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PERCEIVED PARENTAL PHUBBING AND ITS INFLUENCE ON ADOLESCENT SMARTPHONE ADDICTION: THE MODERATING ROLE OF GENDER

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Abstract
*Adolescents who are ignored by parents because of frequent smartphone use (parental phubbing) may begin to see excessive phone use as normal and are more likely to copy this behavior themselves (Hong et al., 2019; Xie et al., 2019). Extending this empirical work, the present study examines the role of gender as a moderator in the association between perceived parental phubbing and smartphone addiction among adolescents. A sample of 547 adolescents (girls=279; boys=268) age ranging between 15 to 19 years (M_{age}= 17.20, SD = 1.39) were selected from various public and private sector schools of Sargodha city. The study measures include Urdu versions of Parental Phubbing Scale (PPS) and the Smartphone Addiction Scale–Short Version (SAS-SV). The descriptive statistics, Pearson Product-moment Correlation and moderation analysis were performed by using PROCESS macro (Hayes, 2013). The findings indicated that parental phubbing was a positive predictor of smartphone addiction among adolescents. The regression model accounted for 10.5 % variance in smartphone addiction (R_2= 0.10). Gender was found to have a main effect on smartphone addiction (β= -12.09***, p= 0.001). Moreover, the interaction between parental pubbing and gender was statistically significant (β= 0.53***, p= 0.001), indicating that gender moderates the relationship between parental phubbing and adolescents' smartphone addiction. Explicitly, the positive association between perceived parental phubbing and smartphone addiction was stronger among female adolescents than among male adolescents, suggesting that girls may be more vulnerable to increased smartphone addiction when experiencing higher levels of perceived parental phubbing.*

INTRODUCTION

In modern societies, smartphones are extensively integrated into the life of people of all age groups. Although smartphones have greatly improved people's daily lives in terms of convenience and utility, these technical advancements have come with a significant human cost in the form of persistent connectivity to these devices (Vacaru et al., 2014). Excessive smartphone use had a significant impact on parents' approaches to parenting in addition to the dynamics of family and personal communication (Matthes et al.,

2021). Due to the widespread usage of smartphones, wrong smartphone use is currently a significant and growing concern (Harris et al., 2020).

When excessive use of smartphone happens while the interactions of parent–child, it is referred to as parental phubbing, this state in which parents get engaged with their smartphones while interacting with their children, leading the child to feel ignored or excluded (Xie et al., 2022).Whereas parental phubbing is prevalent, perceived parental phubbing has just recently drawn more attention (Niu et al., 2020, Xie et al., 2019, Zhang et al., 2021). There are several reasons why adolescents may become addicted to smartphones due to parental phubbing. Adolescents first pick up behaviors through observation (Bandura, 1971). Adolescents who have witnessed parental phubbing may therefore internalize these behavioral standards and have a higher propensity to use smartphones (Liu et al., 2023; Chotpitayasunondh & Douglas, 2016).

Furthermore, family is considered as a key factor in controlling aberrant behavior in adolescents, according to social control theory (Hirschi, 2015). Higher levels of smartphone addiction may arise from parents who are preoccupied with their phones and neglect to promptly monitor and address their children's disruptive behaviors (Radesky et al., 2015). Compared to adults, adolescents have higher sensory requirements and need more outside stimuli to reach their ideal arousal levels (Romer et al., 2017). Adolescents have numerous opportunities for sensory satisfaction with smartphones since they provide them with a variety of choices for entertainment and interactions with other people. Therefore, adolescents are especially susceptible to smartphone addiction since they have not yet fully developed their capacity for self-control (Vahedi & Saiphoo, 2018; Anboucarassy & Begum, 2014). Prolonged experience of phubbing in parent- child interaction eventually leads to poor interpersonal interaction, emotional neglect, and diminished parental warmth, all of which could elevate smartphone use among adolescents (Kurnaz, 2025; Zhang et al., 2024; Tong et al., 2024).

