



Studying Alienation and Depression as a Predictor of Smartphone Addiction Among Adolescents

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Abstract

The present study was undertaken to find out about Smartphone Addiction (SA) and its relationship with alienation and depression among adolescents. The descriptive survey method was employed on a sample of 200 adolescents studying in government and self-financed/ private schools in Jammu and Kathua. Data collection instruments were the Smartphone addiction scale (SAS), the Facebook Usage Scale (FUS), the Mental Depression Scale (MDS) and the Alienation Scale (AS). Pearson's coefficient of correlation was used to find out the relationship between variables. Regression was used to find out the conjoint effect between the variables. The findings reveal that SA is positively and significantly correlated with alienation and depression among adolescents. The results further indicate that alienation and depression would contribute towards the prediction of SA of adolescents both independently as well as conjointly.

Keywords: Adolescents, Alienation, Depression, Smartphone Addiction (SA)

1. Introduction

Smartphone usage rates have increased rapidly around the world¹. Previous studies have shown that people use their smartphones for both social and educational purposes, including media, internet access, online shopping, music, photos and games² and the reason for the popularity of smartphones is due to the applications and features designed to catch the user's attention³ but if people spend too much time on their smartphones, they may develop an addiction to their device⁴. With the attractive features provided by smartphone technology, people can establish interpersonal relationships and improve those relationships using social media sites and platforms⁵. In addition, smartphones can increase the efficiency of the work process, enhance productivity in the workplace and decrease the stress of daily life⁶. Therefore, it is not a surprising fact that smartphones today have become an important part of the everyday life of social beings in terms of information and communication purposes.

According to a recent survey, the smartphone ownership rate worldwide exceeded three billion in 2019⁷. However, when we look at the studies that examine the effects of smartphone usage it may be concluded that Smartphone Addiction (SA) not only increase the risk of psychological and physiological problems in adolescents (e.g., anger, depression, anxiety, and stress) but also leads to decrease in academic achievement, social connection and engagement^{8,9}. Although smartphones are useful, the overuse of this system may cause users to become heavily dependent on their smartphones and may lead them to experience smartphone addiction¹⁰.

SA is a serious problem that directly or indirectly affects the users. This phenomenon of SA can be observed throughout the world. A survey by Ammati *et al.*,¹¹ reported that 39% to 44% of users in India are addicted to smartphones. However, some people don't notice that SA is a behavioural addiction that can negatively affect the social and psychological functioning of the users including low academic achievement¹²; lack of peer

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relationships¹³ and conflicts with family members¹⁴. Some experts believe that dependence on smartphones or SA is the “21st-century addiction”. Kim¹⁵ stated that SA refers to the situation in which the increase in usage cannot be controlled because of excessive engagement in the smartphone. Hong, Yeom and Lim¹⁶ defined SA as a state of overuse of smartphones, and withdrawal symptoms like feeling worried and anxious in the absence of a smartphone. Based on previous studies, overuse of smartphones or SA has been categorized as behavioural addiction due to its central components such as lack of control, mood change, pre-occupation and silence¹⁷.

From the environmental aspect, one of the major risks leading to SA is social alienation. Young¹⁸ also stated that social problems, especially lack of interpersonal attraction such as low communication skills, loneliness or alienation can directly lead to SA. According to Mann¹⁹ alienation is a state or condition of an individual who has cut himself off from a social group or activity in which he should participate. Studies have proved that Alienation leads to premature school withdrawal²⁰, low academic achievement²¹, poor job performance²² depression²³ and low self-esteem²⁴. Broadly, alienation is an unpleasant situation when a person experiences a decrease in social relations both in quantity such as a lack of social relationship or qualitative such as an abusive relationship. Hidayati²⁵ examined the relationship between SA and loneliness of 365 university students of Malang, Java Province (Indonesia). Investigators found that there exists a positive correlation between SA and loneliness among students. Yaacob, Juhari, Talib and Uba²⁶ studied depression and loneliness of 1407 secondary school students in Malaysia and found a significant relationship between depression and loneliness. Similarly, to know the relationship between loneliness and SA, Darcin *et al.*,²⁷ conducted a study on a sample of 317 college students in Turkey. The variables of this study were measured using the UCLA Loneliness Scale and Smartphone Addiction Scale. It was found that a significant relationship exists between loneliness and SA. Similar results were reported by Hidayati and Hidayati²⁵ on a sample of 356 university students in Indonesia who found a positive relationship to exist between SA and loneliness. The review study carried out by Atarodi, Rajabi and Atarodi²⁸ reported also that cell phone addiction is positively related to social alienation among adolescents. Another study conducted by Hu, Liu and Wang²⁹ on 579 university students from China, using the Adolescent’s Alienation Scale and Smartphone

Addition Scale, reported that meaning in life and interpersonal alienation significantly increased and the risk of addiction to smartphones significantly decreased during the end period of the coronavirus pandemic.

