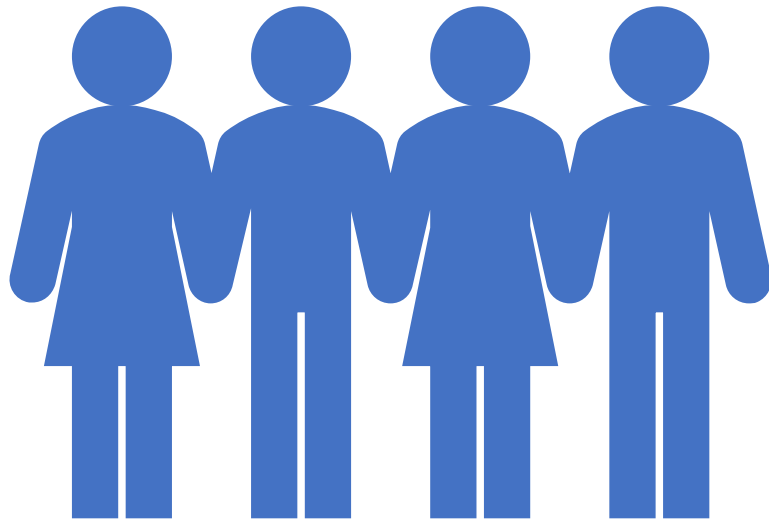The Association Between Feelings of Loneliness and the Type of Social Media Use in University Students
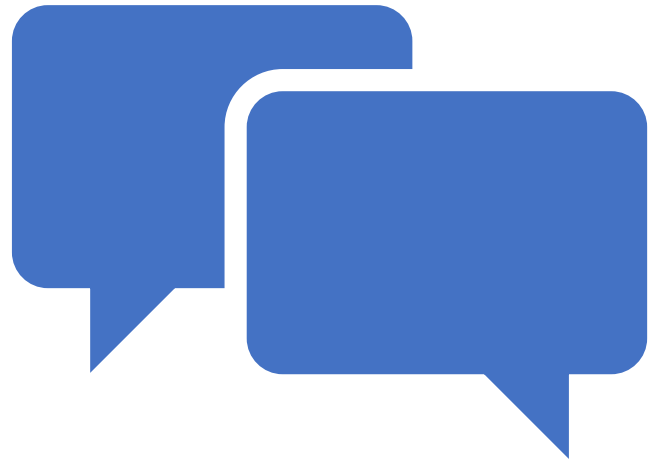
(Image from Microsoft PowerPoint stock library)

Andrei Sigunov, Graduate Student in Developmental Psychology

Outline

- Phenomenon of Loneliness
- The Impact of Social Media
- The Issue of Screen Time
- Types of Social Media Use
- Present Study
- Results

(Image from Microsoft PowerPoint stock library)

Phenomenon of Loneliness

- Loneliness can be defined as a set of feelings occurring in case of unmet social and intimate needs (Russel & Cutrona, 1980)

- The majority of frameworks differentiate loneliness into two types—social and emotional loneliness.

- Social loneliness refers to a perceived lack of social interactions with other people.

- Emotional loneliness refers to a perceived lack of emotional attachment to other people.

(Image from Microsoft PowerPoint stock library)

Loneliness and Mental Health

- Evidence shows that loneliness is associated with depressive symptoms and anxiety

- Relationships are bidirectional

- These relationships may be explained by the social dimension of loneliness

(Washington Post, 2018)

Screen Time

- The period from 2005 to 2015 showed that the proportion of American people using social media increased from 10 to 76% (Perrin, 2020).

- The social displacement hypothesis proposed by Kraut et al. (1998) suggests that time spent engaging in screen-based activities replaces the involvement in social and physical activities the person needs.

- The excessive amount of screen time was linked to various physical and mental issues such as obesity, cancer, sleep deprivation, depressive symptoms, and anxiety (Liu M. et al., 2015).