A distinct pattern of compulsive smartphone use by gender was found in the earlier study (Mok et al., 2014). However, it is important to consider that individual characteristics may not be consistent among adolescent distinct categories when it addresses the association between perceived parental phubbing and addiction of smartphone among adolescents (Houston et al., 2018). The variations in interpersonal interaction, emotional development, and coping mechanisms are thought to be responsible for the variations in the expression and response to parental phubbing in parent-child interactions (Rudolph & Dodson, 2022; Pascual et al., 2016).

Literature Review

Previous studies suggested that when parents excessively use smartphone in their family setting and give precedence to smartphone use at the expense of parent child meaningful interaction, their children observe their behavior of compulsive smartphone use and later on adopt similar patterns of behavior (Gong et al., 2022; Niu et al., 2020). Since they are constantly exposed to smartphones in their surroundings to regulate daily functioning and affective states, adolescents internalize excessive smartphone use as a normal social behavior (Pera, 2020). Some cross-sectional studies have found that phubbing in parent-child relationship is linked to emotional neglect and a lack of feeling of belongingness, hence, over the period of time, the overuse of smartphones acts as a compensatory mechanism and has resulted in a higher level of dependence for daily needs. Finally, adolescents' problematic smartphone use is strengthened by this increasing reliance on smartphones (Hamami & Widyatno, 2025; Alexis, 2025).

Furthermore, excessive smartphone use by parents portrays emotional neglect to their adolescent children, which heightens their desire for attention-seeking and social validation from various platforms which reinforces the problematic smartphone use pattern (Hamami & Widyatno, 2025; Wu et al., 2022). Collectively, the findings of the previous studies suggested that parental phubbing may serve as risk factor for

parent-child interaction that contributes to the adolescent's problematic use of smartphone (Zhou et al., 2022; Niu et al., 2020). Numerous studies have repeatedly demonstrated that adolescents are particularly susceptible to the compensation and rewards offered by social media platforms that provide quick immediate satisfaction because of developmental considerations (Ophir et al., 2020; Chen et al., 2019).

In addition to showing the association between adolescent smartphone use and parental phubbing, researches has indicated that gender differences in parental phubbing may be caused by a variety of reasons, including emotional regulation tendencies, needs for interpersonal relationship, and preferred online activities (Liu et al., 2024; Saleem et al., 2023). Earlier studies have shown that male and female adolescents differ in the manner of expressing and seeking social validation due to differences in socialization experiences (Choi, 2022). Therefore, gender is the important phase of adolescence development that influences their response to parental phubbing and smartphone addiction. According to another study, adolescents who are male exhibit more compulsive smartphone habits than those who are female. While women are more interested in networking applications, men are more likely to exhibit addictive behavior patterns associated to gaming (Cho et al., 2025).

Therefore, the present study is important because during parent–child interactions increasing parental smartphone use may contribute to adolescents' problematic smartphone behaviors. Inspecting the moderating role of gender can provide deeper insight into whether boys and girls differ in their susceptibility to addiction to smartphone in the context of parental phubbing. Thus, building on the previous literature, the current study aimed to demonstrate a positive association between parental phubbing and teenage smartphone addiction, the study further intended to find out a moderating role of gender in the association between parental phubbing and smartphone addiction.

Hypotheses

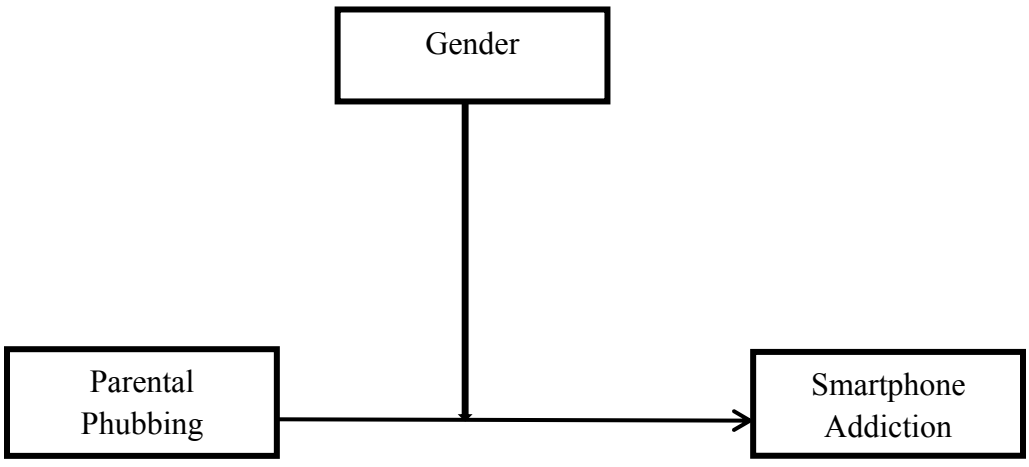
The study had the following hypotheses:

