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MATH 171
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Summary Report

Introduction:

The purpose of this research project is to analyze the perception of the passage of time in people. The research question of this project examines whether humans can accurately keep track of the passage of time based on personal experience and knowledge about how time passes.

Representation:

This question will be tested by estimating people's perception of the passage of two minutes of time. The sample of this experiment can be considered to be representative of the population of traditionally-aged college students. 27 participants were asked to estimate how long it took for two minutes to pass while the participant's eyes were closed and without the use of a timing device. 15 participants were alone in a room while 12 participants were in a classroom together. Participants used the stopwatch feature on their smartphones. The participants started the stopwatch with their eyes closed and stopped the stopwatch when the participants believed that two minutes had passed. All the participants remained silent during the entire experiment and reported their time in seconds to the instructor. The data collected from the participants is as follows: 48.68, 70.14, 93.8676, 95.0737, 98.9602, 102.835, 107.039, 107.48, 110.905, 112.09, 113.102, 116.53, 117.524, 120.435, 121.77, 122.61, 125.69, 126.327, 129.249, 129.442, 133.92, 136.838, 138.10, 140.30, 141.454, 148.19, and 153.32.

Analysis:

The dataset of this experiment had a sample size of 27, a sample mean of 117.10635, and a sample standard deviation of 23.007684. The only outlier in this dataset was the data point of 48.68 seconds but this data point was left included in the dataset. A t-interval was used for the data analysis and there were 26 degrees of freedom in the t distribution. We are 95% confident that the mean number of seconds that people perceive two minutes to be is between 108.005 seconds and 126.208 seconds with a margin of error of 9.10154 seconds. Our confidence interval tells us that people have a reasonable perception of the passage of two minutes of time.

Reasonableness/Assumptions/Conditions:

The data collection methods of the 12 participants that were tested in a classroom together raises concern that the participants may have directly or indirectly influenced the results of the other participants. Also, because this experiment only included college-aged students in the sample, this sample is only representative of the population of college-aged students. Our confidence interval suggests that people are accurately able to perceive the passage of two

minutes of time. However, it's unclear whether this scales to longer periods of time, such as 10 minutes, 30 minutes, or an hour.

Summary/Conclusions:

The purpose of this research project was to see if people could accurately perceive how long it took for a time to pass. People were tested to see how long they thought two minutes lasted. The participants of this experiment recorded how long they thought two minutes was on the stopwatch on their smartphone and reported their times. Based on data analysis of the reported times, our findings suggest that people are accurately able to perceive two minutes. Because the participants of this experiment were college students, the findings of this experiment applies only to the population of college students.