

## Effects of Smartphone Usage on Social Wellbeing of School Going Children (5-16 years) in Lahore, Pakistan

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### Abstract

The aim of this study was to analyze the effects of smartphone usage on social wellbeing of school going children (5-16 years). Descriptive cross sectional household survey was carried out in all ten towns of Lahore, Pakistan in five months duration from January 2017 to May 2017. The sampling technique was multistage cluster sampling. The school going smartphone users included in the study were 2889. The study tool was structured questionnaire. The gathered data was analyzed through IBM SPSS Statistics Version 21 in terms of Descriptive statistics and Bivariate logistic regression. Long term smartphone usage was found significantly associated with social networking among school going children. The p-value of hours spent by school going smartphone users with family per day was <0.01, smartphone use during breakfast, lunch & dinner was 0.011, smartphone use when family sitting closer to them was <0.001 and smartphone use to interact with friends and cousins was 0.0001. The study concluded that long term smartphone usage can result in decreased face-to-face communication and decreased interaction between family members living in one home and increased interaction with friends and people outside the home.

**Keywords:** Social networking, Face-to-face communication, Short term smartphone user, Long term smartphone user.

### Introduction

Pro-social contents in media (including games) are considerably allied with pro-social behaviors as well as support children's societal functioning (Prot et al., 2014; Padilla-Walker, Coyne, Collier & Nielson, 2015) and was broadly recognized that quantity and quality of social interactions plays essential part for subjective well-being (Rotondi, Stanca & Tomasuolo, 2017). A study by van Deursen and his co-authors (2015) investigated that social use of smartphones causes serious smartphone addiction and was further confirmed by Lopez-Fernandez and his associates (2014) that smartphone addicts spent more time on their smartphones for social purposes. Games, entertainment and SNS on smartphones, all three also pose to increased risk of smartphone addiction but social networking services (SNS) had strongest predictive effect on smartphone addiction (Cha & Seo, 2018). A study by Bian and Leung (2014) that smartphone addiction was also considered to be associated with loneliness and shyness as smartphone addicts spent a lot of time on their mobile phones were forced to lessen their face to face interactions; higher scores on shyness and loneliness, higher was the likelihood that one would be addicted to a smartphone. Adolescent's dysfunctional family environments such as domestic violence, family stress and substance abuse such as alcohol or drugs abuse generates disturbances and difficulties in their personalities as well as in their daily routines; had also shown to be a noteworthy predictor of adolescent's smartphone addiction (Kim, Min, Min, Lee & Yoo, 2018). A study on undergraduate students by Batool and Akram (2014)

showed that excessive use of social networking sites appeared to limit the contribution of youth in their families, and caused physical isolation. In Pakistan, there was no study found on smartphone usage and decreased face-to-face communication on school going children. Therefore, the objective of the study was to analyze the effects of smartphone usage on social wellbeing of school going children (5-16 years). There is a need of parents to control and critically visualize the activities and habits of their children because children are less aware of the harmful effects of their habits and activities. Special attention is required especially in those cases when parents themselves have bountiful attitude towards smartphone, family in which both parents are earning and lenient parenting manner. In order to prevent the prolong usage of smartphone among children; efforts of both parents and society are needful (Lauricella, Wartella & Rideout, 2015).

### Materials and Methods

**Study Design:** The study design was descriptive cross-sectional household survey. **Place and Duration:** The research study was conducted in Lahore, Pakistan in community in five months duration i.e. from January 2017 to May 2017. Lahore is divided into ten towns which were further divided into several union councils. From each town two union councils were randomly selected. The selected union councils from ten towns of Lahore were Johar Town, Township, Taj Pura, Mughal Pura, R.A. Bazar, Cavalary Ground, Anarkali, Qila Gujjar Singh, Model Town, Gulberg III, Green Town, DHA, Shahdrah, Qila Lachman Singh, Gulshan-e-Ravi, Muslim Town, Begumpura, Shadbagh, Daroghwalah and Rivaz Garden. **Objective:** To analyze the effects of smartphone usage on social wellbeing of school going children (5-16 years). **Inclusion Criteria:** All school going children (5-16 years of age) belonged to different socioeconomic background without any congenital health problem was mentioned in the inclusion criteria of the study. On the basis of inclusion criteria, 6200 school going children were included in study. Among 6200 children, 4030 (65%) respond to the study and remaining 2170 (35%) do not respond to the study. So the response rate of the study is 65%. **Exclusion Criteria:** The exclusion criteria of the study was school going children (5-16 years of age) who are smartphone users but have congenital physical and psychological health problems. **Sampling Technique:** School going children (5-16 years of age) in Lahore, Pakistan were respondents and were selected by multi-stage cluster sampling technique. **Data Collection Tool:** The research method carried in the study was quantitative. Structured questionnaire comprised of questions regarding effects of smartphone usage on social interaction and face-to-face communication among school going children was pretested to assure the accuracy, feasibility and capability and then presented with proper guidance and was answered by respondents themselves of above 8 years of age because they can respond well to the questionnaire in the study and the structured questionnaire was answered by both parents and their children of 8 years and less than 8 years of age because they cannot independently respond to the questions in the research study accurately therefore parents involvement is necessary for effective data collection and was designed to achieve research objectives. **Statistical Analysis:** To analyze the gathered data IBM SPSS Statistics Version 21 was used. Besides, we used descriptive statistics to calculate frequency distribution in which data was analyzed in percentage and cross-tabulations; inferential statistics in which Binary logistic regression was applied. Odds ratio was calculated with 95% confidence interval and the two-sided p-value less than 0.05 was statistically significant. **Ethical Approval:** Before data collection, informed consent was undertaken. During data collection, the environment was comfortable. The information regarding research was explained sufficiently to respondents and that they would be treated with dignity. The secrecy and anonymity of respondents were also preserved during the study and will be persisted secret and confidential in future.