Regarding psychological aspects, depression is defined as a basic reflection of an individual’s well-being that is thought to be highly correlated with SA. Supported by research conducted by Yu³⁰ reported that excessive use of smartphones causes anxiety and depression. According to the World Health Organization³¹, “Depression is a common psychological disorder that presents with low self-worth, lack of motivation or interest, feeling of sadness or disappointment, wakefulness or insomnia, lack of energy and inattentiveness. These symptoms can become chronic and lead to irreparable damage to an individual’s ability to take charge of his/her everyday duties and responsibilities”. It is mostly noticed People who are addicted to their smartphones do not get enough sleep do not take their food at the appropriate time and do not go for exercise to maintain a healthy body weight and these factors are directly related to anxiety and depression³². There are several studies documented here on SA and depression, especially in adolescent and young populations. Zhao and Lapierre¹ a study on 222 students and found that stress is positively correlated with both social networking and smartphone use. It was also observed that perceived stress fully mediated the link between smartphone use and depression. In a similar vein, Ge *et al.*,³³ conducted a study on 421 college students in which they observed that depression, anxiety, and executive dysfunction are found to be significantly associated with SA. It has also been observed that dysfunction acts as a mediator of the association between depression and SA. Jain, Ratan and Pradeep³⁴ carried out a study on 146 medical students to explore the relationship between SA and depression.

The study findings demonstrated a significant correlation between SA and dimensions of personality (assertive and submissive, emotional stability and instability and depressive and non-depressive). Another study conducted by Choksi and Patel³⁵ on a sample of 100 students showed a moderate correlation between smartphone use, quality of sleep and depression. Likewise, Chatterjee, Chaudhuri and Vrontis³⁶ conducted a study among 302 smartphone users to examine the dark side of smartphone applications. The study findings demonstrate that loneliness, stress and depression are the principal factors impacting smartphone addiction.

The review of studies related to SA, depression and alienation shows that these variables have been analyzed mostly in European countries while very few studies have been carried out in the Indian setup. It is important to examine SA as it is a common phenomenon that we easily encounter in our daily lives. Hence, this gap of knowledge encourages the investigators to examine SA with depression and alienation among adolescents.

The present study has the following objectives:

- To find out the significance of the relationship between smartphone addiction and alienation among adolescents.
- To explore the relationship between smartphone addiction and depression among adolescents
- To investigate the conjoint effect of alienation and depression on smartphone addiction among adolescents

2. Sample and Sampling Technique

For the present study, the descriptive survey method was employed on a sample of 200 adolescents selected from government and self-financed/private schools in Jammu and Kathua. Pearson's coefficient of correlation was used to find out the relationship between variables. Regression was used to find out the conjoint effect between the variables. Data collection instruments were the Smartphone Addiction Scale (SAS), the Facebook Usage Scale (FUS), the Mental Depression Scale (MDS) and the Alienation Scale (AS).

The study has the following hypotheses:

Hypothesis 1. There exists a significant relationship between smartphone addiction and alienation among adolescents.

Hypothesis 2. There exists a significant relationship between smartphone addiction and depression among adolescents.

Hypothesis 3. Alienation and depression would contribute towards the prediction of smartphone addiction in adolescents both independently as well as conjointly.

3. Results and Discussion

To verify the aforesaid hypothesis i.e., 'There exists a significant relationship between smartphone addiction

and alienation among adolescents', the coefficient of correlation was calculated with the product moment method between the scores of adolescents on the variable of smartphone addiction and alienation. The coefficient of correlation was found to be 0.43 which was significant at 0.01 levels, indicating that there is a positive and significant relationship between the variables. It can be concluded from the results that smartphone-addicted adolescents are found to be more alienated. Hence the above result confirms acceptance of hypothesis 1 i.e., 'There exists a significant relationship between smartphone addiction and alienation among adolescents. The findings of Dikeç *et al.*,³⁷; Ozok, Mukba and Tayiz³⁸; Hu, Liu and Wang³⁹ and Xu, Zeng, Dong, Zheng and Si⁴⁰ are in line with the present results, as they have researched that SA has been positively linked to alienation.

