

IMPACT OF PROBLEMATIC USE OF SMARTPHONE ON BEHAVIORAL PROBLEMS AND QUALITY OF LIFE OF ADOLESCENTS



by

Berjees Jahangir
BSP191018

A Research Thesis submitted to the
DEPARTMENT OF PSYCHOLOGY
In partial fulfillment of the requirements for the degree of
BACHELOR OF SCIENCE IN PSYCHOLOGY

Faculty of Management and Social Sciences
Capital University of Science & Technology,
Islamabad
January 2023

BSP191018

DEPARTMENT OF PSYCHOLOGY

January, 2023

IMPACT OF PROBLEMATIC USE OF SMARTPHONE ON BEHAVIORAL PROBLEMS AND QUALITY OF LIFE OF ADOLESCENTS



By

Berjees Jahangir

Reg. No. BSP191018

Research Thesis submitted to the

DEPARTMENT OF PSYCHOLOGY

In partial fulfilment of the requirements for the degree of

BACHELORS OF SCIENCE IN PSYCHOLOGY

Faculty of Management and Social Sciences

Capital University of Science & Technology,

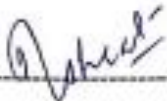
Islamabad

January, 2023

CERTIFICATE OF APPROVAL

It is certified that the Research Thesis titled "Impact of Problematic use of Smartphone on Behavioral Problems and Quality of Life of Adolescents" carried out by Berjees Jahangir, Registration No. BSP191018, under the supervision of Dr. Ishrat Yousaf, Capital University of Science & Technology, Islamabad, is fully adequate, in scope and in quality, as a Research Thesis for the degree of BS Psychology.

Supervisor



Dr. Ishrat Yousaf

Assistant Professor

Department of Psychology

Faculty of Management and Social Sciences

Capital University of Science & Technology, Islamabad

HoD



Dr. Sabahat Haqqani

Assistant professor

Department of Psychology

Faculty of Management and Social Sciences

Capital University of Science & Technology, Islamabad

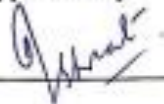
Impact of Problematic use of Smartphone on Behavioral Problems and Quality of Life of
Adolescents

By

Berjees Jahangir

Registration # BSP191018

Approved By



Supervisor

Dr Ishrat Yousaf



Internal Examiner-I

Ms. Rabia Batool



Internal Examiner-II

Ms. Sadaf Zeb

Thesis Coordinator

Ms. Irum Noureen



Head of Department

Dr. Sabahat Haqqani

Copyright © 2023 by CUST Student

All rights reserved. Reproduction in whole or in part in any form requires the prior written permission of Berjees Jahangir or designated representation.

DEDICATION

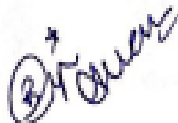
I dedicate this dissertation to my parents who always supported me. Very special thanks to my mother for unconditional support and love and to my father his never ending efforts helped me reach the level of brilliance at which I now stand. They sacrificed their life for me and went beyond all the means to ensure that I have access to the best education.

DECLARATION

It is declared that this is original piece of my own work, except where otherwise acknowledged in text and references. This work has not been submitted in any form for another degree or diploma at any university or other institution for tertiary education and shall not be submitted by me in future for obtaining any degree from this or any other University of Institution.

Berjees Jahangir

BSP191018



(January, 2023)

ACKNOWLEDGEMENT

Firstly, I am immensely grateful to Allah Almighty, the most beneficial and merciful the creator of universe, who gave me strength, ability, courage and patience that enable me to Alhamdulillah successfully complete this thesis.

I am very thankful to my parents for their unconditional support and love, and to my supervisor Dr. Ishrat Yousaf for her patience, commitment and relentless assistance and faith in me through all the ups and downs of this journey. Special thanks to Dr. Sabahat Haqqani for her worthy comments, suggestions, advice and assistance helped me for keeping my progress on schedule and for enhancing and improving my capabilities, I am very grateful for her support.

In the end I am grateful to Allah Almighty for granting me courage. My mother, Seema Jahangir, she supported me throughout; she is such a source of strength, support and encouragement. My father, Jahangir Zaman who's never ending efforts and sacrifices helped me to reach this level at which I now stand and lastly, I am so grateful to my special one, my husband, for care, love, warmth and support for me during this journey.

Table of Contents

Abstract.....	1
Literature review.....	5
Theoretical framework.....	8
Time displacement theory.....	8
Social cognitive theory.....	8
Rationale.....	9
Objectives.....	11
Hypotheses.....	11
Operational definitions.....	11
Problematic smartphone use (PSU).....	11
Behavioral problems.....	12
Quality of life (QOL):.....	12
Research design.....	13
Sampling.....	13
Inclusion criteria.....	13
Exclusion criteria.....	13
Instruments.....	13
Demographic questionnaire.....	13
Smartphone addiction scale – short version (SAS-SV).....	13
Kidscreen-27.....	14
Strength and difficulty questionnaire.....	14
Ethical considerations.....	15
Procedure.....	15
Data Analysis procedure.....	15

Descriptive statistics of demographic variables.....	17
Reliability analysis of Data.....	21
Correlations for study variables	22
CONCLUSION.....	27
LIMITATIONS OF THE STUDY.....	28
RECOMMENDATIONS OF THE STUDY.....	29
References.....	30
APPENDICES	36
Approval letter for data collection	37
Informed consent	38
Demographic questionnaire	39
Smartphone addiction scale – short version (SAS-SV).....	40
Kidscreen-27.....	42
Strength and Difficulty questionnaire.....	46

LIST OF TABLES

Sr. No	Titles	Pg. no
Table 1	Descriptive statistics of demographic variables	16
Table 2	Descriptive statistics and Cronbach's Alpha reliability of study variables	20
Table 3	Correlation for study variables	21
Table 4	Mean difference (T-test) of gender	22

LIST OF FIGURES

Sr. No	Title of figures	Pg. no.
Figure 1	Distribution of demographic variable gender	18
Figure 2	Distribution of demographic variable Age	18
Figure 3	Distribution of demographic variable Smartphone	19
Figure 4	Distribution of demographic variable Socio economic status	19

LIST OF ABBREVIATIONS

PSU	Problematic Smartphone Use
SASSV	Smartphone Addiction scale – short version
SDQ	Strength and Difficulty Questionnaire
FOMO	Fear of Missing out
SPSS	Statistical Package for Social Sciences
QOL	Quality of Life

LIST OF APPENDICES

Appendix A	Approval Letter
Appendix B	Informed Consent Form
Appendix C	Demographic form
Appendix D	Smartphone Addiction Scale – short version
Appendix E	The Kidscreen-27
Appendix F	Strength and Difficulty Questionnaire

Abstract

Smartphones can significantly improve people's lives, only if proper measures are made to overcome its drawbacks. The advancement in technology is more appealing to adolescents and it is considered as essential component of daily life. When it comes to the problematic use of smartphone effect on adolescent's behavior, the pros and cons are serious, and it is crucial to study possible negative effects of its exposure on adolescents. This research intended to explore the relationship between problematic smartphone usage on the behavioural problems and quality of life of teens. Moreover, the study examined gender differences with relation to the problematic use of smartphone, behavioural problems, and adolescent's quality of life. The study's sample was 300 adolescents of ages between 14 and 17 years, who were recruited through convenient sampling procedures from schools in Islamabad and Rawalpindi. Cross sectional correlational survey was conducted using the strength and difficulty questionnaire (SDQ), the kidscreen-27 scale, and the smartphone addiction scale (SAS-SV). Specific demographic characteristics were explored such as age, gender, adolescents' access to smartphones. Results revealed that problematic use of smartphone and behavioral problems were positively correlated. As the problematic smartphone use increased it caused various behavioral problems which were negatively correlated with the quality of life. There were significant gender differences with problematic use of smartphone. This study provided awareness to parents, guardians, and teachers and also educates them on proper use of smartphone, and consequently keeping a check on child's action both at school and at home, so that they do not waste their valuable time on smartphone. As such these results showed the impact of problematic use of smartphone on behavioral problems and quality of life of adolescent's research can be used to explore more relationships.

Keywords: Problematic use of smartphone, Behavioral problems, Quality of life.

