previous research has shown that individuals often engage in social loafing, or the tendency to exert less effort when working collectively in a group than when working individually. Also, research has shown that several factors may be involved in reducing social loafing, including increasing cohesiveness among the group. The present study examines the effects of team-building activities and personality on social loafing. Participants (N= 38) either completed a team-building activity or a filler task before participating in an idea-generation task where they were given either coactive instructions or collective instructions. Then, the participants completed a Big Five Personality Test and a demographics survey. We predicted that those who participated in the team-building activity would be less likely to engage in social loafing, and that team-building will reduce social loafing among extroverts more so than introverts.
“A team is only as strong as its weakest link;” at least this has been what little leaguers, Greek members, and office workers have been told by their superiors for numerous years. There is often a teammate, member, or worker who decreases their individual effort when performing in a group. This phenomenon is known as social loafing, or the tendency for individuals to exert less effort when working collectively in a group than when working individually (Karau & Williams, 1997). Social loafing was originally known as the Ringlemann effect based on Ringlemann’s 1913 initial study of the phenomenon (Kravitz & Martin, 1986). Ringlemann showed that individuals put forth less effort in a rope-pulling task as the number of people involved in the task increased. Specifically, when two people pulled, each person pulled at 93% of their potential capacity, when three people pulled each pulled at 85% capacity, and when groups of eight pulled each pulled at only 49% of capacity (Kravitz & Martin, 1986).

In 1972, Steiner published his Group Effectiveness Model and suggested two reasons why people tend to engage in social loafing. The first reason is that people may feel that they are unable to effectively coordinate their contributions with the contributions of the other members in the group. If members of a group are not able to effectively coordinate their actions during activities, the group’s overall performance will likely decrease. The potential of a group’s success depends on the ability of group members to coordinate with each other. The second reason is motivation loss. When people are faced with a task that does not spark their interest or have personal meaning, they are more likely to reduce productivity. Reduced productivity may be especially likely to happen when people are working in groups because the group setting gives people the opportunity to “hide in the crowd.” Steiner believed that group work allows
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people the chance to escape blame for motivation loss, especially if their actions are not identifiable to the group.

One factor that seems to influence the degree to which individuals engage in social loafing, then, is whether individuals feel that they will be held accountable for their contributions. If people feel that their contributions are personally identifiable, they are less likely to engage in social loafing. The results of a study conducted by Harkins and Petty (1982) are consistent with this perspective. Here, the researchers randomly assigned participants to one of two conditions. In one condition, participants were told that their responses in an idea-generation task would be pooled together (this condition was called the “collective” condition) and in the other condition they were told that their responses would be collected individually (this condition was called the “coactive” condition). When the responses were pooled, the number of ideas generated for the task was significantly lower than when the responses were recorded individually.

Similar results were reported by Guerin (1999) who found that when individuals were put into a group and asked to generate ideas for uses of a brick, they produced a low amount of output. However, when the individual was identifiable and held accountable for their idea output, their output increased. In explaining these findings, Harkins and Petty (1982) note that social loafing may be especially likely to happen when people’s contributions are not personally identifiable because they no longer feel like they will be held accountable for not fulfilling performance expectations set by the group. Guerin supports this point, arguing that social loafing occurs because being in groups usually involves less individual evaluation, less individual accountability, less assignment of
responsibility, and less direct reinforcement or punishment. Just being a part of a group makes an individual less identifiable than if they were sitting at a desk by themselves.

