

# Trait Boredom and Perceived Social Media Addiction Relationship

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## Abstract

This is the first study that examined self-perceived social media addiction, trait boredom, phubbing frequency, and age(year) at the same time. The current study not only explored the relationship between trait boredom and perceived social media addiction, but it further looked into the relationship between trait boredom and phubbing utilizing the same measure of boredom, followed by a mediation model. Moreover, the current study examined whether differences in social media use also exists in smaller age ranges rather than just generational differences. The participants were university students from a Gulf country, specifically Kuwait. Initially a factor analysis was run on the Boredom Proneness Scale to determine the significant factors due do the variation in the number of factors found and because it was implemented in a new population. The significant factors were then added as predictor variables into the regression equation. When phubbing was examined around 40% of the students fell into the sometimes-phubbing category. Around 30% of the students fell into either often or all the time phubbing categories. The independent variables of the model accounted for 17% of the variance in the dependent variable. The internal stimulation alone explained 7% of the variance in perceived social media addiction. The addition of phubbing increased the variance explained by another 10%. However, age was found to be insignificant as a predictor. Phubbing was then used as a mediator between boredom and perceived social media addiction. However, it was not found to be significant.

**Keywords:** Perceived Social Media Addiction, Trait Boredom, Phubbing, Regression, Hierarchical, Internal Stimulation.

## INTRODUCTION

### Social Media and Addiction

With the increase of smartphone usage, social media has begun to be used extensively, especially within the younger generation. There are many purposes for social media use. Many social media platforms provide individuals with the ability to communicate with loved ones and with people who have the same interests (Alsubaie & Lyndon, 2020; Okdie & Ewoldsen, 2018; Vahedi & Zannella, 2019). Moreover, Alsubaie and Lyndon (2020) refer to how “social media access enhances social interaction, attainment of freedom, and exchange of political ideologies” (p.61). In addition, social media platforms can be utilized by businesses and professionals to reach consumers and clients (Gardner & McKee,

2019). However, although social networking sites started off to support the sharing of similar interests and forming connections, overtime, it has transformed to focus more on the individual and reflects the individualistic culture that exists today (Kuss & Griffiths, 2011).

Due to the extensive use of social media and the relationship between detrimental effects and social media use, researchers have begun to view addiction to social media as a possibility (Andreassen, 2015; Aydin et al., 2021; Grau et al., 2019; Griffiths, 2005). Griffiths (2005) and Andreassen (2015) discusses how there is a growing movement in defining behaviors as addictive even though it does not involve the consumption of a drug. Addiction can be viewed as “seemingly benign behaviors... through psychological, biophysical and/or environmental triggers [that] become harmful

and morph into an addiction” (Grover et al., 2011, p.1). Another definition is provided by Marlatt et al. (1988) in defining addictive behavior:

“...a repetitive habit pattern that increases the risk of disease and/or associated personal and social problems. Addictive behaviours are often experienced subjectively as ‘loss of control’ – the behaviour contrives to occur despite volitional attempts to abstain or moderate use. These habit patterns are typically characterized by immediate gratification (short term reward), often coupled with delayed deleterious effects (long term costs). Attempts to change an addictive behaviour (via treatment or self-initiation) are typically marked with high relapse rates” (p. 224).

According to this new perspective of addiction, behaviors can also become addictive and lead to salience, mood modification, tolerance, withdrawal, conflict, and relapse (Griffiths, 2005). Therefore, addictive behaviors can be seen as a process, similar to any other addiction, varying in degrees based on use and abuse (Griffiths, 2005). When viewed as consumption, use can be separated into non-use, non-addictive use, near-addiction, and addiction. Grau et al. (2019) discusses how these phases are represented by the level of self-control, the frequency of engagement, time spent, and the level of negative consequences.

