

The Effect of an Extensive Use of Social Media on Psychological Measures: Self-Esteem, Interaction Anxiousness and Internet Addiction

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Abstract

This study is an attempt to examine the relationship between the use of internet/social media, self-esteem, and anxious feelings in the process of social face-to-face interactions with others. In addition, gender differences and social-economic status of study participants was examined during the analysis. Study participants were recruited via convenience sampling (students taking psychology course) and a quantitative online questionnaire was sent to the participants (N=66) over 16 years old. A Pearson bivariate correlation determined a negative relationship between social media use and self-esteem in study participants. Self-esteem decreases as the study participant reports higher levels of internet addiction. Gender based mean differences for the extended use of social media and the levels of self-esteem were not found to be statistically significant. However, there were evident gender based differences for the levels of anxiety. The levels of interaction anxiousness of female study participants were higher compared to male participants. Study failed to determine differences between study sample's levels of anxiety, self-esteem and their self-reported socio-economic status. Further implications are discussed throughout.

Keywords: self-esteem; internet addiction; anxiety levels; psychological measures.

1. Introduction

The world has been upended by the COVID-19 pandemic. It has posed innumerable challenges to the world community. Fear of the virus, social distancing and isolation, economic crisis, working/studying from home are just some of the issues faced by people during unprecedented times brought by COVID -19 pandemic. The mental health consequences of pandemic are unprecedented. Rates of depression, suicidality, anxiety disorders, PTSD, and substance use disorders have increased.

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During this time the role of social media as a way of staying connected and getting information has enormously increased in lives of people. With the availability of technology and connectivity people were able to perform their work in virtual uninterrupted mode. There are undeniable benefits of using social media and technology in our daily lives but, do these developments harm individual's mental health by increasing the level of anxiety and lowering the level of self-esteem?

Researchers of the past decade have studied self-esteem and anxiety as hot topics and social media has been examined as one of the factors affecting anxiety and self-esteem [1]. The relationship between social media use and self-esteem has been extensively explored by various researchers, yet it is difficult for researchers to catch up with the speedy advances taking place in the field of technology [2]. New trends, applications, games, biodata are emerging every day that influence individual's levels of self-esteem and anxiety by keeping us logged in with the fear not to miss anything. Chua & Chang [3] studied the impact of media on self-esteem levels of females, specifically their level of satisfaction with their bodies. Throughout the history different forms of media was seen to impact the levels of self-esteem and anxiety of individuals, however, social media's impact is stronger since we most of the time let it in our lives unwittingly, simply by touching a button [4]. The current study aims at examining correlational relationship between self-esteem, anxiety and social media use of students.

1.1. Self-esteem

According to University of Washington [5] self-esteem has at least two components: belonging and mastery. This model of self-esteem is also known as an affective model. There are other approaches to self esteem describing it as having more than two components [6]. Affective model of self-esteem suggests that belonging and master are the feelings that are rooted in childhood and they develop over the time by setting the basis for our self-esteem. Studies conducted in the area of childhood self-esteem development suggest that self-esteem can be assessed in children starting from the age of five [6]. Various developmental and attachment theories that were interested in the development of child self-esteem have established that the baseline for self-esteem (high or low) is set in childhood. However, researchers also note that self-esteem levels are not static during one's life, it can change depending on the experiences of success and failure, feedback received from surrounding people. Briefly, self-esteem is comprised of one's subjective perception of attitudes held by people to wards oneself, perception of how others see oneself. It is crucial to mention that self-esteem doesn't reflect the reality but subjective perception [7]. Since the current study attempts to explore the impact of social media use on self-esteem and anxiety levels of students it is important to mention that self-esteem is about subjective perception. The developmental approach to self-esteem was also mentioned by Rosenberg [8] who explained self-esteem as having two types: specific self-esteem and global self-esteem. Global self-esteem is about our overall perception of ourselves, feelings about ourselves. According to [8] this is not a conscious process. Specific self-esteem is about our behavior and our belief in our ability to achieve something.