Another factor that seems to influence the degree to which individuals engage in social loafing is group cohesiveness. Newcomb, Turner, and Converse (1965) describe group cohesion as “the degree to which members stick together, in any or all of several possible ways, so that the group has unity.” Karau and Williams (1993) proposed that group cohesiveness should reduce or eliminate social loafing -- a phenomenon that these researchers included in their Collective Effort Model (CEM) of group behavior. “The CEM combines key elements of traditional expectancy-value models of effort with recent research and theory on self-evaluation” (Karau & Williams, 1995). The traditional expectancy-value models help to identify threats to an individual’s motivation, and self-evaluation theories help identify outcomes valued by individuals when working collectively. Karau and Williams found that even when outcomes are highly valued by individuals, they are unlikely to work hard if their effort is not expected to lead to performance that helped obtain the outcomes (1995). Some of the highly valued outcomes suggested by this model are enjoyment, satisfaction, and feelings of connectedness with the group. Therefore, the CEM explains this value for feelings of connectedness or group cohesion also motivates the individual to maintain favorable self-evaluation and, thus be less likely to engage in social loafing.

Further support for the CEM was reported by Karau and Hart (1998). Here, participants were asked to complete a group discussion task followed by an idea-generation task. In discussion, participants and their partner did one of the following: devised strategies for persuading outsiders that their shared view on gun control was
correct (high cohesiveness), attempted to convert their partner’s view to the “correct view” (low cohesiveness), or discussed the pros and cons of the issue (control). Social loafing was then measured in an idea generation task where participants were asked to come up with as many uses of a knife as they could. Again, Karau and Hart (1998) found that groups with high cohesiveness engaged in less social loafing (i.e., generated more ideas) than those with low cohesiveness. In other words, when partners shared the same views, cohesion between the two participants increased and participants did not engage in social loafing as much as those in the low cohesion group.

The current study focuses on decreasing social loafing through team-building activities by increasing group-cohesion and motivation among group members. These activities are usually problem-solving tasks that are designed to help group members get to know one another better, increase a sense of connectedness to the group, and assist group members in coordinating their efforts so that they are able to work together more effectively. As such, these activities may be helpful in reducing the coordination problems and motivation loss that contribute to social loafing. They may also increase accountability and increase group cohesion to the extent that individuals feel more connected to the group after participating in such activities. Survival scenarios are one example of a team-building activity. Here, group members pretend their airplane has crashed and the group needs to choose twelve items that will be most useful in helping them survive. Another example of a team building activity is the Human Knot. In this activity, all group members stand tightly in a circle and with their left hand grab someone else’s hand in the group, and do the same with their right hand. Then, the group must untangle themselves without letting go of each other’s hands until a circle is formed.
Social Loafing

Although research on the effectiveness of team-building activities on reducing social loafing is limited, there is some evidence that these activities may be effective. For example, in interviews with athletes, Yukelson (1997) found that athletes believed team-building activities improved teamwork, which led to a sense of group cohesion. Yukelson conducted a team building intervention for Division I soccer athletes. The intervention programs were evaluated to determine the degree to which each intervention contributed to team forming group cohesion. A reliable evaluation inventory, the Consultant Evaluation Form was utilized to achieve the program evaluation objectives. Athletes reported that the team building activity helped create a shared vision and unity of purpose between the athletes. Moreover, in 1987, Holt designed an experiment similar to Ringelmann’s initial study in 1913, but Holt gave his groups several minutes of interaction before beginning the rope-pulling task. Holt argued that members who were just collected for a group “would have no real reason to exert any extra effort collectively” (Brown, 1988). He found that only four groups out of thirty pulled below their potential productivity. However, these two studies have involved physical tasks, and to date no studies we know of have looked at the effect of team-building activities on social loafing using cognitive tasks. However, our study is designed to do this. Thus, we hypothesize that when participants partake in a team-building activity, the participants will be less likely to engage in social loafing in the given task.

While we believe that team-building should diminish social loafing overall, we acknowledge that team-building may be more effective in reducing social loafing for some individuals than others. One factor that may predict whether team-building is effective in reducing social loafing is personality. Indeed, The Big Five personality traits
social loafing (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) have often been linked with group interaction and performance. Among the Big Five traits, extraversion has been the most studied (Buchanan, 1998). Extroverts tend to be assertive and gregarious, have positive emotions, seek excitement, and enjoy being active (Engler, 2009). On the other hand, introverts tend to have a need for privacy, may have trouble getting along with others, may appear mysterious, tend to be quiet and passive, and are seldom understood by others (Engler, 2009). Bond and Wing-Chun Ng (2004) suggest that groups that include individuals with high levels of extraversion are more likely to experience positive interactions between members, which should, enhance group cohesion.