There are different forms of negative consequences; these could be either economic, physical, psychological, or social. An example of a negative economic consequence is social media addiction leading to burnout which might negatively impact job performance (Zivnuska et al., 2019). An example of a social consequence is when social media leads to distancing of the self from friends and family members and can increase surveillance behaviors and jealousy (Elphinston & Noller, 2011). This might also later turn into a psychological consequence such as depression, due to the separation of oneself from loved ones (Davey et al., 2018) and low self-esteem (Jeon, 2005). Naturally, excessive social media use can also lead to a sedentary lifestyle, thus resulting in lower exercise and leading to a physical consequence (Shimoga et al., 2019).

Therefore, a closer examination of addiction and the relationship of addiction with

other variables is vital in combating the effects of addiction and providing individuals with the necessary assistance. Moreover, Kose and Dogan (2019) refer to how “social media addiction does not depend on any single factor. It also depends on gender, personality traits, psychological needs, socialization, and self-esteem” (p.178). It is molded by “dispositional, sociocultural, and behavioral reinforcements” (Andreassen, 2015, p175).

Although some researchers look into actual addiction of social media, other researchers look into perceived social media addiction (Allahverdi, 2021a). Knowing how individuals “feel”, even if they may not be classified as addicted, can be helpful. Within self-attributions, the individual may determine their internal states by examining their own behavior and self-perception. Skaalvik argues that this “probably forms a central role in self-attribution” (Riding & Rayner, 2001, p.174). Since how we view ourselves is an important component of self-attributions, examination of how we perceive ourselves in relation to social media addiction is important.

Although there has been much research in the area of social media addiction (Andreassen, 2015; Aydin et al., 2021; Grau et al., 2019; Griffiths, 2005), there has not been as much of a focus on how individuals perceive themselves in relation to social media addiction (Allahverdi, 2021a; Allahverdi, 2021b; Allahverdi, 2021c). Among the few studies that has examined perceived social media addiction is Klobas et al. (2018). Klobas et al. (2018) found that 20% of Youtube users classified themselves as compulsive users. Other research has shown that students perceived themselves as more or less addicted to social media depending on their area of study (Allahverdi, 2021b) and college year (Allahverdi, 2021c). The current study adds to this limited research by examining the relationship between perceived social media addiction and the trait of boredom, the act of phubbing, and age. The reasoning for the choice of the variables in the current study will be given below.

### Boredom

Theorists examine various cognitive and affective reasonings for why individuals portray differences in their involvement with social media platforms. Research indicates that

boredom has been found to be related to social media overload and social media engagement (Whelan et al., 2020) as well as being associated with anger and aggression, loneliness, poor impulse control, depression, procrastination, cognitive/attentional shortcomings, hopelessness, narcissism, school dissatisfaction, eating disturbances, and poor work performance (Von Gemmingen et al., 2003; Dahlen et al., 2004; Preckel et al., 2010; Martin et al., 2006; Eastwood et al., 2007; Mann & Robinson, 2009). Boredom proneness has also been examined as a mediator and has been found to mediate inappropriate use of mobile social media and users' subjective well-being (Bai et al., 2021). Research shows that utilizing social media use to alleviate boredom increases overtime (Stockdale & Coyne, 2020).

Boredom is known to be important in "achievement settings" as well as other settings. However, "there is still much that is unknown about this emotion" (Daschmann et al., 2011, p.422). While some researchers view boredom as a state which may appear due to low arousal, other researchers view boredom as a trait similar to extraversion, introversion, and neuroticism (Kose & Dogan, 2019). However, no study to the best of the researcher's knowledge has examined trait boredom with perceived social media addiction. This study will be the first to ask the following, "Does trait boredom predict how one perceives himself or herself as addicted to social media?"

One of the most known measures for boredom is the Boredom Proneness Scale (Farmer & Sundberg, 1986), which assesses trait boredom. In its original format it is measured through true and false questions (Farmer & Sundberg, 1986). Later, researchers utilized a seven-point Likert scale to measure boredom (Vodanovich & Kass, 1990). Vodanovich, et al. (2005) removed some of the items from the original 28 item scale after conducting both exploratory and confirmatory factor analyses. The measure was reduced to 12 items comprising of the two factors of internal stimulation and external stimulation, with six items for each. Therefore, while one factor examines the inability to become internally stimulated, the other factor examines "the perception of low environmental stimulation" (Dursun & Tezer, 2012). However, one of the shortcomings of the Boredom Proneness Scale is that there is a lack of consensus on both the

number and the type of factors that makes up the instrument.