H1: Perceived parental phubbing will be positively associated with adolescents' smartphone addiction.

H2: Gender will moderate the relationship between perceived parental phubbing and smartphone addiction, such that the strength of this relationship between parental phubbing and smartphone addiction will differ for male and female adolescents.

Hypothetical Model.

The Moderating Effect of Gender in Relation between Parental Phubbing and Smartphone Addiction among Adolescents (N=547)



This hypothetical model demonstrates the moderating effect of gender in relation between parental phubbing and smartphone addiction among adolescents. In this model, parental phubbing is examined as the independent variable (IV), while smartphone addiction is the outcome variable (DV) and adolescents' gender being the moderator in the table, influencing the strength or direction of the association between perceived parental phubbing and smartphone addiction.

Method

Study Design

A cross-sectional research design was used in this current study. This study design specifically helped in understanding the relationship among the variables of the study. This type of design is useful in understanding the natural relationship among the variables and is often used in observational studies to determine the relationship between the variables of a study (Spector, 2019).

Participants

The current study participants were selected from various public and private schools and colleges of Sargodha city. A total of 547 adolescents (268 boys and 279 girls) were selected through simple random sampling, with the ages ranging from 15 to 19 years (M_{age} = 17.20, SD = 1.39). The required sample size was estimated using G*Power (Howitt & Cramer, 2017). Assuming a medium effect size (f^2 = .15), α = .05, statistical power of .80, and two predictors in a regression model, the analysis indicated a minimum required sample of approximately 600 adolescents. In order to provide sufficient statistical power, the final sample exceeded a certain threshold. In order to provide sufficient statistical power, the final sample exceeded a certain threshold.

Inclusion and Exclusion Criteria

The current study included adolescents aged 15 to 19 years enrolled in various public and private schools and colleges in Sargodha city. The adolescent's sample who was regular smartphone users was selected, with the criteria being that participants must have used a smartphone for at least four hours per day over the past three months (Leung & Torres, 2021). The study included adolescents whose parents were alive. Adolescents whose parents engaged in parental phubbing (defined as frequently ignoring or neglecting their child due to smartphone use) were included, whether one or both parents exhibited this behavior. Adolescents who have been absent from school or college for an extended length of time were excluded from the study. Adolescents whose parents were divorced or separated were not allowed to participate in the study; parents had to be married at the time. Adolescents with serious health concerns or with a history of any physical and psychiatric illness were also excluded from the study.

Study Measures

Data collection was conducted using a demographic information sheet, the Parental Phubbing Scale (Roberts & David, 2016)., and the Smartphone Addiction Scale (Kwon et al., 2013). These instruments were utilized to collect data on participants' demographic characteristics, perception of parental phubbing, and their smartphone addiction.

Demographic Information Sheet

It includes demographic information of the participants such as the adolescent's gender, age, education, parents' marital status, occupation, family system, number of family members, friends, and siblings. Different quantitative parameters related to smartphone use were also included in the study, such as duration of smartphone usage, social media applications, late-night smartphone use, and purpose of smartphone usage among participants.

Parental Phubbing Scale (PPS; Roberts & David, 2016)

The adolescent's perceptions of parental phubbing were assessed using the parental phubbing scale, which is an adaptation of the partner phubbing scale (Roberts & David, 2016). This scale has seven items: "My parent glances at his/her cell

phone when talking to me". Participants scored the items on a 5-point Likert type scale (1=Never to 5=Always). The average of the seven items' responds showed that more parental phubbing was indicated with higher scores. Previous research found this scale to be reliable (Cronbach's α=.89). The translated Urdu version of the parental phubbing scale was used in the present study (Aslam & Habib, 2024). The scale's Urdu version had a Cronbach alpha of.80.

