

# The Association Between Smart Phone Addiction and Psychological Distress Among Adolescents – A Review Based Analysis

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**Abstract: Purpose:** The usage of smartphones in the present decade has been increasing rapidly and is playing an important role in human lives, especially the adolescents who are getting addicted to their smartphones. Adolescents give more attention and time to their smartphones for a prolonged period. It has become compulsive to be hooked on to their smartphones which results in loss of focus in studies leading to poor performance in academics and various other physical and social activities in their lives. In this paper, existing research studies on smartphone addiction and its association with psychological distress among adolescents has been extensively reviewed. The main aim is to find the level of addiction with smartphone and its relation with anxiety, stress, loneliness and depression. To explore the influence of parental support and identify if there are gender differences in terms of smartphone addiction among adolescents. **Design/Methodology/Approach:** This review paper is based upon thematic structure, consisting of already existing research studies. Systematic literature, ensuing the publication of 30 studies that focused on identifying smartphone addiction among students and having a correlation with psychological distress like anxiety, stress, loneliness, and depression. Systematic literature scrutiny was performed using the search words "smartphone addiction", "psychological distress," "adolescents" and "students" in the electronic databases Research gate, Google Scholar, PsycInfo, and Academia. **Findings:** Studies shows that smart phone addiction is associated with psychological distress like anxiety, stress, loneliness, and depression. When it comes to gender differences, some studies have shown that the variable is not significantly related with smartphone use. A few researches have been done to study the association amid smartphone addiction and parental influences. Although evidence is limited, psychological wellbeing of adolescents can be damaged by the excessive use of smartphones. **Paper Type:** Systematic literature review-based analysis.

**Keywords:** Adolescents, Depression, Psychological distress, Smartphone addiction, Social anxiety, Stress.

## 1. Introduction

### A. Smartphone

The Smartphone has started playing an important role in human daily lives. Smartphones are devices having a touch screen interface, an operating system which is capable of

running all the downloaded applications and performing almost all the functions like a computer [1]. Having various features like games, internet access and social networks, messaging, entertainment, multimedia, and navigation the students give more attention and time to their smartphones for a prolonged period. It becomes compulsive to play online games that the gamers are not willing to perform their daily activities. They lose focus on studies and excessive gaming addiction leads to poor performance in academics and various other activities in life. Smartphones are devices that processing a lot of information than other old phones. Addiction, in general, refers to compulsive behavior that leads to a negative impact on physical and mental health. In most addictions, people feel compelled to do certain activities in order to feel good and due to its occurrence, it becomes a not so good habit. Smartphone addiction is a behavioral disorder in which teens or young adults exhibit compulsive usage of their smartphones and are unable to cease their consumption of smartphones despite the negative consequences that lead to an impact on physical and mental health.

Psychosocial treatments are the most relevant for dealing with smartphone addiction. Students engage on a daily basis on their smartphones on Facebook, Instagram, Twitter, YouTube, video games, Snapchat, etc. The excessive consumption of smartphones in order to feel good, and an inability to stop even at the cost of losing on friendship, negative impact on academics, and decreased physical social activities is characteristic features of smartphone addiction in adolescents.

### B. Smartphone addiction

Smartphone addiction is a behavioral addiction that is driven by an uncontrollable urge for checking and scrolling through that leads to the impairment of other important aspects of life [2]. According to the American Psychiatric Association, smartphone addiction can be defined as an addictive disorder of non-substances but then again APA recommends more research on it. Though, smartphone addiction is not mentioned in either the DSM-5 or in the ICD-11[3]. Having an addiction to using

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smartphone, leads up to serious adversely affects an individual's sense of wellbeing, thoughts and perception, behavior, and emotions. Once the student gets hooked on to online gaming, they do not look forward to going and meet their friend's outdoors and are not interested to meet people. They get into their comfort zone and start isolating themselves. If they are facing any issues at school, friends, and family they do not address them and find a way to escape by getting engrossed by playing online games, also find happiness in gaming, and seclude themselves from various issues [4]. Communication with friends and family becomes limited. They do not like to go to social gatherings and even if they go, they will be stuck on to their online games. This results in the inability of having real human friends and to solve any real problems, to have face-to-face communication, and to be involved in social activities.

### C. Social Anxiety

Social situations tend to make people feel anxious and nervous in certain social situations. For example, while giving a presentation, meeting people, going on a date, public speaking, and such events may cause the feeling of butterflies in the stomach. Personality traits and life experiences play an important role in social anxiety. Some people are outgoing and extravert and some are introverted and naturally reserved. Social anxiety disorder involves fear, nervousness, and anxiety disturbing the daily routines of a person be in activities in school, home, work or relationships.