INTRODUCTION

Use of smartphones can improve people's life significantly, only if the appropriate measures are made to overcome its drawbacks. Uses of smartphones are considered as important component of life especially among adolescents. Bor et al., (2020) reported that problematic behavior, mental illnesses are more common in adolescents and children around the world. The advancement in technology is more appealing to adolescents and it is considered as an essential component of daily life. Along with technology smartphone has a downside. When it comes to the smartphone effects on adolescent, the pros and cons are particularly significant.

The smartphone is a tangible item that offers accessibility, speed, and privacy, all of which lead to behavioural addiction symptoms like compulsive use and loss of control. However, the type of activity, motivation, or level of enjoyment with smartphone usage may be associated to issues with smartphone use. Additionally, overuse of smartphone cannot fully meet the requirements of an addiction. Finally, the DSM does not classify "smartphone addiction" as a disorder. Therefore, the phrase "problematic smartphone usage" (PSU) is used in place of "smartphone addiction" to describe smartphone use that is connected to behavioural addiction symptoms. Problematic smartphone usage may be separated from pure smartphone time, which ignores these factors, by examining behavioural issue signs. Problematic use is basically the uncontrollable urge to spend more than three hours per day on smartphones and spending a lot of time and effort that it affects and impairs other important life events (Hopkins, 2020). Adolescence is essentially a developmental period that starts with puberty and concludes as people shift into adult duties. (Steinberg, 2016). 'Middle age Adolescents' as in individuals from 14-17 years age group are considered as the most active users of smartphones (world health organization WHO, 2010).

Exorbitant use of smartphones can affect not only state of mind but also quality of life of adolescents. A successful mental performance, fruitful activities, satisfying interpersonal relationships, and the capacity to adapt and deal with adversity are all indicators of healthy mind. (U.S. Department of Health & Human Services, 1999). The smartphone is a staple item for most people, and in the past ten years, its use among kids and teenagers has grown significantly.

Most of the adolescents currently have at least one active smartphone and accounts and spend multiple hours every day using their smartphones (Rideout & Robb, 2019). Many adolescents are unknown of healthy way to use smartphone they may have not developed self-regulation. Previous research in 2022 have found negative connections with psychological well-being, mood, social conduct, peer relationships, and learning outcomes while positive links with behavioural and emotional disorders in regards to the potential relationship between problematic smartphone usage and adolescent health (T Meigen, C., Kiess, W et al, 2022). When using a smartphone excessively, or whenever it is used regardless of behavioural addiction signs, it has been found to be associated with poor sleep, depressed mood, poor psychological well-being, and behavioural and emotional issues. Digital technology may promote problematic behaviours like feeling inadequate about your looks when you know many pictures even though the images you see on your smartphone are edited, they can still make you self-conscious about your appearance. In recent years, it has become obvious that problematic smartphone usage (PSU), including social media use and game playing, can produce symptoms like those of behavioural addictions such as gambling (M Sanchez Farnendaz, 2022) .

Fear of missing out (FOMO) is another factor. Media platforms such as Facebook, Snapchat, and Instagram seem to aggravate emotions that other's people is full of fun or are doing better with their life than you are. It is the perception that you're omitting things and it

can lower your self-worth, induce anxiety, and increase your use of smartphones. You may be compelled by FOMO to check your phone for new updates every few minutes, even while driving, skipping night time rests, and placing smartphone involvement ahead of interactions with real people. An experiment at the University of Pennsylvania spotted that over use of smartphone and other sites promotes loneliness feelings. The study, however, found that limiting your use can make you feel less alone and isolated and can also enhance your happiness (Paul & Orbes, 2021).

One of the unpleasant experiences is stress and anxiety which can affect ones quality of life. People need social interactions to be mentally healthy. Nothing works more quickly to improve your mood and reduce stress than making eye contact with your well-wisher. When you prioritize virtual interaction over in-person interaction, you increase the risk of despair, behavioral problems and anxiety the examples of mood disorders. And being self-absorbed is continuously posting images of yourself and your personal opinions can distance you from real-life connections Adolescents isolate themselves from their parents and establish closer ties with friends, social interaction and connection becomes important. Their excessive use can alter their mood, cause interpersonal conflict make them preoccupied and unmotivated towards their academics (Adam et al., 2021).

Reduced academic performance is the consequence of problematic use of smartphones. The growing use of smartphones exposed students to use short words instead of sentences while chatting with friends and which has also been transferred to their academics (Obi, Bulus & Sala'at., 2012). Most adolescents suffer academic related problems as a result of distraction from their smartphones. Adolescents who regularly engage in smartphones for more than three hours a day stand a 60% higher chance of having negative effects than those who don't use it at all. (JAMA psychiatry, 2019). Appropriate and healthy social interaction is generally associated with better mental health among adolescents (Pachucki & Cattuto,

2015). In Pakistan sixty one million users were reported which was increased by 11 million. Forty six million users were reported and the number of users increased by 9 million in January 2021 (Kemp S, 2021). There is reportedly thirty million people use each day and that ratio is increasing exponentially. In addition to that, 120 million customers rank it as Asia's fifth-largest cellular phone market (Wilson RE & Lindsay TG, 2012). The Pew Research Center's 2018 survey of U.S. Teenagers figured that 1 out of 6 of them has encountered one of six types of inappropriate behaviour online and survey finding showed that 90% of them accept online bullying as an issue for their age fellow, and 63% of them identified as a massive matter. After three weeks, students who first complained "higher levels of depression" experienced better improvements in their feelings of wellbeing, and those having 30 minutes of daily usage reported less loneliness and melancholy (Clinical Psychology, 2018). A research showed that students who restricted them from smartphones were more positive and had better self-images (Hunt et al., 2018).

Literature review

According to the study conducted in 2019, the risk of despair and loneliness may be higher in young people who are addicted to their smartphones (B alex, 2019). Recent finding disclose that smartphone use in Pakistan has more detrimental effects on a student's behaviour than effective ones (RR Ahmed., 2020). Another research conducted in Pakistan stated that there is a clear link between smartphone addiction and students' self-centered behaviour. It has been clear in recent years that regular Internet use, particularly social networking and online gaming, may be connected to signs of behavioural addictions. Additionally, it discovered that smartphone addiction is a predictor of low self-esteem and narcissistic behaviour (M perius, 2020). Students spend more time on smartphones because actually they have low level of esteem of oneself, which shows an even more serious narcissistic behaviour. Narcissistic people use smartphones in a self-promoting way which

can be identified by others. There was study conducted in 2013 which showed identified older teenagers who utilised smartphone in a passive way, like just perusing other people's images, expressed a reduction in life satisfaction. But 20% of those who have at least single account on websites feel the need to check their smartphone ideally every three hours to stave off anxiety (Wu et al., 2019). This issue transcends fear of missing out (FOMO), often known as smartphone associated anxiety disorder (ADAA, 2019). Fear of missing out (FOMO) is considered as an indicator of smartphone use and known to be associated with a decrease in emotional well-being in adolescents. Many studies established that fear of being left out predicted addiction for smartphone and use (UMW, 2017).