Smartphone Addiction Scale (SAS-SV; Kwon et al., 2013)

SAS-SV is a validated instrument for assessing the likelihood of smartphone addiction. Ten questions about daily life disruption, pleasurable anticipation, withdrawal, relationships orientated around cyberspace, excessive use, and endurance are included in the questionnaire. Participants answered questions on a 6-point Likert-type scale that range from 1 (strongly disagree) to 6 (strongly agree) for each item. It indicates how the ranges of male participants and female participants differ. According to Kwon et al. (2013), there is a high chance of addiction on scores between 22 and 33, while women are addicted to scores higher than 33 and men are hooked to scores higher than 31. Scores above 31 show addiction to smartphone for men. Cronbach's alpha for the original SAS is reported to be around .87, indicating strong internal consistency (Kwon et al., 2013). This study used the SAS-SV Urdu version, and its Cronbach's alpha of.81 indicated strong internal consistency (Khalily et al., 2019).

Procedure

After the seeking formal approval of the research topic from the Departmental Board of Studies (BOS) and the Institutional Faculty Board, permission from the Ethical Review Committee (vide notification no: GCUF/ERC/236-A) was obtained. Moreover, permission from the authors of the original and translated versions of the measures for study (perceived parental phubbing scale and smartphone addiction scale) was sought. Initially, the principals of schools and colleges in the Sargodha city were contacted and fully briefed on the study's purpose, methodology, and procedures. Once the principals provided permission for data collection, the adolescents from the schools and colleges were approached after seeking their consent. Participants were instructed on the study's objectives and procedures, provided proper instructions for filling out scales and answering questions. The total time taken to complete the study materials was approximately 40-50 minutes. The confidentiality of the data was ensured to the school authorities and the participants. After data collection, all study participants were acknowledged for their active participation.

Ethical Considerations

All major ethical concerns were addressed during the data collection process, ensuring confidentiality and anonymity of the study participants. The current researcher clearly explained the purpose and objectives of the study to the adolescent participants, and their voluntary consent was obtained before participation. During the process, the researcher addressed the queries they had and gave them instructions to answer the measures honestly and thoroughly.

The adolescent's direct informed consent was acquired to respect ethical standards. The objectives of the study, their voluntary involvement, and their right to anonymity were all explained to them in detail. The research further ensured that participants would experience no physical or psychological harm at any point during the research process and have an equal right to leave the study at any time without suffering any consequences.

Results

The Statistical Package for Social Sciences (SPSS version 28) was used for evaluating the data using both descriptive and inferential statistics. Following data screening, the demographic characteristics of the study sample were investigated by preliminary analysis. The distribution of the data was evaluated using descriptive statistics, which included measures of central tendency (mean) and variability (standard

deviation, skewness, and kurtosis). Furthermore, bivariate analysis was carried out using Pearson Product Moment Correlation to determine the relationships between the study variables and to ascertain their empirical associations. The PROCESS macro (Model 1) was used to conduct a moderation study to see if a third variable changed the direction or intensity of the link between the independent and dependent variables (Hayes, 2018).

Table 1
Socio-Demographic Characteristics of the Study Participants (N= 547)

