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Relationship between Time and Test Anxiety

Heather Damper

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They hypothesis for this study was that if a clock was placed in the classroom then students will suffer from more test anxiety due to increased heart rates measured by their pulse. Due to the fact that there are no clocks in any of the classrooms that the researchers visited the researchers concluded that the outcome of this study would be beneficial to the Lindenwood University Campus and other campuses that do not have clocks in the classrooms. The participants that were a part of this study were all recruited through the Lindenwood Participant Pool. The participants varied in gender and race and were all over the age of 18 years. The methodology used for this study was a between-participants design. Each participant was randomly assigned to either Group A, who had a clock in the room, or Group B who did not have a clock in the room. All participants were instructed to take a timed test and finish however many problems they could within a 2 minute time period. We found that although our data did not yield a significant difference between having a clock in or out of the classroom on level of test anxieties as measured by to increased heart rates, we did find other underlying factors that could suggest that a clock in the classroom may be beneficial after all.

The researchers were determined to find the connection between test anxiety and time.

This problem was worth trying to solve in many ways. Test anxiety is a well know problem that extends far beyond the experience of school. Test anxiety can be seen throughout modern culture

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whether it is applying for a job or applying for graduate school. This study will also teach us how to become better test takers. The purpose of this study was to find out if having a clock in the classroom would negatively affect a student's anxiety level measured by an increase in heart rate. At Lindenwood University campus there are few clocks in the classroom, this project's outcome has become beneficial to the campus. After administering the appropriate research we did find out if having a clock in the classroom will be beneficial to students who are taking tests. Also this project gave people more insight on how to deal with test-taking strategies. This study was different from other studies about test anxiety because in this study clocks were a part of the environment rather than the intrusive item. Things that have been discovered in studies are about feelings before taking an exam. Our study also looks at the symptoms of taking a test and what encounters there are before, during and after the timed test. When an individual worries before an exam it will have an extreme effect on test performance and abilities to perceive test problems (Ashcraft, 2002). The test that the participants have taken is based on 100 multiplication problems that were timed in two minutes. It is known that the majority of the time being put under pressure affects what we are trying to do and may alter the alternative. Researchers Smith and Wolf (1995) said, students who work harder on a test do this because it benefits them, but when it comes to more important tests like finals certain aspects will trigger more test anxiety, which will affect the student.

In college many tests are significant to the students, so Smith and Wolf (1995) were saying that when a test is important to the student they work harder to do well but while knowing they want to do well they began to experience test anxiety which makes students more susceptible to test anxiety. Strategies must be taken into consideration so that students can improve their

performance to do well. Using good test-taking strategies improves students' success in school, students' perspectives towards tests and causes test anxiety to decrease (Dodeen, 2008).

Test anxiety can also be helpful. Test anxiety can also alter student's ability to perform well on tests (Mazzocco & Tsui, 2007). Due to lack of time to complete all tests questions it can causes students to be more prone to anxiety that will affect their performance. Timed and untimed math tests are known to be great predictors of test anxiety test. Literature suggests that students should organize their own beliefs and strategies to decrease their anxiety in mathematics (Ahmet & Ahin, 2009). Anxiety is usually a buildup of students not knowing the study material very well .this leads to previous learning abilities and how to cope with stress when it comes to tests. A research study was done talked about what level of learning had to do with performance and test anxiety. The findings of the current study support the notion that mathematical anxiety may be related to the level of learning as opposed to overall mathematics performance (Cates & Rhymer, 2003). The cause of test anxiety comes from previous schooling. Some teachers do not teach strategies or prepare you for tests administered in college. So the way a student may perform in college is based on learning from high school. College students come to school with little knowledge about the abilities that should be there to become a better learner (Daigle & Rachal). Test anxiety can build up from many things. But if you enhance your test taking ability by learning strategies you will become a better test taker.

Our study was devised to make students aware of their anxieties when it comes to timed tests and to help better prepare them for future tests with a handout on how to overcome test anxieties (ACT prep.com). The method in which we conducted our study is listed below.