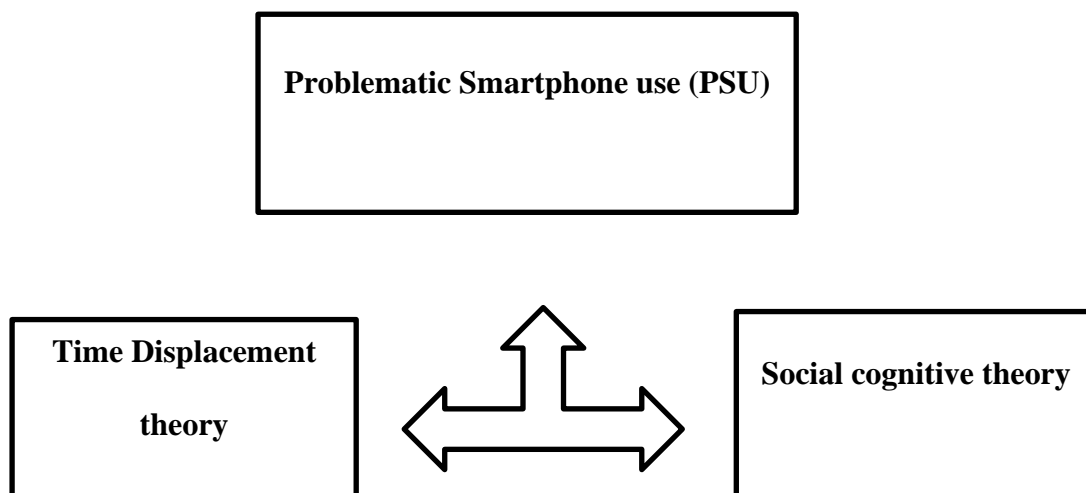
A research in 2020 consisted of higher than 6,500 adolescents 14- to 18-year-olds found that there may be a higher risk of mental issues in persons whose daily interaction on smartphone is higher than 3 hour (E Jaoude, 2020). A further risk related to teenagers using smartphone and its application is social comparison. Smartphone users that frequently participate in selective self-presentation produce streams of posts and photographs that frequently present users favourably. Cause some of the young people to make unfavourable social comparisons about their own achievements, skills, or attractiveness. According to studies, youth depressive symptoms are linked to higher levels of online social comparison. Recent study in Pakistan was conducted at 200 undergraduate to encounter the healthy and bad impacts of smartphone overuse. And the number of positive affected reported was greater than the negative affect. The findings of this research suggest that use of smartphone should be limited, focusing more on physical activities which enhances one's productivity (GC, 2021). Studies have reported that female participants have a higher prevalence of problematic smartphone use than males (Demerci K, 2020).

Problematic or overuse of smartphone has also influenced family relations. As reported that over or excessive use of smartphone lead the person to loneliness as they limited

themselves to their room and avoiding family meet up. Users do not realize the wastage of time, for which a study was conducted in 2013, it was suggested that these sites are influencing Pakistan's family connections. Questionnaire based experiment applied on 175 students from Islamabad who were excessively using smartphone. The results revealed that the majority of respondents 94 percent concurred that using smartphone excessively harms family life. One of the most significant effects of excessive usage of smartphone among teenagers is reduced educational performance.

A recent research conducted on students, revealed that students who utilised social networks and the internet more frequently than the norm performed poorly in class and had low levels of attentiveness. Researches showed that smartphone addiction and declined education are directly related. Karpinski and Duberstein (2009) conducted a study on students in which lower grades were seen with addicted students than those who do not. Other than that there are more risk factors with problematic use of smartphone or constantly checking for notification associated with negative consequences like decrease sleep quality in adolescents and disturbed mental health like depression and anxiety which also affect quality of life of adolescents. In adolescents, excessive screen time in general also seems to be related to physical health effects.

Theoretical framework



Time displacement theory

The theory of Time Displacement (Putnam, 1995) suggest that heavy usage of smartphone brings decline in time which is now remaining to be spent in other activities like learning, social and physical activities. It is the hypothesis that new activity types may eventually supplant more traditional ones. Technology-based activities, such using a smartphone, are frequently new activities that cause time lag. According to the time-displacement theory, teens' time spent using smartphones would displace their time spent engaging in other activities. The time-displacement theory was applied to the current study to better comprehend the effects that teens' heavy smartphone use has on their development.

Social cognitive theory

The Social cognitive theory (Albert Bandura, 1960) describes the influence of individual experiences on individual behaviors. Bandura's theory helps to understand how problematic use of smartphone influences adolescent's behavior (Carson, Pickett, & Janssen, 2011).

This social context in which people engage in behaviour is also taken into account by the social cognitive theory. Individuals acquire and retain behaviour exclusively in this way. In order to predict whether a behavioural action will be taken, theory takes into consideration a person's prior experiences. Reinforcing is influenced by past experiences; this in turn impacts a person's propensity to participate in a certain action as well as the reasons that drive that behavior (Carson, Pickett, & Janssen, 2011).

This theory contends that people pick up actions through seeing and copying others, employs observational learning to explain behaviour. This claims that individuals have the capacity to witness and observe the acts of others. This is frequently demonstrated through "modelling" actions. People can effectively accomplish behaviour if they observe a successful presentation of it. According to research, violent videos and video games that adolescents watch or play might teach them problematic behavior (R Shao, 2019).

Rationale

The problematic use of the smartphone has increased rapidly among adolescents in recent years (Lee et al., 2020). The study looks forward to exploring and highlighting the smartphone's detrimental effects on psychological health, lifestyle quality and behavioral problems of adolescents. Because of the rapid growth and the widely spreading use of mobile phone and their effect on communication and interaction in life, it is important to study possible negative effects of the exposure on adolescents. People fail to realize that excessive smartphone usage is a serious issue which adversely affects a person's ideas, behaviour, habits, emotions, sense of wellbeing and lifestyle quality. The problematic use of smartphone is basically associated with a series of negative outcomes such as: sleep disturbances, behavioral problems, vocational impairment, poor academic presentation, poor quality of life as well as mental health problems which include depression, loneliness and anxiety, stress and mood disorders in adolescents (B Harris, 2020). Depression, anxiety and stress are the

main disorders associated with excessive or problematic use of smartphone and it is very important to understand the link between problematic use of smartphone, behavioral problem and quality of life.

Objectives

The objectives of this research are:

1. To examine the relationship between problematic use of smartphone, behavioural problems, quality of life of adolescents.
2. To examine gender differences in the relationship between problematic usage of smartphone, behavioural problems, and adolescents' quality of life.

Hypotheses

To achieve objectives of present research a number of hypotheses were formulated, as listed below

1. There would be a negative relationship between problematic use of smartphone and quality of life (physical well-being, psychological well-being, autonomy and parent relation, peers and social support, and school environments) among adolescents.
2. There would be a positive relationship between problematic use of smartphone and behavioral problem (emotional symptoms, conduct problems, hyperactivity-inattention, peer problem and prosocial behavior) among adolescents.
3. There would be significant gender differences in the influence of problematic use of smartphone, behavioral problems and quality of life of adolescents.

Operational definitions

Problematic smartphone use (PSU) is basically defined as being excessively concerned and driven by the uncontrollable urge to use smartphone for more than 3 hour/day and spending a lot of time on it, that it affects and threaten other important events in life (Hopkins, 2020).

Behavioral problems are unwanted behaviors which need changing and involve pattern of disruptive behaviors in middle adolescents which cause problem in school, college, home and in social situations.

Quality of life (QOL): “An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (World Health Organization, 2022).

METHODS

Research design

This study used a quantitative cross-sectional correlational research approach.

Sampling

For the present study middle age adolescent participants were 300 of 14 - 17 year age group. They were recruited through convenient sampling from schools located in twin cities Islamabad and Rawalpindi.

Inclusion criteria

Middle age adolescents 14 to 17 year age group from schools were included

Exclusion criteria

Adolescents who do not have access to smartphone were excluded.

Instruments

Demographic questionnaire

Participants filled brief demographic questionnaire which asked for information about gender, age and socio economic status.

Smartphone addiction scale – short version (SAS-SV)

Kwon et al. created the SAS-SV (2013). The SAS-SV can be used to pinpoint populations that may be at a higher risk of smartphone dependency in both public and educational spheres. There are 10 items total, with a Likert scale of 1 for strongly disagree and 6 for strongly agree. A SAS-SV score is calculated as the sum of these factors (the range is 10 to 60). Increasing the scores indicates problematic smartphone use (PSU). A high SAS-SV score reveals one's opinion of how serious their smartphone addiction is. A Cronbach's alpha of 0.911 was used to confirm SAS's internal consistency and concurrent validity.

Kidscreen-27

This instrument is developed by Ulrike Ravens-Sieberer, (2006) determine the subjective health and happiness of children and adolescents. The KIDSCREEN questionnaire measures five dimensions on the scale of physical health, being in good mental health, autonomy and relationships with parents, social interaction, as well as the school environment. Each parameter consist of 5 score from 1 'not at all' to 5 'very much'. The numerical score scale goes in the other way for several items (1, 9, 10, and 11), which indicates that they are reversed. The sum of all the responses yields the overall kid screen score. Better quality of life (QOL) and social support are indicated by higher ratings. It has strong authenticity and dependability. The range of Cronbach's alpha values was 0.77 to 0.89.

