

EMOTIONAL CONNECTION TO FACEBOOK AND ITS IMPACT ON DEPRESSIVE SYMPTOMS IN ADOLESCENTS FROM PAKISTAN**Muneeba Shakil**

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Article Info**Abstract**

This correlation study investigates the association between emotional connectedness to Facebook and depressive symptoms among adolescents in Lahore, Pakistan. A sample of 300 students aged 13 to 19 (Mean age = 16.55, SD = 1.59) from government and private schools in Lahore was conveniently selected. The aim of the study was to investigate the correlation between emotional attachment to Facebook and symptoms of depression, as well as to pinpoint the demographic variables that impact this association. SPSS version 24 was used to analyse quantitative data obtained through informed consent form, demographic data sheet, the Patient Health Questionnaire (PHQ-9), and the Facebook Intensity Scale (FIS). Important research variables and demographic characteristics were summed together using descriptive statistics. After adjusting for confounders, bivariate analyses, such as regression and correlation coefficients, examined the connection between emotional connectedness to Facebook and depressive symptoms. The results indicated a positive correlation ($r = 0.36$) between emotional connectedness to Facebook and depressive symptoms, indicating that more emotional involvement with Facebook is associated with higher levels of reported depressive symptoms among teenagers. Stepwise regression analysis revealed emotional connectedness to be a significant predictor in all models. Studies have also demonstrated the influence of an individual's gender and educational attainment on their perception of their mental health. These findings show the value of social media use in mental health therapy and highlight the necessity for more investigation to completely comprehend the intricate web of interconnected factors affecting teenagers' mental health.



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Keywords: Adolescents, Emotional Connectedness, Facebook, Depressive Symptoms, Pakistan

Introduction

The remarkable evolution of a 1969 US military networking system into a communication, entertainment, and information center is astounding. Social networking services are helpful tools for specialised discussion, information sharing, and relationship building. With just one click, social media can quickly disseminate information to thousands of people, showcasing its immense potential. Social media has unquestionably ingrained itself profoundly into youth culture, fortifying bonds between people and groups (Gemmill & Peterson, 2006). Social networking sites such as Myspace, Twitter, Facebook, IMO, WhatsApp, Hike, and Instagram have amassed millions of users worldwide since their launch. These networks have grown into a global phenomenon that draws users from all backgrounds. Numerous people use social networking sites frequently, either to update their accounts or engage in other online activities, according to surveys (Johnson, 2008). The most modern and well-known social networking site is Facebook, which routinely ranks in the top five websites worldwide. Due to its enormous popularity, study on it has become a focus (Zaffar et al., 2015). The use of social media, especially Facebook, has become a daily necessity for teenagers everywhere, including in Pakistan. Facebook's broad reach and feature set give youngsters a platform for social interaction, information exchange, and self-expression. Facebook use provides benefits, but there have also been concerns about the emotional toll it takes, particularly in light of its potential connection to symptoms of depression among young people. Recent research has focused more on the concept of emotional connectivity to Facebook, which characterizes users' emotional engagement or connection to the platform (Tang et al., 2020). Emotional connectedness includes the closeness, support, and sense of community that one experiences through Facebook interactions with others.

Facebook emotional connectivity is significant since it can affect teens' mental health, particularly depressive symptoms. Adolescence

is a critical developmental stage characterised by heightened emotional sensitivity and susceptibility to stresses, according to Hankin et al. (2015). Emotional ties to the site are especially significant because teens during this time often look to social networks, like Facebook, for acceptance and emotional support. Facebook's irony is now well recognised, mostly due to its association with negative mental health consequences such as depression. Depression is more than just sadness; people who experience it discover that it severely impairs their ability to go about their daily lives. This includes low energy and enthusiasm for activities, difficulty concentrating, irregular eating and sleeping patterns, guilt and worthlessness sentiments, and even thoughts of suicide (Smith, 2018).

Two concepts that provide theoretical frameworks and shed insight on the mechanisms underlying these links are self-determination and social comparison. According to Hankin et al. (2015), the selective nature of social media content may encourage social comparison processes that lead to unreal norms and upward comparisons with others, which ultimately cause feelings of inadequacy and self-doubt. Furthermore, youngsters who rely too much on Facebook for peer approval and social validation may be losing their natural drive and autonomy, which raises the possibility that they will experience depressed symptoms (Johnson, 2008).