Barry and Stewarts (1997) found that groups with either low or high numbers of extraversion did not perform as well as groups with moderate levels of extraversion. This suggests that similarities of personality traits are crucial to the overall performance of the group. Since extraverts are more likely to assert themselves in groups, these individuals often take on leadership roles when working with other people and which may be beneficial to the overall group. Extraverts would benefit from a team-building activity because they tend to focus on interpersonal relationships within groups and work well with others. Individuals who have high levels of extraversion might benefit more individually but those with moderate levels will help the group benefit more by reaching optimal performance. Individuals that have extraversion like traits should also display more positive feelings about working with others and build cohesion among group members.
Introverts often work more slowly and deliberately on tasks that involve group participation. They prefer to focus on one task at a time and they dislike interruptions and noisy environments that interfere with concentration (Wagoner et. al, 1996). Introverts seem to keep comments in to themselves more often and are concentrated on ideas and thinking more so than with people and objects. Introverts might not benefit from team building activities because the, “voice” of extroverts could become overwhelming. Introverts seem to be more concentrated, whereas extraverts seem to be more concerned with the actual interactions. This is not to say that introverts would not be able to contribute to a group, their deep thought could be useful, but the lack of enthusiasm and excitement to work with others could prove to be not as beneficial for individuals with personality characteristics that match introversion.

Extraverts seem to open lines of communication between group members, whereas introverts tend to focus more on internal reflection of group activities and discussion. If a team-building task involved individuals working by themselves and not having others present, the introverts would benefit more because introverts are not typically natural communicators. Introverts can be viewed as, “thinkers” and during team-building activities might be more concerned with accomplishing the task, instead of being concerned with how well people work together. If participants get the idea generation task completed but do not talk to each other much, the results produced will not be as strong. Therefore, it would be fair to infer that introverts would not benefit from such activities because there is not as much emphasis placed on group cohesion. Therefore, we predict that people who possess traits of extroversion may be more motivated and willing to participate in team-building activities because they may
experience more positive interactions with members, while introverts may not find team-building activities as appealing and have more negative connotations with other members. As a result, we hypothesize that the effect of team-building will be moderated by extraversion, such that team-building will reduce social loafing among extroverts more so than among introverts.

Method

Participants

This study included 38 participants all between the ages of 18 and 23 years old. Of the 38 participants, 33 (86%) were female and 5 (14%) were male. Participants all attend Hanover College and were obtained by using a sign-up sheet posted outside of a classroom.

Materials

For the team building activity, an Internet coloring page printout of Bugs Bunny was used and cut into as many “puzzle pieces” as there were group members. The participants used crayons and scissors to recreate a larger scale of their Bugs Bunny puzzle piece. The idea-generation task involved a piece of string that all of the groups used. Also, each participant received a piece of paper with 30 lines on it for the idea-generation task. A Big Five Personality Test and demographics survey were also distributed to all of the participants.

Procedure

Participants signed up for the study individually. The researchers then randomly assigned participants to one of 12 groups. Each group usually consisted of four participants; however there was one group of three and one group of 2. Half (i.e., six) of
the groups were randomly assigned to the experimental condition. These participants engaged in a team-building activity before completing the idea generation task. Half (i.e., six) of the groups will be randomly assigned to the control condition. These participants engaged in a filler activity before completing the idea generation task. Within each condition, half (i.e., three) of the groups were be given co-active instructions for the idea generation task. That is, they will be told that their scores will be compared with the scores of other individuals. The other three groups were given collective instructions. That is, they were told their scores will be aggregated and compared with other groups. If the number of ideas generated by individuals in the collective condition is lower than the number of ideas generated by individuals in the coactive condition, this is evidence that social loafing has taken place (see Figure 1.0).