### D. Social Anxiety Disorder

Social anxiety disorder or social phobia, is a chronic mental health condition. While doing everyday interactions, people with this condition become extremely conscious of themselves and experience high levels of anxiety, along with feeling embarrassed because of the fear of being judged and perceived negatively by others. Thus, its intensive stress leads to avoidance and can disrupt one's life, impacting one's relation with others, chores and habits of daily life, occupational duties and responsibilities, studies, or other actions. Social anxiety disorder usually exhibits in younger children or in teens or adults. In performance anxiety an individual experiences strong distress and nervousness when interacting, performing in public.

As discussed in DSM-IV-TR, different types of disorders may be found in both adolescents and children. When it comes to social anxiety disorder, it has been found that it can prevail with or without the prevalence of other disorders such as anxiety disorder, phobia, specific phobias, neurotic disorder, PTSD, acute stress disorder, separation anxiety disorder, GAD [5]. While the DSM V must still finalize these selections for

standing tension disorders. Changes that have come into account are on – point criteria for post-traumatic stress disorder in educational institution kids, elimination of phobic neurosis while not having a history of anxiety disorder, and from movement of separation from disorders which are sometimes have initial diagnosis in infancy, childhood, or young adults to the anxiety disorders section of the DSM [6]. The usage of smartphone can be described as a want, to be in constant connection with peers or people and having an addiction to smartphones is an important problem. Research studies have shown that spending over time on social networking platforms like Fb, twitter, and YouTube is the cause behind increasing smartphone addiction in people [7]. It has been found that because of smartphone addiction, individuals experience anxiety and withdrawal symptoms when they do not receive any notification about what's happening on their social media site. Smartphone addiction also change one's perception of the device [8]. Numerous researches across the world have been asserting that in the coming years, smartphone dependency will pose a great danger [9].

## 2. Objectives

This review paper intends to,

- i. Examine literature reviews on Smartphone addiction among students and the association with psychological distress among adolescents.
- ii. Identifying research gap on Smartphone addiction and the association with psychological distress among adolescents.
- iii. Identifying various research agendas related to Smartphone addiction among adolescents and the association with psychological distress using the focus group method.

## 3. Material and Method

A systematic literature review was performed using the search words "Smartphone addiction," "psychological distress," "adolescents" and "students" in the electronic databases Research gate, Google Scholar, PsycInfo, and Academia. Smartphone addiction is a behavioral addiction, although it is not yet recognized as such by the DSM-5. The abstracts of the required papers were screened for relevant review of the literature. All applicable studies were included resulting in the publication of 30 studies.

## 4. Related Work-Based Analysis

Table 1

Review of Smart Phone Addiction and related psychological issues

| S.no. | Name of the Author/Year/Country | Study Methodology design/sample size   | Findings  | Implications   | Limitations                                   |
|-------|---------------------------------|--|---|--|---|
| 1     | Meena, M. et. al. (2021) /China | 240 undergraduate, graduate, and postgraduate students were quantitatively and cross-sectionally analyzed. | The results signified a strong connection between Loneliness and Smartphone addiction while a moderate connection was found between shyness and social anxiety. | This study was used by the colleges, university and government to understand addiction in students and their behavioral patterns so that they can build effective strategies to deal with addiction. | Study only included students from China [10]. |

Table 1 (Continued)

