

RESEARCH ARTICLE

Relationship between Self-Esteem, Area of Study, Phubbing, and Perceived Social Media Addiction among University Students

Fatima Zehra Allahverdi¹

¹ Assist. Prof. Dr., Social Sciences
University of Ankara, Faculty of
Social Sciences and Humanities,
Ankara/Turkey

ORCID: [0000-0002-9599-6407](https://orcid.org/0000-0002-9599-6407)

E-Mail:
zehra.allahverdi@asbu.edu.tr

May 2023
Volume:20
Issue:53

DOI: [10.26466/opusjsr.1253595](https://doi.org/10.26466/opusjsr.1253595)

Abstract

Due to its increasing importance in our lives, it is crucial to gain a comprehensive understanding of social media. This study contributes to the existing literature by examining data from the Gulf region in the Middle East. The study focuses on self-esteem, phubbing, area of study, and how students perceive themselves in terms of social media addiction. Hierarchical regression analysis was employed to examine the role of self-esteem, phubbing, and area of study (Science, Engineering, Social Science) in predicting perceived social media addiction, following an exploratory analysis. The results indicate that both phubbing and area of study were significant predictors of reported social media addiction. Specifically, compared to students with science majors, those with engineering and social science majors reported being 10% and 13% more addicted to social media, respectively. Additionally, students who reported engaging in phubbing rarely, sometimes, often, or always perceived themselves as being 10%, 19%, 26%, and 33% more addicted to social media, respectively, compared to those who reported never engaging in phubbing.

Keywords: addiction, phubbing, social media, self-esteem

Öz

Hayatımızdaki artan önemi nedeniyle sosyal medyayı kapsamlı bir şekilde anlamak kritik bir öneme sahiptir. Bu çalışma, Ortadoğu ve Körfez bölgesine ait verileri inceleyerek, mevcut literatüre katkı sağlamaktadır. Çalışma, benlik saygısı, phubbing, eğitim alanı ve öğrencilerin sosyal medya bağımlılığı açısından kendilerini nasıl algıladıklarına odaklanmaktadır. Çalışmada keşifçi bir analizin ardından, hiyerarşik regresyon analizi kullanılarak, algılanan sosyal medya bağımlılığını tahmin etmede benlik saygısı, phubbing ve eğitim alanının (Fen Bilimleri, Mühendislik, Sosyal Bilimler) rolü incelenmiştir. Sonuçlar hem phubbing hem de çalışma alanının, algılanan sosyal medya bağımlılığının önemli belirleyicileri olduğunu göstermektedir. Özellikle, fen bilimleri alanında okuyan öğrencilere kıyasla mühendislik ve sosyal bilimler alanındaki öğrenciler, sosyal medyaya sırasıyla %10 ve %13 daha fazla bağımlı olduklarını belirtmektedir. Bunun yanında, nadiren, bazen, sık sık ve her zaman phubbing yaptığını bildiren öğrenciler, hiç phubbing yapmadığını bildirenlere kıyasla kendilerini sosyal medyaya sırasıyla %10, %19, %26 ve %33 daha fazla bağımlı olarak algıladıklarını ifade etmektedir.

Anahtar Kelimeler: bağımlılık, phubbing, sosyal medya, benlik saygısı

Citation:
Allahverdi, F.Z. (2023).
Relationship between self-
esteem, area of study, phubbing,
and perceived social media
addiction among university
students. *OPUS- Journal of
Society Research*, 20(53), 340-353.

Introduction

Technology has advanced significantly in recent years. The relationship we have with technology is reciprocal; as we adapt to it, it likewise changes us (Miller et al., 2016). The Internet emerged together with the development of technology. According to Miller et al. (2016), "polarization between public and private media started to change with the introduction of the Internet" (p. 2). The use of smartphones has been linked to the use of social media (David & Roberts, 2017; Kuss & Griffiths, 2017). The many new communication channels that have emerged, such as Twitter, Instagram, and Facebook (Okdie & Ewoldsen, 2018), which enable the dissemination and migration of content, are one factor that raises cell-phone usage (Miller, 2016). When asked if they were addicted to their phones, 41% of students between the ages of 13 and 17 said they were (Rideout & Robb, 2012). Subrahmanyam and Greenfield (2008) and Marciano et al. (2021) highlight how teenagers and the younger generation utilize the Internet and social networking sites disproportionately heavily. Most individuals spend too much time online, with 7% of university students doing so for at least 40 hours a week (Cotton, 2008), with an average of 6 or more hours daily for most individuals (Ortiz-Ospina & Roser, 2019). The young generation regularly check their social media accounts throughout the day, and many of them consider themselves to be social media addicts (Allahverdi, 2021; Allahverdi, 2022a; Allahverdi, 2022b; Allahverdi, 2022c; Allahverdi, 2022d; Cotton, 2008).

There is growing concern that because social media is so prevalent and is used so much, offline relationships and interactions could be replaced by online ones (Miller et al., 2016). Some people have even said that social networking refers more to who we are than what we do (Griffiths & Kuss, 2017). As a result, the generation that was born into the digital age is known as the "digital natives" (Miller et al., 2016). Since social networking sites are related to the need to interact, these platforms satisfy the need for belonging in Maslow's hierarchy of needs (Palfrey & Gasser, 2008). Individuals are able to express themselves through

these platforms, which is a fundamental human need (Griffiths & Kuss, 2017).

Although social media use allows for ease of communication and fulfills some of our human needs, it can cause ostracism (Allen et al., 2014). Many emotional and mental health issues arise with the increased usage of both the Internet and social media (Groth et al., 2017; Ho et al., 2021; Moretta & Buodo, 2018; Nguyen et al., 2020). In fact, problematic social media use has been associated with a decrease in mental health the following year (Boer et al., 2021). Greater emotional disturbance symptoms have been documented by those with more severe social media addiction (Wong et al., 2020). Problematic Internet use or addiction has psychological repercussions because its symptoms resemble those of low self-esteem, hostility, anxiety, depression, and disinhibition (Widyanto & Griffiths, 2006). According to Zivnuska et al. (2019), burnout can be a consequence of excessive social media usage, which not only affects job performance but also has a financial burden. In a meta-analysis by Vannucci et al. (2020), the relationship between social media use and risky behaviors is discussed, highlighting the harmful effects of excessive usage.