Studies have revealed a complex relationship between teenage depression symptoms and their emotional Facebook exchanges. By encouraging a sense of community and social support, Verduyn et al. (2017) contend that Facebook's social connection could act as a preventive measure against depression. But an over-reliance on Facebook for social validation and peer comparison, coupled with the dangers of cyberbullying and unfavorable social comparisons, can exacerbate depressive symptoms and feelings of inadequacy and loneliness (Primack et al., 2017).

It is important to consider how Facebook's emotional connectivity affects young Pakistanis' depressive symptoms when creating policies

aimed at improving teens' mental health and general wellness in the digital age. It is imperative that you understand this information. Pakistan's unique geopolitical position and cultural peculiarities may influence the experiences and outcomes of teenage Facebook users, even if similar subjects have been studied in Western contexts in the past. Investigating the relationship between depressive symptoms and emotional Facebook connectivity in Pakistani teenage females is the aim of this study. In order to provide light on the mechanisms underlying the association between Facebook use and depression symptomatology in the Pakistani setting, this study will look at the relationships between social media use patterns, mental health outcomes, and emotional connectivity.

Objectives

1. To explore the relationship between emotional connectedness to Facebook and depressive symptoms in adolescents from Pakistan.
2. To identify demographic factors influencing the relationship between emotional connectedness to Facebook and depressive symptoms.

Hypotheses

1. There will be a positive correlation between emotional connectedness to Facebook and depressive symptoms among adolescents in Pakistan.
2. There will be a predictive relationship between emotional connectedness to Facebook and depressive symptoms among adolescents in Pakistan.
3. Certain Demographic variables will act as predictors in the relationship between emotional connectedness to Facebook and depressive symptoms.

Methodology

Research Design

This study will utilize a correlation research design to examine the association between emotional connectedness to Facebook and depressive symptoms among adolescents in Lahore, Pakistan.

Sample

A sample of 300 adolescent students, aged between 13 and 19 (Mean_{age} = 16.55, SD = 1.59) years, was selected from government and private schools in Lahore, Pakistan, using the convenience sampling method. Participants who met the following criteria were included in the study: (a) were adolescents aged between 13 and 19 years old, (b) resided in Pakistan, (c) had an active Facebook account and used the platform regularly, (d) was fluent in English as the study was conducted in the language, (e) willingly consented to take part in the study, and parental consent was also obtained and (f) adolescents of both genders were eligible to participate. Participants were excluded from the study if they met any of the following criteria: (a) participants with cognitive impairments that prevented them from understanding the study's purpose and questions were excluded, (b) individuals who did not provide voluntary consent to participate or who expressed discomfort with the study were excluded, and (c) individuals who were receiving treatment for depressive symptoms or diagnosed with a mental health disorder were excluded from the study to avoid confounding variables. These inclusion and exclusion criteria were designed to ensure that the study focused specifically on adolescents residing in Pakistan who actively use Facebook while maintaining ethical standards and minimizing confounding variables that could impact the results.

Table 1 Demographic characteristics of study participants

| Variables | Frequency | Percentage |
|-------------------------------------|------------------|-------------------|
| Gender | | |
| Male | 153 | 48.6 |
| Female | 162 | 51.4 |
| Education | | |
| Matriculation | 171 | 54.3 |
| Intermediate | 144 | 45.7 |
| Family System | | |
| Joint | 141 | 44.8 |
| Nuclear | 174 | 55.2 |
| Marital Status | | |
| Single | 314 | 99.7 |
| Married | 1 | .3 |
| Employment Status | | |
| Employed | 15 | 4.8 |
| Unemployed | 300 | 95.2 |
| Birth Order | | |
| First | 89 | 28.3 |
| Middle | 151 | 47.9 |
| Last | 70 | 22.2 |
| Only | 5 | 1.6 |
| Depressive symptoms severity | | |
| Mild | 6 | 1.9 |
| Moderate | 63 | 20.0 |
| Severe | 246 | 78.1 |

Measures

Informed consent form

The informed consent form will elucidate the study's objectives to the participant, emphasizing voluntary participation. It will outline the purpose of the research the procedures involved, and assure confidentiality. Additionally, participants will be requested to provide written consent for their involvement.

Demographic information form

The demographic information form will include all the participant's basic information, i.e., name (optional), age, gender, qualification, years of experience, marital status, family system, socioeconomic status, birth order, and presence of any physical illness.