Strength and difficulty questionnaire

The strengths and difficulties questionnaire (SDQ) was developed by Goodman, R., Meltzer, H. & Bailey, V. (2003). It is brief emotional and behavioural screening questionnaire. It contain 25 characters which is divided into 5 scales which further subdivided into 5 items which are emotional symptoms, Conduct problems, hyper activity/inattention, Peer relationship problems, and prosocial behaviour. These 25 characteristics are related to same concepts with some different wording (Goodman et al, 1998). This version of the self-assessment is appropriate for adolescents between the ages of 11 and 17, depending on their literacy and understanding levels. Acceptable internal consistency reliability with Cronbach's α greater than 0.70 for all SDQ scales except for behavioral and peer problems.

Ethical considerations

The study was approved by Psychology department of Capital University of Science and Technology. When performing this research, all ethical considerations were kept in mind to protect the rights of participant.

Consent taking and debriefing was given under ethical guidelines provided by American Psychological Association (APA). A consent form is used to obtain participant's willingness in the study. This was warranted that participant had the freedom to leave the study at any time. Confidentiality and anonymity of the participant was ensured.

Procedure

Sample was consisting of middle age adolescents (age 14 to 17) from schools and colleges located in Islamabad and Rawalpindi. Before conducting research permission was taken. The participants were informed about the concept of this study. They were assured of confidentiality of the information that they provided us as it was only be used for research purpose. They were instructed to fill the questionnaires with great care and not to omit any of the items in the questionnaire.

Data Analysis procedure

The data was analysed using statistical package for social sciences (SPSS) version 20. Descriptive statistics were used to calculate the distribution and variance of data. For categorical variables percentage, frequency was calculated. Mean standard deviations, skewness, kurtosis were computed for normal distribution of data Pearson correlation analyses was used to find out the relationship between independent variable and dependent variable. Mean difference t- test was computed to explore gender differences. In order to check the reliability of scales, alpha coefficient was calculated.

RESULTS

The purpose of this study was; to examine the relationship between Problematic use of smartphone, behavioral problems and quality of life among adolescents. To assess the impact of problematic use of smartphone on behavioral problems and quality of life of adolescents and to examine gender differences in the relationship between problematic use of smartphone, behavioral problems and quality of life among adolescents. Specific demographic characteristics were explored such as age, gender, their access to smartphone and how they relate to the problematic smartphone use (PSU). For categorical variables, frequency table was drawn. The frequency and their percentages were calculated in frequency table. For the continuous variables, skewness, kurtosis, mean standard deviation and range was calculated. To check the normal distribution of data, normality test, histogram, skewness and kurtosis were calculated. The findings of the investigation are provided in this chapter. The sample's demographic data is given after which descriptive statistics and all instrument reliabilities are given. The analyses that were conducted to verify the study hypotheses are then provided.

Descriptive statistics of demographic variables

Descriptive statistics of demographic variables are shown in table 1.

Table - 1

Frequency distribution and percentage of demographic variables (N= 300)

Variables	F	(%)
Gender		
Male	149	49.7
Female	151	50.3
Age		
14 - 15	131	43.7
16 – 17	169	56.3
Smartphone		
Yes	298	99.3
No	2	.7
Socio economic status		
High level	86	28.7
Middle level	146	48.7
low level	68	22.7

Note: *f* = frequency, % = percentage

Table 1 demonstrates the frequency and the percentage of demographic variables. The variables include gender, age access to smartphone and socio economic status. Table shows that females ($f=151$, % 50.3) were more than male ($f = 149$, % = 49.7) for $N = 300$. Age group 16 – 17 ($f=169$, % = 56.3) has higher frequency than 14 – 15 ($f = 131$, % = 43.7). Majority of sample had smartphone ($f = 298$, % = 99.3). Participants with middle socio

economic status ($f = 146$, $\% = 48.7$) were higher in number as compared to higher or lower class.

