



The Relationship between Social Media Usage, Loneliness, and Mindfulness in College Students

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Background

- Social media usage has been on the rise accompanied by an increase in negative symptoms (Twenge et al., 2017).
- Social media's effect on loneliness is of special interest as online interactions increase (Hunt et al., 2021).
- Time spent on social media has been revealed to have a clear positive relationship with loneliness (Hunt et al., 2021).
- Research suggests that mindfulness has many positive outcomes such as reduced levels of depression, stress, loneliness, and anxiety (Loucks et al., 2023)

Current Study

- Explore relationship between screen time, loneliness, social media engagement, and mindfulness
- Goals
 - *Increase awareness of the relationship between motivations for using social media and loneliness and a possible mediating variable*
 - *Gathering information to support the design of mindfulness interventions that can be used to prevent and mediate loneliness*

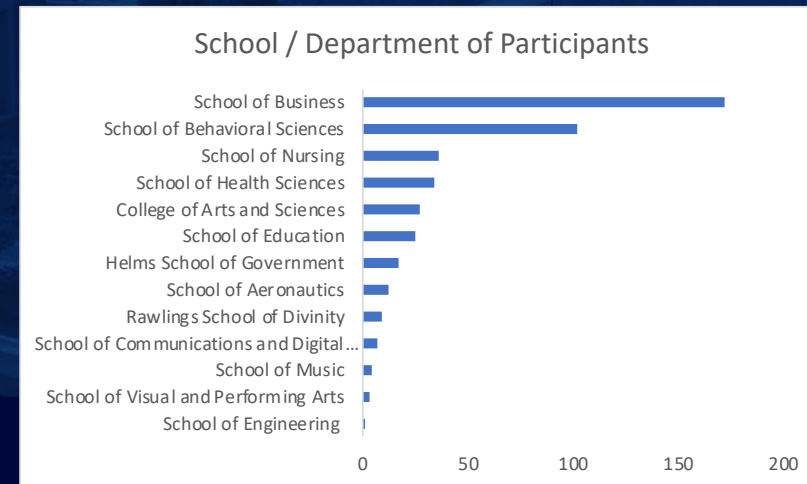
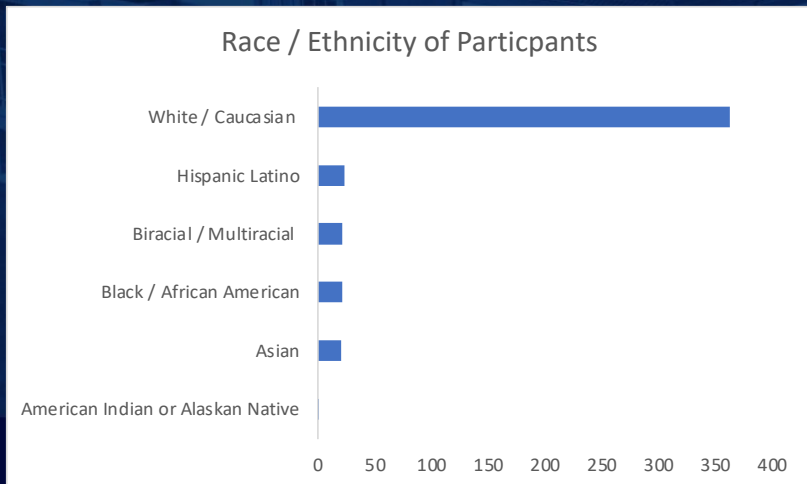
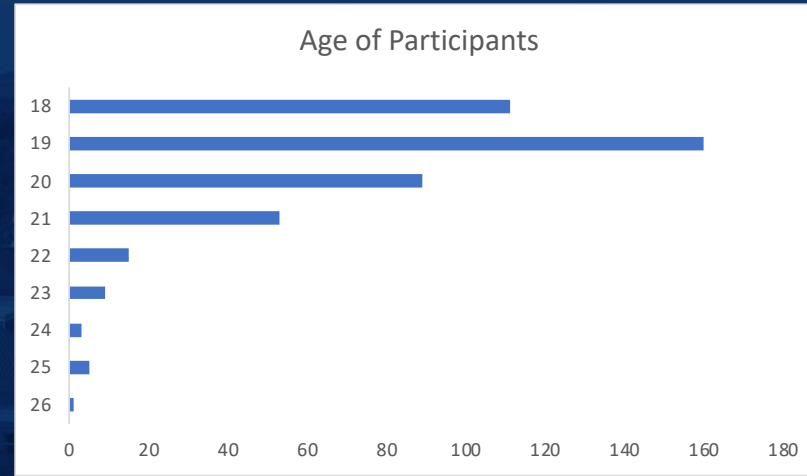
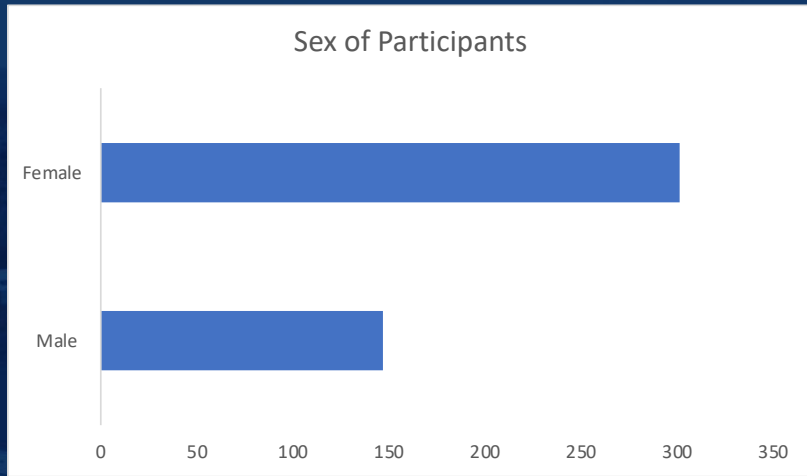
Research Questions

