



# Influence of Smartphone Addiction and use of Texting Applications on Quality of Life among Under Graduate Students

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## ABSTRACT

The smart-phone is the most adopted electronic devices among all individuals irrespective of age. Mobile-phone was initially invented as the wireless phone for the convenience of users. It was made user friendly in the sense that the user can easily communicate and carry his/her conversation instrument. Later, with the fast-pace of development, mobile-phone upgraded into smart-phone, shrinking the world and making interaction more fancy and easy. The most common feature that smart-phone offer is texting with the help of various applications along with access to social networking sites and internet. Smart-phone, on the one hand, has made our life easy and friendly and on the other, it has chained individuals to behavioural addiction called nomophobia. The use of smart-phone is so satisfying that it lead to emotional and behavioural satisfaction and at the same time it may result in declining quality of life and poor mental health due to heavy mental and social load leading to addiction. The most affected population among all is adolescents because this is the age of dynamic social adventure, where individuals are trying to identify and prove themselves with respect to society. As in this age, children face identity as well as authority issues; thus, they tend to get satisfaction through virtual relationships like friends on face-book, what's app, etc. These dependencies on such sites make them addicted for texting and moreover, to smart-phone paving way to destructive growing rather than constructive development. Thus, the present investigator in the present paper has aimed is to study impact of smart-phone addiction and various applications of texting on quality of life. The outcome of the study has been comprehensively discussed in view of increasing scenario of the use of the smart-phone and its growing detrimental impact on the quality of life and mental health leading to increased stress and depressive effects on adolescents.

**Keywords:** Smartphone addiction, applications, social networking sites, adolescents

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## Introduction

The 21st century is the age of information and technology that defines the living of Generation Z (Gen Z). The Gen Z is the generation covering the people born between 1996-2015 thus, falling in the category of 18 years-24 years *i.e.*, our sample of the study. These individuals are tech innate, social natives, connected through digital and social networks and focuses on critical thinking and decision making with the help of on-the-go technology therefore, are prone to smart-phone addiction. Tindell and Bohlander in their study entitled as “The use and abuse of cell phones and text messaging in the classroom: A survey of college students” stated that among the sample of 269 college students from 21 academic majors, 95% students brought smart-phone to the classes and 92% of them sent or received text messages during class lectures [1].

According to Smith, the age group falling under 18 years to 24 years old is voracious texters *i.e.*, people of this age group eagerly engage in texting activities with enthusiasm and on an average a person exchanges over 100 or more messages per day. As per several studies students who use various applications (Text messaging apps and social networking sites like facebook, twitter etc.) over their smart-phones or laptops during classes or self-studies are absent minded and distracted resulting in deteriorated academic performance than students who restrain from these kind of behaviours [2-4] apart from above findings, they also observed that students who eagerly involve in use of smart-phones during a lesson take significantly fewer notes and score low on test or quiz. A study entitled “Laptop multitasking hinders classroom learning for both users and nearby peers” conducted [5] examined the multi-tasking of Laptop or smart-phone users and people sitting around them. In their experiment, they studied 44 under-graduate students stated that multi-tasking reduces the comprehensive ability of the students engaged in multi-tasking and students around them during cognitive task or learning. The findings of the study demonstrated detrimental effects of multi-tasking on comprehension scores of experimental as well as control groups. The results showed that students who multitasked during cognitive task such as learning during lectures score low on post-lecture comprehension test than who did not engaged in multi-tasking. Deshpande reviewed the empirical research available on the impact of mobile phone addiction on physical

and mental health among youth. The researcher discussed findings of studies stating the problems associated with mobile addiction, like financial issues, poor social skills, relationship issues, car accidents, job loss, academic difficulties, low self-esteem, physical health issues like nervous system disorder and adverse proactive effects, and mental health issues like sadness, restlessness, insomnia, and anxiety. Thus, highlighting the ill effects of smart-phone addiction among youth [6]. In their multi-method study about the emergence of problematic internet use among Indian adolescents state that excessive use of the internet is taking the shape of health problem and is not limited to particular state or city but is the national health issue which needs government regulation and policies to control. A study entitled “relationship between smart-phone addiction with anxiety and depression among undergraduate students in Malaysia” [7]. The sample of the study was 435 undergraduate students from the local university of Malaysia and used Smartphone Addiction Scale (SAS-M), Beck Anxiety Inventory (BAI-M) and Beck Depression Inventory (BDI-M) to collect data. The researcher used Pearson correlation and simple linear regression to analyse the data, and the result of the following showed the significant positive relations between smart-phone addiction with anxiety and depression.

The finding suggests that most of the students use a smart-phone to browse social networking sites, and the use of social networking sites was found to be inversely related to the psychological well-being of students. Similar results were discussed in their study about mobile phone use and mental health [8]. The researcher concluded that excessive mobile phone use leads to depressive symptoms and sleep problems, resulting in adverse mental health. Shoukat discussed in the article entitled “cell phone addiction and psychological and physiological health in adolescents” [9]. The researcher reviewed various scientific research papers and stated that excessive smart-phone use results in negative attitude and feelings, dependency on smart-phone increase the risk of anxiety and depression, increase the communication gap among people around, it severely disturbs daily routine of individuals, inculcates emotional instability, chronic stress, vision impairment, and also leads to stiff shoulder and neck.

