

# Technology Addiction and Phubbing Behaviour in the Generation Z of Pakistan

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## ABSTRACT

**Objective:** To check the impact of internet addiction and smartphone addiction on phubbing behavior in Generation Z.

**Study Design:** Cross-sectional survey research study

**Place and Duration of Study:** This study was conducted online at University Putra Malaysia on the students of two public sector universities in Pakistan (Bahauddin Zakariya University, Multan and Islamia University, Bahawalpur) from June 2020 till August 2020.

**Materials and Methods:** Students from two public universities in Pakistan's Southern Punjab province were sampled with a multistage cluster sampling technique. Internet addiction, smartphone addiction, and phubbing behavior were measured with reliable and valid instruments, and IBM-SPSS-23 was used to analyze the data of 794 students. A Chi-square test of independence and linear regression were used to check statistical significance.

**Results:** Results from the Chi-square test of independence in the relation between technology use patterns and gender (47% males and 53% females) were significant ( $p < .001$ ). The regression results show that model was fit  $F(2,791) = 35.786$ ,  $p < .001$ , and internet and smartphone addiction predicted phubbing behavior significantly ( $b = .072$ ;  $.131$ ,  $p < .001$ ).

**Conclusion:** Individuals differ significantly in technology use patterns according to gender. Internet addiction and smartphone addiction play a significant role in eliciting phubbing behavior.

**Key Words:** Internet Addiction, Smartphone Addiction, Phubbing, University Students, ICTs, and Behavioural Addictions, Generation Z.

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## INTRODUCTION

"Humans," being social species, have always been inclined to be together, act together, and unite since the dawn of civilization. When two people experience the same situations and settings, they impact each other. In this condition, people born, grew up and lived in the same period share comparable traits. To characterize features of individuals, scientists applied the word "generation" and conducted studies on it<sup>(1)</sup>.

The Internet emerged in 1995, and Generation Z (Gen Z) was born around this period and is frequently named technology generation<sup>(2,3)</sup>.

Generation Z has been profoundly shaped by the advent of technology<sup>(2)</sup>. Youngsters of Gen Z have had more access to knowledge than any prior generation at their age; everything they need to know is just a few clicks away. Along with all the benefits, this huge accessibility to internet and smartphones brings technology addiction and negative consequences<sup>(4,5)</sup>.

Internet and smartphone addiction are a type of technological addiction that has become a major global social issue. Griffiths<sup>(6)</sup> operationalized technological addiction as a sort of non-chemical behavior addiction involving human-machine interaction. Internet addiction (IA) has the same impacts on behavior, perception, and physical fitness as the use of habit-forming substances<sup>(7)</sup>. DSM-5 defined internet addiction as compulsive, impulsive, obsessive, and addictive behavior, but this definition requires further research<sup>(8)</sup>. Its prevalence ranges from 0.7 to 27.7%, depending on research designs, methodologies, and population, as reported in various studies<sup>(9)</sup>. A recent study about the prevalence of IA reported 12.5% of students had addiction<sup>(10)</sup>. The evidence from Pakistan said 28% of students had internet addiction<sup>(11)</sup>, which is

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prevalent among young people<sup>(12)</sup>. Internet addiction brings a plethora of consequences for youngsters, even severe like depression<sup>(13)</sup>, procrastination<sup>(14)</sup>, and academic performance<sup>(15)</sup>.

A smartphone uses the same technology like the Internet, and it is predicted to have the same or even more enormous impact hence considered a disorder. The more people use their smartphones, the more they get reliant on them and develop difficulties<sup>(16)</sup>. Literature has shown multiple worldwide patterns of smartphone addiction<sup>(17)</sup>. For instance, smartphone addiction rates in European countries, such as Switzerland (16.90%)<sup>(18)</sup>, France (21.59%), Spain (12.50%)<sup>(19)</sup>, and UK( 10%)<sup>(20)</sup>, are less as compared to the Middle Eastern and Asian countries, notably Saudi Arabia(48%)<sup>(21)</sup>, India(55.70%)<sup>(22)</sup>, and South Korea (35.20%)<sup>(23)</sup>. A study was conducted in Pakistan and found smartphone addiction in 60% of students<sup>(24)</sup>. When individuals keep themselves busy with a smartphone all the time, this is not without consequences ranging from cognitive, social, psychological, physiological, and behavioral issues<sup>(17, 25-29)</sup>.

