

Background

- In recent years, social media usage has been on the rise. This has been accompanied by an increase in negative symptoms for adolescents' mental health, who have been most directly affected by social media usage (Twenge et al., 2017) and has been shown to contribute to a decrease in one's well-being across demographics (Roberts, 2020; Sharifian, 2022). Additionally, time spent on social media has been revealed to have a clear positive relationship with loneliness (Hunt et al., 2021).
- Social media engagement (SME) is multi-dimensional and therefore should be analyzed through a multi-faceted lens that includes considerations of cognitive (thoughts), behavioral (actions), and affective/emotional (feelings) motives (Ni et al., 2020).
- Jones et al. (2022) found that those who had increased affective (emotional engagement) with social media were more prone to react to negative emotions and to utilize social media specifically to cope with these negative emotions, which may contribute to depression.
- Further investigation of how social media engagement impacts loneliness is crucial to developing effective treatments for the negative impacts of social media usage.
- Research suggests that mindfulness has many positive outcomes such as reduced levels of depression (Loucks et al., 2023; Jones et al., 2022; Lewin et al., 2023), lowered stress, decreased loneliness (Bonsaksen, 2023; Loucks et al., 2023; Borawski, 2021; Lindsay et al., 2019), diminished anxiety (Apaolaza et al., 2019), and an increase in overall well-being and health (Loucks et al., 2023).
- We believe that mindfulness may be a mediating factor for how the different facets of social media engagement (cognitive, behavioral, and affective) can impact an individual's level of loneliness.

Introduction & Research Question

This study aims to explore if mindfulness mediates the relationship between loneliness and social media usage and if types of social media engagement moderate this relationship.

Research Questions:

- Is there a relationship between total screen time and loneliness?
- Does mindfulness mediate the relationship between behavioral social media engagement and loneliness?
- Does mindfulness mediate the relationship between cognitive social media engagement and loneliness?
- Does mindfulness mediate the relationship between affective social media engagement and loneliness?

Methods

Participants

The data gathered represents a sample of 449 undergraduate students enrolled at Liberty University. To participate in the study, students had to be 18 years of age or older and enrolled in at least one residential course at Liberty University. The study recruited participants from the school of Psychology, Business, and Biology.

Study Design

Participants completed an online Qualtrics survey that asked demographical questions followed by measurements for loneliness through the Social Connectedness Instrument (SCI) and the UCLA 3 item scale. Following that the Social Media Engagement Scale (SMES) was used to assess how integrated and affected participants were by social media. Next data was collected on how aware and present participants were in their daily life with the Mindfulness Attention Awareness Scale (MAAS). Finally, participants were instructed to submit the past two weeks of their phone screen time detailing their categorical use as well as their top apps for that time frame.

Analysis

- Basic Descriptive Statistics
- Correlations between all variables
- Mediation Path analysis

Table 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
UCLA Total	449	3	9	4.93	1.703
BE Total	449	4	20	14.76	3.864
CE Total	449	3	15	7.96	2.529
AE Total	449	4	20	8.32	2.904
MAAS_T	449	17	90	55.94	12.684

Table 2

Correlation Matrix for Loneliness, SME Subscales, and Mindfulness

Variable	1	2	3	4	5
1. Loneliness	—				
2. Behavioral	.136**	—			
3. Cognitive	.049	.393**	—		
4. Affective	.374**	.535**	.447**	—	
5. Mindfulness	-.382**	-.237**	-.143**	-.313**	—

Note. **indicates $p < .001$. *indicates $p < .05$.