Reference [6] explained self-esteem as having six pillars and each pillar requires an active participation. These are: 1. Living consciously 2. Self-acceptance 3. Self-responsibility 4. Self-assertiveness 5. Living purposefully. 6. Personal discipline. Branden's model of self-esteem assumes active participation from the side of the

individual and can't be explained by developmental approach. This module shows the control individual has over his/her self-esteem by being active and willing to improve it, however, it is also important to understand predisposing levels of self-esteem to understand how possible the change is.

1.2. Anxiety

Anxiety is another variable of this study. It is important to understand anxiety as our body's natural response to real threat and danger. However, individuals can perceive some situations as being dangerous and trigger the state of anxiety. When anxiety gets activated without real threats and dangers it becomes problematic. Anxiety is characterized by psychological symptoms such as a feeling of fear as if something bad is going to happen and physiological symptoms such as sweating, increased heart rate, superficial breathing, etc. [9]. Like self-esteem, anxiety is also a result of interaction of individual factors with environmental factors. Anxiety is a perception which is not based on reality [10] and this perception is being influenced by individuals' previous experience. As a result of different life experiences individuals' perception of their ability to cope with external stressors is changing as well [11]. According to Bergland [12] over time anxiety disrupts the regions of prefrontal cortex responsible for the decision making process and this results in the impairment of emotional regulation and poor judgment ability of individuals.

1.3. Social Media

The role of social media has been rapidly increased in the lives of individuals. Using social media and social networking sites individuals not only post information about themselves but also share images, stories, locations and more. According to [13] it has become more popular than Facebook in social media sharing. With the availability of filters and the features allowing to change one's own images individuals can easily "improve" their images simply swiping of one's smartphone. Feedback/comments/likes received from social media become more important factors influencing individuals' self esteem. Individuals' perception of how they are evaluated by others is more important now than before. To deal with the deceptive presentation of images, products, etc. the advertising standard associations [14] prepared some strategies when influencer uses hashtag #AD while displaying the product of the organization that paid for this advertisement. Deception of the audience was a commonly used strategy across social media before advertising standards were developed in certain countries. However, there are still countries that do not have advertising standards that would prevent audiences from being deceived by the influencers. It was found by the researchers [15] that filtered messages presented by social media are perceived by adolescent girls as being realistic and comparable what, in turn, leads to great body dissatisfaction by this group of population. The solution to this problem came from Instagram that has attempted to show at the top corner of the screen that the image was filtered and provide more clarity by doing it. However, this is evident only on the certain features of the application, for example "stories." According to research [16] individuals use deception as a tool to gain benefits for themselves (approval, relationship, love, etc.).

2. Literature review

The relationship between social media, self-esteem and social anxiety was studied by various authors. Studies show that the impact of social media on self-esteem and social anxiety depends on the amount of time spent by individuals using social media [17]. In addition, it was studied that the type of interaction with social media also determines its impact on self-esteem [15]. Researchers looked at time spent by the individuals sharing and commenting with friends as well as time spent loitering on various pages. Results showed the correlations between addictive use of social media and negative association with self-esteem [18]. However, it is difficult to define the causational relationship between low self-esteem on one side and addictive social media use on the other side. It wasn't possible to determine whether individuals with low self-esteem tend to become addicted to social media or addiction to social media lowers self-esteem.

While trying to understand the influence of social media on self-esteem and anxiety level of individuals, feedback is another factor to look at. Study conducted by [19] looked at the different type of feedback individuals received via social media. Study findings showed that self-esteem correlated with positive and negative feedback. In other words, individuals' self-esteem was increased as a result of getting positive feedback and the level of self-esteem was decreased after receiving negative feedback. Researchers did not observe time spent using social media have any direct effect on self-esteem. Study was having limitations that prevented researchers from understanding whether there were certain predisposing levels of self-esteem before receiving feedback. In addition, study overlooked the source of feedback, in other words, if the individual personally knew the feedback provider. Later other researchers, [20] looked at the role the relationship value played in receiving the feedback. Study results showed that personal relationship between the receiver of the feedback with the source of this feedback made it interesting for the receiver, it was perceived as beneficial information while feedback from an unknown source was ignored.

