Stress and task difficulty’s effect on math test scores

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Stress is inevitable. It is beneficial in small quantities; conversely, prolonged and unmanageable stress can be debilitating, damaging, and can lead to counterproductive habits (Selye, 1956). In the current study, the effects of stress on students’ academic performance will be assessed in order to help gain a better understanding of stress in the realm of college life. Shaikh et al. (2004) assessed the perception of stress as well as coping strategies of medical students. The study indicated that the results of prolonged stress were low mood (depression), inability to concentrate, loss of temper, and decreased academic performance. Shaikh et al.’s study provides great insight into possible causes, outcomes, and solutions to stress in higher education students.

Cassady and Johnson (2002) examined the cognitive element of test anxiety as it pertained to academic performance. Their study demonstrated the inverse relationship between test anxiety and exam performance, with students scoring lower on exams when they had higher levels of test anxiety.

After looking at these studies, the following questions arise: Is there a relationship between test anxiety and academic performance? Could the results of prolonged stress have an adverse effect on test scores? How does stress impact academic performance?

In retrospect, there are several aspects of the current study that could have been altered in order to create a more sound study.

- Implement motivational factors such as a reward dependent on high test scores, so that participants take the tests more seriously.
- Run a pilot study in order to assess the validity of the stress inducing conditions.
- Increased Sample Size in order to increase generalizability and confidence in results.

In spite of its possible limitations, this study offers some promise towards the future understanding of stress. Its findings could be very useful in the creation of future studies inspiring about the effects of stress and task difficulty on test scores or general academic performance. Although this study has not obtained a cure for stress, it has taken a step in developing a more thorough understanding of stress and its effects. With this understanding, it is possible that new and more effective coping strategies will be developed that will inoculate future students from the negative effects of stress.

DISCUSSION

As hypothesized, participants in the high task difficulty condition scored lower than participants in the low task difficulty condition. However, there was not a significant difference between low induced stress and high induced stress conditions. The lack of significant findings between the high and low stress conditions are consistent with the results of Shaikh et al. (2004). It is possible that the findings of the current study did not support this evidence for two reasons. The lack of difference between the condition’s induced stress levels could be explained by Selye (1956) who said that prolonged and unmanageable stress could have incapacitating effects. However, due to his lack of a concrete definition of the terms “prolonged” and “unmanageable”, it was necessary to make an estimate. A second possibility is that students in both high and low induced stress conditions were cognizant, due to the informed consent form, of the fact that there was neither a reward for high test scores nor punitive measures for low test scores. This lack of stimulating motivational factors left the participants with little reason to take their performance seriously or give a concerted effort.

Although there was not a significant finding in regards to stress, there was the predicted significant effect for task difficulty. This effect demonstrated that participants in the low task difficulty condition scored higher than participants in the high task difficulty condition. This result is important because it verifies the effectiveness of the task difficulty conditions, which could then be used by future researchers who are conducting similar research. In retrospect, there are several aspects of the current study that could have been altered in order to create a more sound study.

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REFERENCES