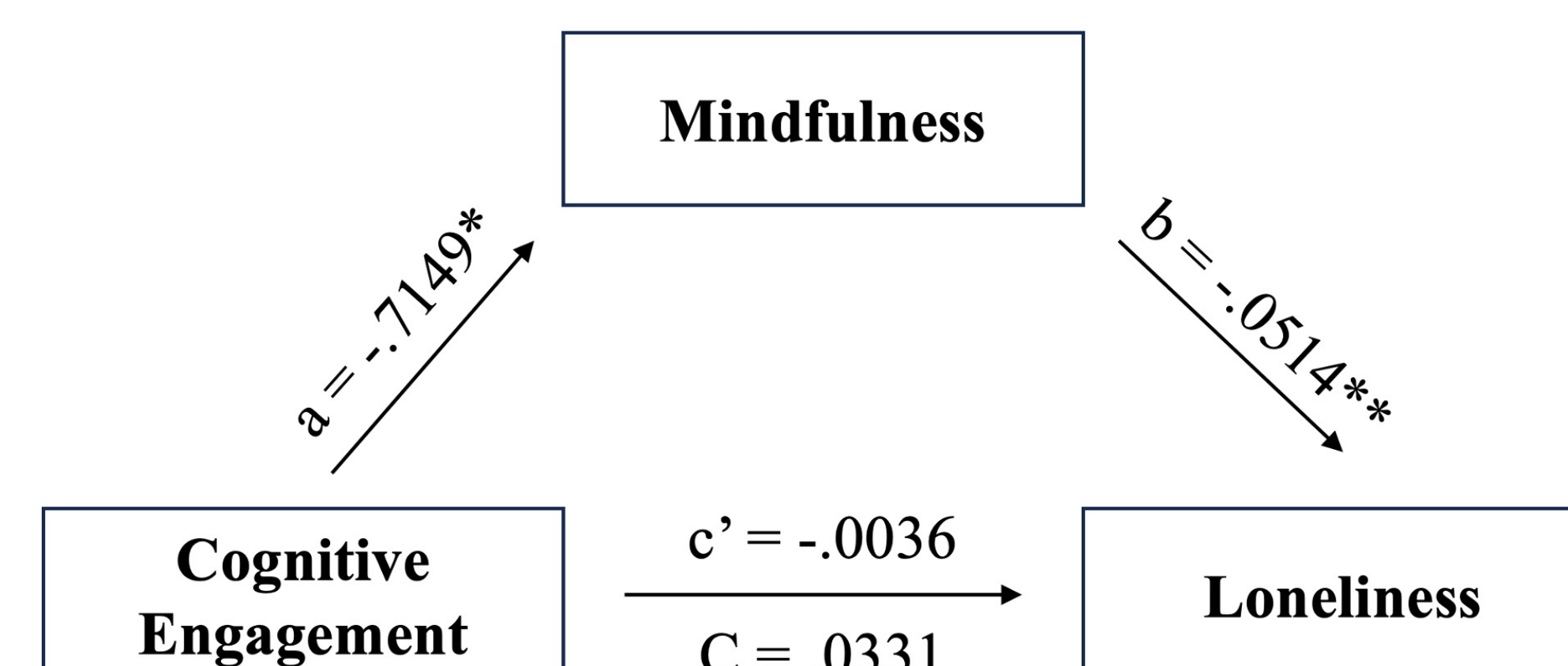
Table 3

Standardized Indirect Effect Coefficients and Confidence Intervals

	Effect	SE	BootLLCI	BootULCI
Cognitive SME →				
Mindfulness → Loneliness	.055	.019	.018	.093
Behavioral SME →				
Mindfulness → Loneliness	.088	.020	.050	.129
Affective SME →				
Mindfulness → Loneliness	.092	.019	.058	.132

Figure 4

Mediation Path Analysis for Cognitive Engagement Effecting Loneliness when Mediated by Mindfulness



Note. **indicates $p < .001$. *indicates $p < .05$.