Other findings showed that individuals who fake their images or other information related to them online had lower levels of self-esteem accompanied with high anxiety, unhealthy level of aggression as well as poor social skills regardless of time spent using various social media tools [21]. It looks like individuals who show themselves differently in social media later develop a fear of showing how they look in reality. Studies showed that individuals with low self-esteem tend to get engaged in increased faking behaviors online in a form of sharing edited images of themselves, in other words low self is the cause of this faking behavior through which these individuals satisfy their need for peer approval [3].

Reference [22] was trying to explore the relationship between low self-esteem and becoming a victim of cyberbullying. Researchers looked at the relationships between self-esteem, cyber bullying, loneliness and empathy and high correlation was found between self-esteem and being a victim of cyberbullying. Another interesting finding showed negative correlation between being a cyberbully and the level of empathy, low empathy was the better predictor of cyberbullying perpetration [22].

We were witnessing numerous benefits of social media use, especially during Covid 19 pandemic when people stayed socially connected while being physically isolated. We can gain benefits if we use it for a purpose and

have control over it, however, in some cases, uncontrollable use of social media results in mental health issues. [23] studied the relationship between the use of social media, on one side, anxiety and depression on the other side. Researchers found that high levels of anxiety correlated with the use of more social media platforms. There was also a correlation between high anxiety levels and the amount of time individuals spent engaging with various social media platforms. Further, a meta-analysis of 95 studies conducted on depression and anxiety showed anxiety being a predictor of the levels of self-esteem. According to the study, there was a relationship between anxiety and self-esteem, more specifically, the higher the self-esteem is the lower gets the levels of anxiety and vice versa, low self-esteem levels result in higher levels of anxiety [2].

Aim

As literature of previously conducted studies showed that there are factors affecting self-esteem and anxiety level of individuals, the present study aims at exploring the impact of social media on both (self-esteem and anxiety) variables. Study has a secondary aim of understanding gender based differences, socio-economic status of study population as risk or protective factor. According to the leading expert in the field of cyber psychology [24: 303] “the future sense of self will be fractured across dozens of social-networking platforms.” This, in turn, necessitates the understanding of the impact social media use has on self-esteem and anxiety levels alongside with the potential risk and protective factors making individuals vulnerable or resilient in the process.

Study will focus on two age groups ranging of 15-19 and 20-24 and their use of social media platforms as well as their self-esteem and anxiety levels. The study will also look at gender and socio-economic status variables attempting to investigate risk and protective factors. This study will contribute to the previously conducted researches in the field of use of social media, anxiety, and self-esteem. The data and information obtained during the study may be used for proactive and reactive purposes while implementing clinical interventions with the population of the study.

2.1. Research hypotheses

Hypothesis 1 (H1)

Extensive use of social media platforms will negatively affect self-esteem levels of students.

Hypothesis 2 (H2)

There will be gender based differences for the negative impact of extensive use of social media on the levels of self-esteem.

Hypothesis 3 (H3)

Extensive use of social media will result in higher levels of anxiety among students.

Hypothesis 4 (H4)

There will be gender based differences for the impact of extensive social media use on the level of anxiety.

Hypothesis 5 (H5)

There will be positive relationships between socio-economic status of students and their levels of self-esteem.

3. Methodology

3.1. Participants

The current study was targeting the population of male and female students in age from 15 to 24 who use social media for different purposes. A convenience sampling method was used to form the study sample. University students were invited to participate in the study. It was voluntary for students to participate in the survey. Before answering the survey questions students were asked to select consent tick box. Questions were aiming at exploring links between such variables as use of social media, anxiety levels and self-esteem across university students. Study participants were divided into two age groups ranging from 15-18 years old (n=47) and 19-24 years (n=19). There were male (n=27) and female (n=39) students in both groups. The sample consisted of 66 study participants.

