Effect of Interruptive Facebook Use on Working Memory in the 21st Century Learning Environment

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The association between media distractions and learning is a popular topic in modern behavioral psychology. Understanding these complex relationships is critical as educators navigate how to prepare students in a 21st century learning environment. The present study investigates the relationships between self-esteem, intensity of Facebook use, and working memory. This study was specifically designed to emulate specific distracting situations students face while studying. The participants were high school students ranging in age from 16 to 18. Participants completed the Rosenberg Self-esteem Scale to determine their explicit self-esteem and then studied 24 four-letter words for three minutes. Participants immediately recalled these words, and were randomly assigned to one of three activities: viewing their personal Facebook profile, viewing their friends' profiles, or surfing the Internet. After five minutes, participants recalled words from the first exercise. The percent difference from the first and second recall was recorded. Participants completed a Facebook intensity usage survey after experimentation that measured intensity of Facebook use and emotional connectedness to Facebook. A one-way ANOVA between testing groups elucidated a significant difference between testing groups ($p = 0.0312$). Post comparison using the Tukey HSD test indicated the mean percent difference for the Facebook Friend group ($M = -0.0801$, $SD = 0.1157$) was significantly different from the Facebook Profile group ($M = -0.2355$, $SD = 0.1287$). Facebook intensity was predictive of participant's performance amongst the Facebook friends profile group ($R2 = 0.2993$). The Rosenberg Self-esteem scale was predictive of participants performance amongst the Internet control group ($R2 = 0.2104$).

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