Figure 1

Bar Chart Depicting the School or Department of Participants

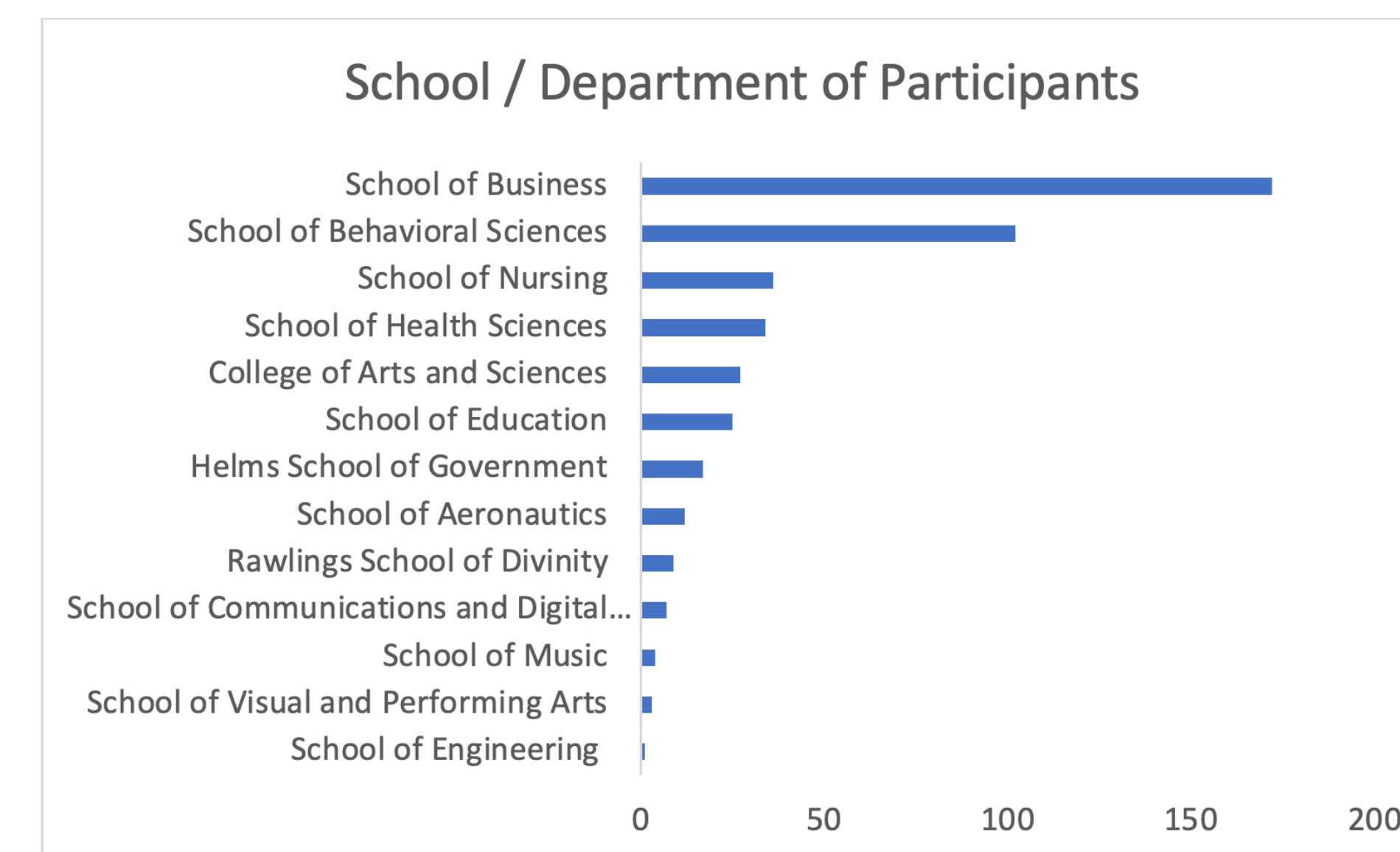


Figure 2