## Results

On the basis of smartphone usage per day, short term smartphone usage was considered for less and equals to 2 hours a day and smartphone usage for more than 2 hours a day was considered as long term smartphone usage. Among 2889 school going smartphone users, 1993 (69%) school going children were short term smartphone users and 896 (31%) school going children were long term smartphone users.

**Table 1: Association of smartphone usage with social networking among school going children (5-16 years)**

Association of smartphone usage with social networking (N= 2889)				
Social Networking	Smartphone Usage		Odd Ratio 95% CI	P-value
	Short Term Smartphone Users (n=1993)	Long Term Smartphone Users (n=896)		
<b>Hours Spend With Family Per Day</b>				
Less than 1 hour	90 (4%)	135 (15%)	1.63 (1.36 - 2.01)	<0.01
1-2 hours	1262 (64%)	514 (58%)	1.38 (1.19 - 1.74)	
More than 2 hours	622 (31%)	208 (23%)	reference	
Do not spend time with family	19 (1%)	39 (4%)	1.87 (1.55 - 2.29)	
<b>Smartphone Usage During Breakfast, Lunch &amp; Dinner</b>				
Often	187 (9%)	333 (37%)	1.73 (1.38–2.31)	0.011
Sometimes	981 (50%)	290 (32%)	2.07 (1.46–3.14)	
Never	825 (41%)	273 (31%)	reference	
<b>Smartphone Usage When Family Sitting Closer To You</b>				
Often	616 (31%)	366 (41%)	1.32 (1.17-1.58)	<0.001
Sometimes	1184 (59%)	434 (48%)	1.86 (1.74-2.15)	
Never	193 (10%)	96(11%)	reference	
<b>Smartphone Usage to Interact With Friends and Cousins</b>				
Often	287 (14%)	406 (45%)	1.32 (1.26–1.66)	0.0001
Sometimes	891 (45%)	265 (30%)	1.95 (1.52–2.27)	
Never	815 (41%)	225 (25%)	reference	

Among 1993 short term smartphone users, 19 (1%) do not spend time with family, 90 (4%) spend less than 1 hour per day with their family members, 1262 (64%) spend 1-2 hours per day with their family members and 622 (31%) spend more than 2 hours per day with their family members. Among 896 long term smartphone users, 39 (4%) do not spend time with family, 135 (15%) spend less than 1 hour per day with their family members, 514 (58%) spend 1-2 hours per day with their family members and 208 (23%) spend more than 2 hours per day with their family members as shown in Table 1.

Binary logistic regression was used to estimate the association of smartphone usage with social networking among school going smartphone users. Among 2889 smartphone users, highest

odds ratio i.e. 1.87 (1.55-2.29) was observed in those who never spend time with family, odds ratio 1.63 (1.36-2.01) was observed in those who spend less than 1 hour per day with their family, odds ratio 1.38 (1.19-1.74) was observed in those who spend 1-2 hours per day with their family as compared to those who spend more than 2 hours with their family per day. The p-value of hours spend with family per day by school going smartphone users was  $<0.01$  as shown in Table 1.

Among 1993 short term smartphone users, 187 (9%) often used, 981 (50%) sometimes use and 825 (41%) never used smartphone during breakfast, lunch and dinner. Among 896 long term smartphone users, 333 (37%) often use, 290 (32%) sometimes use and 273 (31%) never used smartphone during breakfast, lunch and dinner. Among 2889 smartphone users, highest odds ratio i.e. 2.07 (1.46-3.14) was observed in those who sometimes used smartphone during breakfast, lunch and dinner, odd ratio 1.73 (1.38-2.31) was observed in those who often used smartphone during breakfast, lunch and dinner as compared to those who never used smartphone during breakfast, lunch and dinner. The p-value of smartphone usage during breakfast, lunch & dinner was 0.011 as shown in Table 1.