After the control groups signed the informed consent form, each individual was given a picture of the cartoon character Bugs Bunny to color with crayons for 10 minutes. This activity was done completely individually and acted as a filler activity for the control group. Then the group was given a piece of string, and then either co-active or collective instructions for the idea-generation task based upon which control group the participants were in. Each group member was given a paper with 30 lines and asked to write each idea on a separate line, and was given 10 minutes to do so without communicating with the other group members. The individual papers were collected when the task was completely over. On the back of each participant’s individual paper, was a three-digit ID number that was paired with the responses to the personality test that follows.
When finished, each member of the group was given a Big Five Personality Test, as shown in Appendix A, and a demographics survey as shown in Appendix C. In the Big Five Test, participants were given a list of words and asked to rate how much each word describes them on a scale of 1 (not at all true of me) to 5 (very true of me). Examples of words that are included to assess extraversion are talkative, assertive, and active. Each participant’s personality test and demographic survey also had a three-digit ID number on the back. This number matched up with the ID number they had on their idea generation paper. When each participant finished, they were debriefed, thanked for their participation, and excused.

The procedure for the experimental groups was the same as the control groups except that, after participants in these groups signed the informed consent, they took part in a team-building activity. The activity was created to help motivate and get the group members to work together and increase group cohesion. The groups were shown a picture of the cartoon character Bugs Bunny, as shown in Appendix B, which was cut into as many “puzzle pieces” as there were participants in the groups. The objective of the team building activity was for the group members to create a picture that is double the size of the image that they previously saw. Each member received a piece cut from the original picture that they needed to duplicate to a larger scale, and that will also fit with the rest of the groups’ pieces. Therefore, the groups needed to work together to ensure the pieces are cut in a way they fit together correctly, and the picture on the pieces needed to line up as well. The members were given scissors and crayons recreate this image in a larger scale. The group had 15 minutes to complete the task. This activity incorporates individual contributions to the overall outcome of the group, and, through this, helps increase group
cohesion in the experimental groups compared to the control groups. After completing the team-building activity, individuals assigned to the experimental groups completed the same idea generation task in the same amount of time and with the same co-active or collective instructions as the control groups. Then, when the idea generation task was completed, the experimental groups completed the same Big Five Test and demographics survey as the control groups before being debriefed.

**Expected Results**

We will assess social loafing by counting the number of ideas generated for each group. As shown in Figure 1.0, we expect that participants in the control condition to generate more ideas for the uses of the piece of string during the idea-generated task. In the control condition, we also expect that participants will engage in social loafing by participants given coactive instructions generating more ideas than those given collective instructions. Previous research has found that social loafing occurs when those given collective instructions generate fewer ideas than those given coactive instructions, as displayed in Figure 1.0. For personality, we expect that extroverts will benefit more from the team building activity than introverts. The ID system we created will be used to match the individual’s number of ideas generated and their personality test scores in order to help us measure social loafing in extroverts and introverts.
For the experimental condition, we expect that social loafing will be reduced because participants completed the team-building activity before the idea-generation task. Previous research has found that a team-building activity helps increase group cohesion, which can reduce social loafing (Karu & Hart, 1999). Figure 2.0 shows social loafing being reduced by those given coactive and collective instructions generating roughly the same amount of ideas.
Results

After having completed the data collection for the study, the data was analyzed by using a 2 (Team building VS Control) x 2 (Collective VS Coactive Instructions) x 2 (High VS Low Cohesive Group) ANOVA. As previously stated, we expected individuals in the control group to engage in social loafing because previous research has found that social loafing occurs when those given collective instructions generate more ideas than those given coactive instructions. Therefore, we expected that participants given coactive instructions would generate more ideas during the idea generation task. Figure 3.0 shows that participants in the control condition did not end up engaging in social loafing, like expected. Those given coactive instructions did not generate more ideas than those given collective instructions, which mean there is no evidence of social loafing in this condition. Personality did not have an influence on the results, like expected.

