Social Media - Is it too much?

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Introduction

Social media has become an integral part of society, and its effects on various aspects of life, including education, have drawn significant interest from researchers worldwide (Chou et al., 2009; Anderson, 2018; Hawn 2009). These studies are conducted to understand and quantify the impact of social media on students' academic performance and overall educational experience. The findings can guide educators, policymakers, and parents in maximizing the benefits of social media in education while mitigating its potential harm (Dixon et al., 2014; Chou et al., 2009).

Understanding these impacts can also help in developing effective educational strategies that incorporate social media, enhancing learning outcomes.

Methods

In this study we examine how to understand students' behavior with social media to understand how they interact with educational content.

Design

The experimental survey was designed in Qualtrics and distributed in mTurk.

Treatment

Treatment was provided via three “tweets”. We had two treatment methods and control. Both the treatment “tweets” provided the same information; the only change was in the tone or language of the tweet. Each participant received one of the three methods.

Independent Variable: Treatment method (Friendly, Factual, Control – Figure 1)

Dependent Variable: Willingness to Engage in Social Media (Scale of 1 to 5)

Other Variables: Demographics, hours spent on the internet/social media (Likert scale from 0 hours to more than 10 hours), use of internet to complete academic coursework (Yes/No)

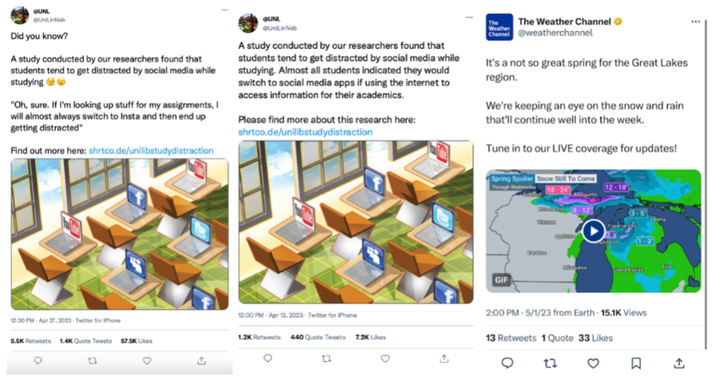


Figure 1; Treatment methods

Results

Overall, we had data from 229 respondents, of which N=150 were male.

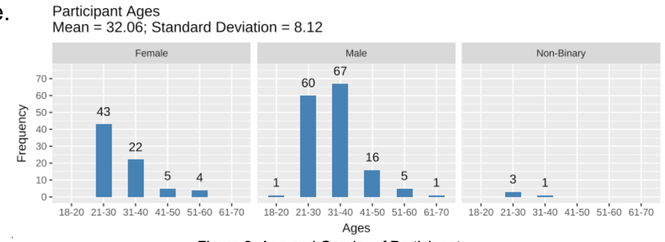


Figure 2: Age and Gender of Participants

GROUP	GENDER	AGE
Friendly	Male = 53	Mean = 32.26
	Non-Binary = 1	SD = 8.3
	Female = 21	
Factual (One missing point)	Male = 47	Mean = 31.6
	Non-Binary = 2	SD = 7.18
	Female = 27	
Control	Male = 50	Mean = 32.45
	Non-Binary = 1	SD = 8.8
	Female = 26	

Table1: Age and Gender of respondents, by Group

Majority of the respondents were undergraduate students (N=150) and used the Internet for academic assignments and coursework.
Respondents spent around 4 to 6 (N= 72)hours daily on social media.