Inclusion criteria

Male and female students studying at university and using social media accounts.

3.2. Exclusion criteria

Male and female students who refused to give their consent to participate in the study.

3.3. Study design

The present study used a quantitative data collection to test the set hypotheses. Correlation design was utilized to understand the relationships between the use of social media platforms, levels of anxiety and self-esteem among age groups, gender and socio-economic status of study participants.

3.4. Materials

A questionnaire developed on google forms was shared with the students via email and was asking them to complete demographic part (age, gender, socio-economic status and place of birth) and three other parts Likert style questionnaires assessing the use of social media, levels of anxiety and self-esteem.

3.4.1. The Internet Addiction Test (IAT)

The Internet Addiction Test [26] was developed with the intention to assess adults' internet dependency. This is a validated test widely to be used in educational and mental health settings. Internet addiction was explained as uncontrollable use of internet. The IAT was developed to assess adults problematic behavior related to the

compulsive use of internet. Items that are included into the IAT were taken from previously conducted studies that was exploring online behavior of adults and trying to define the characteristics of “normal” online users from compulsive online users [26; 27; 28; 25]. The IAT was found to be a reliable assessment tool that measures the characteristics associated with problematic uncontrollable use of internet. The test helps to differentiate four various levels of internet usage: normal level, mild level of internet addiction, moderate level of internet addiction, severe level of dependence upon the internet. The IAT is a validated and a worldwide accepted testing instrument. The instrument assesses the severity of internet dependency based on self-report.

The IAT instrument consists of 20 items measuring characteristics and behaviors related to the uncontrollable use of internet. Study respondents indicate the extent to which they have the mentioned behavior using a Likert-scale continuum. The higher scores for the test indicate the greater level of internet addiction. Cronbach alpha (α) as the measure of internal consistency of the test was found by the researchers to be between .60 [29] and .72 [30]. The tool was translated into several languages and is widely used worldwide.

3.4.2. The Interaction Anxiousness Scale (IAS)

This scale was developed by Mark R. Leary in 1983 as a self-report inventory measuring the levels of anxiety of individuals in situations when they socially interact with others (face-to-face interactions when individuals expect feedback from others).

This tool was initially developed with samples involving university students and has been validated with this samples. The IAS consists of 15 items that describe individuals' subjective responses of anxiety (being nervous, feeling tense, feeling anxious, feeling uncomfortable) when experiencing various social situations with the elements of social interactions, in other words, when individuals' responses depend on their perceptions of other persons' feedback. Individuals taking this test are asked to answer items using a 5-point Likert scale as a way of defining the degree items describe respondents. Higher scores on test indicate higher levels of anxiety in social situations involving social interactions.

Researchers have found high internal consistency measure (Cronbach's alpha coefficients) ranging from .87 to .89 [31]. Good convergent validity indices for the tool were found by numerous studies involving university students' samples [31].

3.4.3. The Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (RSES) [8] is a self-report instrument that consists of 10 items measuring the perception of individuals of their self-worth. Test measures positive and negative feelings of individuals about their selves. The instrument is answered using a 4-point Likert scale format with the answer option varying from strongly agree (1) to strongly disagree (4).

The scale will be used in combination with the Internet Addiction Test (IAT) and the Interaction Anxiousness Scale (IAS) to determine whether there are correlations between varying levels of self esteem on one side, internet dependency and levels of anxiety on the other side. The Rosenberg self-esteem scale is widely used tool

to assess the levels of self-esteem.

3.5. Procedure

To collect the data for the current study online survey link was shared with the students using university mailing list. By clicking the link students were brought to google forms and answered the survey. At the beginning of the survey students were provided with information about the purpose of the study, approximate time needed to complete the survey and a tick box for getting consent from the students to participate in the study. After the completion students were thanked for their time and contribution to the study.