Variables	Categories	M (SD)	f (%)
Age		17.20 (1.39)	
Number of Family Members		7.39 (3.24)	
Education Level	Secondary		210 (38.4)
	Higher Secondary		250 (45.7)
	Undergraduate		87 (15.9)
Number of Siblings		3.55 (2.16)	
Birth Order		2.09 (1.39)	
Age at First Mobile Phone		15.83 (2.13)	
Gender	Boys		268 (49.0)
	Girls		279 (51.0)
Family System	Nuclear		358 (65.0)
	Joint		188 (34.0)
Institute Type	Private		451 (82.0)
	Government		96 (17.0)
Residential Area	Rural		239 (43.0)
	Urban		308 (56.0)
Do You Own a Mobile Phone?	Yes		484 (88.0)
	No		63 (11.0)
Type of Mobile Phone	Keypad		21 (3.8)
	Android		448 (81.0)
	iPhone		78 (14.0)
Daily Mobile Usage Duration	Less than 1 hour		48 (8.8)
	1 hour		87 (15.0)
	2 hours		103 (18.0)
	3 hours		309 (56.0)
Primary Purpose of Mobile Use	Study		128 (23.0)
	Entertainment		314 (57.0)
	Chat with Friends		54 (9.0)
	Online Work		32 (5.0)
	All of the Above		19 (3.0)
Late Night Mobile Usage	Yes		314 (57.0)
	No		233 (42.0)

Most Frequently Used Social Media Platform	YouTube	91 (16.0)
	Google	24 (4.4)
	Facebook	9 (1.6)
	Instagram	47 (8.6)
	TikTok	95 (17.0)
	WhatsApp	184 (33.0)
	All the Above	97 (17.0)
Do You Always Keep Your Mobile with You?	Yes	411 (75.0)
	No	136 (24.0)

Table 1 demonstrated the socio-demographic features of the study participants. The results showed that average age of adolescents when first acquiring a mobile phone was 15.83 years. The sample comprised 49% boys and 51% girls and the majority of the sample used Android phones (81%), followed by iPhones (14%), and keypad phones (3.8%). Over half of the sample used their mobile phones for more than three hours a day (56%). Furthermore, the results demonstrated that the main reason for mobile phone use was entertainment (57%), and late-night mobile phone use was common among 57% of the adolescent sample.

Table 2

Descriptive Statistical Analysis, Reliability Coefficients, and Correlations between Adolescent Smartphone Addiction and Parental Phubbing (N = 547)

	Scales	Range		*k*	*M*	*SD*	*α*		
		Potential	*Actual*					*1*	*2*
1.	PPS	1-5	2.75-5.0	7	21.35	4.44	.72	-	.26***
2.	SAS	1-6	2.5-5.1	10	41.76	6.41	.80	.26***	-

Note. PPS = Parental Phubbing Scale, SAS = Smartphone Addiction Scale, k = number of items. ***$p < .001$.

Table 2 presents the descriptive statistical analysis, scale ranges, and reliability coefficients for the study measures. According to the study's findings, both scales showed strong internal consistency; for example, the values of Cronbach's alpha coefficient for PPS and SAS are.72 and.80, respectively, exceeding the widely accepted cutoff of.70 (Cohen, 1988). The descriptive statistics correlation coefficients between the research variables are also included in Table 2. The results of the study showed positive correlation between perceived parental phubbing and smartphone addiction ($r = .26^{***}$, $p < .001$, small effect; Cohen, 1988), suggesting that adolescent smartphone addiction is correlated with higher levels of perceived parental phubbing.

Table 3

Moderation Effect of Gender on the Relationship between Perceived Parental Phubbing and Smartphone Addiction among Adolescents (N=547)

Variables	*B*	*SE*	*t*	*p*	*C.I 95%*	
					LL	*UL*
Parental Phubbing	-.39	.181	-2.18	.029	-.74	-.040
Gender	-12.09	2.57	-4.70	.000	-17.14	-7.04
Parental Phubbing × Gender	.53	.118	4.55	.000	.305	.76
$R^2 = .105$, MSE =36.40						
$F(3.00) = 21.300, p < .001$						

The moderation analysis findings are shown in Table 4. The findings indicated that perceived parental phubbing was a significant positive predictor of smartphone addiction among adolescents. The findings suggested that 10.5% of the variance in smartphone addiction was explained by the overall regression model. The main effect of gender on smartphone addiction was significant according to study findings ($B = -12.09$, $p < .001$). Furthermore, the interaction between parental phubbing and gender was statistically significant ($B = 0.53$, $p < .001$), indicating that gender significantly moderates the relationship between perceived parental phubbing and smartphone addiction. Specifically, the positive association between perceived parental phubbing and smartphone addiction was stronger among female adolescents, suggesting that females are more adversely affected by parental phubbing than males and gender is serving as a risk-enhancing (antagonistic) moderator.

