

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
|  | | Survey on Phone Usage and Happiness | | | | |  | |
|  |  | | | | | | |  |
|  | | | |  |  | | | |
|  | | | | ElAmir ElSady 22-101029 |  | | | |
|  | | | | 3/9/2024—Data Analysis—Dr Mohamed Taher |  | | | |
|  | | |  | | |  | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  | | | |
|  | | SAMPLING | | |  | | | |
|  | |  |  |  |  | | | |
|  | POPULATION OF INTEREST This survey’s population of interest is young people in Egypt. I have decided to choose this population as young people usually tend to have more phone time and try to pay more attention to their happiness. To achieve this population, I sent my survey to multiple universities across Egypt as well as a few high schools. | | | | | | |  |
|  | SAMPLING METHOD | | | | |  |  |  |
|  | For this assignment, I used a combination of convenience sampling and stratified sampling. Convenience sampling because I selected universities and high schools that were easy for me to access, and stratified sampling because I specifically targeted young people in Egypt. These sampling methods allowed me to gather data from a diverse group of young people in Egypt, maintaining cost and time efficiency while increasing the generalizability of my findings. BIAS IDENTIFICATION To minimize bias in my survey, I used a couple strategies and techniques. I ensured anonymity in my survey so that participants would give honest answers, especially for sensitive questions related to phone usage and happiness. I also used clear and neutral language so that there is no leading or suggestive wording that could influence participants' responses. Finally, I used data validation techniques to identify and remove any invalid or unreliable responses, such as responses that are too quick or inconsistent. | | | | |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | |  | | |  | | |  | | |  | | | | | |
|  | | | | | | SURVEY | | | | | | | | |  | | | | | |
|  | | | | | |  | | |  | | |  | | |  | | | | | |
|  | | | QUESTIONS  1. Age 2. Gender 3. What is your current average screen time? 4. How happy are you in life currently? 5. Do you think your phone usage affects your overall happiness?  SURVEY LINK <https://docs.google.com/forms/d/e/1FAIpQLSdgfJLltHASBaV-RTyRx8YKeLKrHKoKHxyWW-krK0s0DJuUpQ/viewform?usp=sf_link> SAMPLES COLLECTED Number of samples collected: 40 | | | | | | | | | | | | | |  | | | |
|  |  |
|  | | | | |  | | |  | | |  | | |
|  | | | | | |  | | |  | | |  | | |  | | | | | |
|  | | | | | | DATA ANALYSIS | | | | | | | | |  | | | | | |
|  | | | | | |  | | |  | | |  | | |  | | | | | |
| BOX PLOTS Putting all the data into python, we can calculate the mean, median and mode and visualize these results in a box plot:  AVERAGE SCREEN TIME:  A black background with white text  Description automatically generated  A graph with a line and a line  Description automatically generated with medium confidenceFrom the data collected, we can see that on average, young people in Egypt spend 5.85 hours per day on their phones. Most people who took the survey reported spending around 4-7 hours per day.  HAPPINESS SCALE:  A black background with white text  Description automatically generated  A graph with a line and a line  Description automatically generated with medium confidenceFrom the data collected, we can see that on average, young people in Egypt are 6.075 on the happiness scale. Most people who took the survey reported laying 5-8 on the happiness scale. | | | | | | | | | | | | | |
| A graph with blue dots  Description automatically generatedGRAPHS   After putting all the data into python and creating a scatter plot, I am left with the graph above. From the graph it is observed that there is an extremely weak negative correlation between phone usage and happiness. A negative correlation means that as phone usage increases, happiness decreases. However, due to the correlation coefficient being -0.21, we can’t fully confirm or trust this conclusion as the correlation is weak. Therefore, we may say that the hypothesis I am testing is wrong, and there is no clear correlation between Phone Usage and Happiness.  A pie chart with text on it  Description automatically generated  However, if we look at another piece of data collected from the survey, the majority of the sample viewed that their phone usage did affect their overall happiness. How come most people feel a correlation, yet no correlation is displayed statistically? (answered in potential issues) | | | | | | | | | | | | | |
|  | | | | | | |  | | |  | | |  | | |  | | | | | |
|  | | | | | | | CONCLUSION | | | | | | | | |  | | | | | |
|  | | | | | | |  | | |  | | |  | | |  | | | | | |
|  | | | | In conclusion, from the data I have collected, it cannot be derived that phone usage affects the happiness of young people in Egypt. The correlation between the two is -0.21%, which is a negative but weak correlation, therefore happiness is not necessarily impacted by phone usage. Interestingly though, most people who took the survey (50% exactly) answered that they feel their happiness level results from their usage of phones day-to-day. Maybe if I took a larger sample, the results and correlation would’ve looked different, leading to the final remark of this report. | | | | | | | | | | | | | | | |  | |
|  | | | | POTENTIAL ISSUES | | | | | | | | | | | | | |  |  |  | |
|  | | | | Some potential issues with my data could be that my sample size was too small. As mentioned before, most people who took the survey answered that they do feel like phone usage affects their happiness in life. Perhaps if I took a larger sample such as 100 people, the correlation would’ve been stronger, and the data collected would’ve yielded more favorable results. Another issue is that because of time and cost, I used convenience sampling. If I spread my survey to a wider range of young people across Egypt, I may have gotten a less bias and more accurate answer relative to Egypt’s population. In terms of confounding variables, I can’t seem to find any. Age cannot be a confounding variable as the people who were reportedly younger spent around the same amount of time on their phones as the older participants. Same can be said about the gender. Females too spent around the same amount of time on their phones as males did. Therefore, within this survey, we can say that there were no confounding variables. | | | | | | | | | | | | | |  |  |  | |

THANK YOU!