Bar Chart Depicting the Sex of Participants

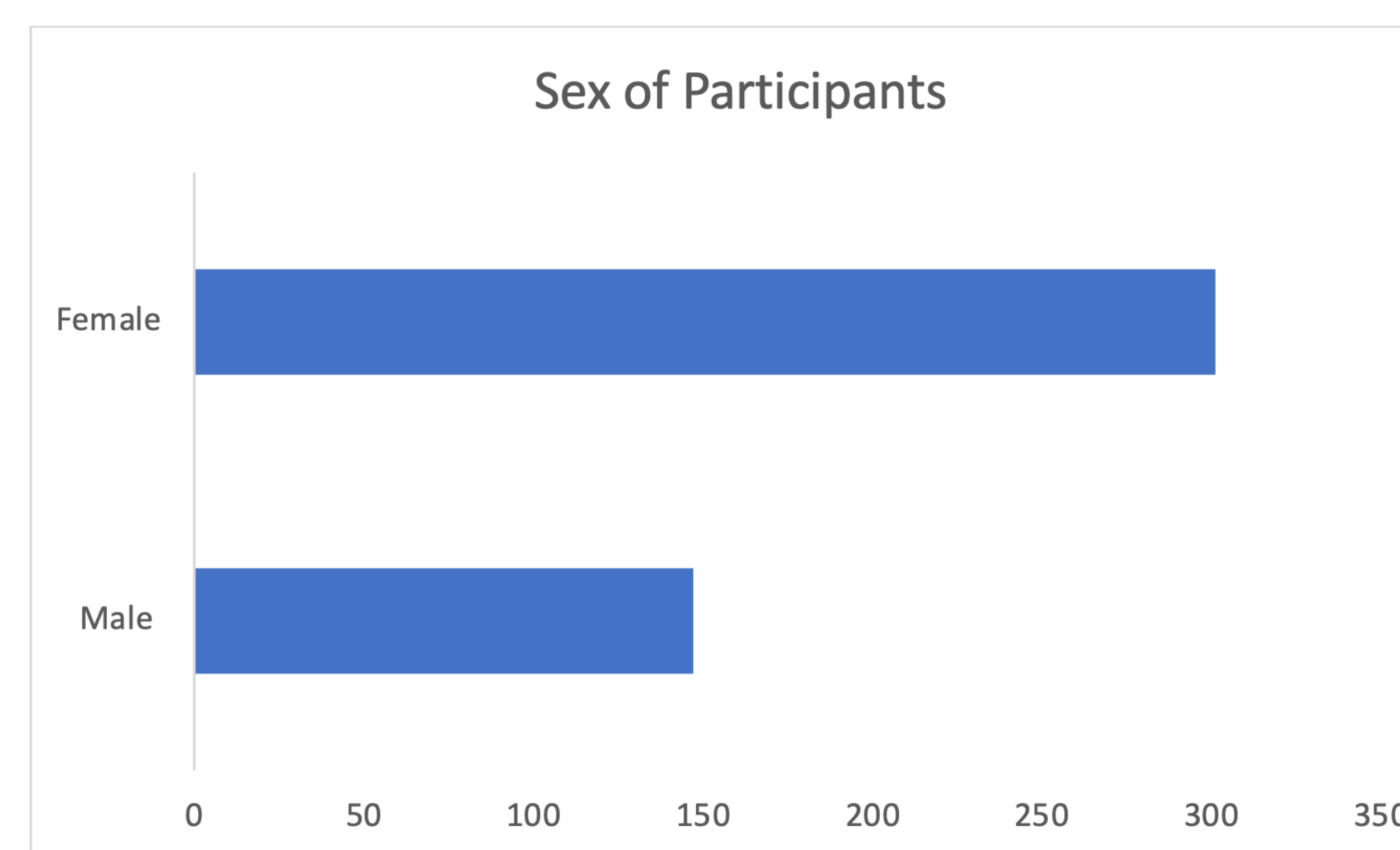
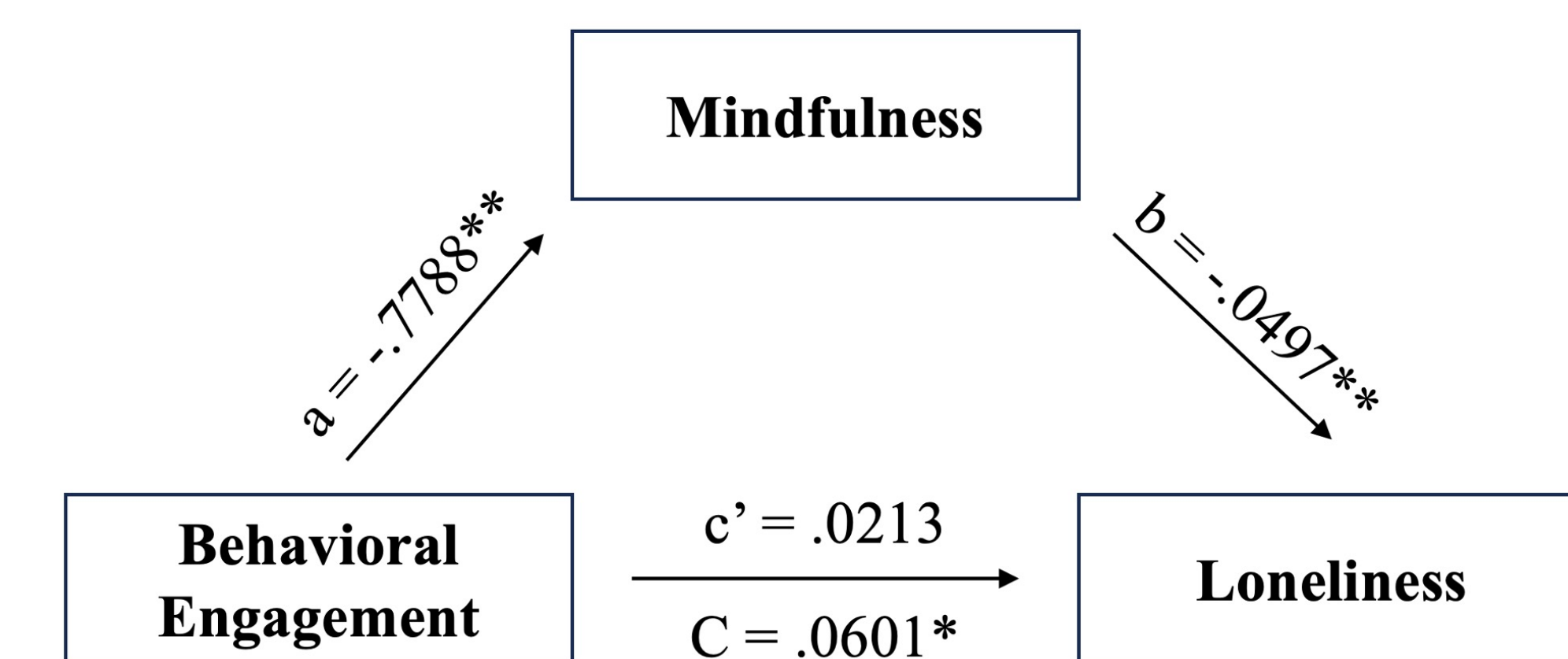


