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Article:	**Facebook Use and Depression: Testing the Role of Social Comparison as a Moderator**
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Abstract

This research aimed to investigate the relationship between Facebook use and depression, also to test the role of social comparison as a moderator. The research employed Social Comparison theory. For quantitative research, social survey analysis was used to access the relationship between time spent on Facebook and level of depression. The population selected for the current study was based on the university students. A sampling frame was obtained of all the enrolled students of Foundation University Islamabad. Sample of 384 students was drawn through systematic random sampling. Data was analyzed using hierarchical multiple regression in SPSS 21. All the results were found significant. Findings of the study suggested that there is a significant relationship between time spent on Facebook and level of depression. Moreover, the results also indicated that the social comparison effectively moderate the relationship between time spent on Facebook and level of depression among university students.

Keywords*:* Facebook, Depression, Social comparison, Social media

The Overview of Social Media

Social media has been around for quite some time now and has significantly affected communication for nearly everybody. Kaplan and Haenlein (2010) described it in a study as "a group of Internet-based applications build on the ideological and technological foundations allowing that creation and exchange of user generated content." Through these, people can share immeasurably large amounts of ideas, information, images, emotions, achievements, and failures in a virtual community.

Social media has evolved and is supported by various sites on various platforms (Colliander & Dahlén, 2011). Facebook, with over 40 million users (Statista, 2020), is seen as perhaps one of the most preferred social media sites for common use (Labrague, 2014). A research study indicates that Facebook use has become so conformed in people's lives that it is somewhat a continuation of offline activities (Yang & Brown, 2013).

Nonetheless, the growth of these new communication channels has significantly affected t he amount of offline interactions, an enormous number of individuals currently interacting more with their contacts online instead of doing it in real life where users communicate with other Facebook users through likes, comments, chats and also by sharing other users' content. This feature makes Facebook a platform of nearly endless scrolling, while seeing what is happening in other's lives on a daily basis. Millions of SNS users post their life events on SNSs and express their thoughts and emotions in order to share everyday life information. Its use thus, involves viewing how or what others are doing.

Facebook use and Depression

Taking the rise of social media platforms into consideration, scholars have begun observing the motivations, effects and mental health outcomes of its use. As mental health effects has risen simultaneously and substantially with SNS, depression in particular and its relation with social media usage has been and is still being observed and examined. Rise in the incidence of depression is paralleled to the rise of social media (Wright et al., 2013).

American Psychological Association describes depression by low positive and high negative mood that can be characterized by several symptoms such as sadness, changes in sleep patterns, low appetite, loss of interest, agitation, lack of concentration, worthlessness and fidgety (Nisar et al., 2019). The term "Facebook Depression" was put forward by the American Academy of Pediatrics (AAP) (2011), who defined it as being a kind of depression that is observed in individuals who spend much of their time on Facebook. The academy considered negative online interactions and social isolation and labeled online interactions as risky in this regard.

The phenomenon of Facebook Depression was also being suggested in 2011 by O'Keeffe and Clarke-Pearson. 'Facebook depression' is described as a depressive condition following prolonged exposure to SNSs. According to multiple research studies, this phenomenon is suggested to be caused by online social comparisons.

Social Comparison

Comparison is a natural trait in humans. In several ways comparison can influence an individual. The concept of "social comparison" was given by Leon Festinger more than 60 years ago. This clearly labels social media comparisons as being significantly younger than the root concept.

Social comparison theory (Festinger, 1954) and its subsequent studies states that social comparisons indicate a setting in which individuals compare their attitudes, capabilities, sentiments, feelings and character attributes, monetary status or material items with others (Lee, 2014).

The comparisons can be done intentionally or subconsciously, and results lead to a sense of self-awareness (Suls, Martin, & Wheeler, 2002). People sometimes tend to compare themselves to other individuals in order to boost their own self-esteem (Gibbons & Buunk,

1999). On the other hand, their comparisons may lead them to see themselves as inadequate or insignificant. However, these comparisons can adversely affect their mental health. Many comparisons are initiated when individuals seek information about others and much of this information can reach these individuals very quickly. As Mussweiler et al. (2006) stated "Whenever people are confronted with information about how others are, what others can and cannot do, or what others have achieved and have failed to achieve, people relate this information to themselves".