Although Internet addiction was first coined by Dr. Ivan Goldberg in 1995, and later brought to attention by Kimberly Young, it is still not recognized by the Diagnostic and Statistical Manual of Mental Disorders (DSM) (Fisher, 2010; Goldberg, 1996; Young, 1996; Young, 1998). Similarly, social media addiction, which is a component of Internet addiction, is also not recognized in the DSM. Both have been identified as targets for more research. As a result, some researchers have referred to it as problem internet use (PIU) rather than calling it an addiction (Shapira et al., 2003; Young, 2009). In order to avoid pathologizing typical conduct, it is crucial to think carefully about what should be classified as a behavioral addiction (Zastrow, 2017). Consideration should be given to a behavior's psychological, environmental, and biophysical triggers when deciding if it qualifies as an addiction (Grover et al., 2011). However, it is also important to note that numerous benign and unhealthy behaviors have the potential to develop

into addictions (Griffiths, 2005).

In comparison to general studies on Internet addiction, social media research is very new (Grau et al., 2019). Concerns about overuse of social media platforms emerged with the development of these networks (Kircaburun, 2016). Researchers have looked into changes in people's sense of belonging, identity development, and psychosocial wellbeing with the increase in social media use (Allen et al., 2014). Even though it has not been recognized by the DSM, many experts believe that there is such a thing as internet and social media addiction due to the manifestation of symptoms (Kuss & Griffiths, 2017). There is a lack of precise definition, which can impede the development of this field of study.

The current study did not examine problem internet use or social media addiction. Instead, the goal was to ascertain what individuals thought of themselves, in other words, their perception of themselves. An individual's behavior and performance can inform themselves, leading to the creation of a self-perception (Bem, 1967). These self-perceptions and self-attributions in turn influence and guide our behaviors (Riding & Rayner, 2001). Due to wide variability in defining social media use and addiction among researchers and the use of these terms colloquially, each individual may define "social media addiction" slightly differently. Even if a person may not have problematic social media use or addiction, their own perception of themselves is important since it influences their performance.

Phubbing

Phubbing, which is derived from the words "phone" and "snubbing," is a new phenomenon that has emerged in tandem with the growth of the Internet and the widespread use of cell phones (Balta et al., 2020). It has become quite a common practice (Chotpitayasunondh & Douglas, 2017). Though still limited and in its early stages, phubbing research has grown over the past few years (Al-Saggaf et al., 2018; Chotpitayasunondh & Douglas, 2017; David & Roberts, 2017). According to the few research that is currently available,

social media and cell phone addiction are both predictive of phubbing (Chotpitayasunondh & Douglas, 2017; Karadag et al., 2015).

Phubbing is a major issue that impacts people's sense of belonging and degrades relationship satisfaction, including friendships (Chotpitayasunondh & Douglas, 2017; Hales et al., 2018) and important connections like marriages (Wang et al., 2017). It has also been shown to have an indirect relationship with life satisfaction (Balta et al., 2020). When thirteen to seventeen-year-olds were asked if they get frustrated when their friends keep texting, surfing the Internet, or checking their social media while hanging out, forty-five percent said yes (Rideout & Robb, 2012). Indeed, the practice has the potential to harm both phubbers and phubees (Chotpitayasunondh & Douglas, 2016). Due to the innate need to connect with other humans, phubbing behavior excludes individuals, and thus negatively impacts their sense of belonging (Han et al., 2015). Due to the importance of phubbing, the phubbing survey by Al-Saggaf et al. (2018) was added to the current study.

Self-Esteem

Examining the link between social media problematic use/addiction and poor self-esteem can be crucial because it has been shown to be linked to psychopathological issues (Jasso-Medrano & Lopez-Rosales, 2018). People with poor self-esteem want regular affirmation in order to feel important. They can get immediate response in the form of likes and comments by using social media platforms. Therefore, people with low self-esteem who constantly seek other people's approval for everything they do may use social media more frequently. According to some experts, social media platforms give people with low self-esteem a chance to build relationships because they find it difficult to do so offline (Forest & Wood, 2012). Ayas & Horzum (2013) and Berry et al. (2018) found no relationship between Internet addiction and social media addiction and self-esteem, while Budak et al. (2015), Hawi & Samaha (2019), Köse & Doan (2019), and Pawar & Shah (2019) found a relationship between self-esteem

decline and Internet and social media addiction. Although low self-esteem has been associated with social media addiction, it has not been previously examined with regard to perception of social media addiction. The current study is the first to look into this relationship (Banyai et al., 2017). The hierarchy of needs by Maslow places a strong emphasis on the value of self-esteem in achieving one's goals, thus it's crucial to look at the connection between perception of one's self with regard to social media and self-esteem.

Area of Study

Moreover, one of the variables assessed in the current study was the student area of study. There has not been much research conducted on the area of study and its relationship with addiction, cellphone usage, and social media usage. One study that has compared different departments is research conducted by Ugur and Koc (2015). They examined the effects of phubbing and technology distraction in the classroom during exams (Ugur & Koc, 2015). Another study examined social media use during lectures for medical students (Narendran et al., 2017). Masthi, et al. (2018) compared social media addiction between private and public universities and found no differences. The present study went one step farther and looked at not only one school (college), but the following three areas of study: Social Science, Science, and Engineering. While examining the different areas of study, the study also used the specific majors within the areas of study to determine their impact on perception of social media addiction.

Purpose

Despite the fact that people prefer online communication to face-to-face communication, interactions on the internet can be fleeting and make it difficult to develop meaningful relationships (Kircaburun, 2016). This decreases the satisfaction of the psychological need for belongingness as outlined by Maslow's hierarchy of needs. Consequently, it's crucial to conduct study on factors that might be related to people's perceptions of their own social media addiction.