|    |   |   |   |  |  |
|----|---|---|---|--|--|
| 2  | Buabbas AJ, et al. (2021)/ Kuwait           | The sample of this study consists of 1,993 students of secondary and high secondary classes. The tools used were (SAS-SV) and (DASS-21).  | Positive association was analyzed between addiction to smart device usage along with stress, anxiety, and depression.   | To bring in awareness among the students and their parents, along with health professionals about the consequences of smart phone overuse and to create effective programmers and policies for children's wellbeing and to build a healthy living. | Since the study was not inclusive of all ages and other socio demographic details, the results cannot be generalized to every school going child or adolescent [11].   |
| 3  | Demirci K, et al. (2015) Turkey             | Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI); the Smartphone Addiction Scale (SAS) was used with 319 university students. | Over use of Smartphone leads to depression or anxiety and can result in sleep problems.   | Depression and anxiety scores were displayed high among university students monitored for smart phone addiction.   | The cross-sectional design, is not the best way to evaluate causal relations. Thus, a need for longitudinal studies arises. Also, sample comprising participants of different age groups and educational background would provide better results [12]. |
| 4  | Alhassan, A. A. (2008) /Middle East         | Beck Depression Inventory (BDI), and the Smartphone Addiction Scale (SAS) used among 935 younger age between the age group 18–35.   | A positive correlation was shown with smartphone dependence and depression.   | Young adults are being recommended Mindful and judicious use of mobile.  | The study was limited to participants of age 18-35 years[13].  |
| 5  | Gao Y, Li A, 2016/China                     | The correlation study was conducted with 127 users for 30 days' data. Study used Interaction Anxiety Scale (IAS) and UCLA Loneliness Scale (UCLA-LS).                                 | A positive correlation was shown smart phone addiction, social anxiety and loneliness.  | If recognized early that social anxiety and loneliness, from end-to-end use of smart phones provides helpful propositions to individuals who do not have social communication in everyday life.  | The application can be on a bigger sample, who are using more than one smart device all look at other smart phone behavior variables[14].  |
| 6  | Alaa Aziz Alhazmi et al. 2018/Saudi         | A cross-sectional on 203 students using the short version smartphone addiction scale (SAS) questionnaire  | An association was seen using smartphone and hours spent on phone. Smartphones had a high overall pervasiveness.  | The participatory students had high levels of smartphone addiction which was connected per day-to-day time duration of its usage.  | Generalization of results cannot be done due to small sample size. More longitudinal studies should be done to investigate the need for the overuse of smartphones [15].   |
| 7  | Alkin, S., Bardakci, S., & İlhan, T. (2020) | Interviewed focus groups to study the connection between quality of social relationships and smartphone addiction.  | Smart phone addiction has a positive correlation with loneliness and negative correlation with perception of parents and time spent with friends.   | Time spent on smartphone, is having a lack of communication with family members. Setting of 'phone free hours' by parents and have quality time together.  | The data collected were from a single province and cannot be generalized[16].  |
| 8  | Bhanderi DJ (2021) - India                  | A cross-sectional study on 496 students using the self-administered questionnaire and the Smartphone Addiction (SA) Scale for collection of information.                              | Students from well education and affluent families have shown high rate of smartphone addiction.  | Effective state level policies should be made to tackle the increase in addiction rates.   | More longitudinal and experimental researches should be done to establish causal associations. Moreover, include those not studying in institutes and other prone age sets[17].  |
| 9. | Fiscer-Grote/2019                           | Problematic smartphone use risk factors in children and adolescents.  | 38 articles meet the inclusion criteria to the study.   | Research has found a relationship with gender, age, and factors of social, family, and personality.  | Smartphone problematic usage, with stringent childrearing and childcare, little willpower, and reduced self-esteem, whereas academic motivation and school success would decrease[18].   |
| 10 | Nazir S. Hawi & Maya Samaha /2017           | Relationships among smartphone addiction, anxiety, and family relations   | A total of 381 university students participated in an online survey composed of demographic information with the Smartphone Addiction Scale – Short Version, and the Beck Anxiety Inventory was used in this study. | The study examined that undergraduate students who had smartphone addiction demonstrated having high anxiety compared to those who were not addicted, and students who had high anxiety exhibited significant problems in their family relations.  | Analysis showed that anxiety mediated a positive relationship between smartphone addiction and problematic family relations[19].   |

Table 1 (Continued)

|    |                            |   |  |   |  |
|----|----------------------------|---|--|---|--|
| 11 | Son H et al. (2021), Korea | Gender Differences in Parental Impact on Problematic Smartphone Use among Korean Adolescents. | Cross-sectional data were analyzed using regression model. 2758 male and 2419 female adolescents, aged 10 to 19 years, Smartphone addiction diagnostic scale scores and parent-related factors that are implemented. | Parent-related factors were investigated to prevent problematic smartphone use in both male and female adolescents. | The increase in adolescent smartphone overuse was due to the increase in the smartphone penetration rate of South Korea as it is the highest in the world, at 95%. [20]. |
|----|----------------------------|---|--|---|--|