(Image from Microsoft PowerPoint stock library)

The Type of Social Media Use (SMU)

- **Active social media use (ASMU)** involves a high frequency of interactions and engagement with information from the personal feed such as sending messages or giving reactions to posts.

- **Passive social media use (PSMU)** is the opposite, it refers to almost zero visible engagement and typically looks like scrolling the feed, without social exchanges (Valkenburg & Beyens, 2021).

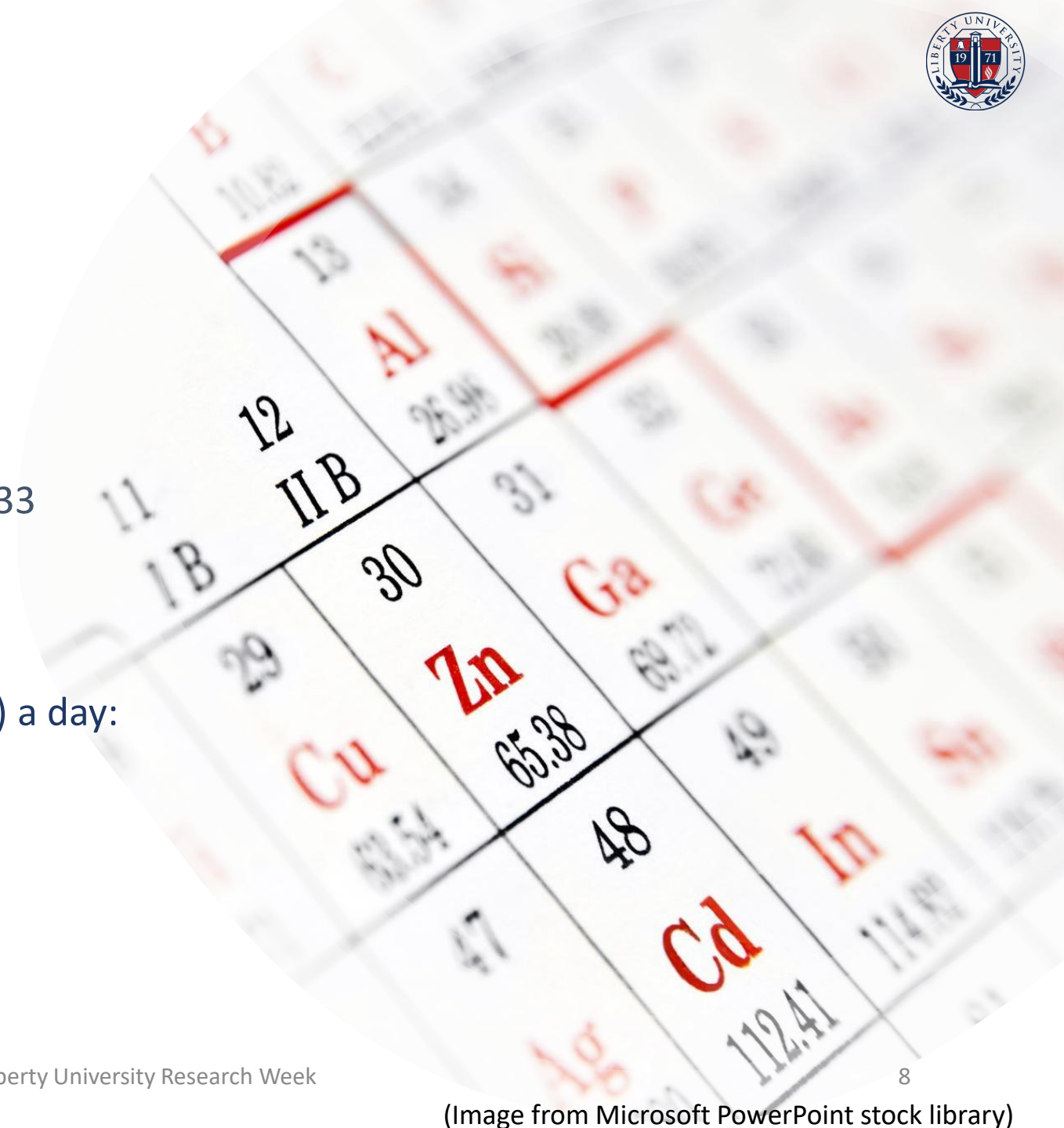(Image from Microsoft PowerPoint stock library)