The Patient Health Questionnaire (PHQ-9)

The Patient Health Questionnaire (PHQ-9), developed by Kroenke and Spitzer in 2002, offers a user-friendly self-administered assessment of common mental disorders, serving as a module within the PRIME-MD diagnostic tool. The PHQ-9 specifically targets depression, evaluating each of the nine DSM-IV criteria on a scale from "0" (not at all) to "3" (nearly every day). This instrument's validity has been confirmed for primary care settings, where it has been compared against structured interviews conducted by mental health professionals. A PHQ-9 score of ≥ 10 demonstrates a sensitivity and specificity of 88% for major depression, aiding clinicians in diagnosing depression,

quantifying symptoms, and monitoring severity. The scale has Cronbach's alpha coefficients typically ranging from 0.80 to 0.89, indicating strong reliability.

The Facebook Intensity Scale (FIS)

A measure named The Facebook Intimacy Scale (FIS) that determines the Facebook user's active and emotional involvement with the Social networking application. The scale comprises of eight questions based on the sentiments toward Facebook's potential shutdown and its integration into daily activities. The scale has a Chronbach alpha of 0.83 which demonstrates strong internal consistency of the measure. The scale has two additional measures that assess the Facebook user's usage patterns namely On to Offline and Off to Online. These two additional measures examine aspects like using Facebook to meet new people or checking out individuals met socially. The rating system on the scale is a five-point Likert scale, with the options being "strongly disagree" to "strongly agree." The participants also indicate their average online time and number of Facebook friends. The assessment instruments demonstrate strong internal consistency and reliability, as demonstrated by their 0.90 Cronbach's alpha coefficient (Ellison et al., 2007).

Procedure

Adolescent depression symptoms and the participants' emotional connection with Facebook were measured using the Facebook Intensity Scale (FIS) and the Patient Health Questionnaire-9 (PHQ-9) in order to gather data. Utilizing self-administered questionnaires, demographic data and factors were investigated.

Ensuring participant rights and privacy, the study conformed to ethical norms. Informed consent was given by participants, stressing confidentiality and voluntary involvement, and ethical approval was acquired from the institutional review board.

Ethical considerations

The study received institutional review board approval prior to data collection. The participants' and their legal guardians' informed consent was obtained. Both pressed for anonymity and emphasized the value of voluntary involvement on consent forms that were signed. The freedom to leave the study at any moment was granted to participants. The purpose of the study, which complied with international guidelines for research ethics and methodology, was to clarify the connection between social media attachment and depressed symptoms in Pakistani adolescents. Strict adherence to ethical guidelines and research methods allowed for this to happen.

Statistical Analysis

Quantitative questionnaire information was evaluated by statistical analyses carried out with SPSS version 24. Bivariate techniques that took into account pertinent factors, such as regression analysis and correlation coefficients, were used to investigate the association between emotional connectivity to Facebook and depressed symptoms. Through strict ethical regulations, the study adhered to worldwide research ethics and procedural norms with the goal of illuminating the relationship between social media attachment and depressed symptoms in Pakistani teenagers.

Results

Table 2 Relationship between emotional connectedness to Facebook and Depressive Symptoms in Adolescents (N=300)

| <i>Variables</i> | 1 | 2 |
|---|----------|----------|
| <i>1. Emotional connectedness to Facebook</i> | 1 | .36** |
| <i>2. Depressive symptoms</i> | .36** | 1 |

***Correlation is significant at the 0.01 level (2-tailed).*

The positive correlation coefficient ($r = 0.36$) suggests that as emotional connectedness to

Facebook increases, depressive symptoms among adolescents also tend to increase. This correlation could indicate that specific patterns of social media use, such as spending excessive

time on Facebook or experiencing negative interactions on the platform, may be associated with higher levels of depressive symptoms. Findings highlight the importance of considering

the impact of social media use on mental health outcomes.