Table 1 showed that among 1993 short term smartphone users, 616 (31%) often used, 1184 (59%) sometimes used and 193 (10%) never used smartphone when family members are sitting closer to them. Among 896 long term smartphone users, 366 (41%) often used smartphone when family members are sitting closer to them, 434 (48%) sometimes used and 96 (11%) never used smartphone when family members are sitting closer to them. Among 2889 smartphone users, highest odds ratio i.e. 1.86 (1.74-2.15) was observed in those who sometimes used smartphone when family members are sitting closer to them, odds ratio 1.32 (1.17-1.58) was observed in those who often used smartphone when family members are sitting closer to them as compared to those who never used smartphone when family members are sitting closer to them. The p-value of smartphone usage when family sitting closer to them was  $<0.001$ .

Among 1993 short term smartphone users, 815 (41%) never used smartphone to interact with friends and cousins, 287 (14%) often used smartphone to interact with friends and cousins and 891 (45%) sometimes used smartphone to interact with friends and cousins. Among 896 long term smartphone users, 406 (45%) never used smartphone to interact with friends and cousins, 265 (30%) often used smartphone to interact with friends and cousins and 225 (25%) sometimes used smartphone to interact with friends and cousins. Among 2889 smartphone users, highest odds ratio i.e. 1.95 (1.52-2.27) was observed in those who sometimes used smartphone to interact with their friends and cousins, odds ratio 1.32 (1.26-1.66) was observed in those who often used smartphone to interact with their friends and cousins as compared to odds ratio in those who never used smartphone to interact with their friends and cousins. The p-value of smartphone usage to interact with friends and cousins was 0.0001 as shown in Table 1.

## Discussion

Smartphone is the utmost innovation in today's busy world; thus interconnecting societies and people (children, adults, adolescents and elders) through Internet in any corner of the world (Rotondi, Stanca & Tomasuolo, 2017; Wang, Xiang & Fesenmaier, 2014). The study also presented that multi-media tasking and extent of time spent in doing face-to-face conversation was negatively interrelated with face to face multitasking. Similar findings were found by Kildare and Middlemiss (2017) who anticipated that willingness towards technology usage such as texting, chatting, use of social networking websites especially at the hours of meals were growing rapidly both among both

children as well as in adults; thus concluded that multi-media tasking was negatively associated with face to face conversation among individuals.

Spending too much time on smartphones separate people from society thus, experiencing less communication and interaction with family members and friends. The study was well-supported by Isarabhakdi and Pewnil (2015) that Internet addiction was the significant predictor of less interaction with family members and peers; decreasing people social skills and face to face interactions. The study also revealed that interacting and sharing fewer problems with parents and family member's leads to depression as well as effecting youth mental wellbeing. Likewise, when individuals continuously use Internet for social interaction, it turns out to be tougher for them to resist their use and therefore need to dedicate necessary determination to encourage face-to-face conversations.

Several, studies conducted on school children, adolescent and young adults also support the hypothesis that when people are deprived from face-to-face contact with close persons, and turn it on a contact mediated by devices and their well-being and a feeling of closeness to parents/peers are lower (Nakamura, 2015; Kadylak et al., 2018; Mark, Iqbal, Czerwinski & Johns, 2014; Kim, 2017). However, some authors indicated different results that use of social networking sites and online communication practices plays a significant role in bringing people closer to each other (Rotondi, Stanca & Tomasuolo, 2017; Khan, Gagné, Yang & Shapka, 2016; Cingel, Lauricella, Wartella & Conway, 2014).

A high use of media not only connects individuals with friends but also produces negative effects on human social well-being. The study was well-supported by Cha and his co-authors (2018) and Hysing and his associates (2015) that media use such as taking pictures, making videos, playing games, reading or for doing homework, listening music, chatting with friends, sending and receiving messages, e-mailing and posting on social networking websites, calling and receiving phone calls thus revealed that smartphone use is not only a rich source of communication that welfares school going young children in social and emotional development but also leads to emergence of harmful health issues among them.

### **Conclusion**

Face-to-face communication and interaction between family members is an important aspect in developing a strong relationship. The study concluded that long term smartphone usage can result in decreased face-to-face communication and decrease interaction between family members living in one home and increased interaction with friends and people outside the home. School going children are in growing age and long term smartphone usage are harmful to develop the bond between family members living under one roof.

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