Research Questions

- Quantitative RQs:
  - In what way is screen time associated with feelings of loneliness?
  - In what way are feelings of loneliness associated with the type of social media use?
  - In what way is physiological response in the form of electrodermal activity associated with feelings of social isolation?
- Qualitative RQs:
  - What is the main motivation for using visual social media?
  - What are the main positives of using visual social media?
  - What are the main negatives of using visual social media?
  - What are the ways to cope with loneliness?

(Image from Microsoft PowerPoint stock library)

Results

- Out of 104 participants:
  - Meaningful conversations M = 2 (2.03) a day
  - Loneliness score M = 68.11
  - Self-reported time on social media M = 2 hours 33 minutes a day
  - Average number of chats used daily: 3.21
  - Average number of posts per month: 0.50
  - Average number of time-sensitive posts (stories) a day: 1.68
  - Average screen time: 5 hours 44 minutes a day

(Image from Microsoft PowerPoint stock library)

Loneliness and Screen Time

- There was a significant correlation between the level of loneliness and the average weekly screen time activity (r=0.308, p<0.001, R^2=0.092)

- We removed an outlier and ran the same correlation. The second correlation was significant but weaker (r = 0.239, p=0.016, R^2=0.057)

- Low variability for both which assumes there are many covariates to consider in the future
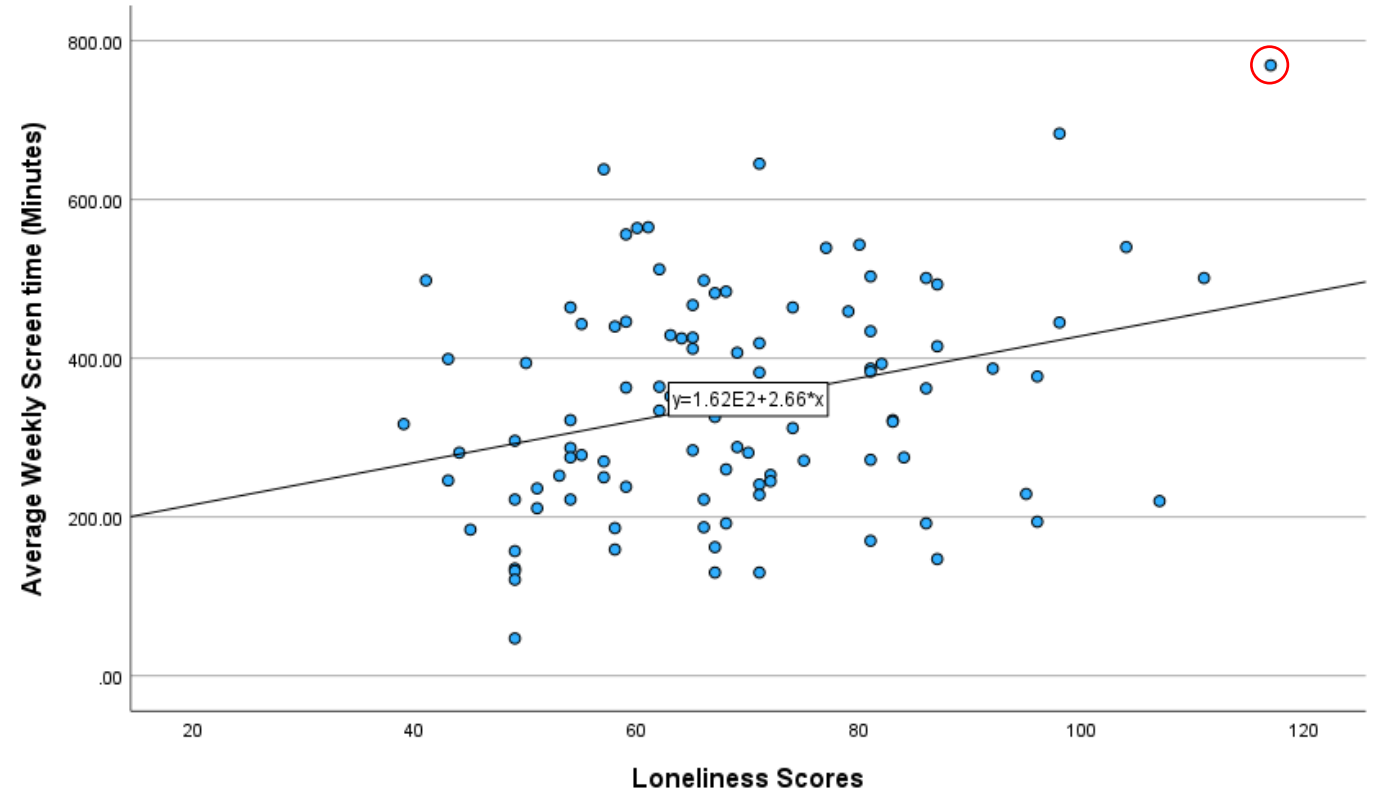