4. Results

The data collected in the course of the study was analyzed using SPSS statistics program (version 25.0) with the aim of proving or rejecting the significance of the study hypotheses.

4.1. Demographics

Study sample consisted of 66 university students, 41 % of them were male (n=27) and 59% were female (n=39) as shown in Figure 1. Study participants' age ranges were grouped with 70.15 % (n= 47) in the 15-19 years category, 28.36 % (n=19) in the 20-24 years category (See: Figure 2.). Study participants were also grouped into categories based on their families' socio-economic status; these groups were labelled as very good (affluent) 11.94 % (n=8), good (marginally advantaged) 79.10% (n=53) and poor (marginally disadvantaged) 7.46 % (n=5) (See: Figure 3). Study participants' socio-economic status was determined based on their perceptions of family's income.

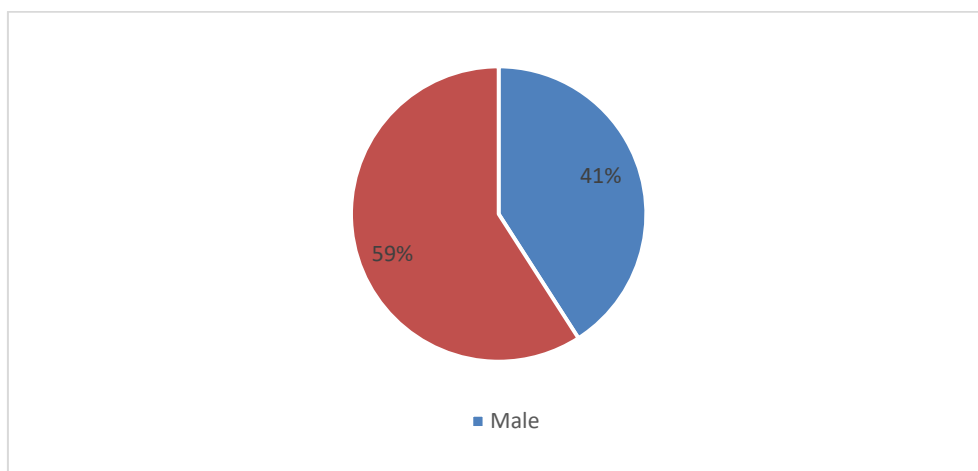


Figure 1: Gender of study participants

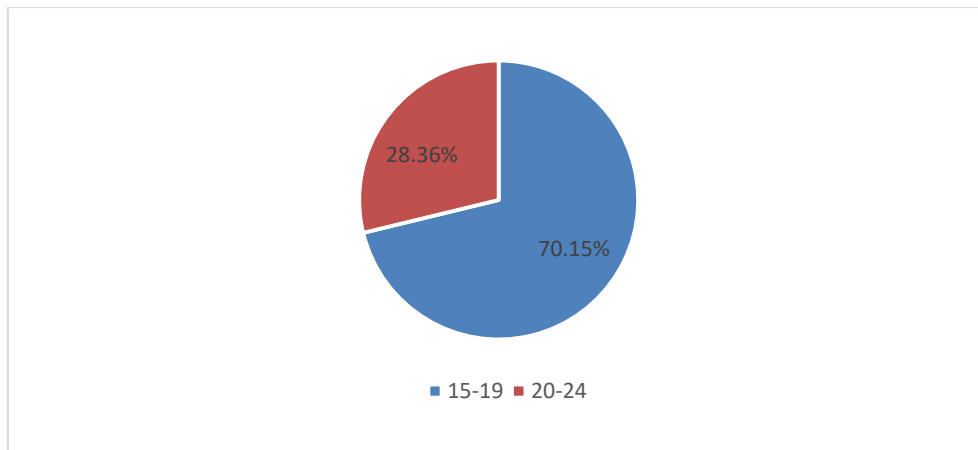


Figure 2: Age of study participants

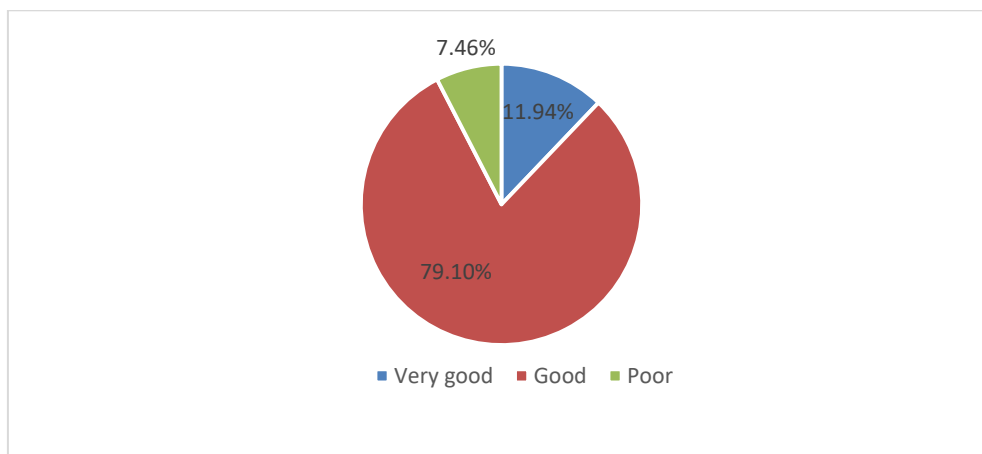


Figure 3: Socio-economic status

4.2. Descriptive statistics

The mean scores for such psychological measures as self-esteem (Rosenberg Self-Esteem Scale, (RSE)), internet dependency (The Internet Addiction Test (IAT)) and anxiety levels (The Interaction Anxiousness Scale (IAS)) were displayed using descriptive statistics (See: Table 1).

Table 1: Descriptive statistics of psychological measures

Study variables	Mean	Standard Deviation	Minimum	Maximum
Rosenberg Self-Esteem Scale	27.82	5.40	11	39
The Internet Addiction Test	45.76	16.89	9	82
The Interaction Anxiousness Scale	46.64	8.84	29	69

4.3. Inferential statistics

Hypothesis 1 (H1):

A Pearson bivariate correlation test results showed a negative significant relationship between internet addiction (M=45.76, SD=16.89) and self-esteem (M=27.82, SD=5.40) ($r(66)=-.43, p<.0001$). According to the results of the statistical test the null hypothesis is rejected and the current hypothesis is supported.

Hypothesis 2 (H2):