As there are multiple ways of comparisons, there are various types of people who subject themselves to such comparisons. Modern research data suggests that Facebook usage allows for more and increasingly negative social comparisons, which further cause depression (Appel, Gerlach, & Crusius, 2016; Seabrook, Kern and Rickard, 2016). Since Facebook allows users to choose how to present their lifestyle. Online posts such as success stories, achievements, and progress gives an illusion that every aspect of that individual's life is positive, which makes other users believe that they are inferior. (Cramer, Song, & Drent, 2016; Steers, Wickham & Acitelli, 2014). Through the News Feed, it is easy to view any positive updates in the lives of others, particularly friends, and compare them to oneself in any way. As it is possible for the users to share only the bright side of their life with others. The number of likes received, also creates a comparison among individuals using SNSs, who compare the number of likes and comments on their own status updates with others.

This customized showing of content has brought on a much stronger sense of comparison with others. Users can show positive aspects and events in their lives, regardless of how infrequent they may be. But the isolated information being shown to one experiencing negative circumstances, might see this as a self-degrading comparison, bringing up thoughts such as "I wish I had that" or "I wish I was different" (Seabrook, 2016). This analogy has long been suspected as having negative implications on mental health (Hogenboom, 2018).

No doubt, the interactions online will be different from real life experiences and can, in fact, be even more complex. The very sense of envy is what many are subjected to in such scenarios (Tandoc, Ferrucci, & Duffy, 2015). People may witness others doing better in a certain way that they themselves don't seem to be, resulting in an envious and painful sensation. Someone could see a friend's holydays and get-to-gather photos online while sitting at home subjected to domestic problems, such as financial conditions or some family relationship crises. In that case, seeing others online doing well with their friends and families, instigates a strong sense of emptiness deep within them. Such feelings may evoke depressive symptoms in the individuals and are detrimental to health.

Significance of the Study

The findings in the literature don't seem to converge on the Facebook-depression linkage. A few studies have shown a direct relationship (Valenzuela et al., 2009; Gerson et al., (2016) while others concluded negative (Sagioglou and Greitemeyer, 2014; Labrague, 2014; Kross et al., 2013) and even no relation (Jalenchick et al., 2013; Datu & Valdez, 2012) between Facebook use and depressive symptoms. This research aims to revisit the linkage between the said variables. Furthermore, the conflicting outcomes in the literature might infer that the relationship between Facebook use and depression is more complicated than a simple one-to-one relationship so it is essential to look at the possible moderators.

A few studies show Social Comparison as a mediator while others claims it as a moderator in the relationship between Facebook use and depression. The current research study aims to provide further data about the role of social comparison between the relationship of Facebook and level of depression in a Pakistani cultural setting, specifically among university students.

Problem Statement

Literature shows that there is a significant link between depression and exposure to SNS, and it infers a potential health hazard among public (Sartorius, 2001). Therefore, it is essential to assess whether the occurrence of Facebook depression has any empirical support in Pakistani settings. If it exists, then it becomes mandatory to evaluate the nature of the effect. According to some studies (Vogel et al, 2015; Fox & Moreland, 2015) social comparison is amongst the most commonly known stressors related to Facebook use.

Therefore, the focus of inquiry for the present study is the relationship between time spent on Facebook and level of depression among university students and the present research will also examine whether or not the drive to indulge in social comparison on Facebook moderate the relationship between time spent on Facebook and depression.

Research Objectives

The objectives of the study focus to:
- Investigate the relationship between time spent on Facebook and level of depression among university students.
- Test the role of social comparison as a moderator between the relationship of Facebook use and depression.

Research questions of the study are as follows:

RQ 1: What is the relationship between time spent on Facebook and level of depression?

RQ 2: Does social comparison moderate the relationship between Facebook use and level of depression?

Literature Review

The Connection between Facebook Use and Level of Depression

In recent years, with the extensive use of social media sites, depression has also become more prevalent and researchers often linked the two (Dhir, Yossatorn, Kaur, & Chen, 2018). Raise in the cases of depression and related deaths is quite high that the World Health Organization, has labeled depression as the biggest global health issue. Roberts (2017) reported 10% increase in depression case within 10 years and the data presented by Forster in 2017 claims that UK alone was reported to have an increase of about 50% in depression deaths in the time frame of only three years, with effects most visible in young adults in the age range of 20 to 29 years (Jelenchick, Eickhoff, and Moreno, 2013). Surveys show that British youth has the world's second worst mental health condition, after Japanese (Pells, 2017). Much of the research highlight the link between social media and depression (Blease, 2015; Pantic, 2014; Frost & Rickwood, 2017; Baker & Algorta, 2016). Some research studies showed positive results regarding the relation between depression and negative online interaction (Feinstein et al., 2013; Davila et al., 2012; Moberg & Anestis, 2015). While, Wright et al. (2012) showed negative results regarding the same between depression and online social support.