Dursun and Tezer (2012) discuss how in recent years there has been a newfound interest in re-examining the factor structure of the Boredom Proneness Scale (Vodanovich, et al., 2005; Melton & Schulenberg, 2009). There are various studies that have conducted factor analyses to determine the number of factors (Dursun & Tezer, 2012). In general, most researchers have found between two and five factors for the Boredom Proneness Scale. Ahmed (1990) employed the original true and false format and found two factors utilizing Canadian University students. The two factors were apathy, defined as a disinterest in the environment, and Inattention. Vodanovich and Kass (1990) employed a seven-point Likert scale and found five factors utilizing White US college students. The five factors were external stimulation, internal stimulation, affective responses, perception of time, and constraint. Gana and Akremi (1998) utilized the original true and false format and found two factors, internal and external stimulation.

Vodanovich et al. (1997) utilized a seven-point Likert scale and found eight factors utilizing African American college students. The eight factors were: creativity, monotony, constraint, affect, patience, attention maintenance, challenge, and perception of time. Upon analysis however, the researchers determined that some of the additional factors could be components of Vodanovich and Kass's (1990) internal and external factors. Creativity was determined to be a component of internal stimulation, monotony was determined to be a component of external stimulation, attention maintenance was determined to be a component of internal stimulation, and challenge was determined to be a component of external stimulation. Gordon et al. (1997) examined both undergraduate students and workers in Australia utilizing a seven-point Likert scale. The two factors of low self-regulation and needs a buzz were similar to internal and external stimulation factors by Vodanovich and Kass's (1990).

Vodanovich et al. (2005) discuss how it is important to look past the general boredom score for each individual. Each individual's boredom could be associated with different aspects of boredom such as internal and external stimulation. Determining who might be

boredom prone can assist in determining the necessary coping strategies. Therefore, after conducting a factor analysis, the current study examined whether each reliable factor of boredom predicted perceived social media addiction independently, rather than looking at boredom in general by combining the scores of internal and external stimulations.

### Boredom and Phubbing

Phubbing is the act of snubbing someone and looking at one's cellphone in a social setting instead of having a face-to-face conversation (Chotpitayasunondh & Douglas, 2016). Research in the area of phubbing has been increasing over the past few years. The currently limited research in this area reveals a relationship between phubbing and both cellphone (Chotpitayasunondh & Douglas, 2016) and social media (Karadag et al., 2015) addiction. Phubbing can be detrimental to relationships because it affects a person's sense of belonging, whether in friendships (Chotpitayasunondh & Douglas, 2016; Hales et al., 2018) or significant relationships such as marriages (Wang et al., 2017). Examination of different variables that have an impact on boredom revealed the lack of research on the impact of phubbing on boredom. The one study to date that examines whether trait boredom is a predictor of phubbing frequency is by Al-Saggaf et al. (2018). The study mentions how it is the first study to explore this relationship between trait boredom assessed by the Short Boredom Proneness Scale and phubbing utilizing a hierarchical regression. Therefore, the current study not only explored the relationship between trait boredom and perceived social media addiction, but it further looked into the relationship between trait boredom and phubbing utilizing the same measure of boredom. While Al-Saggaf et al. (2018) conducted their study with Australian students, the current study examined the effect of boredom on phubbing in a Gulf country in the Middle East. In addition, while Al-Saggaf et al. (2018) looked at trait boredom as a whole, the current study looked past the general trait boredom score.

### Age

Although there is research that examines generational differences in social media use and addiction, there is no specific study that

examines close age ranges to determine if there are differences in social media addiction or perceived social media addiction. For instance, research shows that the younger generation, between the ages of 18 and 34, prefer social media for their interactions with family, friends, and acquaintances (Kuss & Griffiths, 2017). Aside from interactions with family and friends, the younger generation is also better with utilizing social media platforms to receive information and communicate with professionals in the field such as psychiatry and psychology, while the older generation have difficulty utilizing social media for their businesses and to reach out to clients (Gardner & McKee, 2019). Moreover, the individuals who are between the ages of 18 and 25 were found to have higher social media addiction compared to older individuals (Aydin et al., 2021). The current study took this a step further and examined smaller age ranges to determine if there are differences among university students in perceived social media addiction.