One Way Anova test results showed no significant gender based relationships between extensive use of social media (M(males)=46.89, SD(males)=14.00; M(females)=44.97, SD(females)=18.77) and self-esteem levels (M(males)=28.85, SD(males)=3.67; M(females)=27.10, SD(females)=6.28). The results of the statistical test support the null hypothesis and the current hypothesis is rejected.

Hypothesis 3 (H3)

A Pearson bivariate correlation test results showed a positive significant relationship between internet addiction (M=45.76, SD=16.89) and the levels of anxiety (M=46.64, SD=8.84) ($r(66)=.35, p<.005$). According to the results of the statistical test the null hypothesis is rejected and the current hypothesis is supported.

Hypothesis 4 (H4)

The results of One Way ANOVA test showed gender based differences for the levels of anxiety being statistically significant ($F = 5.67, p<.05$). According to the results of the statistical test the null hypothesis is rejected and the current hypothesis is supported.

Hypothesis 5 (H5)

The results of One Way ANOVA test showed that the levels of self-esteem didn't differ for the students having different socio-economic statuses ($F = .63, P=.537$). The current hypothesis failed to support literature and previous research showing the relationships between socio-economic status and the levels of self-esteem.

5. Discussion

The current study had a purpose of analyzing a possible negative relationship between the internet addiction, self-esteem and interaction anxiousness across gender groups and socio-economic status of the family. It was assumed that gender and socio-economic status can be a protective factor for students' self-esteem. The Internet Addiction Test scale was used to assess the level of internet addiction among students alongside with Rosenberg self-esteem scale (RSE) and Interaction Anxiousness scale to explore the levels of self-esteem, interaction anxiety as well as internet addiction among students. In the course of the study it was found that extended use of social media was a predictor of low self-esteem.