Figure 1

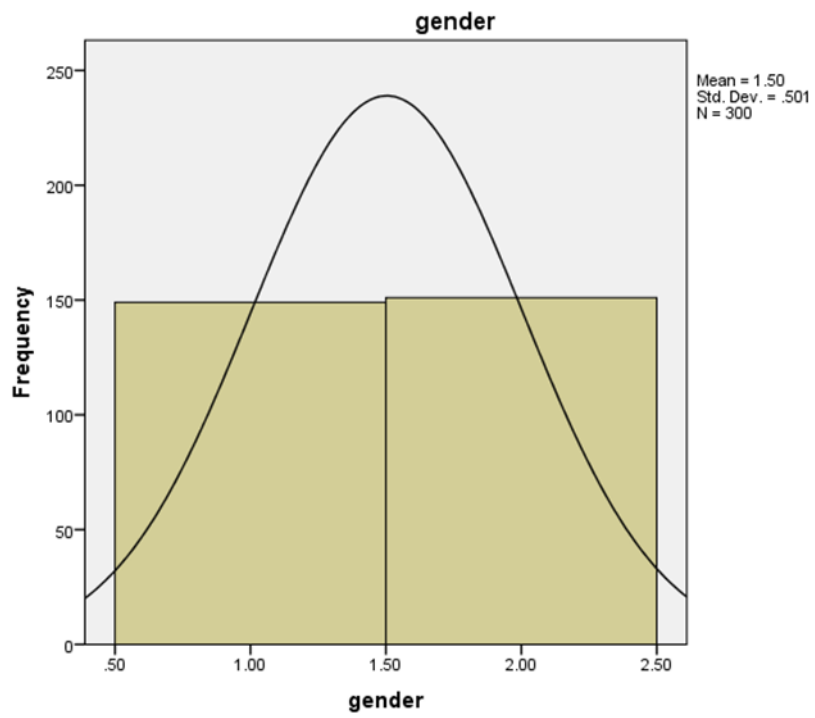


Figure 2

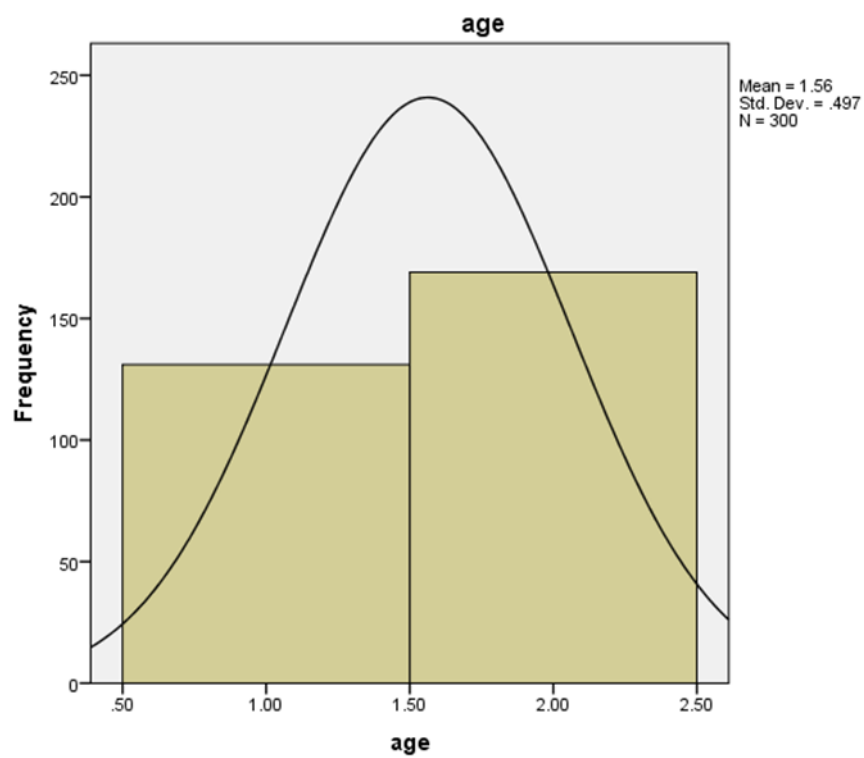


Figure 3

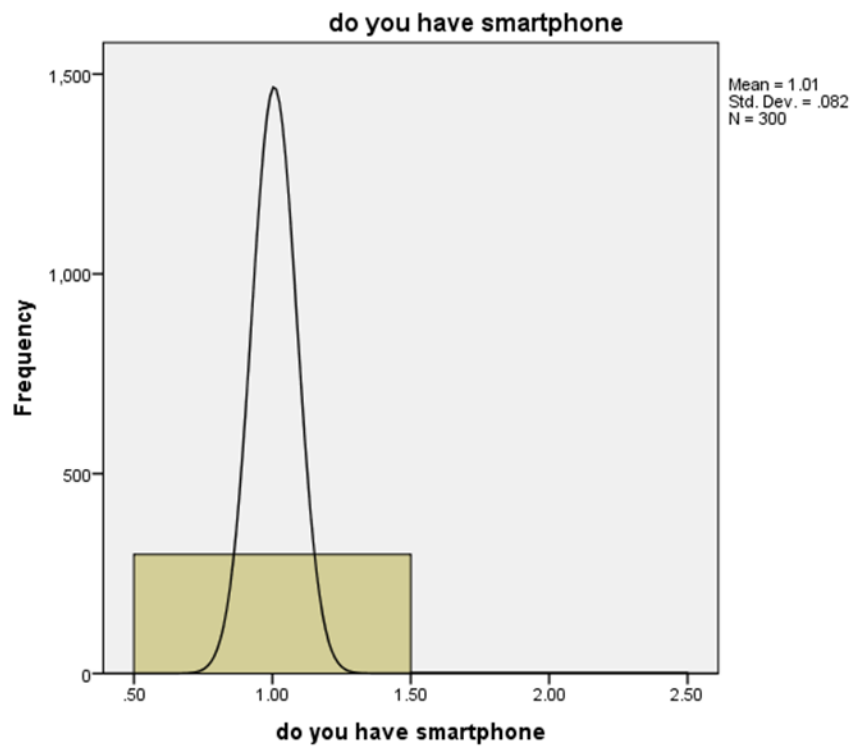
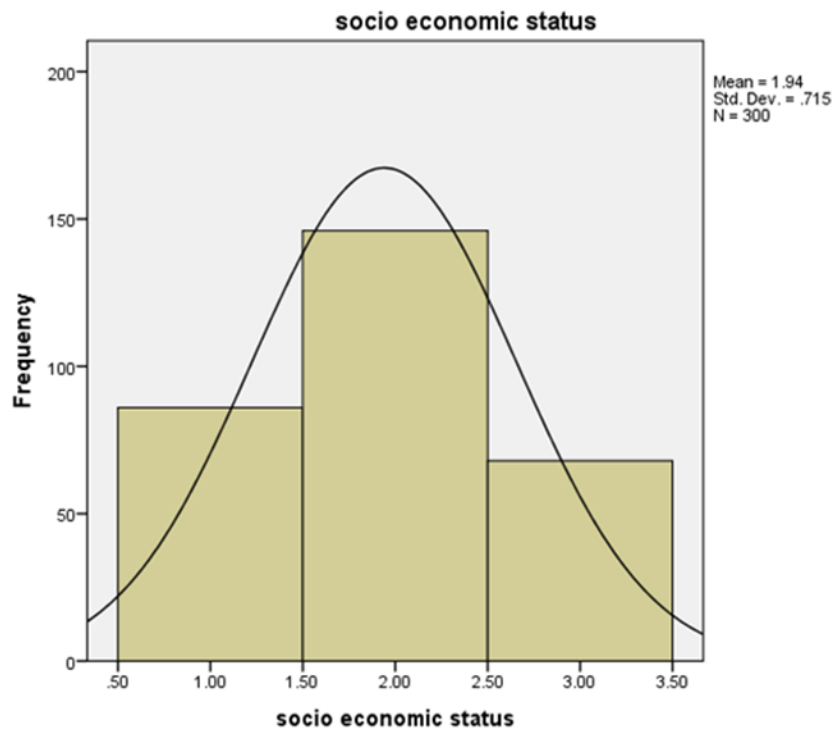


Figure 4



Reliability analysis of Data

Cronbach's alpha reliability coefficient with mean and standard deviation of smartphone addiction scale (SASSV), The kidscreen and strength and difficulty questionnaire (SDQ. Table 2 lists the research variables' alpha reliability and descriptive statistics (N = 300).

Table – 2

Cronbach's alpha reliability coefficients with means and standard deviations of Smartphone Addiction Scale, KIDSCREEN, and Strength and Difficulties Questionnaire, (N =300)

Measures	Items	<i>a</i>	M	SD	skew	Kurt
SASSV	10	.943	40.41	10.60	-1.87	-.729
Kidscreen	27	.926	83.07	17.56	.024	.116
SDQ	37	.901	39.35	13.87	.074	.110

Note: *M* = mean, *SD* = standard deviation, *a* = alpha reliability, *skew* = skewness, *kurt* = kurtosis, *SASSV* = smartphone addiction scale-short version, *SDQ* = strength and difficulty questionnaire.

Table 2 explains the descriptive of variables used in this research. It shows the item numbers, alpha reliabilities, mean, standard deviation, skewness, kurtosis of all the scales used in the present study. SASSV (*a* = .943), kidscreen (*a* = .926), SDQ (*a* = .901). Scales and questionnaire have satisfactory reliability.

Correlations for study variables

Table 3 shows correlation variables.

Table – 3

Pearson Correlations between Measures of Problematic Smartphone Use, Behavioural

Problems and Quality of Life (N = 300)

Variable	N	1	2	3
1. SASSV	300	-	.159**	.399**
2. SDQ	300	-	-	-.106
3. KIDSCREEN	300	-	-	-

Note: SASSV = *smartphone addiction scale-short version*, kidscreen, SDQ = *strength and difficulty questionnaire*.

The association among problematic smartphone use, quality of life, and behavioural problems was examined using Pearson correlation analysis. The result showed a significant positive relationship between problematic smartphone use (PSU) and behavioral problems ($p = .159^{**}$) and quality of life ($p = .399^{**}$). Where results also showed a negative relationship between behavioral problems and quality of life ($p = -.106$). So it was concluded that behavioral problem had an effect on quality of life.

Table 4

Mean comparisons for scores Smartphone addiction scale (SASSV), The KIDSCREEN, and strength and difficulty questionnaire (SDQ), (N = 300).

Mean difference (T-test) of gender (N = 300)

Variable	male		Female		t (298)	p	Cohen's d
	M	SD	M	SD			
SASSV	40.0	10.06	40.8	11.1	-.675	.500	0.075
Kidscreen	84.1	16.0	82.0	18.91	1.051	.294	0.119
SDQ	38.39	12.7	40.2	14.88	-1.184	.237	0.130

Note: M = mean, SD = standard deviation, p = significant value, SASSV = smartphone addiction scale short version, SDQ = strength and difficulty questionnaire.

Table 4 shows mean, standard deviation, p value and effect size across gender i.e., male and female. Results indicate non-significant mean differences and the Cohen's d shows a small effect size.

DISCUSSION

This research was conducted to discover the impact of problematic use of smartphone on behavioral problems and quality of life of middle adolescents. This research also finds out the relationship between problematic use of smartphone, behavioral problems and quality of life.

Table 1 demonstrates the demographic variables of the study, their frequency and percentages. The variable includes the age, gender, socio economic status and their access to smartphone. Total participant of the study were 300 male and female adolescents from schools in Islamabad and Rawalpindi. The table showed that in 300 sample females (151) were more than male (149) with the percentage of 50.3% and 49.7% respectively. 14 to 15 year old adolescents were 131 and 16 to 17 year old adolescents were 169. Age group 16 – 17 (f =169, % = 56.3) has higher frequency than 14 – 15 (f = 131, % = 43.7).

The results showed that out of 300 adolescents 298 had access to smartphone. Majority of sample had smartphone (f = 298, % = 99.3). Socio economic status was categorized into three categories, lower class, middle class, and high class. From 300 sample majority of participants belong from middle socio economic class (f = 146, % = 48.7) were higher in number as compared to higher (f =86, 28.7%) or lower class (f = 68, 22.7%).

Table 2 demonstrates the descriptive statistics of smartphone addiction scale – short version (SASSV), kidscreen- 27 and strength and difficulty questionnaire (SDQ). It shows the item numbers, alpha reliabilities, mean, standard deviation, skewness, kurtosis of all the scales used in the present study.