Fig.1 Correlation between loneliness scores and screen time

Loneliness and Screen Time

- We assumed that screen time data may quantify the type of social media use reported via screenshots, subjective time spent on social media reported, and the number of permanent Instagram posts made during the last 30 days.

- The regression model showed that the amount of social media activity significantly predicted levels of loneliness (R^2 = 0.179, F=7.218, p<0.001).

- The amount of subjective time spent on social media was the only significant predictor of loneliness when controlling for other variables (β=0.334, t=3.214, p=0.002).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.424[a]	.179	.155	15.106

a. Predictors: (Constant), N of Posts last month, Average Screentime a Week, How many hours a day do you normally spend on social media?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4941.604	3	1647.201	7.218	<.001[b]
	Residual	22590.998	99	228.192		
	Total	27532.602	102			

a. Dependent Variable: Loneliness scores

b. Predictors: (Constant), N of Posts last month , Average Screentime a Week, How many hours a day do you normally spend on social media (e.g., TikTok, Facebook, Instagram, Snapchat, Tinder/dating sites)?

Loneliness and Screen Time

- We assumed that screen time data may quantify the type of social media use reported via screenshots, subjective time spent on social media reported, and the number of permanent Instagram posts made during the last 30 days.

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Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	53.206	4.073		13.062	<.001		
	Average Screentime a Week	.000	.000	.144	1.383	.170	.768	1.302
	How many hours a day do you normally spend on social media?	3.625	1.128	.334	3.214	.002	.768	1.302
	N of Posts last month	.469	.976	.044	.480	.632	1.000	1.000

a. Dependent Variable: Loneliness scores

Loneliness and Screen Time

- Analysis of Variance showed a significant difference (F = 3.91, p<0.05) in the amount of screen time between those high in loneliness and those low in loneliness