The goal was to ascertain whether the frequency of phubbing, one's self-esteem, and one's area of study (social science, science, or engineering) were predictive of whether Arab students felt they were addicted to social media.

Since the self-esteem scale by Rosenberg (1963) has not been utilized within certain parts of the Middle East, especially the Gulf, it is crucial to determine the retained factors and assess the reliability of the data. Various studies have conducted both an exploratory and a confirmatory factor analysis to determine the number of factors that the Self-Esteem Scale by Rosenberg (1963) has. Eight factorial solutions have been examined by researchers using a confirmatory factor analysis (Lima & Souza, 2019, Mullen, Gothe, & McAuley, 2013). The scale was used in a new population for the current study, and an exploratory factor analysis was done to identify the significant factors.

Moreover, since self-esteem is an important precursor for self-fulfillment as addressed by Maslow's hierarchy of needs, examining its connection with perception of addiction within a new population is important. Perceived social media addiction was measured by adjusting the perceived social media addiction scale by Eijenden et al. (2016). Its relationship with phubbing was assessed utilizing Al-Saggaf et al. (2018)'s phubbing survey. This is the first study that examines self-perceived social media addiction, phubbing frequency, self-esteem, and area of study at the same time.

Research Questions

1. How many factors in the Rosenberg Self-Esteem Scale (RSES) are significant within the Gulf population?
2. How are the frequency of phubbing, self-esteem, and area of study related to the percentage of students who identified themselves (perception) as addicted to social media?

Methodology

Research Design

An exploratory factor analysis for the Rosenberg Self-Esteem Scale (RSES) was implemented to identify the significant factors. The significant factors were used as predictor variables along with the other predictor variables to implement the regression analysis.

A multiple regression analysis was conducted to both comprehend the relationship of the variables in the study and generate predictions (Albright & Winston, 2010). To predict future cases, a formula was constructed.

Participants

The study included public university Arab students who received their instruction in English. In total there was an 85% response rate totaling to 305 students who submitted the survey. The survey covered three academic areas of study: science, engineering, and social science. Table 1 lists the participating students' area of study in detail. The list of majors for each area of study represented in the survey is shown in Table 2.

Table 1. Percentage of participating students by area of study

Area of Study	% of survey students
Social Science	30%
Science	16%
Engineering	54%

Table 2. Majors by area of study

Area of Study	Major
Engineering	Chemical Eng., Civil Eng., Electrical Eng., Computer Eng., Industrial Eng., Petroleum Eng., Mechanical Eng.
Science	Biology, Biochemistry, Geology, Chemistry, Math, Medicine, Physics, Microbiology, Health Science, Nursing, Physical Therapy, Public Health
Social Science	Architecture, Accounting, Economics, Business, Education, Geographic, Finance, Law, History, Marketing, Theology, Translation, Mass Communication,

Due to the gender makeup of the university's student body, more women were included in the study. Male participants made up 37.7% of the participants, while female participants made up 62.4%. Students from Freshmen, Sophomore, Junior, and Senior years were surveyed. The students' ages fell between 18 and 24.

Procedures

Random sampling was used to ensure heterogeneity. Classes were chosen at random through systematic random sampling for each area of study. The university was chosen because it is a good representation of the Middle East. Each participant filled the handed-out surveys, which were then entered into a database and verified by a different researcher.

Measures

Demographic Information: Participants indicated their gender, their university year, and major at the beginning of the survey. The survey has two options for gender, male and female. Students had to mark in a circle whether they were a Freshman, Sophomore, Junior, or Senior.

Phubbing Frequency: In order to gauge phubbing frequency, the question "How often do you look at your smartphone while having a discussion with another person or people?" was posed. The question was rated on a Likert scale of 1 to 5 points. The options on the scale were Never to Always. This query was taken from Al-Saggaf et al. (2018) to see if trait boredom and phubbing were related. The current study utilized the same question to assess whether perceived social media addiction and phubbing have a relationship.

Perceived Social Media Addiction: The Social Media Disorder (SMD) scale is a regularly deployed scale to assess addiction to social media platforms. Eijnden et al. (2016) created a shorter version of the SMD scale, cutting it down from 27 items to just nine. They found that both the

extended and shortened versions of the SMD scale highly correlated with the one item self-perceived social media addiction scale. Since longer surveys take more time to complete, some people may not complete all of the survey questions. As a result, researchers favor surveys that are more concise and shorter. The single-item measure used by Eijnden et al. (2016) was modified for the current investigation. Instead of using a five-point Likert scale, perceived social media addiction was assessed on a scale from zero to one hundred, giving more detailed information. Participants were asked, "To what extent do you feel addicted to social media?" in order to gauge perceived social media addiction.

Self-Esteem Scale: The Rosenberg Self-Esteem Scale has an internal consistency of 0.77. The two-week interval for test-retest reliability was 0.85 while the seven-month interval test-retest interval was 0.63 (Silber & Tippett, 1965, Shorkey & Whiteman, 1978). Shorkey and Whiteman (1978) also found a significant correlation between the English and Spanish versions of the scale. The Rosenberg (1963) Self-Esteem Scale is a frequently used scale to assess self-esteem and has been translated into various languages (Kircaburun, 2016, Shorkey & Whiteman, 1978).

The scale, which consists of ten questions, uses a four-point scale rather than a five-point one to indicate how much the respondent agrees with each item. Half of the measure is made up of positively phrased items (items 1, 3, 4, 7, and 10), and the other half is made up of negatively worded items (items 2, 5, 6, 8, and 9). Despite the scale being used in many nations, there is a dearth of research in the Gulf nation where the study was carried out. In order to compare the results with earlier exploratory factor analysis investigations, an exploratory factor analysis was used.

Findings and Discussion

Exploratory Factor Analysis

Initially, all 10 items of the scale were utilized for the exploratory factor analysis of the Self-Esteem Scale by Rosenberg (1963) by employing a principal axis factoring. For factor analysis,

Stevens (1996) encourages researchers to determine sample size per variable, suggesting five to twenty participants per variable. Multivariate normality of the data was checked utilizing the Mahalanobis distance.