Figure 2

Interaction Plot of Perceived Parental Phubbing and Gender on Smartphone Addiction among Adolescents (N= 547)

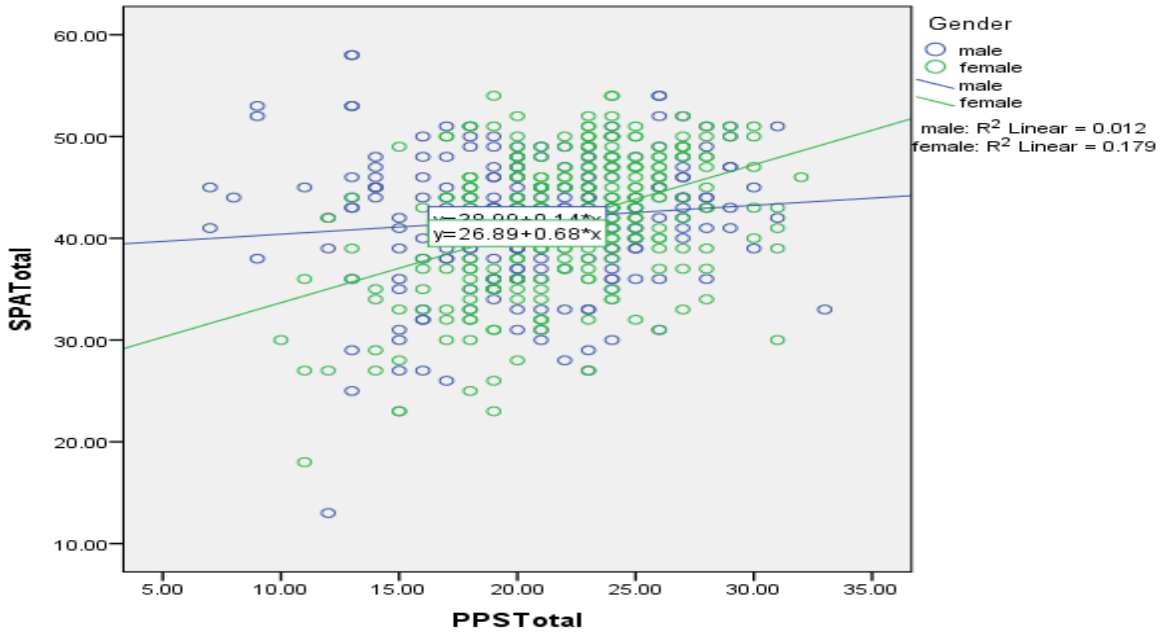


Figure 2 presents the interaction between perceived parental phubbing and gender in predicting smartphone addiction. The positive association between perceived parental phubbing and smartphone addiction was stronger among females (R^2 = .18) than males (R^2 = .012), indicating that female adolescents are more adversely affected by parental phubbing as compared to male adolescents.

Discussion

Within Pakistan's family-oriented cultural context, adolescents place considerable value on emotionally responsive and attentive parenting. The findings of the current study suggest that perceived parental phubbing is significantly linked with adolescents' smartphone addiction, and this relationship varies by gender, indicating a stronger effect among female adolescents.

The findings of the present study, presented a significant positive correlation between perceived parental phubbing and adolescents' smartphone addiction (see Table 2), which indicated that a greater perception of parental phubbing leads to a higher level of smartphone addiction among adolescents. The findings of the current study are aligned with previous studies that emphasized the rising concern of smartphone addiction among adolescents, specifically in relation to family dynamics and showed a significant relationship between perceived parental phubbing, and smartphones addiction among adolescents. These studies suggested that when parents demonstrate higher levels of smartphone engagement, it contributes to the adolescent's problematic smartphone use (Tang et al., 2024; Mulyaningrum & Kusumaningrum, 2022; Niu et al., 2020). Cultural framework of Pakistan is characterized by the highly interdependent on families, parents' emotional support and active participation that are considered crucial to adolescents' social and interpersonal development (Saleem et al., 2021). Therefore, perceived parental phubbing may have greater psychological impact on adolescents' development. Adolescents may perceive their parents as emotionally unavailable when they are frequently preoccupied with their smartphones. Such technology-related distractions can lead adolescent children to feel neglected, which may increase their reliance on smartphones as alternative sources of interaction and social acceptance (McDaniel, 2019).