### 5. Research Gap

With the above review of literature, an effort was made to understand the relationship in the middle of smartphone addiction and psychological wellbeing among adolescences. The most of the data shows optimistic affiliation amid smartphone device usage and psychological health which consequently raises stress, anxiety, and depression. Studies done from psychological perspective indicate an association between smartphone usage and ill mental health and how it affects behavior. In some studies, Smartphone addiction and loneliness show high correlation and social anxiety was mildly correlated. High usage of smartphones use was associated with psychological distress and mental wellbeing. There were issues of loneliness, sleep problems, social anxiety, stress, and depression among adolescents and adults. Several studies were conducted to understand smartphone usage while taking into consideration loneliness, sleep problems, social anxiety, stress, and depression. The current review of literature has focused on studies having smartphone use as a specific entity. Intense smartphone usage is associated with symptoms of mental health, behavioral, and psychological factors. The interference degree of smartphone usage on restorative functions of anxiety and sleeping contributes to deteriorated physical, as well as mental health and generate higher levels of psychological stress and physiological arousal which can have a damaging effect and contribute to stress as well as ill health. The adolescent is preoccupied with their smartphones and has issues with their relationship, academics, and other outdoor activities. Psychological mechanisms having the associations has been found in the studies of the review, such as the influence on social relationships, stress, anxiety, sleep habits, dependency, and addiction issues. The magnitude of mobile use interference with our day-to-day lives contributes to deteriorating physical as well as mental health. There were studies in which it was found the smartphones were associated with the gender, age, factors of family, social and personality, also with time – period and pattern of use. Good friendship was seen as protecting variable and using a smartphone for networking and gaming was seen as a risky variable to smartphone addiction. Due to spending most of the time on smartphones, there was also a lack of communication among family members. The parents can set some “phone-free hours,” and could spend quality time together. To help the students with therapeutic interventions and coping strategies. There was a need for emotional support, mental support, and social support. Since technology and online connectivity are important aspects of our life’s worth and

wellness that their addictive use shall become a consequence to a less sustainable and allied culture and civilization.

### 6. Limitations

In the above-mentioned studies, the limitations have been highlighted. Since most of the studies had a small sample size and as such the results cannot be generalized. There is a need for longitudinal studies to investigate the need for the overuse of Smartphones. The lack of longitudinal research adds to the limitation. The future researcher should be able to resolve these drawbacks in terms of perspectives, future research should involve a wider range of participants with diverse samples and however, studies that are of high-quality having measurements objectively determined, longitudinal design and a defined population to draw conclusion about relation of association and mechanism. Experimental and Longitudinal studies need to be conducted which will enable the establishment of causal associations. Moreover, other samples that can be included in the study can be adolescents belonging to other age groups who don’t study in educational institutes and are prone to smartphone addiction.

### 7. Research Gap

Most studies exhibited the methods of cross-sectional and correlation research. Addictions of behavior especially smartphone addiction disorder to be developed and validated by future research. For smartphone addiction, it is obligatory to know and recognize the characteristics and features of every illness or condition like anxiety, stress, depression, and whether associated impairments are clinically significant. It is vital to do research on different behavioral disorders and their impact on mental health. In addition, more work should be done to estimate their longitudinal progression along with parental emotional involvement. The need of the research is to screen students in high schools for their usage of technology and addiction of smartphone. Comparative studies should be done on wider geographical areas to bring acknowledgement to the novel scale.

### 8. Recommended Coping Strategies

Some of the coping strategies are 1) Early evaluation, intervention, and therapy should be prioritized for students with mild and moderate levels of smartphone addiction. 2) Different strategies to cope with their physical, emotional, mental wellbeing, social support, and positive coping skills. 3) Parent-adolescents discussions recommended where the parents spend quality time with their children and focus on their emotions

during this period of crisis.4) Help the adolescents have a schedule for the usage of smartphone addiction and monitor other activities.5) Increase feeling of safety by spending quality family time.6) Regular meals and proper sleeping habits.7) Educate them to avoid exploitation of alcohol, tobacco; and other drugs to manage distressing emotions.8) Help them find healthy ways to relax by reading, listening to music, and learning new skills and hobbies.

### 9. Conclusion

In simple words, addiction is obsessive, uncontrollable behavior causing adverse impact on physical and mental health. It is common in most dependences and compulsions that the individual is bound to do certain activities to feel good. These activities become too regular eventually taking the form of a destructive practice, impacting important activities such as one's duties and responsibilities, career. Smartphone addiction is a behavioral disorder in which teens or young adults exhibit compulsive usage of their smartphones and are unable to cease their consumption of smartphones despite the negative consequences that lead to an impact on physical and mental health. This study was conducted to identify the relationship between smartphone addiction and its association with psychological distress. Some research papers imply that smartphone addiction is associated with psychological distress, gender variances, while others have proved that gender and Smartphone use is not suggestively interrelated. An affiliation amid addiction and parental influents has also been observed by a few studies. Acknowledging the modern time, there is a need to screen high-school learners for smartphone addiction and effective technology usage. More comparative studies should be done on wider geographical areas to bring acknowledgement to the novel scale. A range of physical, psychological, and behavioral complications was seen in students using smartphones. There are a few Indian researches done on smartphone addiction and its connection with psychological distress even though smartphone addiction is an emerging concern for parents in India.

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