### Purpose

Due to the widespread use of online communication and the preference of the newer generation to communicate through social media rather than in person communication, it is important to look into both actual and self-perceived social media addiction. Examination of perceived social media addiction is important since self-perceptions are central to self-attributions that are made. The current study's purpose was to determine the predictability of phubbing frequency, trait boredom, and age(year) on the perceived social media addiction of Arab students from a public university in the Gulf. Since trait boredom has been found to be a predictor of phubbing (Al-Saggaf et al., 2018), and phubbing is a predictor of social media addiction, the current study asked whether trait boredom is mediated by phubbing in relation to perceived social media addiction.

Instead of viewing trait boredom as one construct, each factor of the Boredom Proneness scale, determined through exploratory factor analysis, was considered as a separate variable in the regression analysis. Running a factor analysis for the Boredom Proneness Scale was important due to the variation in the results of

the number of factors by previous studies (Ahmed, 1990; Gana & Akremi, 1998; Gordon et al., 1997; Vodanovich et al., 1997; Vodanovich & Kass, 1990; Vodanovich et al. (2005)). Since the Boredom Proneness scale has not been utilized in the Gulf region of the Middle East, it is also important to determine the number of factors retained and check its reliability. The current study utilized the scale in a new population and conducted an exploratory factor analysis to determine the significant factors.

The study adjusted the scale for the single question self-perceived social media addiction survey by Eijnden et al. (2016) and examined its relationship to phubbing, assessed utilizing Al-Saggaf et al. (2018)'s phubbing survey, along with trait boredom and age. Phubbing was then utilized to predict trait boredom. Similarly, trait boredom was utilized to predict phubbing. This is the first study to the best of the researcher's knowledge that examined self-perceived social media addiction, phubbing frequency, trait boredom, and age(year) at the same time.

#### Research Questions

1. How many factors are significant in the Boredom Proneness Scale within the Gulf population?
2. How is the percentage of self-perceived social media addiction related to the following variables: Trait boredom, phubbing frequency, and age?
3. Does trait boredom predict phubbing and vice versa?
4. Is boredom mediated by phubbing in relation to perceived social media addiction?

## Methodology

### Research Design

“There are two potential objectives of regression analysis: to understand how the world operates and to make predictions (Albright & Winston, 2012, p.531)”. The current study implemented a hierarchical regression analysis, a form of a correlational study. This type of research design was utilized since it was difficult to implement an experimental design in which social media use and views are controlled.

Utilizing a hierarchical regression, one is able to not only examine the relationship between variables, but also create a formula for future predictions. Before the implementation of regression, exploratory factor analysis was run for the Boredom Proneness Scale to determine the significant factors. The significant factors were then added as predictor variables into the regression equation.

### Participants

The total number of students surveyed were 380, with a response rate of 80%, resulting in a total of 304 participants. The participants were Arab university students from the Middle East, specifically the Gulf region. English is the medium of instruction. Students from all years (Freshman, Sophomore, Junior, and Senior) were surveyed. In general, the students' ages ranged from 18 to 24. Due to the specific policy of the university, Freshman year corresponds to 18-19, Sophomore year corresponds to 20-21, Junior year corresponds to 22-23, and Senior year corresponds to 24-26. Students graduate from high school at 18 and within one year are expected to enroll in college, resulting in the 18-19 range for Freshman year. Moreover, students who are not successful after they enroll within a year or two are expelled from the university. However, in their Senior year, the university allows students an extra year, thus increasing the range to between 24-26.

Table 1 provides a breakdown of the participating students by year (age). There were more females compared to males in the study, 64.2%, and 35.8% respectively, since most of the students in the university are female.