The results of the current research also highlighted that the relationship between perceived parental phubbing and smartphone addiction is moderated by gender (see Table 3). These findings suggested that impact of smartphone use differ across male and female adolescents. These results also supported previous research showing that girls are more likely than boys to be inclined to using the social media features of smartphones, girls are intensifying their social as well as cultural experiences and their potential for new media usage (Li et al., 2023; Davey et al., 2020). The findings of current study also suggested that parental phubbing has more adverse impact on female adolescent's smartphone addiction than male adolescents (see Figure 2). Additionally, previous research has shown that gender differences in smartphone use eventually influence how adolescents respond to negligence by parents due to excessive smartphone use (Hu & Wang, 2022; Son et al., 2021). Female adolescents tend to be more emotionally sensitive and may be more likely to perceive parental neglect when parents are preoccupied with their smartphones. Consequently, to compensate for the lack of parental attention, female adolescents may engage in excessive smartphone use and increased social networking in an effort to seek validation and social support from others (Dong et al., 2025; Liu et al., 2020).

Parent-child interactions differ across gender in Pakistan's sociocultural framework, where gender-based expectations are socially established. The development of autonomy and interaction in external social environments is generally highlighted for male adolescents. On the other hand, female teenagers are more closely monitored and are expected to adhere to certain social and behavioral norms (Firdoos et al., 2023). Due to these variations in social expectations, the psychological experiences and behavioral patterns in the family environment are also affected by these social expectations (Khurshid et al., 2023). Because daughters often place greater importance on emotional closeness with their parents and tend to seek more parental attention within such sociocultural contexts, adolescent girls may be more strongly affected by the perceived neglect resulting from parents' excessive smartphone use (Ahmad & Cheng, 2025).

Implications

The study has several implications. First, it made parents more aware of the effect that perceived parental phubbing has on adolescent smartphone use and emphasize the need for vigilance when using their phones excessively in front of their adolescent children. The study's findings, which showed that female adolescents are more negatively impacted by parental bullying than male adolescents, assist mental health professionals in developing gender-specific interventions to address the different requirements of male and female adolescents. The study results additionally guided mental health professionals to formulate gender-sensitive programs that reduce the detrimental impacts of parental phubbing and restrict smartphone use by encouraging parent-child connection. Additionally, it encourages educational institutions to include programs that promote digital proficiency and the responsible and mindful usage of smartphones by children as well as their parents. Lastly parents, school authorities and mental health professional can collaboratively design offline activities such as physical/sports activities, creative activities, peer-based activities, skill building, social engagement and family interactive sessions. Such collaborative initiatives can help adolescents develop healthier routines, strengthen interpersonal relationships, and reduce excessive reliance on smartphones by promoting meaningful real-life engagement and emotional support.

Limitations and Future Suggestions

The study has limitations despite its significant contribution. To investigate the effects of perceived parental phubbing and smartphone addiction, future research is recommended to consider into account a sample of late childhood and early adolescents, as the study concentrated on adolescents between the ages of 15 and 19. Early screening facilitates the development of preventive programs aimed at reducing screen

time and ultimately preventing smartphone addiction. Future researches also suggested to use a longitudinal study design to determine the casual pathways underlying the association, as the cross-sectional study approach used in this study restricts the casual inference. Since the data used in this study was gathered from adolescents' self-reports, which are susceptible to bias toward social desirability and unreliable reporting, future research ought to enquire from parents about their usage of smartphones and approaches to parenting in order to obtain a deeper appreciation of smartphone addiction.

Conflict of Interest

Regarding the topic or materials included in this research, the authors have no financial or non-financial conflicts of interest.

Data Availability Statement

The corresponding author will provide data supporting this study's conclusions upon request.

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