The Variance Inflation Factor, Tolerance, and the determinant of the correlation matrix were all examined in order to rule out multicollinearity. All assumptions were verified. In the current study communalities less than 0.3 were removed from the analysis. These were questions three, four, seven, and eight of the Self-Esteem Scale by Rosenberg (1963).

The principal axis factoring was re-run once the above-mentioned items were removed. The sampling adequacy was 0.70 for the Kaiser-Meyer-Olkin measure which is more than the recommended value. Sampling adequacy was measured with the Kaiser-Meyer-Olkin measure. The Bartlett's test of sphericity was significant ($\chi^2(15) = 253.51, p < .05$). The diagonals of the anti-image correlation matrix were all over 0.5. Although the frequently utilized method for determining which factors to retain is the eigenvalue > 1 rule, Henson and Roberts (2006) discuss how solely utilizing the EV >1 rule most times "severely overestimates the number of factors to retain (p.399)". Therefore, to supplement the eigenvalue > 1 rule, a scree test and parallel analysis was utilized in the current study.

The oblique strategy utilized in the current study was Oblimin. The data was checked in the current study and a comparison was made with a delta value of 0.8, 0.5, and zero. For both 0.8 and 0.5, rotation failed to converge in 25, 50, and 100 iterations. The data was explored and determined to be most oblique, therefore, a delta value of zero was selected.

All items had a factor loading of .4 or above. Factor one comprised of questions two, five, six, and nine explained 37% of the variance, with factor loadings ranging from 0.48 to 0.74. Factor two comprised of questions one and ten explained 20% of the variance, with factor loadings ranging from 0.48 to 0.57. The cumulative percentage for both factors was 57%. When the reliability of each factor was assessed, factor one's internal consistency was 0.7 and factor two's internal consistency was 0.4, thus resulting in the removal of the second factor.

Thus, the original factor structure proposed by many researchers was not retained in the current study. The items on the first factor were utilized to create a self-esteem variable that was then used in the regression analysis.

Descriptive Data

The standard deviation of students' perceptions of their own social media addiction was ($sdv=18.80$), with an average of ($\bar{x}=62.60$). More than 40% of the students thought they were 75%–100% addicted to social media. Ten percent of the people rated themselves as 100% addicted, believing they had no control over their addiction. Table 3 provides the means and standard deviations for phubbing.

Table 3. Means and standard deviations for phubbing

Pubbing	%	Social Media	
		Mean	SD
Never	6%	47.14	21.99
Rarely	24%	56.16	16.98
Sometimes	40%	61.16	16.14
Often	19%	69.30	17.17
All the time	11%	79.48	18.19

With the increase of phubbing means, perception of social media addiction means also increased. The likelihood that students believed they were addicted to social media increased as more of them engaged in the practice of phubbing. Thirty percent of the students fell into the often or all the time categories for phubbing, whereas 40% of the participants fell into the sometimes category.

Table 4. Model summary

Steps	R	R ²	R ² adj	R ² Change	F Change	p	df1	df2
1. Area of Study	0.22	0.05	0.04	0.05	7.37	< .01	2	305
2. Area of Study, Phubbing	0.44	0.19	0.18	0.15	13.77	< .001	4	301
3. Area of Study, Phubbing, Self-Esteem	0.44	0.20	0.18	0.00	1.12	> 0.5	1	300

The self-esteem variable was studied independently. Around 50% of the students thought they were addicted to social media for values on the Self-Esteem Scale between zero and three. This was also true for values between three

and above. The number of students who said they were addicted to social media did not alter as a result of changing how the self-esteem measure was scored. As a result, it's probable that the self-esteem variable won't be a very good predictor.

Regression

Hierarchical multiple regression was implemented. Self-esteem, area of study, and phubbing were the independent variables. Perceived addiction to social media was the dependent or predictive variable. All assumptions of the regression analyses were met. Homoscedasticity was checked by looking at scale-location plots, linearity was checked by looking at residual versus fitted plots, normality was checked utilizing the Kolmogorov-Smirnov test and QQ plots, and multicollinearity was checked by examining both tolerance and variance inflation factors (Mertler & Vannatta, 2010). Outliers were checked by looking at both upper and lower extremes using boxplots and by utilizing the Mahalanobis distance and Cook's distance. Moreover, the study fulfilled the required subjects per independent variable requirement. The model summary is provided in Table 4 for the regression analysis. The coefficients for the final model is found in Table 5.

Whether the participants believed themselves to be social media addicts was not predicted by the overall model (Table 4). Self-esteem, then, did not play a substantial role in explaining the variation in reported social media addiction. However, the

second model predicts perceived social media addiction, $R^2 = 0.19$, $R^2adj = 0.18$, $F(4, 301)$, $p < .001$, with the dependent variable's variation being explained by the independent factors by 19.4%. Table 5 demonstrates that all of the variables in the models are significant. The area of study alone

accounted for 4.6% of the variation in perceptions of social media addiction, $R^2 = 0.05$, $R^2_{adj} = 0.04$, $F(2, 305)$, $p < .01$.

Adding phubbing to the model contributed 10% to the explanation of the variance in perceived social media addiction.

phubbing was Phubbing-All the Time. The rate of perceived social media addiction would drop to 76.70% if the major was social science and the phubbing was frequent. Changing phubbing to Phubbing-Rarely would reduce the perceived social media addiction even more, to 60.12%.

Table 5. Coefficients for the final model

Model		B	Beta	T	Model
1	Major (Social Science)	16.95	0.30	3.73	0.00***
	Major (Engineering)	13.01	0.26	3.30	0.00***
2	Major (Social Science)	12.85	0.23	3.02	0.00***
	Major (Engineering)	10.23	0.21	2.80	0.05**
	Phubbing (Rarely)	9.80	0.17	1.91	0.1*
	Phubbing (Sometimes)	18.54	0.38	3.80	0.00***
	Phubbing (Often)	26.38	0.44	5.02	0.00***
	Phubbing (All the Time)	33.25	0.48	5.98	0.00***

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Instead of the students' individual majors, the study included their area of study. The areas of study were Engineering, Sciences, and Social Sciences. A list of all the majors under the three areas of study is provided in Table 2. The specific majors were initially contrasted with one another under each area of study. None, however, were determined to be significant. Therefore, the regression analysis was re-run only with the areas of study, resulting in a significant finding. This indicates that although specific majors do not have an impact on perceived social media addiction within each area of study, the general areas of study are significant.