Figure 3

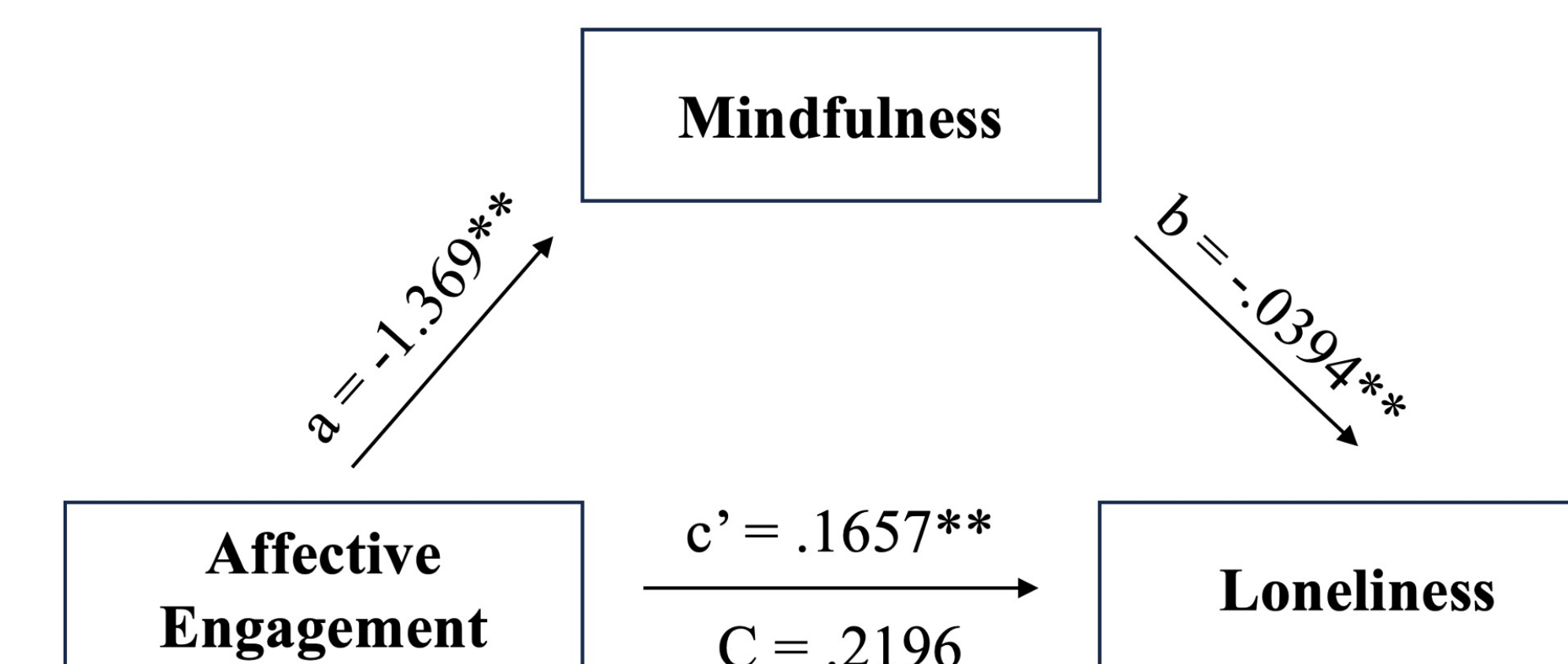
Mediation Path Analysis for Behavioral Engagement Effecting Loneliness when Mediated by Mindfulness



Note. **indicates $p < .001$. *indicates $p < .05$.