The smartphone addiction scale – short version (SASSV) has mean value 40.41 with the standard deviation 10.60. The reliability of the smartphone addiction scale – short version

(SASSV) is $\alpha=.943$ which is considered as good reliability. The skewness and kurtosis were -1.87 and -.729 respectively.

The kidscreen-27 has mean value 83.07 with the standard deviation of 17.56. The reliability of kidscreen-27 is $\alpha = .926$ which is considered as good reliability. The skewness and kurtosis were .024 and .116 respectively.

The strength and difficulty questionnaire (SDQ) has mean 39.35 with standard deviation of 13.87. The reliability of strength and difficulty questionnaire (SDQ) is $\alpha = .901$ which is considered as satisfactory reliability. The skewness and kurtosis were .074 and .110. The reported values showed that the data was normally distributed (see Table 2).

Hypotheses

There would be a positive relationship between problematic use of smartphone and behavioral problem (emotional symptoms, conduct problems, hyperactivity- inattention, peer problem and prosocial behavior) among adolescents. Smartphones are used for communication, entertainment and social connection are important for the human but it can also reduce interactions in person which can lead to behavioral problems (Pandya, 2021)

In table 3 Pearson correlation analyses was used to demonstrate the correlation among problematic smartphone use and quality of life and behavioral problems. The results showed a significant positive relationship between problematic smartphone use (PSU) and behavioral problems ($p = .159^{**}$) and quality of life ($p = .399^{**}$). Where results showed a negative relationship between behavioral problems and quality of life ($p = -.106$). According to research in 2020 it was observed that quality of life of adolescents was affected negatively as the behavioral difficulties experienced during adolescence increases (Ayla Hendekci, 2020). So it was concluded that behavioral problem had an effect on quality of life and problematic use of smartphone also had effect on behavioral problems. Smartphones are used for

communication, social interactions, games, and for many other good reasons which is helpful and important for humans but its excessive or problematic use had adverse effect on behavior and health which can also affect quality of life. So it is very important to understand how to use smartphone in effective way.

Hypotheses

There would be significant gender differences in the influence of problematic use of smartphone, behavioral problems and quality of life of adolescents. Studies have reported that female participants have a higher prevalence of problematic smartphone use than males (Demerci K, 2020).

Table 4 shows mean, standard deviation, p value and effect size across gender i.e., male and female. In smartphone addiction scale – short version (SASSV) male had 40.0 mean with standard deviation of 10.6 and female had 40.8 mean with standard deviation of 11.1 and Cohen's d value was 0.075. In kidscreen-27 male had 84.1 mean with standard deviation of 16.0 and female had 82.0 mean with standard deviation of 18.91 and Cohen's d value was 0.119. In strength and difficulty questionnaire (SDQ) male had 38.39 mean with standard deviation of 12.7 and female had 40.2 mean with standard deviation of 14.88 and Cohen's d value was 0.130. Results indicated non-significant mean differences and the Cohen's d showed a small effect size.

CONCLUSION

The present study explores the impact of problematic use of smartphone on behavior and quality of life of adolescents. It is very important to highlight and to study possible negative effects of the problematic exposure on adolescents. As the problematic use has increased, it is important for the researchers to highlight its impact on behavioral problems and quality of life.

Problematic use of smartphone and behavioral problems are positively correlated. As the problematic smartphone use increased it caused various behavioral problems which are negatively correlated with the quality of life. There were gender differences in which females were more than male with problematic use of smartphone.

LIMITATIONS OF THE STUDY

Due to cross-sectional pattern, causality could not be determined. In Future experimental and longitudinal studies are needed and studies may be able to generalize findings by recruiting sample size from different geographical localities, gender, socio economic status and different age group. Data is only obtained from student of specific age group. To get more accurate results data should be collected from different age groups.

RECOMMENDATIONS OF THE STUDY

Many researches showed that utilising smartphone can have a harmful impact on a user's mental health, quality of life. However, the degree to which the problematic use of smartphone impacts the adolescents is yet to be determined. Study provide awareness to parents, guardians, teachers must educate on proper use of smartphone, and consequently keeping a check on child's action both at school and at home, so that they do not waste their valuable time on smartphone. This research helps in finding potential negative effect of smartphone and its problematic use on quality of life, mental well-being and behavioral problems of adolescents. In addition, many other factors have been recognized, which require further investigation. The data from this research can be helpful for future researches on smartphone and its effect on quality of life. Also, results from this research can be used to explore more relationships.

References

- Adams, S., & Kisler, T. (2013). Sleep Quality as a Mediator between Technology-Related Sleep Quality, Depression, and Anxiety. *Cyber psychology, Behavior, And Social Networking*, 16(1), 25-30. doi: 10.1089/cyber.2012.0157
- Auhuber L, Vogel M, Grafe N, Kiess W, Poulain T. Leisure activities of healthy children and adolescents. *Int J Environ Res Public Health*. 2019;16:2078. <https://doi.org/10.3390/ijerph16122078>.
- Bandura, Albert (1993). "Perceived Self Efficacy in Cognitive Development and Functioning". *Psychologist*. 28 (2):117–148. doi:10.1207/s15326985ep2802_3
- Blackwell, D., Leaman, C., Tramposch, R., Osborne, C., Liss, M. (2017). Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personality and Individual Differences*, 116, 69–72. <https://doi.org/10.1016/j.paid.2017.04.039>
- Budler, L.C., Pajnkihar, M., Ravens-Sieberer, U. et al. The KIDSCREEN-27 scale: translation and validation study of the Slovenian version. *Health Qual Life Outcomes* 20, 67 (2022). <https://doi.org/10.1186/s12955-022-01973-3>
- Carson, V., Pickett, W., & Janssen, I. (2011). Screen time and risk behaviors in 10-to 16-year-old Canadian youth. *Preventive Medicine*., 52(2), 99-103.
- Choi Y, Lee DY, Lee S, Park E-J, Yoo HJ, Shin Y. Association between screen overuse and behavioral and emotional problems in elementary school children. *J Korean Acad Child Adolesc Psychiatry*. 2021;32:154–60. <https://doi.org/10.5765/jkacap.210015>.
- Cristovam MAS. (2019). Application of Youth Self-Report for Age 11-18 for Screening of Mental Disorders in the Adolescence. *Mathews J Pediatr* 4(1): 19.

- Demirci K, Akgönül M, Akpınar A. Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *J Behav Addict.* 2015;4:85–92. <https://doi.org/10.1556/2006.4.2020.010>.
- Derevensky JL, Hayman V. Lynette Gilbeau. Behavioral addictions *Pediatr Clin North Am.* 2019;66:1163–82. <https://doi.org/10.1016/j.pcl.2019.08.008>.
- Derevensky JL, Hayman V. Lynette Gilbeau. Behavioral addictions *Pediatr Clin North Am.* 2019;66:1163–82. <https://doi.org/10.1016/j.pcl.2019.08.008>.
- De-Sola Gutiérrez J, Rodríguez De Fonseca F, Rubio G. Cell-phone addiction: a review. *Front Psychiatry.* 2016;7:175.
- Dr. Kausar Suhail and Zobia Bargees. *CyberPsychology & Behavior.* Jun 2006.297-307. <http://doi.org/10.1089/cpb.2006.9.297>
- Grant JE, Lust K, Chamberlain SR. Problematic smartphone use associated with greater alcohol consumption, mental health issues, poorer academic performance, and impulsivity. *J Behav Addict.* 2019;8:335–42. <https://doi.org/10.1556/2006.8.2019.32>.
- Harris B, Regan T, Schueler J and Fields SA (2020) Problematic Mobile Phone and Smartphone Use Scales: A Systematic Review. *Front. Psychol.* 11:672. doi: [10.3389/fpsyg.2020.00672](https://doi.org/10.3389/fpsyg.2020.00672)
- Huta, V., & Waterman, A. S. (2014). Eudaimonia and its distinction from Hedonic: Developing a classification and terminology for understanding conceptual and operational definitions. *Journal of Happiness Studies*, 15(6), 1425–1456. <https://doi.org/10.1007/s10902-013-9485-0>