The data were used to create a formula for multiple regression:

$$\begin{aligned} \text{Addiction Perception \%} &= 37.47 \\ &+ 10.23 \text{ Major-Engineering} \\ &+ 12.85 \text{ Major-Social Science} \\ &+ 9.80 \text{ Phubbing-Rarely} \\ &+ 18.54 \text{ Phubbing-Sometimes} \\ &+ 26.38 \text{ Phubbing-Often} \\ &+ 33.25 \text{ Phubbing-All the Time} \end{aligned}$$

The base of the formula was chosen with major-science as the area of study and phubbing frequency as never. On average, these students tended to believe they are addicted to social media 37.47% of the time. The perceived level of social media addiction, for instance, would be 83.57% if the area of study was Major-Social Science and the

In contrast, the perceived level of social media addiction would be 80.95% if the field of study was major-engineering and phubbing was Phubbing-All-the-Time.

Major-Social Science students are more likely than Major-Science students to believe that they are hooked to social media, with the difference between the two groups being 12.85%. Similarly, there is a 10.23% difference between Major-Science and Major-Engineering students, with Major-Engineering students being more likely to perceive themselves as addicted to social media. The formula was validated by dividing the data in half. The regression model was performed on more than two-thirds of the data, and the remaining percentage was utilized to cross-validate the regression equation.

Discussion

Students who stated that they rarely, sometimes, often, or always engaged in the practice of phubbing believed that they were addicted to social media 10%, 19%, 26%, and 33%, respectively, compared to never phubbing. Visually distinguishing individuals who participate in the act of phubbing is easier than it is to determine if they are or feel addicted to social media. Therefore, university counseling centers can ask students

who feel they are using these platforms excessively if they participate disproportionately or in an exaggerated fashion in phubbing and discuss the negative effect of phubbing and excessive use of the Internet and social media on relationships, life satisfaction, and its relationship with disinhibition, anxiety, feelings of melancholy, and anger (Widyanto & Griffiths, 2006).

Students can ask their friends for feedback on their own behavior regarding phubbing. This can be a useful way to gain insight into how their behavior is affecting others and to become more aware of their habits. To do this, students can ask their friends to observe their behavior during social situations, such as hanging out or going out to eat. After the interaction, students can ask their friends for feedback on their behavior, specifically looking for instances of phubbing. This feedback can help students become more aware of their phubbing behavior and can motivate them to make changes to reduce it.

There are disagreements among researchers regarding the number of factors present in the Rosenberg Self-Esteem scale. While some researchers refer to it as two factors (positive worded items and negative worded items), other researchers refer to its unidimensional nature. Results have varied in the 53 or more nations that have used this measure (Martin-Albo et al., 2007; Schmitt & Allik, 2005). Some researchers even go as far as assessing global self-esteem with one item (Robins et al., 2001), finding it to have similar predictive validity to that of the Rosenberg Self-Esteem scale.

Aside from examining phubbing, the current study implemented the Rosenberg Self-Esteem scale with a new population to assess global self-esteem. Several items were removed due to low communalities as suggested by Child (2006) and Samuels (2016). The ratio of an item's unique variance to its shared variance is poor with low communality values, indicating that the item does not explain the construct sufficiently. Only one factor was retained since the other two items were insufficient to form a second factor due to it being less than three and having a low internal consistency. The retained items, which created one

factor, was used to represent self-esteem with the selected sample.

According to Mruk's theory, a low sense of self-esteem can result in people becoming more susceptible to mental illnesses including addiction, anxiety, learning challenges, and despair (Mruk, 2006). Since previous research has found life satisfaction to mediate the relationship between self-esteem and social media addiction (Kocak et al., 2021), and a decline in self-esteem to be related to social media addiction (Budak et al., 2015; Andreassen et al., 2017; Hawi & Samaha, 2019; Köse & Dogan, 2019; Pawar & Shah, 2019), the current study asked whether it was possibly related to perception of addiction and how people perceived themselves. Self-esteem did not predict perceived social media addiction. However, it is important to note that there are researchers that did not find a significant relationship between Internet addiction and social media addiction and self-esteem (Ayas & Horzum, 2013; Berry et al., 2018). Therefore, more research needs to be conducted to determine if the reason behind a non-significant relationship in this study was due to it assessing perception or if there is a possibility that excessive social media use is not related to self-esteem in certain instances.

It is possible that self-esteem may be related to social media addiction or excessive use compared to perception of use. Individuals with low self-esteem may use social media as a way to cope with negative emotions and seek validation from others. This may lead to excessive social media use and addiction but may not be necessarily related to perception of addiction. Moreover, an examination of life satisfaction is important, since previous research has found life satisfaction to mediate the relationship between self-esteem and social media addiction (Kocak et al., 2021).

Students in the social sciences and engineering said they felt they were around 10% and 13% more addicted to social media than those in the sciences. Yet, it is significant to recognize the cultural disparities in this instance. In order to enroll in college in the US, students must take the SAT or ACT. Yet, in the Gulf nation where the data for the present study was gathered, students take a

college admission exam, and depending on their scores, they are admitted to particular departments. Hence, students select their majors rather than a college.

With the highest scores, students can get into certain majors of the Sciences such as Medicine and Dentistry, followed by Engineering, and finally with the Social Sciences. Given the cultural significance placed on high test scores, students who get these scores are typically expected to enroll in particular science disciplines. Therefore, the pattern of the Social Sciences, Engineering, and Sciences incremental increase in self-perceived social media addiction is interesting. Different countries may get various results depending on the structure of their educational systems. For instance, in the United States, the area of study may not be a significant contributor to the model or may have a different type of contribution.