Baker and Algorta (2016) reviewed 30 studies carried out with a total of 35,044 participants in order to determine the social media's negative effects on health. The results came in a decent mix, with 16% supporting the theory of social media being linked to depression, whereas 6% was against the idea, suggesting that social media is a temporary escape and coping mechanism for depressed individuals. About 13% suggested that there was no connection between depression and social media. However, the greatest percentage pointed towards other factors being involved in the relation between depressive symptoms and social media usage.

Among more positive results, feelings of jealousy and envy from online observations, more content generation, social comparisons, more negative content updates led to overthinking in many individuals, further leading to depressive states (Locatelli, 2012;

Feinstein et al., 2013). Quite differently, links between location tags and positive updates and depression showed negative results (Park et al., 2013; Locatelli, 2012).

Social Comparison on Facebook

It's common for Facebook users to scroll down their News Feed –
 the segment that shows a user's friends ' activities –
 allowing them to see a collection of interactions as shown by others, i.e. personalized content
. Social comparison, though very common in the real world, is primarily directed upwards on Facebook (Lee, 2014). In the offline world of reality, one witnesses both happiness and sadness, pain and pleasure which cannot be cloaked with by-choice feelings. However, content on Facebook can be tailored to meet one's preferences when exposing themselves. Generally, it is the positive aspects that people tend to show, whether they are truthful or not (Vogel, Rose, Roberts, and Eckles, 2014). Users represent themselves in the most appreciable way on social media. Simply put, Facebook posts generally show positivity rather than the negativity (Alfasi, 2019). But on the other hand, exposure to such content may lead the viewer to self-loathing when the person questions his/her own life because they feel that others are better places then they are (Zuo, 2014;Steers et al., 2014).

Multiple studies suggested that the link between Facebook use and social comparisons was apparent and quite clearly present. In a study conducted by Zuo in 2014, 417 undergraduate students were surveyed as active or passive social media users, and the results showed a relation between time spent and the comparing condition. Another study by the same researcher based on profile evaluation of 127 students, favored the previous results.

To further support the correlation between time spent on Facebook and the likelihood of negative thoughts, Chou and Edge (2012) found data which showed that people could easily manipulate their impression online by showing what they deem favorable to their respective online audiences. Such content was seen to lead to individuals finding the world around them unfair and more hostile towards them.

Linkage among Facebook use, Depression, and Social Comparison

In a research study, Appel and Gerlach (2015) concluded that individuals assess alluring Facebook profiles as more joyful than themselves, which brings out jealousy, particularly among people with elevated level of depression. Utilizing a subjective strategy, Fox and Moreland (2015) found that users compare their lives with their contacts on Facebook, which commonly cause negative emotions. Feinstein et al. (2013) insistently connected this social comparison with higher level of depression.

Additionally, studies suggests that users experience Facebook envy when they are subjected or their social appeal is considered lower (Tandoc et al., 2015).Viewing constructive profiles spark jealousy, lower life contentment, leads to sadness which adds to the struggle of those experiencing inner battles (Krasnova et al., 2013, Jordan et al., 2011). Kuyken and Brewin indicated unfriending may also cause depressive symptoms, as Facebook users having less friends consider themselves inferior than those having a long friend list (Kuyken et al., 1992).

A comprehensive systematic analysis conducted by Frost and Rickwood showed that the Facebook usage may be associated with anxiety, addiction, depression, dissatisfaction with body image, and drug use. Nevertheless, The Interaction Causality had yet to be determined, since findings of many researchers suggested both positive and negative impacts of Facebook. The authors emphasized the severity and quality of the social media use for example, use of Facebook passively (e.g. searching and browsing the profiles of Facebook friends) describes why do some people feel sad after using Facebook as compared to those involved in active use of Facebook (Frost & Rickwood, 2017).

Contradictions are also present in the literature, by using an empirical study all models linking use of social networking sites to clinical depression were disproved by Jelenchick et al.(2013). While, Seabrook, Rickard, and Kern (2016) reported mixed findings.