Despite triggering so many negative consequences, Internet and smartphone addiction give birth to further problematic behaviors like phubbing. Viewing your phone and ignoring others during a conversation is known as "phubbing"<sup>(30)</sup>, and this behavior is quite prevalent among Gen Z. The word "phubbing" is the combination of two phrases phone and snubbing<sup>(31)</sup>. Phubbing is the convergence of several addictions because smartphones are structured to provide bundles of temptation<sup>(32)</sup>. Phubbing is more widespread than previously believed, and its possible repercussions can be more damaging. This phenomenon is relatively new; very little research has been conducted to check its predictors in Pakistan. Among little available literature, all is dedicated to understanding phubbing at the workplace<sup>(33)</sup> and close and intimate relations<sup>(34)</sup>. The current study aims to check whether internet and smartphone addiction predict phubbing behavior in the young Pakistani population as found in other cultures.

## MATERIALS AND METHODS

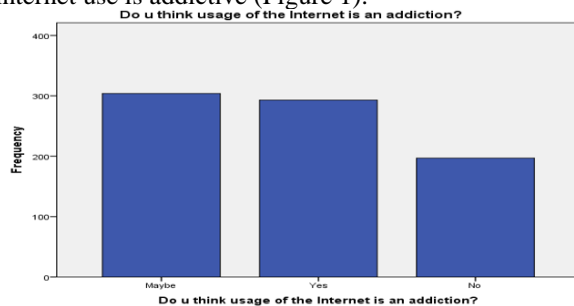
A multistage cluster random sampling procedure was employed to reach study participants from 2 public sector universities: Bahauddin Zakariya University and Islamia University, for a cross-sectional study. At the first stage, the province was chosen, later universities and faculties were divided, and departments were selected randomly from each faculty. In the last phase, classes were randomly picked from departments as a stratum. Study approval was obtained from University Putra Malaysia. Participants were approached in their virtual classrooms through the class instructors; informed consent was a part of the online survey questionnaire, and participants were debriefed. Seven

hundred ninety-four responses were analyzed who met the inclusion criterion: must meet the age requirements of Gen Z, must be internet users, and must have a smartphone.

Internet addiction was measured with the "Problematic Internet Use Questionnaire" 9-items version<sup>(35)</sup>. The response format is a 5-point Likert scale with a minimum score of 9 and a cut-off score of 22. The ten-item short version of the Smartphone Addiction Scale (SAS-SV) was used<sup>(36)</sup>, and responses were anchored on a Likert-type scale. The authors reported excellent reliability (Cronbach's alpha: 0.91) for this scale. Phubbing was measured with the five items of the "communication disturbance" subscale, and the response format was anchored from 1-5 on a Likert scale<sup>(30)</sup>. All the scales exhibited very good reliability scores in the current study ( $\alpha = .94$ ;  $\alpha = .91$ ;  $\alpha = .88$ ) respectively.

## RESULTS

Among 794 participants, 373(43%) were males, and 421(53%) were female students aged 18 to 24. The relation between gender and internet use patterns has been represented in Table 1. A significant association was found between the frequency of internet use and gender among students. A Significant relation was found in gender and hours of internet use. Most females reported using the internet daily (94.7%) and above 4 hours (51.8%) than males. A vast majority of females were using the Internet at home (90.3%) than 78% of males. More males were using the Internet at university (15%) than females (7.4%). More females were using the Internet for educational (37.5%) and entertainment purposes (20.4%) while boys preferred internet use for social networking 13.9% than females who reported 8.4 percent use for social networking. Participants told about their opinion on internet addiction, and a significant majority responded as may be (38.3%) and yes (36.9%). Less than one-third (24.8%) of participants responded that they do not think internet use is addictive (Figure 1).



**Figure No.1: Frequency of participants' opinions about internet addiction**

Two hypotheses were framed to investigate whether internet addiction and smartphone addiction significantly impact phubbing behavior. The dependent variable phubbing was regressed on the predicting

variables internet and smartphone addiction to test the hypothesis. Internet addiction and smartphone addiction significantly predicted phubbing behaviour,  $F(2,791) = 35.786$ ,  $p < .001$ , which indicates that internet addiction and smartphone addiction can play a significant role in shaping phubbing behaviour

( $b = .072$ ;  $.131$ ,  $p = .000$ ;  $.000$ ) respectively. Moreover, the  $R^2$  depicts that the model explains 8.1% of the variance in phubbing behavior. These results direct the positive effect of internet addiction and smartphone addiction. Table 2 shows the summary of the findings.