Conclusion and Future Research

This research is the first to simultaneously look at self-perceived social media addiction, self-esteem, phubbing frequency, and area of study. Asking people how they see themselves is crucial because, if they see themselves as addicted, it may change how they see themselves overall, influencing other areas in their life. Therefore, a more detailed study should be conducted on perception.

In addition, attributional style, which is how people explain their behavior or outcomes, can be examined the future (Tennen et al., 1987). Since attributional style has been associated with health risk behaviors and substance use (Burnett et al., 2013), it would be valuable to examine attributional style with regard to social media use. It is possible for individuals with different attributional styles to either attribute their excessive social media use to a lack of self-control or to leisure or personal interest. This attributional style may affect one's social media use and possibly perception of addiction. Thus, attributional style can be examined in the future.

Due to the different educational systems in other countries, future research should determine whether similar results would be reached in the United States or other countries with educational systems different from the Gulf country under

study. The overall Middle Eastern culture, including that of the Gulf nation under study, encourages students who do well on the college admission exam to apply for the Sciences, such as medicine and dentistry. If they are incapable to enroll in the Sciences, students are encouraged to choose an engineering degree. The Social Sciences field therefore is the most easily attainable field of study when compared to the other two. The study's conclusions support this pattern. Those majoring in Social Sciences were more likely to believe they had a social media addiction than those majoring in the Science field. Future research may examine the direct relationship between college test performance and reported addiction.

The more often students engaged in phubbing, the more inclined they were to think of themselves as social media addicts, as seen in Table 5. Since areas of study predicted perceived social media addiction, which may be related to college admission exam scores, as explained above, it is important to examine whether college admission exam scores can predict phubbing frequency as well. Al-Saggaf and O'Donnell (2019) also discuss how the drive for instant gratification and multitasking, or doing numerous tasks at once, may contribute to the understanding of why individuals participate in phubbing. Therefore, future research must pinpoint both the factors that contribute to phubbing and those that predict it. According to David and Roberts (2017), future studies need to examine how phubbing can result in feelings of alienation from social situations, an increased need for attention, and eventually attachment to social media. It can also be intriguing to investigate whether phubbing has a strong association with being phubbed.

Future research should examine the frequency and duration of student logins to their social media accounts to determine its relationship with perception of addiction. The reasoning behind spending time on social media, e.g. whether it is for pleasure or for class/work, and its relationship with individual perception can further be examined. If increased usage of social media for class/work increases perception of addiction, it might explain why an increased perception does not result in lower self-esteem. Spending time on social media due to leisure purposes, its effect on

perception, and its relationship with self-esteem can further be examined.

Overall, while the classification of internet and social media addiction as distinct disorders remains a topic of debate among experts, it is important for individuals who feel that their internet or social media use is causing significant distress or interference in their daily life to seek professional help.

References

- Albright, S. C., & Winston, W. L. (2010). *Data analysis and decision making: Selected chapters*. Toronto, Canada: Nelson Education.
- Allen, K., Ryan, T., Gray, D., McInerney, D., & Waters, L. (2014). Social Media Use and Social Connectedness in Adolescents: The Positives and the Potential Pitfalls. *The Educational and Developmental Psychologist*, 31(1), 18-31. doi:10.1017/edp.2014.2
- Andreassen, C.S., Pallesen, S., Griffiths, M.D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive behaviors*, 64, 287-293.
- Allahverdi, F.Z. (2021). The relationship between the items of the social media disorder scale and perceived social media addiction. *Current Psychology*, 41, 7200-7207.
- Allahverdi, F.Z. (2022a). Age and perceived social media addiction as predictors of the desire for attention. *Journal of Positive School Psychology*, 6(4), 3290-3298.
- Allahverdi, F.Z. (2022b). Perceived social media addiction differences by student university level. *Online Journal of Technology Addiction and Cyberbullying*, 9(2), 72-85.
- Allahverdi, F.Z. (2022c). Relationship between perceived social media addiction and social media applications frequency usage among university students. *Psychology in the Schools*, 59(6), 1075-1087.
- Allahverdi, F.Z. (2022d). Trait boredom and perceived social media relationship. *Journal of Positive School Psychology*, 6(2), 5024-5036.
- Al-Saggaf, Y., & O'Donnell, S. B. (2019). Phubbing: Perceptions, reasons behind, predictors, and impacts. *Human Behavior and Emerging Technologies*, 1, 132-140.
- Al-Saggaf, Y., MacCulloch, R., & Wiener, K. (2018). Trait boredom is a predictor of phubbing frequency. *Journal of Technology in Behavioral Science*, 4, 245-252.
- Ayas, T., & Horzum, M. (2013). Relation between depression, loneliness, self-esteem and internet addiction. *Education*, 133, 283-290.
- Balta, S., Emirtekin, E., Kircaburun, K., & Griffiths, M.D. (2020). Neuroticism, trait fear of missing out, and phubbing: The mediating role of state fear of missing out and problematic Instagram use. *International Journal of Mental Health Addiction*, 18, 628-639.
- Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M.D. (2017) Problematic social media use: Results from a large-scale nationally representative adolescent sample. *PLoS ONE* 12(1), e0169839.
- Bem, D.J. (1967). Self-perception: The dependent variable of human performance. *Organizational Behavior and Human Performance*, 2(2), 105-121.
- Berry, N., Emsley, R., Lobban, F., & Bucci, S. (2018). Social media and its relationship with mood, self-esteem and paranoia in psychosis. *Acta Psychiatrica Scandinavica*, 138, 1-13.
- Billieux, J., Schimmenti, A., Khazaal, Y., Maurage, P. (2015). Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research. *Journal of Behavioral Addiction*, 4, 119-123.
- Boer, M., Stevens, G.W.J.M., Finkenauer, C., Looze, M.E., & Eijnden, R.J.J.M. (2021). Social media use intensity, social media use problems, and mental health among adolescents: Investigating directionality and mediating processes. *Computers in Human Behavior*, 116, 106645.
- Budak, E., Taymur, I., Askin, R., Gungor, B. B., Demirci, H., Akgul, A., & Sahin, Z. A. (2015). Relationship between internet addiction, psychopathology, and self-esteem among university students. *European Research Journal*, 1, 128-135.