Theoretical Framework

The Social Comparison theory of Leon Festinger serves as the theoretical foundations of the study. The theory holds that people have tendency to compare their lives with others around them. The comparison can be conscious or unconscious and is done regarding all the factors that can be considered as a part of one's life, that is, physique, health, financial status, degree of education, etc. These comparisons are a type of measure of the progress one has made. It also allows for future plans and estimations (Suls et al., 2002).

Despite being the norm when it came to upfront and in-person interactions, social networking sites are now a platform for the same comparisons to be tailored according to the participants.

The findings of the aforementioned investigations have been adopted in building the current study which examines the linkage between time spent on Facebook and level of depression, also the role of social comparisons in this association.

Hypotheses of the Study

As stated by Grover, Kar and Davies in 2018, the connection of mental health to online social media has driven quite a number of researches, many of which have literatures citing depression as a negative after-effect.

Facebook Depression was first highlighted by O'Keeffe and Clarke-Pearson in 2011, describing it as a result of extensive use of Facebook. As described by The American Academy of Pediatrics (AAP) in 2011, Facebook depression refers to when "preteens and teens spend a great deal of time on social media sites, such as Facebook, and then begin to exhibit classic symptoms of depression". The increased use of SNSs deteriorating mental health has been shown in various researches (Baker & Algorta, 2016; Blease, 2015; Frost & Rickwood, 2017; Pantic, 2014; Seabrook et al., 2016). In the light of the above findings first hypothesis of the study states that "the higher the time spent with Facebook, the greater the incidence of depression among university students".

Additionally, it was suggested by Ozimek, Baer, and Förster (2017) that Facebook promotes strong social comparisons. Literature shows a vivid connection among time spent on Facebook, depression and social comparison. Studies have examined how social comparison with peers could influence users ' psychological health through computer-mediated interactions on social media (Facebook). Steers et al., (2014) published two studies in this regard, a correlation between time spent on Facebook and level of depression in both the genders was reported in case of 180 participants. However, the findings proposed that having social comaprison have affected the relationship between time spent on Facebook and depressive symptoms. Conclusively, the second hypothesis states that "the relationship between time spent on Facebook and level of depression will be contingent on social comparison".

Methodology

Research Design

This study is based on survey of 384 university students recruited from Foundation University Islamabad. Total population consists of 5849 students. In Probability sampling, systematic random sampling was selected to be employed. The objective was to measure the variables and generalize the findings obtained from a representative sample from the total population so no individual is systematically excluded from the population while drawing the sample from sampling frame.

Measures

1.1   Measuring Time Spent on Facebook

Time spent on Facebook was measured in hours and minutes by asking the respondents that roughly, how much time they usually spend in a typical day using Facebook.

1.2   *Measuring Social Comparison*

For the measurement of social comparison on Facebook, Steers' Iowa-Netherlands Comparison

symptoms of the respondents, the Center for Epidemiological Studies Depression Orientation Measure (Gibbons and Buunk, 1999) has been adapted. The scale used a 5-point Likert scale format that varies from strongly disagree to strongly agree.

1.3   *Measuring Depressive Symptoms*

To exactly measure the depressive Scale (CES-D) has been adapted. This scale covers the following major topics: sadness, sleep disorder, low appetite, loss of interest, agitation, lack of concentration, worthlessness, fidgety, and nervousness (CES-Dr.com, 2017).

Demographic Distribution

Demographic questions were devised according to the requirement of the study to gather the basic information of the respondent. The demographic information comprises of gender, age, program of studies, area of study, current semester, and approx. monthly family income.

Analysis

Data collected through questionnaires has been analyzed with the help of SPSS by applying descriptive and inferential statistics. Hierarchical multiple regression was applied to investigate the relationship between predictor, criterion and the moderator. Detailed data description along with the interpretations are given below:

1.3.1   Descriptive Statistics of the Variables

In the given summary, Table 1 reflects an initial description of the data as a base for consequent comprehensive analysis. Mean, standard deviations, minimum and maximum values are as under:

1.4   Table 1.

Descriptives.

Variable	N	Range	Minimum	Maximum	Mean	SD
Time spent on Facebook	380	430	20	450	127.25	86.33
Depression	377	68.00	17	85.00	51.02	14.44
Social Comparison	374	93.00	16	109.00	38.17	11.58

1.4.1   Zero-Order Correlations

Following is the Zero-Order Correlation Matrix of demographic variables i.e. gender, age, approx. monthly family income and time spent on Facebook (predictor), depression (criterion) and social comparison (moderator).

Table 2.

Correlations among major variables.

