A Research on the Relationship between the use of social media platforms and its impact on the mental well-being of high school students

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PROPOSAL

1.Research Question

The group will be investigating the relationship between the use of social media platforms and its impact on the mental well-being of high school students. In the era of technology, our group observes that a majority of high school students actively engage with different social media platforms. We wonder if using these platforms correlates with poor mental well-being amongst high school students.
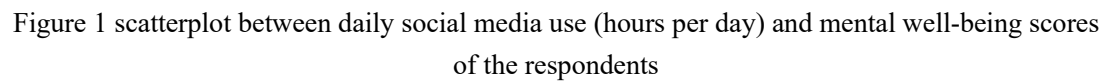
2.Background Research

Three primary sources are relevant to assess the relationship between social media usage and mental well-being. These include the study on "The Impact of Social Media on Mental Well-Being among Adolescents", which examines the positive and negative effects that frequent social media use could have on adolescents, as well as "The Social Media Paradox: An Examination of Mental Health, Self-esteem, and Cyberbullying among Adolescents", which looks at the connection between online harassment and the mental health of teenagers. Lastly, "Teenage Social Media Use and its Impact on Mental Health: A Review of the Literature" provides a comprehensive understanding of the topic, citing various researches and data collected on a global scale.

3.Sampling and Experimental Design

• Variables: Social media use (hours per day) and mental well-being (measured through an established self-report mental health scale).
• Type of study: The study is an observational, cross-sectional study, as the group will analyze the data from a single point in time without manipulating any factors.
• Data collection: Data will be collected through questionnaires designed by the group, which will measure the time spent on social media and the mental well-being of high school students.
• Scope of inference: These data can be generalized to the population of high school students worldwide, taking into account cultural and regional variations.

4.Exploratory Data Analysis

We received a total of 52 valid questionnaires, among which 50 people indicated that they use social media platforms daily. Figure 1 below shows a scatterplot between daily social media use (hours per day) and mental well-being scores of the respondents.

Figure 1 scatterplot between daily social media use (hours per day) and mental well-being scores of the respondents

We will calculate the correlation coefficient to measure the strength and direction of the relationship between social media use and mental well-being scores. Additionally, we will conduct a linear regression analysis to further explore the relationship between these variables.

5. Group Task Assignments and Timeline

In this project, Kyle and Kevin are responsible for the introduction, data collection, conclusion, data analysis and future suggestion. The proposal and data collection would be done by May 15th, the preparation (including introduction and methods) would be done by May 16th, and the main research part would be done by May 18th. Finally, the project would be finished and re-checked before May 20th. The presentation will be in class.

6. Data

Figure 3 shows part of the original data collected by questionnaire.

The questionnaire consists of 3 questions：

1. Do you regularly use social media platforms (e.g., Facebook, Instagram, Twitter, etc.)?

2. On average, how many hours per day do you spend on social media platforms?

3. Please rate your overall mental well-being during the past month on a scale from 50-100, where 50 represents very poor and 100 represents excellent.

4. What is your gender? (This information will only be used for research purposes and will not be shared with other parties.)

Remember that in order to reduce response bias, we would place personal questions such as gender at the end.

7. References

[1] Anderson, M., & Jiang, J. (2018). Teens, Social Media & Technology 2018. Pew Research Center. Retrieved from https://www.pewinternet.org/2018/05/31/teens-social-media-technology-2018/

[2] Best, P., Manktelow, R., & Taylor, B. (2014). Online communication, social media and adolescent well-being: A systematic narrative review. Children and Youth Services Review, 41, 27-36. doi:10.1016/j.childyouth.2014.03.001

[3] Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social Comparisons on Social Media: the Impact of Facebook on Young Women's Body Image Concerns and Mood. Body Image, 13, 38-45. doi:10.1016/j.bodyim.2014.12.002

[4] Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth. Psychological Bulletin, 140(4), 1073-1137. doi:10.1037/a0035618