To test Hypothesis 2 i.e., 'There exists a significant relationship between smartphone addiction and depression among adolescents', the Pearson product-moment method was employed. The values of the coefficient of correlation between the variables were found to be 0.57 which was positive and significant at 0.05 level and 0.01 levels of significance, meaning thereby that, adolescents who are more smartphone-addicted are more depressed. Therefore, Hypothesis 2 'There exists a significant relationship between SA and depression among adolescents' stands accepted.

The result is supported by the findings of Alhassan *et al.*,⁴¹; Mohammed and Mostafa¹⁷; Lee, Lim, Allen, Choi and Jung⁴²; Islam⁴³ and Tu *et al.*,⁴⁴ who found a significant and positive relationship between SA and depression among adolescents.

Regression for predictive efficiency

'The conjoint effect of alienation and depression on SA among adolescents is higher than their individual effects.'

Y - Smartphone addiction, X1 - alienation, X2 - depression
The effect of alienation on SA among adolescents was found significant at the .01 level ($F(1, 198) = 44.80$). The computed value of R^2 of alienation and SA among adolescents ($YX1$) is 0.185 which indicates that the contribution of alienation to Smartphone addiction among adolescents is 18.5%. SA among adolescents can be predicted with the equation = $SA = 25.73 + 0.28 \times \text{Alienation}$ i.e. for every unit of increase in alienation, SA among adolescents increase .28. The effect of depression on SA among adolescents was found significant

($F(1, 198) = 96.71$). The computed value of R^2 of depression and SA among adolescents (YX1) is 0.328 which indicates that the contribution of depression on SA among adolescents is 32.8% which is not significant. The SA among adolescents can be predicted with the equation, $SA = 41.26 + 0.98 \times \text{depression}$, i.e., for every unit of increase in depression, SA among adolescents increase .98. The conjoint effect of both alienation and depression on SA among adolescents was found significant at 0.01 level of significance ($F(2, 197) = 60.95$). The computed value of R^2 of SA with alienation and depression (Y1X1X2) is 0.382 which indicates the contribution of alienation and depression on SA among adolescents is 30.9%.

As %age variance (=38.2) of variables of alienation and depression conjointly on SA among adolescents shows an increase in its value from alienation (%age variance =18.5) and depression (%age variance =32.8), it indicates that the conjoint effect of alienation and depression on SA among adolescents is higher than that of alienation and depression separately. However, depression is not a significant predictor of SA among adolescents. SA among adolescents can be predicted with the equation, $SA = 23.56 + 0.17 \times \text{alienation} + 0.82 \times \text{depression}$. Hence, Hypothesis 3 stating, "Alienation and depression would contribute towards the prediction of SA of adolescents both independently as well as conjointly" stands partially accepted.

4. Conclusions and Educational Implications of the Study

It has been found that smartphone addiction is positively and significantly correlated with alienation and depression among adolescents. It was further found that alienation and depression would contribute towards the prediction of SA of adolescents both independently as well as conjointly. There are various important practical implications for parents, educators, and policymakers to cultivate a positive and healthy mindset about smartphone usage in adolescents. Parents should spend more time with their children to develop multiple interests and keep their children constantly occupied in various activities. In this connection, by knowing what their children desire, parents can effectively reduce their children's depression and loneliness. Further, Parents should monitor their children and limit their excessive use of smartphones.

On the other hand, teachers should organize small group work and encourage students to interact with their teammates to avoid a deficiency of interpersonal alienation which could trick students into feeling alienated. Teachers should have a proper understanding of student's relationships with their parents who help them to learn more about student's needs and home environment. During the class, teachers should guide their students to learn new skills which encourage students to overcome their addiction to smartphones. Teachers should provide extensive knowledge to the students on the advantages and disadvantages of smartphones at an early age. It prevents the negative effects of smartphone addiction in adulthood and leads to purposive use of smartphones in the future.

Policymakers should initiate such programs, seminars, events, or talks that raise awareness about the negative effects of smartphone addiction. In addition, policymakers should introduce safety standards that make smartphones safer for children of all ages. Furthermore, policymakers should install certain applications to count daily phone usage and limit internet access during classroom lectures.

5. References

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