Mean Screeen Time in Minutes Between Three Loneliness Subgroups
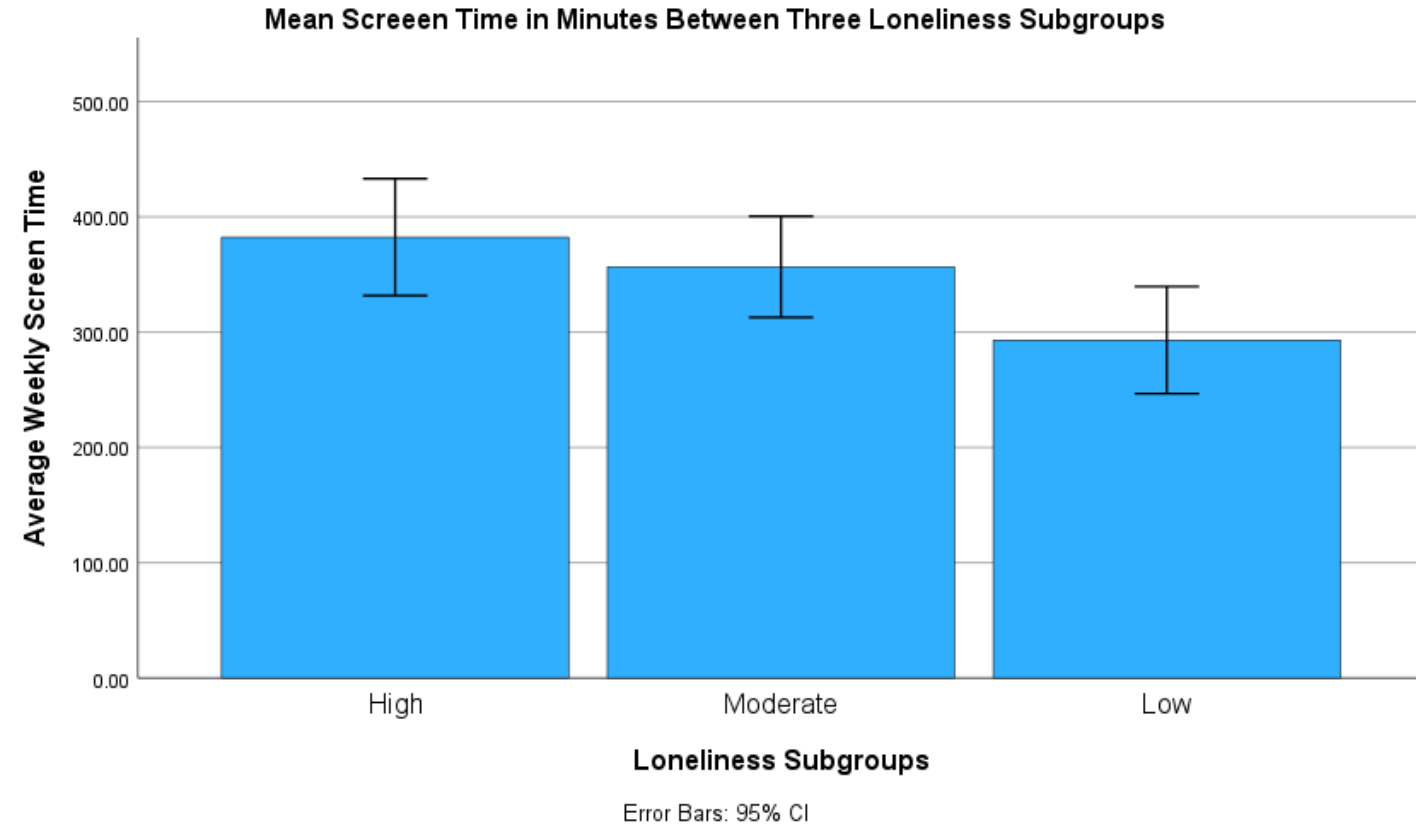
Error Bars: 95% CI

Fig.2 Compared screen time between groups of people with high, moderate and low levels of loneliness

Loneliness and Social Media Use

- We haven't been able to achieve significance for our social media use model due to not having enough participants. Power analyses suggested the need for at least 15 (N=119) more participants to achieve moderate levels of variance.