Method

Participants

After passing the LPP quiz we were able to recruit participants from the LPP for the study. There were in all 25 participants. Age, sex and status were not needed for this study. We contacted our participants through e-mail or telephone number they put down for the study as they signed up. They came freely to sign up for the study in young 4th floor across from room 407. They were given a receipt to obtain bonus points from the study.

Materials

There were 25 participants and two groups Group A with a clock and Group B without a clock. In group A the participants were placed in a room that had a wall clock present in the room and in group B there was not a wall clock. A between participants design was used. The classroom we did the study in was in was well equipped for taking tests. For Group B (without clock) we just took the wall clock down and everything else remained the same about the classroom. The tests were timed and a stopwatch was used to take Participants' pulse. We conducted an anxiety test (Timed test) and a survey. The test consisted of 100 multiplication problems that were created by the researchers. The participants were allowed two minutes to solve as many problems as they could without the use of a calculator. A survey was also given that asked questions relating to anxiety.

Procedure

First we requested a room and then receive it from the LPP office. After a signup sheet and description of the study was posted, researchers preceded to get all the materials needed for the study on that particular day. Once participants arrived they were randomly assigned to their group and given two consent forms to ensure that they fully understood their roles and rights in

this study. To protect participant's confidentiality the consent form and participants receipt were the only time participants wrote their names down. Next participants were allowed one minute to assess their heart rate by finding their pulse. Once the heart rate was found researchers wrote down the information on the soon to be answered questionnaire and administered the timed test. The researchers informed the participants that they had only two minutes to complete as much of the test as they can with only the use of scratch paper. Once the participants ran out of time their test were collected by the researcher and the participants were instructed to take their pulse one last time participants were then asked to finish the rest of the questionnaire. A feedback letter was given to participants once they completed the small questionnaire to debrief the participants on the rationale of the study and what we expect to find from all the information retained from all the groups. The feedback letter also contained where and when the participants were able to receive a full copy of our study once completed, if they chose. Finally after all the research papers were completed the participants received their compensation for participating in the study and a helpful advice guide on test taking strategies from the ACT prep website. The compensation for this study consisted of all LPP participants receiving one point extra credit.

Results

The findings of our study did not support the hypothesis. Although our findings did find a slight difference between active and resting heart rate with a clock and without. It was not significant enough to prove or hypothesis. The mean of having a clock is 4.083 and the mean for without a clock is -7.7692. We used an independent t-test, which is $t(23) = 1.691$, $p = .104$, which tells us that it is not significant. When it comes to keeping track of time, two people never, eight sometimes and three always do. The students that glance at a clock or watch, 20 students glance 1 to 4 times a test. The most important finding from our study is that 76% of our

participants prefer a clock in the classroom when they are taking a test. This means that even though our hypothesis was not significant we however did find some important information that could be worth looking forward into.

Discussion

Throughout our study there were many limitations that could attribute to the fact that we did not find our hypothesis supported. One major limiting factor in our study was the fact that we did not collect all the participants that we needed. If we had more participants we could have had a more varied source of data. Another limitation was the area where we held our study; although the room was sufficient enough to take a test in, it was not the same as a classroom. We feel that if the participants took their test in an environment closely related to a real test taking environment maybe the participants would have taking the study more seriously.

Even though our study was not determined by the basis of how well they did on the timed test we did however find patterns in which the students began and finished their test. One pattern found was that even though the participants were instructed to answer the questions in no particular order, all of the participants tried to complete the first two rows of questions before scattering the rest of their answers. This shows us that maybe in the beginning the participants took the test seriously (like a real test) in the beginning go but towards the end they just wanted to make it look like they completed a lot before the time ran out.

For future studies on this topic a lot more detail can be collected. One example of getting more detail could be comparing how well participants did on the test to their heart rates. Another improvement could also be getting more demographic information show we can account for age, sex and status on campus. This would show us what age, sex, and status is better at coping with test anxiety. Another major improvement could also be adding another form of timed test like a

timed comprehension test. If all of these factors were to be taken into consideration then this study could become a very empowering and effective study that could benefit not only college but non-college students as well.

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