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External Motivation

The Effects of External Motivation

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Abstract

The purpose of this experiment was to see if external motivation would encourage participants to attempt to increase their speed of task completion. It was hypothesized that the high motivation groups would attempt to increase their speed, whereas the low motivation groups may feel no need to perform the task quickly, as they have not been motivated to do so. 40 participants were used in this study. Materials included a letter of information, a consent form, a word jumble task with two parts, and a debriefing form. The results of the experiment did not support the hypothesis, as there was no main effect of motivation, no main effect of sex, and no interaction. There were some issues with control of extraneous variables in this experiment, such as the age of participants being limited, and the fact that there was no controlled circumstance identical for all participants.

Motivation refers to the amount of and direction of effort (McCullagh, as cited in Wilson, 2012). It is proposed that increased motivation advances learning and performance (McCullagh, as cited in Wilson, 2012). Intrinsic motivation is one’s internal need to succeed. It causes feelings of satisfaction for reasons specific to the individual. Extrinsic motivation is derived from external sources, such as reward or approval from others.

Extrinsic motivation was used in the current study. The experimental groups were externally motivated during task completion with verbal praise, which was expected to increase their speed of task completion. The dependent variable of the experiment is the time in which it takes for the participant to complete the second part of the task, either with or without external motivation. The independent variable is what was manipulated, and in this case, it was the external motivation, which was only given to the experimental groups.
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In 1971, Deci demonstrated the effects of external motivation. He had university students participate in a study, and had them complete a soma cube puzzle task (Deci, 1985). In the second session, participants in the experimental group were given a dollar for completing the task within a certain time (Deci, 1985). During a mid-session break, participants were observed by the experimenter, who found that the amount of time spent working on the task during the free time increased with the introduction of external reward (Deci, 1985).

This past study by Deci implies that external motivation has an effect on behaviour. In the current study, it is hypothesized that the high motivation groups will attempt to increase their speed of task completion due to the previously received external motivation, whereas the low motivation groups may feel no need to perform the task quickly, as they have not been motivated to do so. Differences in response to motivation between genders was also tested.

Method

Participants

The data from 40 participants was used. 10 from the high motivation male group, 10 from the high motivation female group, 10 from the low motivation male group, and 10 from the low motivation female group. The participants were mostly second year undergraduate university students.

Materials

A letter of information was used. It described the study and its nature to the participants, and acknowledged that the study was voluntary and confidential. Participants then received a consent form that they were required to sign before taking
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part in the study. Participants in all groups were then given a word jumble task to complete. Part one of the task was comprised of five jumbled up animal names. They were then given part two of the task, which was comprised of five different animals. Participants were then given a debriefing form that explained what the experiment involved, and provided contact information for any future questions or information regarding the data.

Procedure

Participants were chosen at random, and were then given the letter of information to read. They were then given the consent form to sign. Participants were divided into four groups (high motivation male, high motivation female, low motivation male, and low motivation female). All groups performed the same task. They were individually asked to solve word jumbles, unscrambling words with misplaced letters. However, the two high motivation, experimental groups were given external motivation around half way through the task. The low motivation, control groups were not told anything as they completed the task. All groups were given a short break half way through the task. They were told that they could take a break to clear their head, and would then complete the second part of the task. The control groups were run first, and were timed. Then, the experimental groups were run, and if they completed the task faster than the slowest two participants in the control groups, they were congratulated and were told that they had been faster than a number of other participants. But, only if they were faster than the slowest two control participants. Luckily, none of the participants questioned what “a number” was, because if they had, they would have been told “two” and their data would have been discarded.
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Results

The results of this study were found to be insignificant. There was no main effect of motivation, no main effect of sex, and no interaction (These results are displayed in Figure 1).

Discussion

The hypothesis of the experiment was rejected. Results were obtained and analyzed, to find insignificant results with no main effects. The average difference in time of task completion between part one and part two of the study was not found to be significant for males or females. Males in both the high motivation group and low motivation group took approximately 12 seconds longer to complete part two of the task than they did to complete part one. Females in the high motivation group took about 9 seconds longer to complete part two, and females in the low motivation group took around 14 seconds longer to complete part two. External motivation seemingly had no effect, as those who were motivated did not obtain faster times on part two as predicted. However, the extended completion times on part two of the task could be due to the task’s increased level of difficulty.

There are some concerns that arise with the implementation of the hypothesis. Not all extraneous variables were controlled in the experiment. Noise and distraction were not always eliminated as extraneous variables that could have potentially affected the results. The study was not always carried out in a quiet setting with no distractions. Other control issues include participants being tested at different parts of the day. There was not a constant testing time, and this could have the potential to affect the results for
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Figure 1
External Motivation

some participants. In addition, there was not a highly controlled test condition. This deviates from the ideal as not all participants were tested under the same context, such as a certain private location. Different testing circumstances could differ the results of the study.

The assumption of representative sampling is not the case in the current study. The sample did not represent the larger population as the age and education level of participants remained fairly constant. Second year undergraduate university students were the main source of participants. This causes limitations to the sample, as the larger population was not equally represented.

If this study were to be carried out in the future, an attempt should be made to obtain a more diverse sample of participants, causing the sample to be more representative of the population. A greater effort should also be taken to control extraneous variables. There should be a constant circumstance identical for every participant, which should include the elimination of any noise or distraction, as well as a constant testing time of day. In addition, the task should go through a trial run before testing. This would have caught the problem of part two being more difficult for participants than part one. Even participants who were visibly affected by the external motivation, and wished to increase their speed of completion time, stumbled over some of the words in part two, such as elephant and ostrich, who most participants found difficult (regardless of what group they were in).
References


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<tr>
<td>A</td>
<td>Word Jumble Task</td>
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<tr>
<td>B</td>
<td>Task Answer Key</td>
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</table>
Appendix A

Animals

Part 1

1) dleopar
2) gokec
3) rgiaffe
4) yhena
5) rshoe

BREAK...

Part 2

1) dolinph
2) ocihrst
3) agolrlri
4) tnahpele
5) bbooan
Appendix B

Answers

Part 1

1) leopard
2) gecko
3) giraffe
4) hyena
5) horse

Part 2

6) dolphin
7) ostrich
8) gorilla
9) elephant
10) baboon
Figure 2

ANOVA Summary Table

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[^a] R Squared = .013 (Adjusted R Squared = -.070)