Excessive use of smart-phone not only hampers the learning of students but also deteriorate the quality of life of students. Quality of life is relatively subjective phenomenon depending upon the perception of the individual’s life, experience,

expectations, and personal preferences. Ferrans and Powers attempted to define quality of life as an umbrella term in their study “Quality of life index: Development and psychometric properties” [10]. They listed out factors which together make the concept of quality of life. The factors are physical health and functioning, family and friends, standard of living, occupation and education, and mental health. In their study they evenly focused on the objectivity of scale as well as the subjective experiences exclusive to the participants. Many people get confuse over standard of living which is completely depended on the individual’s possession of wealth, materials, and goods.

Testa and Simonson defined and assessed the quality of life keeping the physical functioning, distress, well-being and work performance of an individual in their study on “Assessment of quality-of-life outcomes” [11]. The result of the study indicates that the domain defined above clearly depicts the quality of life to satisfaction. Quality of life is determined by both objective as well subjective factors. Felce in their study “Quality of Life: Its definition and measurement [12]. Researches in developmental disabilities” has proposed the model that integrates the subjective as well as objective indicators of quality of life. They suggested that both the physical as well as mental conditions are relevant in the discussion of quality of life. It indicates how much an individual is sound, agreeable, and ready to partake in or appreciate life occasions. This is intrinsically equivocal, as it can depict both to the experiences of individual has in life and to the day to day environments wherein people get themselves. Consequently, quality of life is exceptionally abstract.

While one individual may characterize personal satisfaction as per riches or fulfilment with life, someone else may characterize it regarding capacities (e.g., being able to carry on with a decent life as far as enthusiastic and physical and mental well-being). It can be academic satisfaction as well as good employment that define the idea of quality of life to much extend for an individual. It is a balance between external a well internal state of an individual covering subjective as well as objective factors. The factors responsible for quality of life are personal preferences, financial security (promotion at job, motivation, appreciation, desired salary, and expenditure of money, workplace environment, and number of hours of working.), job satisfaction, family life, health covering physical as well as mental well-being, safety and security, and expectations. Flanagan [13] laid down factors that affect the quality of life in “A research approach to improve our quality of life”. The factors that improve or hamper the quality of life are physical and material well-be-

ing, relation with other people, social, community and civic activities, personal development and fulfilment, and recreation. Guyatt explained the concept of health-related quality of life under the light of psychological health, physiological domain and responses towards role functions and emotional well-being in their study “Measuring health-related quality of life” [14].

Social relationship and environment play an important role in defining the perceived quality of life and mental health. If an individual has a standard living but has poor relationships, he/she won’t perceive his/her life to be of quality. Similarly, no other area can fulfil the place of comfortable and congenial environment. Baumann [15] in their study “Psychological quality of life and its association with academic employability skills among newly-registered students from three European faculties” suggested that improved quality of life positively affects the acquisition of skills that increase employability. Quality of life is just not satisfactory health but it is a shelter to other important factors like happiness, mental health, education, employment, relationship, etc. On “Subjective Well-Being and Quality of Life” have discussed theoretical, definitional and methodological concept of well-being and quality of life [16].

Quality of life is a vast concept and is subjective in nature, thus, it can be defined by the construct that is most relevant to an individual or the situation or in the given period of time. Hofstede [17] conducted a study entitled as “The cultural relativity of the quality of life concept”. He stated that the cultural relativity of the quality of life depends on power, distance, individualism, masculinity/feminism, and uncertainty avoidance. The results also suggested that the occupational and industrial democracy also plays an important role in determining the quality of life of an individual. Farquhar [18] comprehensively discussed the definition and concept of quality of life in the study “Definitions of quality of life: A Taxonomy.” The researcher’s defined quality of life under four major heads; they are global, component, focused and combination respectively.

## Methods

**Objective:** To identify the influence of smart-phone addiction and use of texting applications on quality of life of undergraduate students.

**Hypothesis:** The smart-phone addiction and use of various applications for texting will influence the quality of life of undergraduate students.

**Procedure:** The participants were approached online through their email as well as contact number. The rapport was established and confidentiality was assured. The instructions were clearly stated and

participants were asked to question if in doubt. The completion of Google forms took 20 minutes on an average.

Sample: The total strength of the sample constitute of N=258 which was randomly selected from the larger sample of undergraduate students of Aligarh Muslim University, Aligarh U.P.

**Inclusion Criteria:**

- Age group 18- 22
- Education qualification (undergraduate students)
- Owning smart-phone, one or two.

**Exclusion Criteria:**

- Participants below 18 and above 22 were excluded.
- Participants who were not enrolled as students were excluded.
- Participant not owning a smart-phone were excluded.