Table 1 *Breakdown of the Students by Year*

Student Year	Percentage of Students
Freshman	16.77%
Sophomore	21.94%
Junior	38.06%
Senior	20.97%

### Procedures

The process of systematic random sampling was utilized by selecting random classes from each

area of study. The heterogeneity of the population was preserved in the study through random sampling. The specific university was chosen due its representativeness of the population. Hard copies of the survey were handed out and the data was entered into a database. For reliability, the entrees were double-checked by a second researcher for error.

## Measures

### Demographic Information

Participants were asked to provide the following demographic information: gender and year. The two options of male and female were provided to choose from. This is due to individuals referring to themselves as the sex they are born with within the researched population. For year, students also had to circle whether they were Freshman, Sophomore, Junior, or Senior.

### Phubbing Frequency (Al-Saggaf et al., 2018)

A five-point Likert scale ranging from Never to All the Time was utilized to answer the following question: "How often do you look at your smartphone while having a conversation with another person/persons?" This question was retrieved from the study by Al-Saggaf et al. (2018).

### Perceived Social Media Addiction (Eijnden et al., 2016)

A numerical scale from zero to 100 was utilized, rather than the original five-point Likert scale by

Eijnden et al. (2016) for the following question: "To what extent do you feel addicted to social media?". The scoring of the question was changed to increase the validity of the measure and provide more specific information about the variability among participants.

### Boredom Proneness Scale (Vodanovich et al., 2005)

The original format of the Boredom Proneness Scale was measured through true and false with an internal consistency of .72 to .79 (Farmer & Sundberg, 1986). The seven-point Likert scale has an internal consistency of .79 to .89 (Vodanovich, 1990). Once certain items were removed through factor analysis, 12 items remained comprising the two factors of internal stimulation with an internal consistency of 0.86 and external consistency with an internal consistency of 0.89. Each factor has six items with one factor examining the inability to become internally stimulated and the other factor examining the "the perception of low environmental stimulation" (Dursun & Tezer, 2012) as seen in Table 2. There is a lack of consensus among researchers on the number of factors the scale comprises. Moreover, although different researchers have tried to determine the number of factors with various populations, there is a lack of research in the Gulf region of the Middle East. Therefore, the current study ran an exploratory factor analysis on the scale to compare results with previous exploratory factor studies.

Table 2 *Boredom Proneness Scale*

Internal Stimulation	
1	It is easy for me to concentrate on my activities
2	I find it easy to entertain myself
3	I get a kick out of most things I do
4	In any situation I can usually find something to do or see to keep me interested
5	Many people would say that I am a creative or imaginative person
6	Among my friends, I am the one who keeps doing something the longest
External Stimulation	
7	Having a look at someone's home movies or travel slides bores me tremendously
8	Many things I have to do are repetitive and monotonous

- 9 It would be very hard for me to find a job that is exciting enough
- 10 Unless I am doing something exciting, even dangerous, I feel half-dead and dull
- 11 It seems that the same old things are on television or the movies all the time; it's getting old
- 12 When I was young, I was often in monotonous and tiresome situations

## Findings and Discussion

### Exploratory Factor Analysis

Research Question 1: How many factors are significant in the Boredom Proneness Scale within the Gulf population?

An exploratory factor analysis was run for the Boredom Proneness Scale. All 12 items of the scale were utilized by employing a principal axis factoring. The sample size requirement was met for the current study, with a total of 304 students. All assumptions were met for the current study with the multivariate normality checked by the Mahalanobis distance and multicollinearity checked by examining the Tolerance, Variance Inflation factor, and the determinant of the correlation matrix. Since variables with low communalities, less than 0.3, need to be removed from the analysis, the communalities of the variables were inspected to determine the proportion of each variable's variance that can be explained by the factors. The current study removed items three, six, seven and eight of the Boredom Proneness Scale.

The analysis was rerun utilizing the principal axis factoring after removing the four times. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.70 which is above the recommended 0.6 value. The Bartlett's test of sphericity was significant ( $\chi^2(28) = 331.54, p < .05$ ). The diagonals of the anti-image correlation matrix were all over 0.5. To determine the number of factors to retain, eigenvalues were checked to determine if it was greater than one and a scree test was run.