1. Is there a relationship between total screen time and loneliness?
2. Does mindfulness mediate the relationship between behavioral social media engagement and loneliness?
3. Does mindfulness mediate the relationship between cognitive social media engagement and loneliness?
4. Does mindfulness mediate the relationship between affective social media engagement and loneliness?

Participants

- 449 undergraduate students enrolled at Liberty University
- 18 years of age or older
- Residential students recruited from the School of Psychology, Business, and Biology at Liberty University

Demographics



Methods

- Study design
 - *Multi-measure*
 - *Online Qualtrics Survey*
- Demographic questionnaire
- Social Connectedness Instrument (SCI)
- UCLA 3 item scale
- Social Media Engagement Scale (SMES)
- Mindfulness Attention Awareness Scale (MAAS)
- Submitted past two weeks of their phone screen time and top apps

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

Descriptive Statistics

	N	M	SD	Min.	Max.
TST	212	323.84	122.50	22	660
SST	205	158.61	84.82	0	451
EST	167	50.01	46.72	0	251
POA	166	.308	0.20	0	0.80

Note. TST is Total Screen Time, SST is Social Screen Time, EST is entertainment screen time, and POA is proportion of top 5 apps that are social media. Screen Time is measured in minutes per day.

Question 1: Relationship between Screenshotime and Loneliness

- There was not a statistically significant relationship between total screen time and loneliness, $r(210) = .127, ns$
- *Only measuring screen time is not a good metric for predicting loneliness*
 - *Need to examine people's motivation for engaging with social media*

Table 3

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**	—

Table 4

Correlation Matrix for Loneliness, Total Screen Time, Social Screen Time, Entertainment Screen Time, and Proportion of Top Five Apps

Variable	1	2	3	4	5
1. Loneliness	—				
2. TST	.127	—			
3. SST	.132	.658**	—		
4. EST	.201*	.360**	.011	—	
5. POA	-.097	.289**	.647**	-.091	—

Note. **indicates $p < .001$. *indicates $p < .05$. *Note.* TST is Total Screen Time, SST is Social Screen Time, EST is entertainment screen time, and POA is proportion of top 5 apps that are social media. Screen Time is measured in minutes per day.

Question 2: Behavioral Social Media Engagement

- BE + mindfulness predict loneliness
 - $F(2, 446) = 38.712, p < .001, R^2 = .148$
- The total effect was statistically significant ($c = .0601, p = .004$)
- The direct effect was not statistically significant ($c' = .0213, p = .282$)
- The indirect effect was statistically significant ($a*b = .0387, 95\% \text{ CI } [.0219, .0579]$)