**Tools used:** Well-structured and administered scales were used namely as quality of life scale with 15 items and smart-phone addiction scale with 16 items. The tools used were reliable and fairly valid. Use of various applications for texting was asked under the head of demographics along with other information important to the study.

**Ethical statement:** The participants were first informed about the objective of study, about their rights to participate or not in the study, and of withdrawing. Also, they were informed of confidentiality of their responses and identities.

**Statistical analysis:** The data was analysed using the SPSS. Multiple Regression analysis was done to identify the influence of smart-phone addiction and use of applications for texting on quality of life.

**Results**

Multiple linear regression analysis (stepwise) showing the overall impact of the predictor variables *i.e.*, smart-phone addiction and use of texting applications on the criterion variable *viz.*, Quality of life among under-graduate students (Table 1).

The Table above shows that both smart-phone addiction and using various texting applications emerged as predictors of quality of life (criterion variable) among under-graduate students.

The value R2 for smart-phone addiction depicts 46.3% variance whereas value of R2 change depicts 6.6% variance of texting applications. In total, both predictors show 53% of variance. As per the value of f2 for smart-phone addiction and texting application, *viz.*, f2=0.86 and f2=1.13 show large strength among variables. F value for smart-phone addiction is F=221.104 and for texting applications is F=143.699, and p>.000 which are not greater than 0.01 level of significance justifying the significant contribution of smart-phone addiction and texting application on quality of life of under-graduate students. Thus, Ha: Smart-phone addiction and use of various applications for texting will influence the quality of life of undergraduate students was supported. The value of un-standardised Beta B=1.049 and .942 respectively which show positive as well as strong influence of smart-phone addiction and use of various applications for texting on quality of life among under-graduate students.

**Discussion and Conclusion**

The results show the impact of smart-phone addiction and texting applications on the quality of life among under graduate students. The concept of quality of life is an umbrella as well as relatively subjective term in nature and is important to understand the level of satisfaction. The study covered four major domains of an individual’s life *i.e.*, physical health, psychological well-being, social relationship, and overall quality of life. As discussed, smart-phone is a device that provides fancy as well as attractive platforms of communication and interaction. The technology at present is upgrading at the alarming rate, so much that, robots have replaced humans at work and friends and family advices has been covered with online quotes and posts. It gives them the personal space they need, and thus, influence the social relationship which is one of the important domains of quality of life. Spending too much time on smart-phone and its various applications restrain individual from physical activities damaging his/her physical health. Also, using various social networking sites and texting applications influence the thought process of individual leading to emotional instability and poor psychological health. According to Duggan 73% of the sample use various texting applications as well as social

**Table 1: Quality of Life (Y1) Predictor: Smart-Phone Addiction (X1) and Application Use (X2).**

Variables in the model	B	Multiple R	R square	R square change	f <sup>2</sup>	F	P
Total SAS	1.049	0.681	0.463	0.463	0.86	221.104	0
Texting applications	0.942	0.728	0.53	0.066	1.13	143.699	0
Constant	15.918						

networking sites and are particularly popular among the 18 years-29 years old age group. The quality of life is the balance between the internal as external factors of individual's life. The internal factors cover the self-awareness, thought process, expectations, perception, psychological and mental health, whereas, external factors shed light on physical health, social relationship, education, experiences, and environmental situations that an individual go through. Excessive use of smart-phone interferes with the routine of an individual which comprises of person-to-person social interaction, physical workout, group activities and more that doesn't include smart-phone. Therefore, influencing the perception if quality of life and hampering major domains of it. The rate at which adaption of smart-phone is increasing, it is important for us to understand and define the use of smart-phone, so that we control the device and not the *vice-versa*.

#### Implications, Suggestions, and Limitations

The present investigation highlights the impact of smart-phone addiction and use of various texting applications on quality of life among under-graduate students. The study suggest that excessive use of smart-phone and various applications and services lower the cognitive ability of students hampering the learning process and deteriorating the quality of life. The study helps us to understand the concept of quality of life from the view point of under-graduate students defining the clear outline of subjective as

well as objective factors. It also shed some lights on how frequently and variety of applications students use.

As no piece of work is perfect, this research too carries some limitations and can be used as future suggestion for better studies and work. The researcher used questionnaires to collect the data which is subjected to participant's fake or faulty responses. Thus, experimental method can be used along with questionnaires for better and reliable results. The sample size of the study was limited in comparison to the population. The environmental factors were not taken into consideration, because of COVID-19 pandemic and online classes which are new normal for the students as well as their parents.

A big question that arises at times like COVID-19 is whether to allow electronics especially smart-phone during classes and for assignments or apply no-electronics in order to student centered learning. The only way of personal and professional communication used by students these days are only texting applications and avoid calls as well as face-to-face communication. Mobile phone provides the variety of different communication tasks, thus, the popularity of this diverse device and its services will not diminish and therefore, we must explore and examine effects that implicitly affect our daily life and to develop policies that help us absorb the disruption in minimum way possible.

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