- Ihm J. Social implications of children's smartphone addiction: the role of support networks and social engagement. *J Behav Addict.* 2018;7:473–81. <https://doi.org/10.1556/2006.7.2018.48>
- Imani A, Esmaeeli S, Golestani M, Ghoddoosi-Nejad D, Baghban E. Relation between Internet Addiction and Educational Burnout among Students in Faculty of Health Management and Medical Informatics of Tabriz University of Medical Sciences: A Cross-Sectional Study. *Modern Care Journal.* 2018;15(2).
- JAMA Psychiatry.* 2019;76(12):1266-1273. doi:10.1001/jamapsychiatry.2019.2325
- Khan, M. (2015) Impact of smartphone addiction on narcissistic behavior and self-esteem among students. *JPMA. The Journal of the Pakistan Medical Association,* 1-5. <https://www.academia.edu/64309751>.
- Kim S, Kim J, Jee Y. Relationship between smartphone addiction and physical activity in Chinese international students in Korea. *J Behav Addict.* 2015;4(3):200–5.
- Kliesener, T., Meigen, C., Kiess, W. et al. Associations between problematic smartphone use and behavioural difficulties, quality of life, and school performance among children and adolescents. *BMC Psychiatry* 22, 195 (2022). <https://doi.org/10.1186/s12888-022-03815-4>
- Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: development and validation of a short version for adolescents. *PLoS One.* 2013 Dec 31;8(12):e83558. doi: 10.1371/journal.pone.0083558. PMID: 24391787; PMCID: PMC3877074
- Lee J, Sung M-J, Song S-H, Lee Y-M, Lee J-J, Cho S-M, et al. Psychological factors associated With smartphone addiction in South Korean adolescents. *J Early Adolesc.* 2018;38:288–302. <https://doi.org/10.1177/0272431616670751>.

- Mac Cárthaigh S, Griffin C, Perry J. The relationship between sleep and problematic smartphone use among adolescents: a systematic review. *Dev Rev.* 2020;55:100897.
- Nishida T, Tamura H, Sakakibara H. The association of smartphone use and depression in Japanese adolescents. *Psychiatry Res.* 2019;273:523–7. <https://doi.org/10.1016/j.psychres.2019.01.074>.
- Obi, N.C., Bulus, L.D., Adamu, G.M., & Sala’at, A.B. (2012). The need for safety
- Pachucki, M. C., Ozer, E. J., Barrat, A., & Cattuto, C. (2015). Mental health and social networks in early adolescence: A dynamic study of objectively-measured social interaction behaviors. *Social Science & Medicine*, 125, 40–50.
- Pachucki, M. C., Ozer, E. J., Barrat, A., & Cattuto, C. (2015). Mental health and social networks in early adolescence: A dynamic study of objectively-measured social interaction behaviors. *Social Science & Medicine*, 125, 40–50.
- Panova T, Carbonell X. Is smartphone addiction really an addiction? *J Behav Addict.* 2018;7:252–9. <https://doi.org/10.1556/2006.7.2018.49>.
- Paul DiMaggio, Eszter Hargittai¹, W. Russell Neuman, and John P. Robinson, Social Implications of the Internet, *Annual Review of Sociology*, Vol. 27: 307-336 (Volume publication date August 2001), doi:10.1146/annurev.soc.27.1.307
- Poulain T, Vogel M, Kliesener T, Kiess W. Associations between changes in behavioral difficulties and levels of problematic smartphone use in adolescents over a 1-year period. *Eur Child Adolesc Psychiatry.* 2021. <https://doi.org/10.1007/s00787-021-01874-8>.

- Poulain T, Vogel M, Ludwig J, Grafe N, Körner A, Kiess W. Reciprocal longitudinal associations between adolescents' media consumption and psychological health. *Acad Pediatr*. 2019;19:109–17. <https://doi.org/10.1016/j.acap.2018.08.009>.
- Rideout, V. J., & Robb, M. B. (2019). *The common sense census: Media use by Tweens and Teens*, 2019. San Francisco, CA: Common Sense Media.
- Robinson, A., Bonnette, A., Howard, K., Ceballos, N., Dailey, S., Lu, Y., & Grimes, T.
- Salehan M, Negahban A. Social networking on smartphones: when mobile phones become addictive. *Comput Hum Behav*. 2013;29:2632–9. <https://doi.org/10.1016/j.chb.2013.07.003>.
- Shao R and Wang Y (2019) The Relation of Violent Video Games to Adolescent Aggression: An Examination of Moderated Mediation Effect. *Front. Psychol*. 10:384. doi: 10.3389/fpsyg.2019.00384
- Sohn S, Rees P, Wildridge B, Kalk NJ, Carter B. Prevalence of problematic smartphone usage and associated mental health outcomes amongst children and young people: a systematic review, meta-analysis and grade of the evidence. *BMC Psychiatry*. 2019;19:356. <https://doi.org/10.1186/s12888-019-2350-x>.
- Steinberg, L. (2016). *Adolescence* (8th ed.). Boston, MA: McGraw Hill. Tiggemann, M., & Slater, A. (2017). Facebook and body image concern in adolescent girls: A prospective study. *International Journal of Eating Disorders*, 50(1), 80–83. <https://doi.org/10.1002/eat.22640>
- Twenge JM, Martin GN, Campbell WK. Decreases in psychological well-being among American adolescents after 2012 and links to screen time during the rise of smartphone technology. *Emotion*. 2018;18:765–80. <https://doi.org/10.1037/emo0000403>.

U.S. Department of Health and Human Services. (1999). *mental health: A report of the surgeon general*. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

Wikipedia contributors. (2022, November 29). Quality of life. In Wikipedia, The Free Encyclopedia. Retrieved 13:33, December 1, 2022, from https://en.wikipedia.org/w/index.php?title=Quality_of_life&oldid=1124517991

Wilson RE, Samuel DG, Lindsay TG (2012) A Review of Facebook Research in the Social Sciences, *Perspectives on Psychological Science* 7: 203-220.

Yang J, Fu X, Liao X, Li Y. Association of problematic smartphone use with poor sleep quality, depression, and anxiety: a systematic review and meta-analysis. *Psychiatry Res.* 2019;284:112686.

Zhao J, Zhang Y, Jiang F, Ip P, Ho FKW, Zhang Y, et al. Excessive screen time and psychosocial well-being: the mediating role of body mass index, sleep duration, and parent-child interaction. *J Pediatr.* 2018;202:157-162.e1. <https://doi.org/10.1016/j.jpeds.2018.06.029>.

APPENDICES

Appendix A

Approval letter for data collection



C.U.S.T.
Capital University of Science & Technology
Islamabad

Islamabad Expressway, Kohata Road,
Zone - V, Islamabad, Pakistan
Telephone : +92-51-111-555-666
 : +92-51-4486700
Fax : +92-51-4486705
Email : info@cust.edu.pk
Website : www.cust.edu.pk

Ref. CUST/IBD/PSY/Thesis-216
November 15, 2022

TO WHOM IT MAY CONCERN

Capital University of Science and Technology (CUST) is a federally chartered university. The university is authorized by the Federal Government to award degrees at Bachelor's, Master's and Doctorate level for a wide variety of programs.

Ms. Berjees Jahangir, registration number **BSP191018** is a bona fide student in BS Psychology program at this University Spring 2019 till date. In partial fulfillment of the degree, she is conducting research on "The impact of problematic use of smartphone on behavioural problems and quality of life of adolescents". She is required to collect data from your institute.

Your cooperation is highly appreciated. Please feel free to contact undersigned, if you have any query in this regard.

Best Wishes,

Dr. Sabahat Haqqani
Head, Department of Psychology
Ph no. 111-555-666 Ext: 178
sabahat.haqqani@cust.edu.pk

Appendix B**Informed consent**

Assalam-u-Alaikum!

I am a student of psychology at Capital University of Science & Technology, Islamabad (CUST). I am doing this research for completion of my Bachelor's degree. The topic of my research is "Impact of Problematic use of smartphone on Behavioral Problems and Quality of life of Adolescents". For this purpose you are required to fill the provided questionnaire, I assure you that any information you give will be kept confidential and will only be used for research and academic purposes. The decision to participate is entirely up to you, your participation is completely voluntary and you can withdraw at any time. I will be highly grateful for your cooperation.