Table 3 Stepwise Multiple Regression Analysis for determining the predictive association of demographic characteristics of participants and emotional connectedness to Facebook with depressive symptoms in adolescents (N=300).

| Variables | B | 95 %CI | | SE(B) | B | R ² | ΔR ² |
|-------------------------|-------|--------|-------|-------|------|----------------|-----------------|
| | | LL | UL | | | | |
| Step 1 | | | | | | .13 | .13 |
| (Constant) | 17.71 | 15.28 | 20.13 | 1.23 | | | |
| Emotional Connectedness | .23 | .16 | .30 | .04 | .36 | | |
| Step 2 | | | | | | .15 | .14 |
| (Constant) | 20.12 | 17.07 | 23.17 | 1.55 | | | |
| Emotional Connectedness | .24 | .17 | .31 | .03 | .37 | | |
| Gender | -1.76 | -3.14 | -.39 | .70 | -.13 | | |
| Step 3 | | | | | | .26 | .26 |
| (Constant) | 25.32 | 22.14 | 28.50 | 1.62 | | | |
| Emotional Connectedness | .21 | .15 | .27 | .03 | .33 | | |
| Gender | .27 | -1.13 | 1.67 | .71 | .02 | | |
| Education | -5.04 | -6.44 | -3.64 | .71 | -.38 | | |
| Step 4 | | | | | | .26 | .27 |
| (Constant) | 25.62 | 22.01 | 29.22 | 1.83 | | | |
| Emotional Connectedness | .21 | .15 | .27 | .03 | .33 | | |
| Gender | .31 | -1.11 | 1.72 | .72 | .02 | | |
| Education | -5.03 | -6.44 | -3.63 | .71 | -.38 | | |
| Family System | -.23 | -1.54 | 1.08 | .66 | -.02 | | |
| Step 5 | | | | | | .27 | .26 |
| (Constant) | 26.91 | 22.84 | 30.97 | 2.06 | | | |
| Emotional Connectedness | .21 | .15 | .27 | .03 | .32 | | |
| Gender | .34 | -1.07 | 1.76 | .72 | .03 | | |
| Education | -5.09 | -6.50 | -3.69 | .71 | -.38 | | |
| Family System | -.25 | -1.56 | 1.05 | .66 | -.02 | | |
| Birth Order | -.58 | -1.43 | .27 | .43 | -.07 | | |

Note. N=300; CI = confidence interval, LL = lower Limit; UL = upper limit * p <.05, **p <.

Predictors: (Constant), Emotional Connectedness

Predictors: (Constant), Emotional Connectedness, Gender

Predictors: (Constant), Emotional Connectedness, Gender, Education

Predictors: (Constant), Emotional Connectedness, Gender, Education, Family System

Predictors: (Constant), Emotional Connectedness, Gender, Education, Family System, Birth Order
 Dependent Variable: Depressive symptoms

The stepwise regression analysis explores the relationship between various predictor variables and the dependent variable, labeled "depressive symptoms." This approach systematically evaluates different combinations of predictors to identify the most influential factors in explaining variations in depressive symptoms. The analysis progresses through several models, each incorporating additional predictor variables. Emotional connectedness to Facebook emerges as a consistent and significant predictor across all models examined. Higher levels of emotional connectedness to Facebook are linked to higher levels of reported depressed symptoms, according to the coefficient linked to emotional connectedness, which consistently shows a positive relationship with depressive symptoms. According to this research, people's feelings about their overall health may be influenced by how they interact emotionally with social media platforms like Facebook.

The research incorporates other predictor variables, such as gender, education, family structure, and birth order in later models, in addition to emotional connectivity. The purpose of providing these criteria is to ascertain how much, if at all, they contribute to the explanation of variability in depression symptoms aside from emotional connectivity. Specifically, several models suggest that perceptions of mental health are statistically significant drivers of gender and education, suggesting that these variables may matter. The significance of factors like gender and education that affect mental health outcomes draws attention to how complex these factors are. While emotional Facebook connectedness appears to be a powerful predictor, including for other variables enhances the model's capacity to explain results and provides a more comprehensive understanding of the variables impacting mental health views.

Discussion

Further research is warranted, as the study's findings indicate a possible high correlation between emotional connectivity on Facebook and symptoms of adolescent depression. Children who use Facebook more regularly and with more emotional attachment are more likely to have depressive symptoms, according to this link. These results align with recent research on mental health and psychology. In 2017, for example, a long-term study by Primack et al. discovered a link between the usage of social media, particularly Facebook, among young adults and the higher incidence of depressive symptoms. The possible harm that excessive social media use may bring to one's mental health, namely to symptoms of depression, is highlighted by this study. Our findings highlight the need for additional research into the precise social media usage patterns that may be linked to a higher incidence of depressive symptoms in teenagers.