**Table No.1: Internet use Patterns and Gender Differences among Generation Z**

Questions	Response Options	Male (373)	Female (421)	Total (794)	Pearson Chi-Square	P=Value
Frequency of internet use?	Everyday	341(91.4%)	399(94.7%)	740(93.2%)	$X^2 = 3.509^a$	.042
	More than once a week	32(8.6)	22(5.3%)	54(6.8%)		
Hours of internet use?	Up to 4 hours daily	235(63%)	203(48.2%)	438(55.2%)	$X^2 = 18.219^a$	.001
	More than 4 hours daily	138(37%)	218(51.8%)	356(44.8%)		
Preferred place for internet use?	home	292(78%)	380(90.3%)	672(84.6%)	$X^2 = 23.663^a$	.000
	University	56(15%)	31(7.4%)	87(10.9%)		
	Others	25(7%)	10(2.3%)	35(4.5%)		
The primary purpose of using the Internet?	Education	120(32.1%)	158(37.5%)	278(35%)	$X^2 = 36.020^a$	.000
	entertainment	74(19.8%)	86(20.4%)	160(20.2%)		
	Social networking	52(13.9%)	35(8.4%)	87(10.9%)		
	others	127(34.2%)	142(33.7%)	269(33.9%)		

**Table No.2: Regression Results**

Regression Weights	Beta Coefficient	R <sup>2</sup>	F	t-value	p-value	Hypothesis supported
IA-PB	.072	.081	35.786	4.775	.000	yes
SPA-PB	.131			6.796	.000	yes

Note:  $p < 0.001$ . IA: internet addiction, SPA: Smartphone Addiction, PB: Phubbing behavior

## DISCUSSION

The current study figured out the technology use patterns among Gen Z and found the impact of the internet and smartphone addiction on phubbing behavior. Technology has become a life necessity, but its excessive use can also damage human cognition and behavior. First of all, results from the descriptive statistics were obtained, and a significant association was found between gender and internet use patterns. Results were in line with current findings where considerable gender differences were found in the purpose of internet use<sup>(37)</sup>; females' preferred purpose was educational assistance that is in line with the current findings. Support comes from the Studies that found gender differences in the purpose and patterns of internet use<sup>(38-40)</sup>.

This study measured the existence and predictors of phubbing among Gen Z. A key hypothesis was to check

the effect of internet addiction on phubbing behavior. Results informed that internet addiction significantly and positively predicted phubbing behavior. These findings are in the same vein as reported by Karadağ et al., who provided evidence that internet addiction is one of the primary determinants of phubbing behavior<sup>(30)</sup>.

The following hypothesis was to check the impact of smartphone addiction on phubbing behavior. Results showed a positive effect of smartphone addiction on phubbing behavior. Smartphone addiction leads to phubbing behavior, and it is a stronger predictor of phubbing than internet addiction. These findings are consistent with Karadağ et al., who reported that smartphone addiction is the strongest predictor of phubbing behavior than other variables<sup>(30)</sup>. The person with smartphone addiction gets absorbed in the device and ignores the surroundings. Another large-scale study on 17 countries, including Pakistan, informed about the impact of smartphone addiction on phubbing<sup>(41)</sup>.

Existing literature<sup>(24)</sup> and the current research provide enough evidence about technology addiction and phubbing in youngsters. Besides the addiction to technology, there are many other personal and situational factors related to phubbing behavior<sup>(42)</sup> that must also be considered in future research in Pakistan.

## CONCLUSION

To conclude, there are pretty apparent gender differences in the internet use patterns among Gen Z. It is inferred that internet and smartphone addiction predict phubbing behavior, and smartphone addiction is the stronger predictor. Based on these findings, it is recommended that policymakers consider technology addiction seriously, and remedies must be sought out. Behaviourism explains technology addiction as a learned behavior subject to the "stimulus-response-reinforcement" principle (SRR) that can be unlearned like any learned behavior. Thus, internet addiction, smartphone addiction, and phubbing behavior can be modified to avoid detrimental consequences<sup>(43, 44)</sup>.

### Author's Contribution:

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