Gender	1	2	3	4	5	6

1. Gender	--				
2. Age	.041	--			
3. Approx. monthly family income	.050	.059	--		
4. Time spent on Facebook	.181**	-.014	.007	--	
5. Depression	.002	.076	.042	.329**	--
6. Social Comparison	.028	.135*	.019	.510**	.476**	--

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
c. Listwise N=361

The above table suggests that *p* value of Time spent on Facebook is statistically significant and positively correlated with Gender (r = .181, *p* < .01) among university students. While, Time spent on Facebook is non-significant and have negative correlation with age (r = -.014, *p* ≥ .01) and positive correlation with Approx. monthly family income (r = .007, *p* ≥ .01).

In the case of Depression, p value is non-significant for all demographic variables. However, Depression is significant and has a positive correlation with time spent on Facebook (r = .329**, *p* < .01). While, for Social comparison (moderator), the *p* value is non-significant and has a positive correlation with Gender (r = .028, *p* ≥ .01) and with Approx. monthly family income (r = .019, *p* ≥ .01). Social comparison is highly significant and predicted a positive association with Time spent on Facebook (r = .510**, *p* < .01) and level of depression (r = .476**, *p* < .01) among university students.

1.4.2 *Hypotheses Testing*

Hierarchical multiple regression analysis has been applied to test the hypotheses in order to access the independent variable effect. The regression statistics are reported in Table 3.

Table 3.
Hierarchical Multiple Regression of Demographic, Independent and Dependent Variables

Variables	Block	R^2 change	B	p
(Constant)	(1)	.008		.000
Gender			-.016	.756
Age			.070	.184
Approx. monthly family income			.051	.329
(Constant)	(2)	.111		.000
Gender			-.076	.128
Age			.077	.121
Approx. monthly family income			.050	.316
Time spent on Facebook			.339	.000

Table 3 shows two blocks including R^2 change, Betas and p value of the predictor. The hierarchical multiple regression revealed that in block 1 Gender, Age, Approx. monthly family income did not contribute significantly to the regression model where R^2 change of .008 accounted for .8% of the variation in depression. In the second block, time spent on Facebook accounted for an additional and significant 11.1% variance in depression. Beta values represent the unique contribution of each variable, when the overlapping effects of all other variables were statistically controlled, Time spent on Facebook is statistically significant with a beta value (*beta = .339, p < .01*). Hence, H1 is supported.

To test the H2, an interaction term to examine the role of social comparison as a moderator has been added in block 3. The regression statistics are reported below:

Table 4

Hierarchical Multiple Regression of demographic, Independent, dependent variables and moderator

Variables	Block	R^2 change	B	p
(Constant)	(1)	.007		.000
Gender			-.002	.964
Age			.073	.166
Approx. monthly family income			.038	.476
(Constant)	(2)	.232		.000
Gender			-.034	.467
Age			.022	.644
Approx. monthly family income			.034	.470
Time spent on Facebook			.127	.022
Social Comparison			.408	.000
(Constant)	(3)	.019		.038
Gender			-.025	.588
Age			.022	.640
Approx. monthly family income			.043	.347
Time spent on Facebook			.805	.001
Social Comparison			.657	.000
INT_TimeOnFacebook_SocialComparison			-.846	.003

Table 4 suggests that addition of time spent on Facebook and social comparison has explained a further 23.2% of variation in depression as the R² change (.232) was significant for time spent on Facebook and social comparison.

In the 3rd block, with the addition of interaction term of time spent on Facebook and social comparison, the R² change (.019) is significantly predicting depression among university students. Interaction term with beta value (β = -.846, p < .01) suggests that the relationship between time spent on Facebook and level of depression is contingent on social comparison where the incidence of depression is less pronounced among respondents having high scores on social comparison than those having low scores on social comparison scale with excessive use of Facebook.

Discussion

Social media platforms have positive as well as negative impacts. The positive effects of social media include providing a platform for creating and maintaining connections with others, to express and present oneself, sharing ideas and updates regarding various subjects and events, it also serves as an educational resource and to create social awareness. In contrast, social media's negative effects include increased mental health problems including depression and anxiety, cyberbullying, insomnia, insecurities about physical appearance, and the fear of missing out. The unrealistic portrayals in social media posts, most often mediate these kind of negative impacts resulting in low self-esteem of the viewers. This in turn has led to a rise in psychological illnesses and conditions such as depression, anxiety, and resentment towards one's own personality. As social media provides a platform to compare oneself to others where people in general only show the good side of their lives and leave out the bad side which gives the impression that they're living a life full of contentment and happiness. This can create inferiority complex in others and a desire to change their lives in order to fit in. This feeling of inadequacy may also lead to several mental health issues such as depression among SNSs users. Many studies (mentioned in literature review section) have inferred that spending more time on social media outlets can cause depression and this phenomenon is linked with social comparison.