- Burnett, A., Sabato, T., Walter, K., Kerr, D., Wagner, L., & Smith, A. (2013). The influence of attributional style on substance use and risky sexual behavior among college students. *College Student Journal, 47*(1), 122-137.
- Child, D. (2006). *The Essentials of Factor Analysis*. 3rd ed. New York: Continuum.
- Chotpitayasunondh, V., & Douglas, K. M. (2016). How “phubbing” becomes the norm: The antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior, 63*, 9-18.
- Chotpitayasunondh, V., & Douglas, K. M. (2017). The effects of “phubbing” on social interaction. *Journal of Applied Social Psychology, 48*, 304-316.
- Cotten, S. R. (2008). Students’ technology use and the impacts on well-being. *New Directions for Student Services, 124*, 55-70.
- David, M.E. & Roberts, J.A. (2017). Phubbed and alone: Phone snubbing, social exclusion, and attachment to social media. *Journal of the Association for Consumer Research, 2*(2), 155-163.
- Eijnden, R. J. V. D., Lemmens, J. S., & Valkenburg, P. M. (2016). The social media disorder scale. *Computers in Human Behavior, 61*, 478-487.
- Flisher, C. (2010). Getting plugged in: An overview of Internet addiction. *Journal of Pediatrics and Child Health, 46*(10), 557-559.
- Forest, A. L., & Wood, J. V. (2012). When Social Networking Is Not Working: Individuals With Low Self-Esteem Recognize but Do Not Reap the Benefits of Self-Disclosure on Facebook. *Psychological Science, 23*(3), 295-302.
- Goldberg, L. R. (1996). The development of markers for the Big-Five factor structure. *Psychological assessment, 8*(3), 191-201.
- Grau, S., Kleiser, S., & Bright, L. (2019). Exploring social media addiction among student Millennials. *Qualitative Market Research: An International Journal, 22*, 200-216.
- Griffiths, M. D., & Kuss, D. (2017). Adolescent social media addiction (revisited). *Education and Health, 35*, 49-52.
- Groth, G. G., Longo, L. M., & Martin, J. L. (2017). Social media and college student risk behaviors: A mini-review. *Addictive Behaviors, 65*, 87-91.
- Grover, A., Kamins, M., Martin, I., Davis, S., Haws, K., Mirabito, A., ... Rapp, J. (2011). From use to abuse: When everyday consumption behaviors morph into addictive consumptive behaviors. *Journal of Research for Consumers, 11*, 1-8.
- Hales, A. H., Dvir, M., Wesselmann, E. D., Kruger, D. J., & Finkenauer, C. (2018). Cell phone-induced ostracism threatens fundamental needs. *Journal of Social Psychology, 158*, 460-473.
- Han, S., Jinyoung, M., & Heeseok, L. (2015). Antecedents of social presence and gratification of social connection needs in SNS: A study of Twitter users and their mobile and non-mobile usage. *International Journal of Information Management, 35*(4), 459-471.
- Hawi, N., & Samaha, M. (2019). Identifying commonalities and differences in personality characteristics of Internet and social media addiction profiles: Traits, self-esteem, and self-construal. *Behaviour & Information Technology, 38*, 110-119.
- Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement, 66*, 393-416.
- Jasso-Medrano, J.L., Lopez-Rosales, F. (2018). Measuring the relationship between social media use and addictive behavior and depression and suicide ideation among university students. *Computers in Human Behavior, 87*, 183-191.
- Karadag, E., Tosuntas, S. B., Erzen, E., Duru, P., Bostan, N., Sahin, B.M., ... Babadag, B. (2015). Determinants of phubbing, which is the sum of many virtual addictions: A structural equation model. *Journal of Behavioral Addictions, 4*, 60-74.
- Kardefelt-Winther, D., Heeren, A., Schimmenti, A., Van Rooij, A., Maurage, P., Carras, M., Edman, J., Blaszczynski, A., Khazaal, Y., & Billieux, J. (2017). How can we conceptualize behavioral addiction without pathologizing common behaviours? *Addiction, 112*, 1709-1715.