The factors in the study were expected to correlate with each other, therefore the oblique rotation of Oblimin was utilized. A delta with a value of zero should be utilized when solutions are most oblique. The current data was compared with a delta value of 0, 0.5, and 0.8. For 0.8, the rotation failed to converge in 25, 50, and 100 iterations. However, for delta value of

0.5, the data converged at 25 iterations. Three factors were retained. All items had a factor loading of .4 or above. According to Henson and Roberts (2006), a minimum requirement for defining a factor is two variables. The current study met these requirements on all three factors. Factor one is comprised of items one, two, four and five, explaining 29% of the variance. The factor loadings for factor one range from 0.5 to 0.7. Factor two is comprised of items nine and ten, explaining 19% of the variance. The factor loadings for both items is 0.6. Factor three is comprised of items eleven and twelve, explaining 13% of the variance. The factor loadings for factor three range from 0.4 to 0.7. The cumulative percentage for all three factors is 60%. When the reliability was examined for each factor, the internal consistency for factor one was 0.7 while the internal consistency for factor two was 0.4 and the internal consistency for factor three was 0.5. Cronbach's alpha needs to be equal to or higher than 0.7, therefore, factors two and three were not considered reliable and removed from the analysis. The current study retained one factor compared to the two factors found by the original researchers. The one factor was utilized to create a variable that was then utilized in the regression analysis.

Although two items were removed, Factor 1 can still be operationally defined as internal stimulation. Since the other two factors did not turn out to be reliable with the sample examined from the Middle East, the current study only included Factor 1, or internal stimulation as a variable in the regression analysis.

### Descriptive Data

The average addiction perception of social media was ( $\bar{x} = 65.31$ ) with a standard deviation of ( $sdv = 24.37$ ). Examination of the students revealed around 50% of the students believed they were addicted to social media around 75%-100% of the time. On the other hand, 20% of the

students to believe themselves as addicted to social media 100%. Examination of the means and standard deviations for phubbing reveals that as phubbing increased so did the means for self-perceived social media addiction as seen in Table 3.

Thus, as students participated in the act of phubbing more and more, they also perceived themselves as addicted to social media more and more.

Table 3 *Phubbing Frequency means and standard deviations*

Phubbing Frequency	$\bar{x}$	sd
Phubbing Rarely	55.67	22.89
Phubbing Sometimes	65.7	21.17
Phubbing Often	72.62	20.93
Phubbing All the Time	80.88	22.88

When phubbing was examined more specifically around 40% of the students fell into the sometimes-phubbing category. Around 30% of the students fell into either often or all the time phubbing categories.

#### Regression

Research Question 2: How is the percentage of self-perceived social media addiction related to the following variables: Trait boredom, phubbing frequency, and age?

The current study examined the assumptions of normality, homoscedasticity, and linearity. All of the assumptions were met. For the hierarchical multiple regression multicollinearity was not an issue. There were no outliers and the number of subjects were sufficient for a reliable regression analysis. Table 4 provides the model summary for the regression analysis. Table 5 provides the coefficients for the final model.

As seen in Table 4, the overall regression model is not significant. Therefore, the addition of the variable "year" does not predict perceived social media addiction. This was also confirmed through the use of backward elimination. The second model is significant and includes both internal stimulation, which was created from the

Boredom Proneness Scale after conducting an exploratory factor analysis, and student phubbing frequency,  $R^2 = 0.17$ ,  $R^2_{adj} = 0.16$ ,  $F(14, 299)$ ,  $p < .001$ .

The independent variables of the model account for 17% of the variance in the dependent variable. The factor from the Boredom Proneness Scale alone explains 7% of the variance in perceived social media addiction,  $R^2 = 0.07$ ,  $R^2_{adj} = 0.07$ ,  $F(3, 303)$ ,  $p < .1$ . The addition of phubbing increases the variance explained by another 10%. Upon examining the coefficients of the final model in Table 5, all the variables in the model are seen to be significant.