Figure 3.0: Results for number of ideas generated by participants given coactive and collective instructions for the control group.
For the experimental condition, since there was no evidence of social loafing in the control condition, there was nothing to be reduced in the experimental condition. Figure 4.0 shows no evidence of social loafing being reduced because participants in the control condition did not engage in social loafing, like expected. Since there was no evidence of social loafing in the control condition, our original hypothesis that a team-building activity would reduce social loafing was unsupported. We could not meet a necessary precursor for testing our hypothesis that team-building would reduce social loafing because participants in the control condition did not engage in social loafing.

![Bar chart showing average number of ideas generated](image)

**Figure 4.0:** Results for the number of ideas generated by participants given coactive and collective instructions for the experimental group.

We did however find a main effect for overall number of ideas generated. Figure 5.0 show that participants in the experimental condition generated more ideas than the control condition during the idea generation task. The average number of ideas generated for in the control condition was 39.81. The average number of ideas generated in the experimental condition was 52.02.
Discussion

For our first hypothesis, we predicted that college students who participated in a team-building activity would engage in less social loafing than students who did not, and this was not supported by our results. We found no evidence of social loafing occurring, and Figure 5.0 shows the collective instruction group generating more ideas than the coactive instruction group in the control condition. Therefore, since there was not a social loafing effect in the control condition there was nothing to reduce in the experimental condition. It is a possibility that our activities were interesting enough overall and this prevented participants from engaging in social loafing. Also, because our participants attend a small college, most of them already seemed to know the other participants in their group. As a result, there was a pre-existence of group cohesion among group members. If we would have had groups of four that were complete strangers than maybe they would have been more likely to engage in social loafing.

Figure 5.0: Results for the number of overall ideas generated for participants in the control and experimental condition.
After not having the social loafing effect occur, we were a little surprised that we still had a main effect for the average number of ideas generated. The upward trend in the number of ideas from our control condition to our experimental condition suggests that the team-building activity did seem to help individuals generate more ideas. Pain and Harwood (2009) suggest that when team functioning is openly discussed improvements are made in self-understanding, cohesion, trust, and performance. Although, Pain and Harwood were discussing sport team functioning, something similar may have been happening with our groups. The participants who were in the experimental condition were exposed to discussing how their group was going to function in order to complete the activity. Therefore, this increased the cohesion and their performance in the idea generation task.

Now, in our second hypothesis, we predicted that the effect of team-building would be moderated by extraversion, such that team-building would reduce social loafing among extroverts more so than among introverts. This hypothesis was also unsupported by our results. We did not find anything significant with personality in our study. Maybe personality did not play a huge role here because of similar reason why people did not engage in social loafing. Even though introverts are shy, since most people knew each other even the introverts were a bit social and benefited along with the extroverts. Also, maybe the activities were easy enough that no matter the personality, participants did not feel the need to shy away or be quiet when completing them.

We did have a few limitations to our study that may have affected our results. We only had 38 participants and if we would have had more maybe some of our results would had swayed toward significance. Also, we had very simple tasks for our
participants to complete. If our tasks would have been more demanding then coloring bugs bunny and thinking of uses for a piece of string, then maybe people would have been more likely to engage in social loafing. Finally, maybe the participants just did not believe us when told we were going to compare their results individually too everyone in our study and pooled together to all other groups in our studies. We did not give them any data to compare their number of ideas generated to others because we did not want the added incentive of competition, and we wanted to concentrate on cohesion. Therefore, this could be something else to look further into in the future to make our coactive and collective instructions more believable.