- Kircaburun, K. (2016). Self-esteem, daily internet use and social media addiction as predictors of depression among Turkish adolescents. *Journal of Education and Practice, 7*, 64-72.
- Kocak, O., ilme, E., Younis, M.Z. (2021). Mediating role of satisfaction with life in the effect of self-esteem and education on social media addiction in Turkey. *Sustainability, 13*(16), 9097.
- Kose, O. B. & Dogan, A. (2019). The relationship between social media addiction and self-esteem among Turkish university students. *The Turkish Journal on Addictions, 6*, 175-190.
- Leung, H., Pakpour, A. H., Strong, C., Lin, Y. C., Tsai, M. C., Griffiths, M. D., ... Chen, H. (2020). Measurement invariance across young adults from Hong Kong and Taiwan among three Internet-related addiction scales: Bergen Social Media Addiction Scale (BSMAS), Smartphone Application-Based Addiction Scale (SABAS), and Internet Gaming Disorder Scale-Short Form (IGDS-SF9) (study part A). *Addictive Behaviors, 101*, 1-9.
- Lima, T. J. S., & Souza, L. E. C. (2019). Rosenberg self-esteem scale: Method effect and gender invariance. *Braganca Paulista, 24*, 517-528.
- Martin-Albo, J., Nunez, J.L., Navarro, J., & Grijalvo, F. (2007). The Rosenberg self-esteem scale: Translation and validation in university students. *The Spanish Journal of Psychology, 10*(2), 458-467.
- Martin, I., Kamin, M., Pirouz, D., Davis, S.W., Haws, K., Mirabito, A. M., ... Griver, A. (2013). On the road to addiction: The facilitative and preventive roles of marketing cues. *Journal of Business Research, 66*, 1219-1226.
- Marciano, L., Ostroumova, M., Schulz, P.J., & Camerini, A.L. (2021). Digital media use and adolescents' mental health during the Covid-19 pandemic: A systematic review and meta-analysis. *Frontiers in Public Health* <https://doi.org/10.3389/fpubh.2021.793868>
- Masthi, N. R., Pruthvi, S., & Phaneendra, M. (2018). A comparative study on social media usage and health status among students studying in pre-university colleges of urban Bengaluru. *Indian Journal of Community Medicine, 43*, 180-184.
- Mertler, C. A., & Vannatta, R. A. (2010). *Advanced and multivariate statistical methods: Practical application and interpretation*. Pyrczak.
- Miller, D., Costa, E., Haynes, N., McDonald, T., Nicolescu, R., Sinanan, J., Spyer, J., Venkatraman, S., & Wang, X. (2016). Online and offline relationships. In *How the World Changed Social Media* (1st ed., Vol. 1, pp. 100–113). UCL Press.
- Miller, D., Costa, E., Haynes, N., McDonald, T., Nicolescu, R., Sinanan, J., Spyer, J., Venkatraman, S., & Wang, X. (2016). What is social media? In *How the World Changed Social Media* (1st ed., Vol. 1, pp. 1–8). UCL Press.
- Moretta, T., & Buodo, G. (2018). Modeling problematic Facebook use: Highlighting the role of mood regulation and preference for online social interaction. *Addictive Behaviors, 87*, 214-221.
- Mullen, S. P., Gothe, N. P., & McAuley, E. (2013). Evaluation of the factor structure of the Rosenberg self-esteem scale in older adults. *Personality and Individual Differences, 54*, 153-157.
- Mruk, C.J. (2006). Changing self-esteem: Research and practice. In *Self-Esteem Issues and Answers: A Sourcebook of Current Perspectives* (pp. 164–169). Psychology Press.
- Narendran, N., Lally, M. S., & Rajany, J. (2017). Social media use and perception of live lectures by medical students. *Journal of Evidence Based Medicine & Healthcare, 4*, 921-924.
- Okdie, B. M., & Ewoldsen, D. R. (2018). To boldly go where no relationship has gone before: Commentary on interpersonal relationships in the digital age. *Journal of Social Psychology, 158*, 508-513.
- Ortiz-Ospina, E., & Roser, M. (2019, March 20). *The rise of Social Media*. Our World in Data. Retrieved April 28, 2023, from <https://ourworldindata.org/rise-of-social-media>
- Palfrey, J., & Gasser, U. (2008). *Born digital: Understanding the first generation of digital natives*. New York, NY: Basic Books.

- Pawar, T., & Shah, J. (2019). The relationship between social media addiction, self-esteem, sensation seeking and boredom among college students. *Indian Journal of Mental Health, 6*(4), 333-339.
- Rideout, V., & Robb, M. B. (2012). *Social media, social life: Teens reveal their experiences*. San Francisco, CA: Common Sense Media.
- Riding, R. J. (2001). *Self-perception in context: Toward a model of individual differences in school performance*. In R. J. Riding & S. G. Rayner (Eds.), *Self-perception* (pp. 77– 100). Ablex Publishing.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring Global Self-Esteem: Construct Validation of a Single-Item Measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin, 27*, 151-161.
- Rosenberg, M. (1965). *Rosenberg Self-Esteem Scale (RSES)*. Princeton, NJ: Florence Slade, Princeton University Press.
- Samuels, P. (2016). *Advice on Exploratory Factor Analysis*. Birmingham City University.
- Schmitt, D. P., and Allik, J. (2005). Simultaneous administration of the Rosenberg self-esteem scale in 53 nations: exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology, 89*, 623–642.
- Shorkey, C. T., & Whiteman, V. L. (1978). Correlations between standard English and dialectical Spanish versions of five personality scales. *Psychological Reports, 43*, 910.
- Silber, E., & Tippett, J. S. (1965). Self-esteem: Clinical assessment and measurement validation. *Psychological Reports, 16*, 1017-1071.
- Stevens, J. (1996). *Applied multivariate statistics for the social sciences* (3rd ed.). Mahwah, New Jersey: Lawrence Erlbaum.
- Subrahmanyam, K., & Greenfield, P. (2008). Online Communication and Adolescent Relationships. *The Future of Children, 18*(1), 119–146.
- Tennen, H., Herzberger, S., & Nelson, H.F. (1987). Depressive attributional style: The role of self-esteem. *Journal of Personality, 55*(4), 631-660.
- Ugur, N. G., & Koc, T. (2015). Mobile phones as distracting tools in the classroom: College students perspective. *Journal of Operations Research, Statistics, Econometrics and Management Information Systems, 3*, 57-63.
- Vannucci, A., Simpson, E.G., Gagnon, S., & Ohannessian, C.M. (2020). Social media use and risky behaviors in adolescents: A meta-analysis. *Journal of Adolescence, 79*, 258-274.
- Wang, X., Xie, X., Wang, Y., Wang, P., & Lei, L. (2017). Partner phubbing and depression among married Chinese adults: The roles of relationship satisfaction and relationship length. *Personality and Individual Differences, 110*, 12-17.
- Widyanto, L., & Griffiths, M. D. (2006). Internet addiction: A critical review. *International Journal of Mental Health and Addiction, 4*, 31-51.
- Young, K. (1996). Psychology of computer use: XL. Addictive use of the internet: A case that breaks the stereotype. *Psychological Reports, 79*(3).
- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & behavior, 1*(3), 237-244.
- Zastrow, M. (2017). Is video game addiction really an addiction?: Adding video gaming to the list of recognized behavioral addictions could help millions in need. It could also pathologize a normal behavior and create a new stigma. *Proceedings of the National Academy of Sciences of the United States of America, 114*(17), 4268–4272.
- Zivnuska, S., Carlson, J. R., Carlson, D. S., Harris, R. B., & Harris, K. J. (2019). Social media addiction and social media reactions: The implications for job performance. *Journal of Social Psychology, 159*, 746-760.