Once the regression results were examined, a regression formula was created with the existing data:

Addiction Perception % = 53.31

- 1.79 Internal Stimulation

+ 11.24 Phubbing-Rarely

+ 19.46 Phubbing-Sometimes

+ 27.71 Phubbing-Often

+ 34.59 Phubbing-All the Time

For the base formula phubbing frequency is Phubbing-Never and does not include internal stimulation. Students in this category had an average of 53.31% perceived social media addiction. Internal Stimulation is negatively related to addiction perception. Thus, for individuals that have internal stimulation, their percentage of perceived social media addiction decreases by 1.79%. For instance, if phubbing is Phubbing-All the Time, the perceived social media addiction increases to 87.9%. As can be seen in the formula, with the increase of phubbing, so does the percentage of addiction percentage. There is a 23.35% difference between Phubbing-Rarely and Phubbing-All the Time. If however, the phubbing is Phubbing-Never and the individual does have internal stimulation based on the Boredom Proneness Scale, the percentage of perceived social media addiction is 51.52%. In order to validate the formula, the data was split into two and cross-validation was conducted.

Research Question 3: Does trait boredom predict phubbing and vice versa?



The relationship between phubbing and boredom was also examined. Al-Saggaf, MacCulloch, and Wiener (2018) report that utilizing a hierarchical regression analysis they found trait boredom to predict phubbing frequency even when they controlled for both age and geographic region. Since the study reports being the first to examine this relationship, the current study utilized the same two measures and implemented them on a new population. The current study examined the effect of boredom on phubbing in a Gulf country in the Middle East while Al-Saggaf et al. (2018) conducted their study with Australian students.

Interestingly, the regression results were found to be non-significant in the current study. First, phubbing was utilized to predict trait boredom. Second, similar to Al-Saggaf et al. (2018), boredom was utilized to predict phubbing. Both regressions were found to be insignificant as can be seen in the model summaries found in tables six and seven. Similarly, none of the model coefficients were significant for either model. This may be partly due to trait boredom only encompassing internal stimulation in the current study. However, in Al-Saggaf et al. (2018) trait boredom also encompassed external stimulation.

Research Question 4: Is boredom mediated by phubbing in relation to perceived social media addiction

A three-step process of regression analyses was utilized to determine if phubbing played a mediating role in relation to trait boredom and perceived social media addiction. To follow the three-step process, the phubbing variable was split into two rather than five groups, since it is not possible to use a categorical variable with three or more levels as a mediator. Therefore, phubbing was divided into one (never, rarely, and sometimes) and two (often, all the time). For step one, boredom was regressed on perceived social media addiction. Boredom uniquely predicted perceived social media addiction,  $\beta = -1.73$ ,  $t(988) = -1.75$ ,  $p < .1$ . For step two, boredom was regressed on phubbing. This was found to be insignificant,  $\beta = -.008$ ,  $t(019) = -.417$ ,  $p > .1$ . Although this step was insignificant, it is still possible to have a significant indirect effect, or mediation, if step three is significant (Hayes, 2018), therefore, step three was also implemented. Boredom and phubbing were regressed on perceived social media addiction

with boredom not being significant and phubbing being significant,  $\beta = -1.53$ ,  $t(937) = -1.63$ ,  $p > .1$ . and  $\beta = 16.14$ ,  $t(2.72) = 5.93$ ,  $p < .001$ , respectively. The Sobel test revealed that the mediation model was non-significant with a p value greater than .1.

## Discussion

Social media addiction has been an interest in research in the recent years. The current study found around 50% of the 304 students believed they were addicted to social media around 75%-100% of the time. In contrast, 20% of the students believed they were 100% addicted to social media. The current study asked whether how people perceive themselves as addicted to social media is related to boredom, phubbing, and age (year). To the best of the researcher's knowledge, this study is the first to examine both trait boredom and the degree of phubbing as predictors of perceived social media addiction.