Another possible future direction is having a more diverse gender representation in our study. Some previous studies have not found anything significant with gender in regard to social loafing. However, Sommer and Williams (1997) found that when women were ostracized by a group they tended to work harder collectively in order to rejoin the group. Whereas when men were ostracized they did not work harder collectively or coactively, but they tended to engage in social loafing. This sparked our interest not only for the idea of ostracism, but it is a battle of the sexes to see who would be willing to work harder to rejoin the group.
References


Appendix A:

**Big Five Personality Test**

Indicate how true each of the following terms is in describing you:

1 = Not at all true of me

2 = Mostly not true of me

3 = Neither true nor untrue of me

4 = Somewhat true of me

5 = Very true of me

1. ___ imaginative
2. ___ organized
3. ___ talkative
4. ___ sympathetic
5. ___ tense
6. ___ intelligent
7. ___ thorough
8. ___ assertive
9. ___ kind
10. ___ anxious
11. ___ original
12. ___ efficient
13. ___ active
14. ___ soft-hearted
15. ___ nervous
16. ___ insightful
17. ___ responsible
18. ___ energetic
19. ___ warm
20. ___ worrying
21. ___ clever
22. ___ practical
23. ___ outgoing
24. ___ generous
25. ___ self-pitying
Appendix B: Picture used for team-building activity and filler task
Appendix C:

**Demographics Survey**

1.) What is your sex?

2.) What is your major?

3.) Circle the one that applies to you:
   - Senior
   - Junior
   - Sophomore
   - Freshman

4.) Have you participated in activities like this before?

5.) Did you enjoy the activities?
Appendix D:

**Informed Consent Form**

This research is being conducted by Andrew Bates and Michelle Wheeler, students in Psychology 401 at Hanover College. The study in which you are asked to participate is designed to examine the effects of various activities on people’s ability to generate ideas. You will be asked to participate in a creative activity and then asked to generate ideas for an object. Finally, you will be asked to fill out a demographic survey and a personality Test. After you have finished answering all of the questions, you will be debriefed.

The entire study will take between 30 and 45 minutes. There are no risks involved in being in this study, beyond those of everyday life. The information you provide during the experiment is completely anonymous; at no time will your name be associated with the responses you give. If you have any questions about what you will be doing in the study or about the study itself, feel free to ask them now or at any other time during your participation.

If you have any questions after the study please contact Andrew Bates, batesa13@hanover.edu, and Michelle Wheeler, wheelerm13@hanover.edu. You can also contact our research supervisor, Dr. Ellen Altermatt, altermattel@hanover.edu or the chair of Hanover College Institutional Review Board, Dr. Bill Altermatt, altermattw@hanover.edu if you have any questions or concerns.

Participation in this study is voluntary. Refusing to participate or ceasing to participate at any time will involve no penalty. Please inform the researchers if you would like to keep a copy of this informed consent form.

Signature: ________________________                               Date: __________________


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Appendix E:

**Debriefing Form**

The study in which you just participated in was designed to measure if people were more likely to engage in social loafing after participating in a team-building activity or not participating in a team-building activity. This study was also designed to measure if individual’s personality determines whether or not they engage in social loafing. There were two conditions. Half of the participants in this study participated in a team-building activity before the generation task and the other half of participants participated in a filler task. Our hypotheses are that individuals who participate in the team-building activity will engage in less social loafing than those who participate in the filler task, and extroverts will benefit more from the team-building activity than introverts.

Please do not discuss this study with anyone else until the semester is over. If people know about the study before it begins, our results may be jeopardized.

For questions about the research itself, please contact the researchers Andrew Bates batesa13@hanover.edu and Michelle Wheeler wheelerm13@hanover.edu.

For questions about your rights as a participant in this research, you may contact the faculty member supervising the research, Dr. Ellen Altermatt, at altermattel@hanover.edu, or the chair of Hanover College’s Institutional Review Board, Dr. Bill Altermatt, altermattw@hanover.edu.