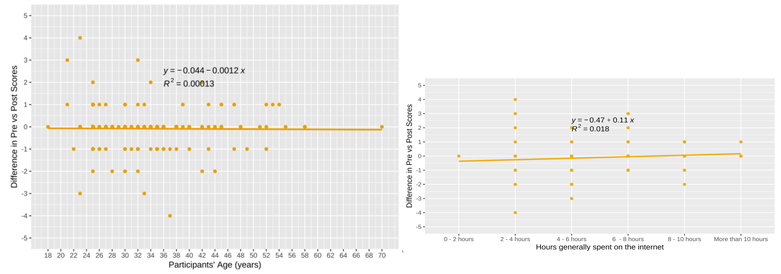
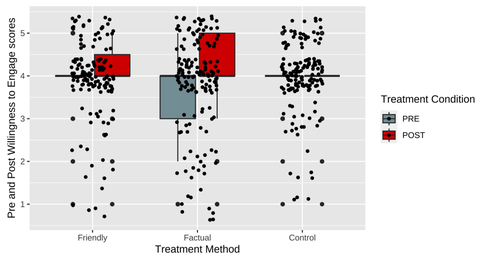


Figure 3: Linear Regression Models between dependent variable and Age & Hours spent on social medial



There was no significant difference found in pre vs post scores when compared by the treatment methods they received.

Figure 4: Main effect of treatment on dependent variable.

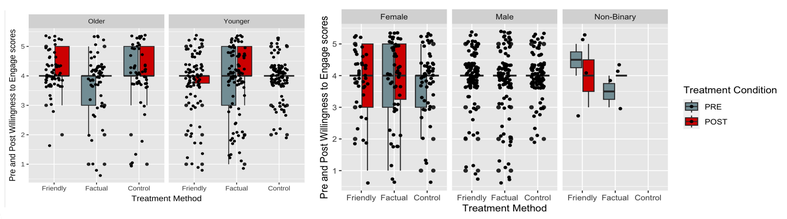


Figure 5: Effect of treatment, compared by age (younger, older) and gender (male, female and non-binary)

No significant differences were found across gender, age group, and differences based on hourly use of the internet (using ANOVA).
However, on further analysis, there was a significant difference across respondents’ education levels ($F(5,446) = 2.638$, $p > 0.05$).
Post Hoc tests (TukeyHSD) revealed significant differences between respondents with associate degrees showing less willingness to decrease their social media engagement as compared to respondents that were high school graduates ($p = 0.0183$)s, bachelor’s degree ($p = 0.0113$) or graduate degrees (0.0148).

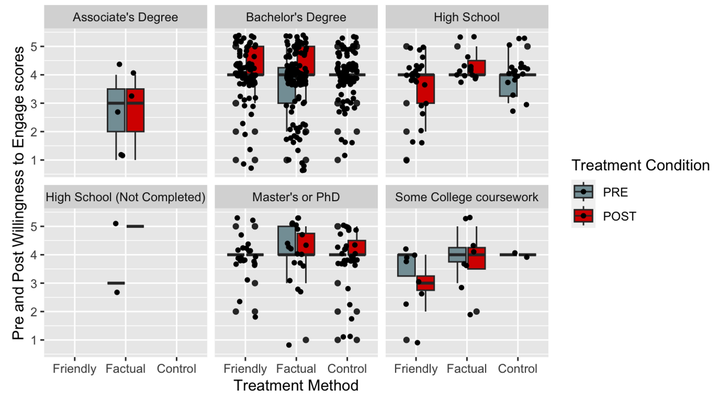


Figure 5: Effect of treatment, compared by education

Discussion & Conclusion

- The survey received responses from a total of 229 participants.
- Majority of the participants were male and undergraduate students, earning an average of $50K to $60K annually.
- Overall, majority of the respondents used internet for completion of academic work and spent around 4 to 6 hours daily on social media.
- We compared the effectiveness of treatment across multiple factors. **Overall, there are no significant differences in the pre and post willingness to engage in social media scores.**
- Scores show a higher variability post treatment (specifically for Friendly), indicating a change in response. This same behavior is seen across all comparisons, with more variability (measured by length of the box plot), specifically for the Friendly treatment method.
- Significant differences were revealed when compared by education levels. Specifically, there was a significant difference between respondents with an associate’s degree vs high school, undergraduate or graduate students.
- Future research should include robust treatment methods and durations.

References

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