- This also shows that the concept of SMU is more complex than we operationalized (which is consistent with literature)

- One possible solution is to look at the number of time-limited posts instead of permanent posts as an activity measure

(Image from Microsoft PowerPoint stock library)

Qualitative Results

- The primary reason for using social media is <u>communication</u> (29.8%)

- 54.8% of participants use social media for <u>more than two hours a day</u>

- 64.4% use social more when <u>stressed</u>

- 47.7% prefer <u>mindlessly scrolling</u> through their feed when they are stressed

Reasons to Use Social Media

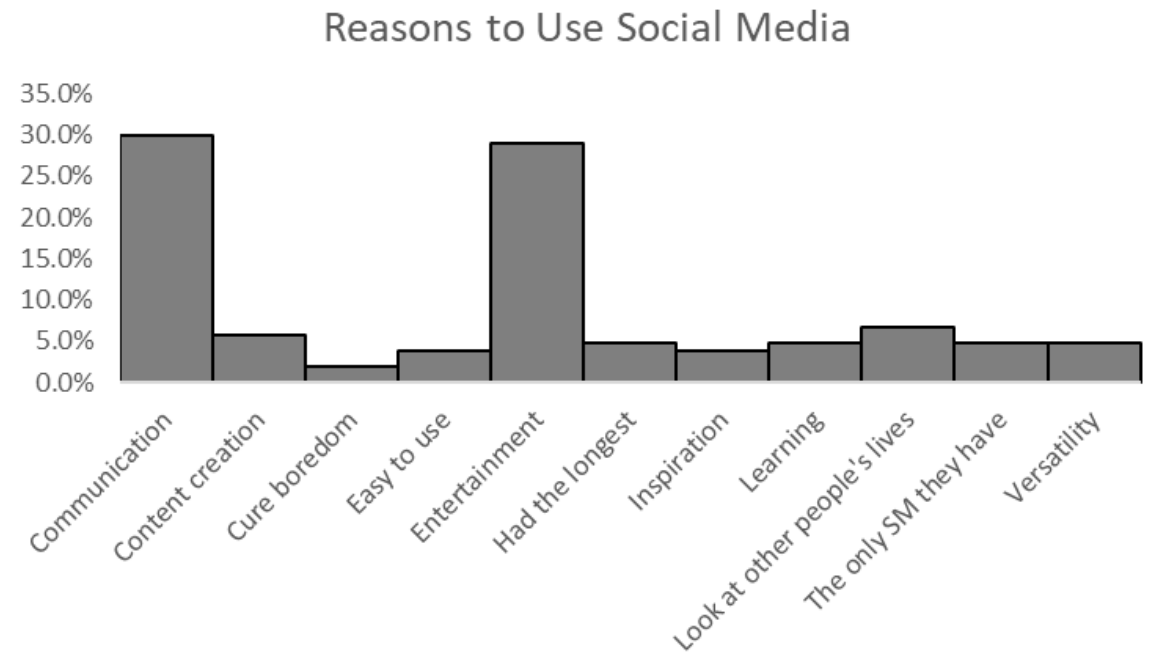Fig.3 Sentiment analysis of reasons to use social media