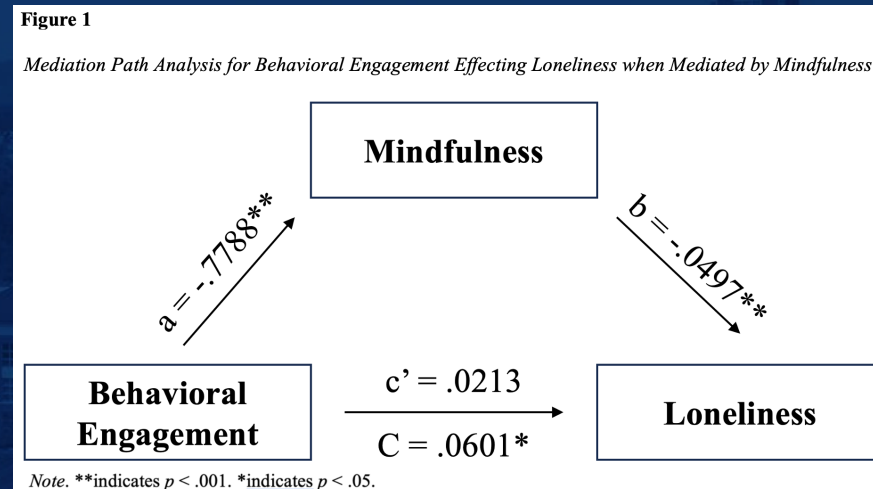


Table 5
Standardized Indirect Effect Coefficients and Confidence Intervals

	Effect	SE	BootLLCI	BootULCI
Behavioral SME →				
Mindfulness → Loneliness	.088	.020	.050	.129

Question 3: Cognitive Social Media Engagement

- CE + mindfulness predict loneliness
 - $F(2, 446) = 38.043, p < .001, R^2 = .146$
- The total effect was not statistically significant ($c = .0331, p = .299$)
- The direct effect was not statistically significant ($c' = -.0036, p = .0549$)
- The indirect effect was statistically significant ($a*b = .0367, 95\% \text{ CI } [.0175, .0934]$)

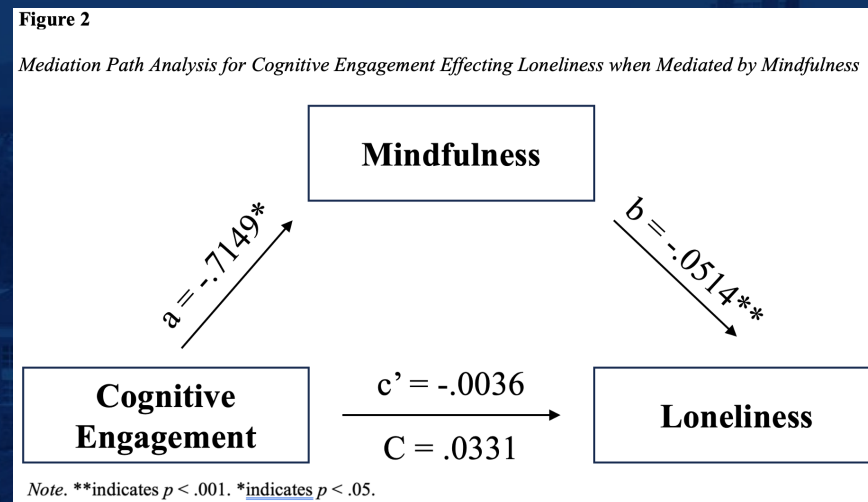


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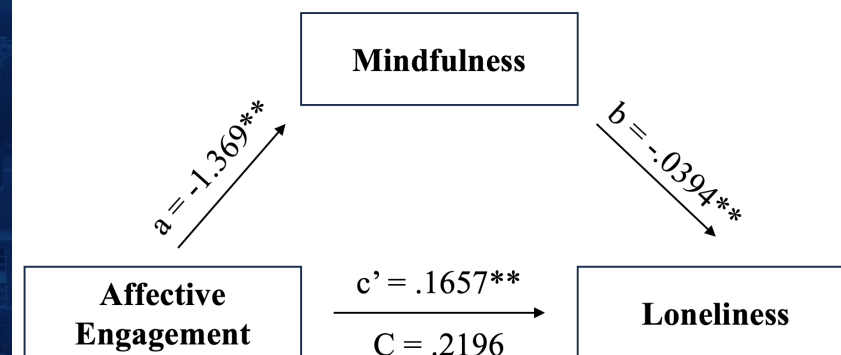
	Effect	SE	BootLLCI	BootULCI
Cognitive SME →				
Mindfulness → Loneliness	.055	.019	.018	.093