Most of the projected results have been consistent with the past studies. In this study, besides examining the direct effect of time spent on Facebook and level of depression, relationship of time spent on Facebook and social comparison among university students has also been investigated. The moderating effect of social comparison between time spent on Facebook and level of depression was also tested and the results have shown that the role of social comparison as a moderating variable is significant between time spent on Facebook and depression.

As stated above and also in literature review section, out of multiple mental health effects instigated by the use of social media, depression is one of the very significant and threatening effect of social media use among youth. That is why the population selected for the current study is based on the university students. Sample of 384 students was drawn through systematic random sampling (a type of probability sampling). For the survey, pilot study was conducted first to access the reliability of the scale.

For the survey analysis, questionnaire was developed comprising of demographic information and items to measure time spent on Facebook, depression & social comparison, for which Iowa-Netherlands Comparison Orientation Measure (COM) and Center for Epidemiological Studies depression scale (CES-D) was adapted.

For hypothesis 1, Time spent on Facebook variable explained an additional 11.2% of variation in Depression and this change in R^2 (.111) was significant with $p < .01$. All the other demographic variables were statistically controlled. The present study found a positive association between time spent on Facebook and depression so H1 is supported. For hypothesis 2, the interaction term with beta value ($\beta = -.846$, $p < .01$) suggested that social comparison moderate the relationship between time spent on Facebook and level of depression where the incidence of depression is less pronounced among the respondents having high scores on social comparison with excessive Facebook use, while respondents having low scores on social comparison reported an increased level of depression with excessive use of Facebook. Hence, these findings are counter intuitive as in the previous literature, it has been found that social comparison cause increase in the level of depression among social media users. As this is a common phenomenon that comparing oneself with those who are perceived to be superior elevate the feelings of inadequacy and sometimes envious emotions which causes increase in depression. But from the present study, it can be established that there might be Facebook users in the sample who are having some other

reasons of being depressed or maybe they are comparing themselves with people who are inferior to them in one or other way. For future studies of the same nature, more directional scale may be used to measure the direction of social comparison (either upward or downward social comparison) which causes an increased level of depression. Moreover, in future studies the role of social comparison can be tested as mediator as well. Also, to identify the more precise cause of the increase in the level of depression among social media users, big five personality traits may also be considered.

Conclusion

The study aimed to examine the relationship between Facebook use and depression, also to test the role of social comparison as a moderator. No doubt social media has changed the lives of people by providing a convenient platform for the sharing of personal data with networked individuals. In particular, Facebook has generated, according to sources, the largest online social identity and information database (Krasnova et al., 2013). Literature shows that there is a significant link between depression and exposure to social networking sites, and social comparison is found a commonly known stressor related to Facebook use causing depression. The results of the present study indicate that the occurrence of Facebook depression has an empirical support in Pakistani settings among youth as the relationship between time spent on Facebook and level of depression is direct even after the effects of demographic variables were controlled for. Findings also indicate that social comparison plays a role of a moderator between time spent on Facebook and level of depression. Probability sampling technique was employed to achieve more generalizable results. Therefore, the present study concluded that there is a direct relationship between time spent on Facebook and level of depression which is contingent on social comparison among students of Foundation University Islamabad.

Recommendations and suggestions

Following are the recommendations for the other scholars and academicians:

1. As this study only focused on the students from one university, it could have extended to more universities and the other cities of Pakistan.
2. In the present research, one moderator has been tested and analyzed, for future research more moderators as well as mediators may be studied to explore the relationship between Facebook use and depression.
3. This study will facilitate further research on the use of social media and mental health effects. As there are multiple mental health hazards associated with excessive use of social media other than depression, other mental health effects may also be addressed in future studies.
4. This study has been conducted particularly about Facebook users, the same study may also be conducted on other emerging social media platforms i.e. Instagram, snapchat, WhatsApp etc.
5. The effects of the other important factors such as self-esteem and big five personality traits etc. may be controlled in future researches to examine the relationship between Facebook (social media) use and level of depression.

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