Fig.4 The most frequent reasons to use social media

Advantages of Using Social Media

Fig.5 Sentiment analysis of advantages of social media

Fig.6 The most frequent advantages of social media

Disadvantages of Using Social Media

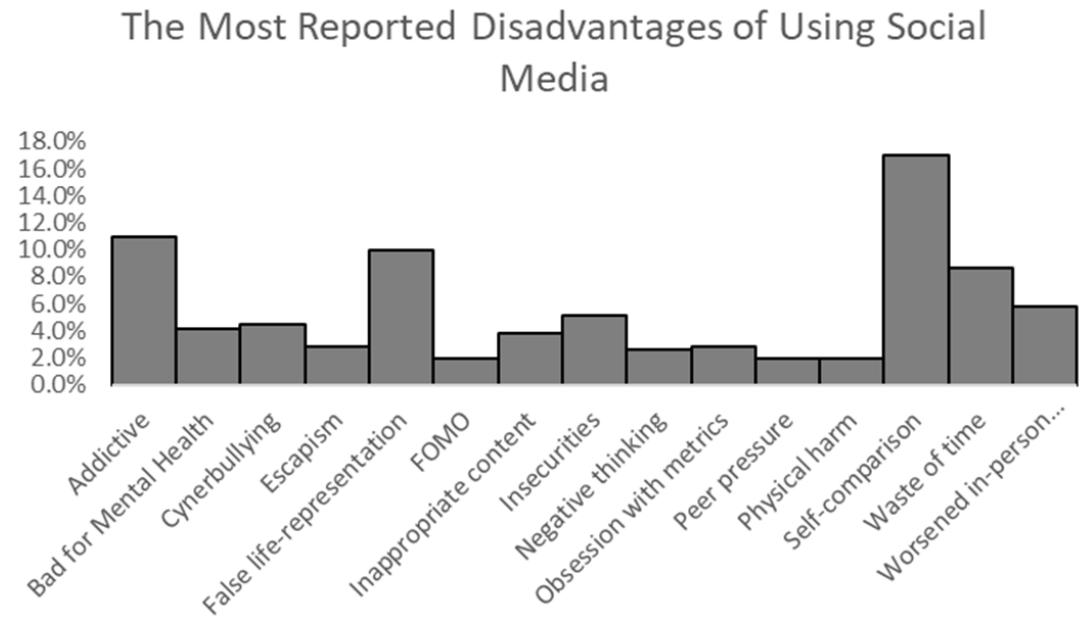Fig.7 Sentiment analysis of disadvantages of social media

Fig.8 The most frequent disadvantages of social media

Ways to Cope with Loneliness

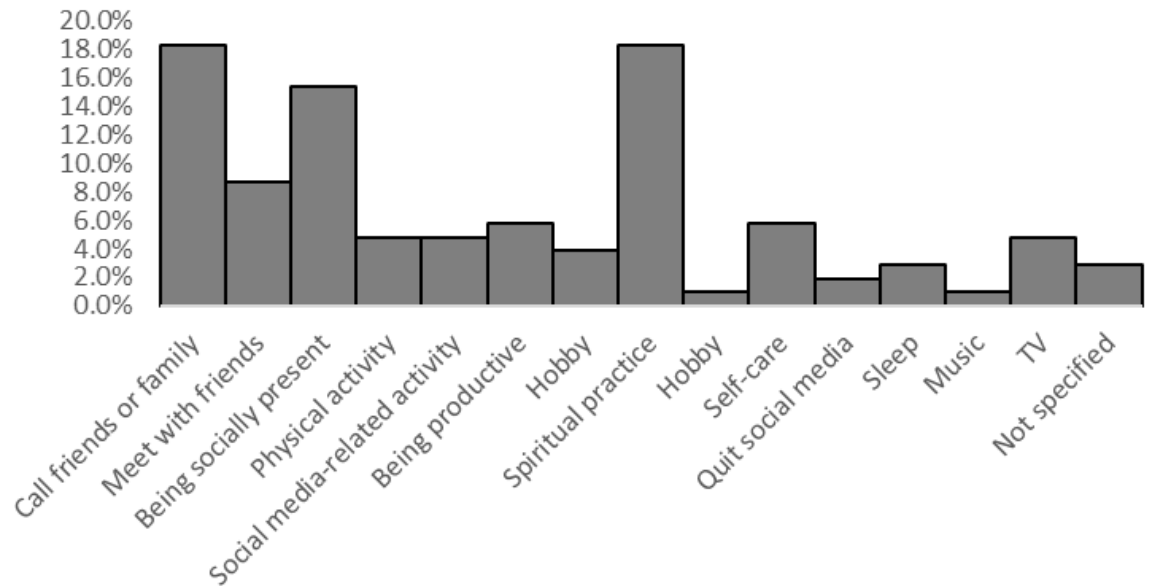Fig.9 Sentiment analysis of ways to cope with loneliness

Fig.10 The most frequent ways to cope with loneliness

Top-3 Takeaways

- The biggest reason to use visual social media is communication

- The biggest disadvantage reported is self-comparison

- Non-social media activity is the best way to cope with loneliness

(Image from Microsoft PowerPoint stock library)

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