Assessing boredom is important due to its impact in all areas of life such as academics and job performance. Aside from its negative impact on academics and job performance, it is also associated with anger, loneliness, eating disturbances etc. (Von Gemmingen et al., 2003; Dahlen, Martin, Ragani & Kuhlman, 2004; Preckel, Götz, & Frenzel, 2010; Martin, Sadlo, & Stew, 2006; Eastwood et al., 2007; Mann & Robinson, 2009). As Daschmann, Goetz, and Stupnisky (2011) point out however, "there is still much that is unknown about this emotion" (p. 422). Boredom can be viewed both as a state and as a trait. The current study examined boredom as a trait. Understanding whether an individual has a boredom trait and whether it is related to perceived social media addiction along with phubbing can be assistive in teaching coping skills.

Within the exploratory analysis, upon examination of Factor 1 (Internal Stimulation), it is understandable that items three and six were not included in the factor. While the items one through six all refer to internal stimulation, items three and six may require more internal stimulation. While items one and two for instance refer to the ease of concentration and entertainment, item three increases the expectation and says the person gets a "kick out of" most of the things they do. Similarly, while items four and five refer to the creativity of a person and the ability to find something to keep

themselves interested, item six increases the expectation and refers to doing something the “longest” compared to other people. This could explain why these two items were not included in the internal stimulation factor.

The regression analysis indicated that the model explained 17% of the variance. Specifically, the boredom proneness scale alone explained 7% while phubbing explained 10% of the variance. This was followed by examining phubbing more closely. There is hardly any research that examines the relationship of phubbing on boredom aside from Al-Saggaf, MacCulloch, and Wiener (2018); therefore, the study examined whether phubbing predicted trait boredom. The current study did not find a direct relationship between phubbing and trait boredom. Interestingly trait boredom was not found to be a predictor of phubbing even though it was found to be so in Al-Saggaf et al. (2018). One possible explanation is that the current study only found internal stimulation as a significant factor when conducting the factor analysis and thus used it to define trait boredom. Al-Saggaf utilized both internal stimulation and external stimulation in conjunction when examining its relationship with phubbing frequency. This might explain why it was significant in their study. The groups studied were also different; Al-Saggaf conducted their study with Australian students while the current study examined Kuwaiti students. Moreover, phubbing was not found to be a mediator between boredom and perceived social media addiction. One reason could be because perceived social media addiction was utilized rather than actual social media addiction as a variable.

### Limitations

The current study utilized a mediation model to determine if phubbing mediated the relationship between trait boredom and perceived social media addiction. This mediation model was based on previous studies that indicated that trait boredom predicted phubbing (Al-Saggaf et al., 2018) and that phubbing predicted actual social media addiction. Utilizing perceived social media addiction can be considered as a limitation.

Moreover, since the sample included university students, it may not be representative of the

general population. Additionally, there were more females at the university, thus resulting in more females for the sample. This may also not be representative of the general population.

### Future Research

The current study assessed trait boredom by utilizing the Boredom Proneness Scale and determined whether it predicted perceived social media addiction. Future studies should determine if state boredom, or fleeting boredom, also predicts perceived social media addiction and to what extent it is predictive of perceived social media. Moreover, since the current study examined the predictability of trait boredom from phubbing, it would be interesting to examine if phubbing is more or less related to state boredom or arousal level. Do people participate in the act of phubbing more when they are in a state of boredom? Is there an increase or decrease in phubbing based on a person's state? Phubbing can also be viewed as a temporary reaction in relation to state boredom.

Previous research discusses how trait boredom is a predictor of phubbing (Al-Saggaf et al., 2018), and how phubbing predicts social media addiction. Therefore, the current study examined whether phubbing was a mediator between trait boredom and perceived social media addiction. Future studies can examine actual social media addiction to determine if phubbing is a mediator. Moreover, a similar research design can be used to assess state boredom and temporary phubbing.

Future studies can examine both trait boredom and state boredom in relation to actual social media addiction. Moreover, the Boredom Proneness Scale can be utilized with different populations to confirm or disconfirm previous studies on the number of factors. Since Al-Saggaf et al. (2018) found boredom to predict phubbing, utilizing the two factors, future studies can implement a similar regression analysis with populations where two factors are confirmed to be reliable. Does the number of factors retained influence whether phubbing predicts boredom?

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