The probability of negative encounters or experiences on social networking sites like Facebook provides a reasonable explanation for the established association. Moreno et al. (2016) suggest that youth who use Facebook excessively may be more vulnerable to social comparison, peer pressure, and cyberbullying, all of which can worsen feelings of inadequacy, loneliness, and despair. Eventually, depression symptoms may develop or intensify as a result of the negative encounters.

The relationship between depressed symptoms and emotional connectedness to Facebook emphasizes the intricate interaction between online and offline experiences in forming teenage mental health. Teenagers who strongly depend on social media platforms such as Facebook for approval from their peers or for support may be more vulnerable to depression symptoms when negative experiences occur online (Primack et al., 2017). These results highlight the significance of taking social media use into account when analyzing mental health outcomes, especially for vulnerable groups like teenagers. In addition to working with kids to help them create positive online personas and coping mechanisms, legislators, educators, and

medical professionals should also make sure kids understand the possible consequences connected to overusing social media.

Stepwise regression analysis is a useful tool for examining the complex relationship between several predictor variables and the dependent variable in this example, "depressive symptoms." The aim of the study is to identify the key variables determining individual variations in depression symptoms by a comprehensive examination of various combinations of predictors. Using this systematic approach, researchers can identify important factors that influence mental health outcomes and suggest possible paths for support and intervention. Out of all the models that were looked at, the regression analysis's results show that emotional connectivity to Facebook is a significant and reliable predictor. According to the emotional connection coefficient, which regularly shows a positive correlation with depressed symptoms, those who report having higher levels of emotional engagement with social networking sites such as Facebook also report having higher levels of depressive symptoms. This result is consistent with other research showing the influence of social media use on outcomes related to mental health (Primack et al., 2017). For example, extended use of social media may expose users to cyberbullying, negative social comparisons, and social isolation, all of which can exacerbate symptoms of depression (Moreno et al., 2016). In order to improve our understanding of the intricate interactions between many factors influencing depressive symptoms, predictor variables related to gender, place of birth, education level, and family structure are also added to later models. Some models highlight the important influence that gender and education have on how someone feels about their mental health. According to earlier research demonstrating gender differences in the prevalence and expression of depressive symptoms, women frequently report higher levels of depressive symptomatology than do men (Nolen-Hoeksema, 2001).

Furthermore, a person's ability to access resources and coping techniques may be

impacted by socioeconomic characteristics like educational attainment, which may in turn affect how susceptible they are to depressive symptoms (Mirowsky & Ross, 2003). A thorough approach to the diagnosis and treatment of depressive symptoms is necessary, as evidenced by the significance of characteristics such as gender and education in highlighting the complexity of mental health outcomes. Even if an emotional Facebook connection might be a predictor, adding more components to the model improves its capacity to explain. It offers a deeper understanding of what influences people's assessments of their mental health. In order to provide focused interventions and mental health support services that foster resilience, academics and professionals can take into account a variety of elements, including social, demographic, and psychological ones.

Conclusion

It should be noted that there is a direct correlation between the symptoms of adolescent depression and emotional attachment to Facebook. This suggests the necessity of comprehensive interventions aimed at promoting positive mental health outcomes in the digital age. They can become more resilient and lessen the negative impacts of social media use on mental health by participating in a friendly online community and being equipped with the knowledge and skills necessary to use social media responsibly. By taking into consideration extra social and demographic variables, stepwise regression analysis clarifies the relationship between Facebook users' thoughts on mental health and emotional connectivity. The aforementioned findings enhance our comprehension of the intricate characteristics of mental health beliefs and emphasize the importance of taking into account many aspects in health-related investigations and intervention endeavors. More investigation and validation are needed to validate these results and examine plausible causative pathways that underlie the connections found.

Study limitations and recommendations for future

The use of self-report methods to assess depressive symptoms and emotional attachment

to Facebook raises questions about response bias and social desirability effects, among other limitations of the study. To improve the validity of results, future research could include numerous informants or objective assessments. The study's sample might not accurately reflect all adolescents because participants were probably chosen from particular groups or environments. To improve external validity, diverse and inclusive samples should be the goal of future research. Nuanced social media usage habits, such as frequency, length, and content consumption, are not taken into consideration in this analysis. A closer look at particular facets of social media use may yield more information about how it affects teenage depressive symptoms. Future research endeavors that study adolescents' subjective experiences and views of social media use and its impact on mental health are advised to combine quantitative analyses with qualitative research methodologies. Quantitative metrics may miss subtleties and contextual circumstances, while qualitative insights can.

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