Question 4: Affective Social Media Engagement

- AE + mindfulness predict loneliness
 - $F(2, 446) = 62.038, p < .001, R^2 = .218$
- The total effect was statistically significant ($c = .2196, p < .001$)
- The direct effect was statistically significant ($c' = .1657, p < .001$)
- The indirect effect was statistically significant ($a*b = .0539, 95\% \text{ CI } [.0339, 0779]$)

Figure 3

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



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

Table 7

Standardized Indirect Effect Coefficients and Confidence Intervals

	Effect	SE	BootLLCI	BootULCI
Affective SME →				
Mindfulness → Loneliness	.092	.019	.058	.132

Discussion

- Lack of relationship between total screen time and loneliness
 - warrants the investigation to focus on how/why people are using social media
- Behavioral and Cognitive Engagement of Social Media were completely mediated by mindfulness
 - Affective Engagement was partially mediated
- Increased motivation to engage in social media could decrease mindfulness and increase loneliness

Limitations

- Participant demographics are generally white female business and behavioral sciences students, creating a potentially unrepresentative data set.
- The study is cross-sectional, so temporal precedence and causality cannot be established. This means that while a correlation can be found in our study, there is not enough evidence to discover causation.

Future Directions

- Experimental study examining how reducing social media usage impacts social media engagement, mindfulness, and loneliness
- Implementing mindfulness interventions to try and improve social connection

References

- Hunt, M., Marx, R., Lipson, C., & Young, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology, 37*(10), 751–768. <https://doi.org/10.1521/jscp.2018.37.10.751>
- Loucks, E. B., Nardi, W. R., Gutman, R., Saadeh, F. B., Li, Y., Vago, D. R., Fiske, L. B., Spas, J. J., & Harrison, A. (2021). Mindfulness-based college: A stage 1 randomized controlled trial for university student well-being. *Psychosomatic Medicine, 83*(6), 602–614. <https://doi.org/10.1097/PSY.0000000000000860>
- Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2017). Increases in depressive symptoms, suicide related outcomes, and suicide rates among U.S. adolescents after 2010 and links to increased new media screentime. *Psychological Science, 6*(1), 3–17. <https://doi.org/10.1177/2167702617723376>

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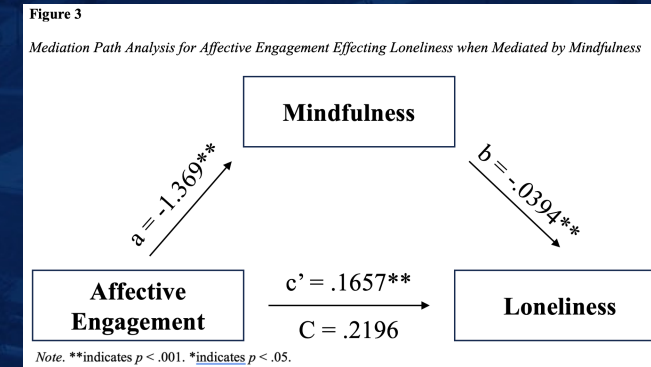
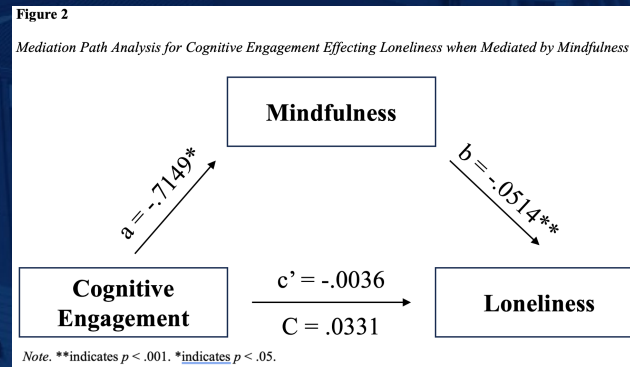
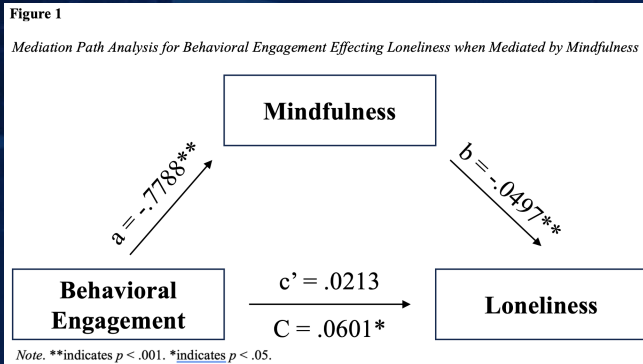


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