According to the study findings extended use of social media was found to have negative effects on the self-esteem levels of students regardless of their gender. Both, male and female students' self-esteem decreases as they get more addicted to internet and extensively use social media. Study findings did not show relationships between the levels of self esteem of students across different socio-economic status. Further in the study it was found that extended use of social media positively correlates with higher interaction anxiety levels among students ($r(66) = .35, p < .005$). There were also gender based differences for the levels of anxiety, findings showed that interaction anxiety scale mean differences for genders were found to be statistically significant ($F = 5.67, p < .05$). Female students reported being more anxious ($M = 48.72; SD = 9.50$) about face-to-face interactions compared to male ($M = 43.63; SD = 6.89$) student participants of the study.

6. Conclusion

According to the current study findings it can be concluded that extended use of social media has negative effect on self-esteem of students, both, male and female students' self-esteem decreases as they get addicted to internet. The comparison of the levels of self-esteem and extended use of social media was conducted to find if the gender based mean differences were statistically significant, however, findings failed to prove it, gender based mean differences for social media use and self-esteem levels were not found to be statistically significant. This may be because of the small sample size to show statistically significant differences. The male group consisted of 27 compared to female group of 39 students. It can be concluded that the skewed numbers in the gender of study participants in the study has the possibility of not accurately representing the male study population.

Further, study did not find statistically significant mean differences across different socio-economic status of students for their levels of self-esteem. Previous studies showed that poor socio-economic background is one of the risk factors for depression and poor mental health [32] and based on previous studies it was hypothesized that the current study would find statistically significant differences across different socio-economic status of students. However, mean differences were not found to be statistically significant. It would be explained by the limitations of the current study to establish socio-economic status of students based on their subjective self-report.

Study findings also showed that extended use of social media resulted in increased anxiety related to face-to-face interactions of students. The current study showed that face-to-face interaction related anxiety increases with extended use of social media across both genders.

6.1. Study strengths and limitations

One of the main strengths of the study is the studied issue itself. Student mental health is one of the overlooked issues in the country and studying various factors affecting student mental health enriches the knowledge in the country and has the potential of informing various country-wide interventions targeting youth mental health. The accessibility of the study questionnaire to the target population could be shown as another strength of the current study. The study also is an attempt to add to a limited pool of research focusing on the potential negative

affect the extended use of social media can have on the levels of anxiety and self-esteem of both genders.

There were some limitations of the current study as well. Different gender, age group, and social economic variables did not have equal number of study participants. Therefore, the applicability of study findings is limited due to unreliable representation of groups. Socio-economic status of study participants was defined based on the participants subjective perception.

6.2. Recommendations for future research

The current study provided information about the effect of extended use of social media on the levels of self-esteem and anxiety. It is further recommended to study the use of social media as a predictor of high anxiety which will further serve as a predictor of low self-esteem level. The measurement of social-economic status is recommended to be improved by helping study participants to define their socio-economic status based on their potential income and outgoings. Even though previous studies [32] found links between anxiety, depression and socio-economic status, the current study results were not enough to support it. Future studies should have a sample with representative gender, age, and socio-economic differences.

The current study attempted to support some of the previous research. While the findings that the extended use of social media affects self-esteem were presented, the study failed to show gender based differences.

Generally, according to the findings of the current study the extended use of social media has a negative effect on self-esteem of students, both, male and female study participants and this finding is consistent with previously conducted studies. The study further looked at the correlations between the extended use of social media and the levels of interaction anxiousness and the findings showed relationships between these two variables. A Pearson bivariate correlation supported previous findings by showing that students with higher score for internet addiction reported having higher levels of interaction anxiousness. The relationships were found to be stronger for female study participants compared to male study participants.

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