Figure 5

Mediation Path Analysis for Affective Engagement Effecting Loneliness when Mediated by Mindfulness



Note. **indicates $p < .001$. *indicates $p < .05$.

Results

Question 1: The total sample was measured on loneliness, social media engagement (behavioral, cognitive, and affective), and mindfulness (see Table 3 for descriptive statistics). After running bivariate correlations between the variables (see Table 4), three simple mediation analyses were performed (see Figure 1-3). Mindfulness was proposed as the mediator between all three social media engagement subscales (behavioral, cognitive, and affective; causal variable) and loneliness (outcome variable). The unstandardized coefficients are reported in the mediation figures and the standardized coefficients with bootstrap confidence intervals based on 5,000 samples are reported in Table 5.

Question 2: For the first mediation model (see Figure 1), **behavioral social media engagement (BE) and mindfulness statistically significantly predicted loneliness**, $F(2, 446) = 38.712, p < .001, R^2 = .148$. The total effect ($c = .0601, p = .004$) of BE on loneliness was statistically significant. The direct effect ($c' = .0213, p = .282$) of BE on loneliness was not statistically significant. Both indirect paths, from BE to mindfulness ($a = -.7788, p < .001$) and from mindfulness to loneliness ($b = -.0497, p < .001$), were statistically significant, and the **total indirect effect (a*b) was also statistically significant** (see Table 5).

Question 3: For the second mediation model (see Figure 2), **cognitive social media engagement (CE) and mindfulness statistically significantly predicted loneliness**, $F(2, 446) = 38.043, p < .001, R^2 = .146$. The total effect ($c = .0331, p = .299$) of CE on loneliness was not statistically significant. The direct effect ($c' = -.0036, p = .903$) of CE on loneliness was not statistically significant. Both indirect paths, from CE to mindfulness ($a = -.7149, p = .003$) and from mindfulness to loneliness ($b = -.0514, p = .003$), were statistically significant, and the **total indirect effect (a*b) was also statistically significant** (see Table 5).

Question 4: For the third mediation model (see Figure 3), **affective social media engagement (AE) and mindfulness statistically significantly predicted loneliness**, $F(2, 446) = 62.038, p < .001, R^2 = .218$. The total effect ($c = .2196, p < .001$) of AE on loneliness was statistically significant. The direct effect ($c' = .1657, p < .001$) of AE on loneliness was statistically significant. Both indirect paths, from AE to mindfulness ($a = -1.369, p < .001$) and from mindfulness to loneliness ($b = -.0394, p < .001$), were statistically significant, and the **total indirect effect (a*b) was also statistically significant** (see Table 5).

Discussion

- Lack of relationship between total screen time and loneliness warrants the investigation to focus on how/why people are using social media
- The effects of BE on loneliness were completely mediated by mindfulness.
 - BE is not directly related to loneliness; higher BE is related to lower mindfulness, which is related to higher loneliness
- The effects of CE on loneliness were completely mediated by mindfulness
 - CE is not directly related to loneliness; higher CE is related to lower mindfulness, which is related to higher loneliness
- The effects of AE on loneliness were partially mediated by mindfulness
 - Some effects of AE on loneliness are not explained by mindfulness but a portion of it is; the other portion may be explained by other mediators such as social comparison and FOMO
- It's plausible that as people are motivated to engage with social media, this leads to decreases in one's ability to be present and aware of the moment and themselves, leading to subsequent increases in feelings of loneliness

Future Directions and Limitations

Future investigation will be made through an experimental study examining specific biomarkers (Galvanic Skin Response and Heart Rate Variability) while participants engage in active versus passive social media use and how mindfulness mediates their stress levels.

Limitations:

- Participant demographics are generally white female Business and Behavioral Sciences Students, creating a potentially unrepresentative data set.

- The study is cross-sectional, so there can not be an established temporal precedence. This means that while a correlation can be found in our study, there is not enough evidence to discover causation.

References