I have carefully read all the information provided above and agree to be a part of this research. However, at any stage if I feel the need, then I can withdraw from the research

Signature of the participant

Appendix C**Demographic questionnaire**

Please respond to the following questions about yourself. (Tick appropriate)

1. Gender: male / female
2. Age: (14 to 17)
3. Do you have smartphone? (yes / no)
4. Socio economic status: (high level, middle level, low level)

Appendix D

Smartphone addiction scale – short version (SAS-SV)

ITEMS	Strongly disagree	Disagree	Weakly Disagree	Weakly Agree	Agree	Strongly Agree
1) Missing Planned work due to use of Smartphone						
2) Having Hard time concentrating in class, while doing Assignment or while working due to smartphone use						
3) Feeling Pain in the wrists or at the back of the neck while using a smartphone						
4) Will not be able to stand not having smartphone						
5) Feeling impatient and fretful when not holding smartphone						
6) Having smartphone in my mind even when not using it						
7) I will never give up my smartphone even when my daily life is already greatly affected by it						
8) Constantly checking my phone so as not to miss conversation between other people on twitter or Facebook						
9) Using my smartphone longer than I had						

intended						
10) The people around me tell me that I use my smartphone too much						

Appendix E

Kidscreen-27

1: Physical activities and health

In general, how would you say your health is?

- Excellent
- Very good
- Good
- Fair
- Poor

Thinking about last week

		Not at all	slightly	moderately	very	Extremely
2	Have you felt fit and well?					
3	Have you been physically active (e.g. running)?					
4	Have you been able to run well?					

		Never	seldom	Quite often	Very often	always
5	Have you felt full of energy?					

2: General mood and feeling about yourself

		Not at all	slightly	moderately	very	Extremely
6	Have your life been enjoyable?					

		Never	seldom	Quite often	Very often	always
7	Have you been in a good mood?					
8	Have you had fun?					
9	Have you felt sad?					
10	Have you felt so bad that you didn't want to do anything?					
11	Have you felt lonely?					
12	Have you been happy with the way you are?					

3: Family and free time

		Never	Seldom	Quite often	Very often	always
13	Have you had enough time for yourself?					
14	Have you been able to do things that you want to do in your free time?					
15	Have your parents treated you fairly?					
16	Have your parents had enough time for you?					

17	Have you been able to talk to your parents when you wanted to?					
18	Have you had enough money to do the same things as your friends?					
19	Have you had enough money for your expenses?					

4: Friends

		Never	seldom	Quite often	Very often	always
20	Have you spent time with your friends?					
21	Have you had fun with your friends?					
22	Have you and your friend helped each other?					
23	Have you been able to rely on friends?					

5: School and learning

		Not at all	slightly	moderately	very	Extremely
24	Have you been happy at					

	school?					
25	Have you got on well at school?					

		Never	seldom	Quite often	Very often	always
26	Have you been able to pay attention?					
21	Have you got well with teachers?					

Appendix F

Strength and Difficulty questionnaire

	Strength and difficulties questionnaire	Not true	Somewhat true	Certainly true
1	I try to be nice to other people. I care about their feelings.			
2	I am restless. I cannot stay still for long			
3	I get a lot of headaches, stomach-ache or sickness			
4	I usually share with others e.g. CDs, games, food			
5	I get very angry and lose my temper			
6	I would rather be alone than with people of my age			
7	I usually do as I am told			
8	I worry a lot			
9	I am helpful if someone is hurt, upset or feeling ill			
10	I am constantly fidgeting and squirming			
11	I have one good friend or more			
12	I fight a lot, I can make other do what I want			
13	I am often unhappy, depressed or tearful.			
14	Other people my age generally like me			
15	I am easily distracted, o find it difficult to			

	concentrate			
16	I am nervous in few situations. I easily lose confidence			
17	I am kind to younger children			
18	I am often accused of lying and cheating			
19	Other people or children pick on me or bully me			
20	I often volunteer to help other			
21	I think before I do things			
22	I take things that are not mine from home or school			
23	I get along better with adults than with people my own age			
24	I have many fears, I am easily scared			
25	I finish the work, I'm doing. My attention is good.			

		No	A little	A lot
26	Does your family complain about you having problems with over activity or poor concentration?			
27	Does your teacher complain about you having problem with over activity or poor concentration?			
28	Does your family complain about you being awkward or troublesome?			

29	Do your teachers complain about you being awkward or troublesome?			
----	---	--	--	--

		no	Yes- minor difficulties	Yes- definite difficulties	Yes severe difficulties
30	Overall, do you think you have difficulties in any of the following areas: emotions, concentration, behavior or being able to get along with other people				

		Less than a month	1-5 month	6-12 month	Over a year
31	How long have these difficulties been present?				

		Not at all	A little	A medium amount	A great deal
32	Do the difficulties upset or distress you?				
33	In your home life?				
34	In your friendship?				
35	In your classroom learning?				

36	In your leisure activities?				
37	Do the difficulties make it harder for those around you (family, friend teacher, etc.)?				

PC

ORIGINALITY REPORT

6%

SIMILARITY INDEX

4%

INTERNET SOURCES

4%

PUBLICATIONS

1%

STUDENT PAPERS

PRIMARY SOURCES

1

Rachel O'Loughlin, Harriet Hiscock, Tianxin Pan, Nancy Devlin, Kim Dalziel. "The relationship between physical and mental health multimorbidity and children's health-related quality of life", *Quality of Life Research*, 2022

Publication

<1%

2

www.researchgate.net

Internet Source

<1%

3

www.tandfonline.com

Internet Source

<1%

4

André Luiz Monezi Andrade, Adriana Scatena, Bruno de Oliveira Pinheiro, Wanderlei Abadio de Oliveira et al. "Psychometric Properties of the Smartphone Addiction Inventory (SPAI-BR) in Brazilian Adolescents", *International Journal of Mental Health and Addiction*, 2021

Publication

<1%

5

www.lib.ncsu.edu

Internet Source

<1%

6	scholar.unand.ac.id Internet Source	<1 %
7	"International Society for Quality of Life Research ~ 2010 Conference Abstracts", Quality of Life Research, 2010 Publication	<1 %
8	Roghieh Nooripour, Nikzad Ghanbari, Nazir Mozaffari, Simin Hosseinian, Carl Lavie, Seyed Ruhollah Hosseini. "Self-Escapism among Iranian Girl Adolescents: Validity and Reliability of Persian Translation Scale", Research Square Platform LLC, 2022 Publication	<1 %
9	Submitted to Walter Sisulu University Student Paper	<1 %
10	Submitted to Higher Education Commission Pakistan Student Paper	<1 %
11	preview-ajgiph.springeropen.com Internet Source	<1 %
12	Submitted to Franklin University Student Paper	<1 %
13	Submitted to University of Newcastle upon Tyne Student Paper	<1 %

14	Joyce M. Cunningham, Robert A. Booth. "Practice with Children and Their Families: A Specialty of Clinical Social Work", <i>Child and Adolescent Social Work Journal</i> , 2008 Publication	<1 %
15	onlinedegrees.unr.edu Internet Source	<1 %
16	www.ncbi.nlm.nih.gov Internet Source	<1 %
17	ifrnd.org Internet Source	<1 %
18	openaccess.uoc.edu Internet Source	<1 %
19	www.frontiersin.org Internet Source	<1 %
20	www.mdpi.com Internet Source	<1 %
21	5dok.org Internet Source	<1 %
22	Atefeh Alaei, Sima Babaei, Sedigheh Farzi, Zahra hadian. "Investigating the effectiveness of the supportive-educational program, based on COPE model, on the quality of life and caregiver burden of family caregivers of heart	<1 %

failure patients: A randomized clinical trial study", Research Square Platform LLC, 2022

Publication

23

Kamran Salayev, Ikram Rustamov, Narmin Gadjiyeva, Rustam Salayev, Bjarte Sanne. "The Discriminative Ability of the Azeri Version of the Strengths and Difficulties Questionnaire in Outpatient Practice", Community Mental Health Journal, 2014

Publication

<1 %

24

era.ed.ac.uk

Internet Source

<1 %

25

repository.up.ac.za

Internet Source

<1 %

26

20ian81kynqg38bl3l3eh8bf-wpengine.netdna-ssl.com

Internet Source

<1 %

Exclude quotes On

Exclude matches Off

Exclude bibliography On