**FACEBOOK FRENZY**

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For our project, we went around the school and surveyed students and staff members of Fowler High School how many minutes a day they spend on Facebook. We received many different times. People spend anywhere between 0 minutes to 60 minutes on Facebook a day. However, even though this is just a sample, it seems like it represents most of the people here.

We wanted to figure out the average amount of time people spend on Facebook per day at FHS. We only took a sample of our whole school population because it would be difficult to have collected data from everyone. In order to find the mean, we had to add up all the data we gathered and divide by our sample size. This resulted in a mean of 13.33. This number means that the average time spent on Facebook per day per person is about 13.33 minutes. Based on the mean, we will be using a left tail area for our hypothesis. Next, we wanted to figure out the standard deviation. To do this, we used a google sheet equation. We calculated the standard deviation to be 16.52 minutes. This number shows that out data was not really spread out. Most people spent about the same amount of time on Facebook.

The null hypothesis for our data set of Facebook use for FHS students and staff members is Ho:μ=20. We were able to conclude this using an article that estimated that a person uses Facebook for 20 minutes a day. The alternate hypothesis for our data set of Facebook use for FHS students and staff members is H1: μ ≠ 20. We chose this as our alternate hypothesis because we wanted to see if it wasn’t equal, not if it was greater than or less than 20. We choose a level of significance or 5%, or$ α=0.05$. The level of significance is the probability of rejecting the null hypothesis when it is true. Our sample size of students and staff members at FHS for Facebook use is n=30. The degrees of freedom will help us to find our p-value. Since degrees of freedom is one less than the number of the sample size, the degrees of freedom is 29.

 In order to find the t-value, we need to use the formula (x̅-μ) / (s/√n). The formula for the amount of time FHS students and staff members spend on Facebook each day then becomes (13.33-20) / (16.52/√30), resulting in a t-value of 2.2114. Using a t-table, we can see that the value falls between the numbers 2.045 and 2.462. Then, when looking at what numbers they correlate with in the one-tail area, we can conclude that the p-value is between .025 and .010. Therefore, we can reject the null hypothesis because the probability of chance is so low that the event is unlikely to occur.

We are able to reject the null hypothesis of FHS students and some staff using Facebook for 20 minutes per day with a 5% level of significance. This shows that not many people spend over 20 minutes on Facebook, which is great because they are not glued to their phones. Even though this was a relatively small sample, it gives us an idea about how long most people spend on Facebook per day. Although our data may appear to be less, it may be greater due to the fact that we conducted a two-tail test.

**Facebook Usage**

**Minutes Staff or Student**

|  |  |
| --- | --- |
| 0 | student |
| 0 | student |
| 20 | student |
| 5 | student |
| 5 | student |
| 5 | staff |
| 20 | staff |
| 60 | student |
| 10 | student |
| 20 | student |
| 0 | student |
| 20 | student |
| 0 | student |
| 15 | student |
| 20 | student |
| 5 | student |
| 0 | student |
| 0 | student |
| 45 | student |
| 5 | student |
| 30 | student |
| 5 | student |
| 10 | staff |
| 0 | student |
| 5 | student |
| 60 | staff |
| 20 | student |
| 0 | student |
| 10 | staff |
| 5 | student |