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Children's conduct and self-esteem: A predicting role of parent's smartphone addiction

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Abstract---The use of smartphones has become a potentially addictive practice. Parental smartphone addiction is likely to have far-reaching implications for children's conduct. This article investigates the intricacies and challenges of smartphone addiction, with a special emphasis on children behavior problems and their self-esteem. Moreover, the study investigated mean differences in study variables across demographic variables. This survey study was conducted on the sample of 500 parents (250 mothers& 250 fathers) of children with the age range of 6-13 years by using convenient sampling techniques from different schools located in Rawalpindi and Wah Cantt. Out of 500 parents, 300 parents (192mothers & 108 fathers) were identified as having problem of smartphone addiction by using the cutoff scores (31=males&33=females) on SAS-short version (Kwon, Kim, Cho & Yang, 2013).After this a sample of 300 children (Boys =152, Girls= 148) of identified group of parents were given a set of questionnaires (The Pediatric Symptom Checklist , Murphy et al. 1996, & Rosenberg self-esteem scale ,Rosenberg, 1965). The findings of study revealed the significant positive association between parental smartphone addictions with child behavioral problems. Furthermore, significant negative links between parental smartphone addiction with

child self-esteem & child behavioral problems with child self-esteem. Furthermore, findings suggested that mothers' smartphone addiction exerts more negative influence on children (behavioral problems & self-esteem) than fathers. To end, the study revealed that parental smartphone addiction was a strong predictor of children's behavioral problems and self-esteem. At the end, future implications of study were discussed.

Keywords---smart phone addiction, self-esteem, child problem behavior.

Introduction

The 21st century is known as era of "Information technology." The internet and wireless communication are extraordinary entities that have resulted in dramatic advances in the world of communication ¹. Smartphones were released in 2007 ² since then it becomes an essential element of daily life in all over the world. Therefore, smart phone become the most crucial segment of information technology industry.³ Survey reports also confirmed that the ownership and use of smart phones have been expanded tremendously over the last decade. For example, there were around 2.1 billion smartphone users in 2017, with the number expected to approach 2.8 billion by 2020 ⁴. Furthermore, the rate of smart phones use increased five times more during the period of coronavirus pandemic. This sudden raise in smart phones use results in number of negative affect on person's life. Researches conducted on the consequences of smart phone users highlighted that majority of users experienced feelings of isolation, social alienation, poor self-esteem, aggression and impulsivity in behaviors ⁵. Therefore smartphone addiction has become a worldwide concern as a result of this extensive use ⁶.

Smart phone addiction is a relatively new phenomenon and can be defined as excessive or compulsive usage of cellphones, which has a negative impact on all the aspects of person's life such as social, behavioral, and emotional functioning ^{7, 8}. Recent survey research conducted on the sample of 1603 individuals revealed that pre-school and young adults are most vulnerable groups of smartphone addiction ⁹. This smartphone addiction in young people not only results in a poor performances, unhappiness, low self-esteem, aggression and difficulties in interpersonal relations. ^{10,11} It also brings the same withdrawal symptoms (feeling out of control, tolerance, mood changes, and relapse) that are characteristics of drug addiction^{12,13,14}. A number of studies confirmed that the strong negative effect of non- drug addictive behavior on person personal, emotional and social life. For instance, A Chinese study highlighted that loneliness & depression were powerful predictors of smartphone addiction^{15,16}. Another study on American culture exposed a link between anxiety and depression and smartphone use ¹⁷.

As the parent-child relationship is very important from the developmental perspective of child. ¹⁸ This parent-child interaction gets worse when parents become addicted to smartphone usage¹⁹. One of the study on parent smartphone addiction revealed that children of such parent show less emotional tolerance and

more violent acts.²⁰ Another study highlighted that smartphone addiction of parents affect the healthy parenting, because such parents get annoyed whenever their child tried to play or talk with them.²¹ As a result, such children developed high level of aggression & psychological distress.^{22,23} Similarly, some other studies also suggested the negative impact of parental smartphone addiction on children's well-being and poor behavior²³⁻²⁵. Furthermore, the topic of smartphone addiction among parents and children may be explored using the notion of 'modeling' for parents from social learning theory. According to Bandura, social learning theory claims that human learning can be performed merely by seeing the behavior of a certain model. This suggests that behavior is learned through imitation and observation of the behavior of others in a social context.²⁶

Recent studies on excessive or problematic smartphone use suggested the strong negative connection with psychological attributes (self-esteem and self-control)²⁷. The role of such attributes in a person's life is so crucial that a person without them can't live a psychologically healthy life.²⁸ An explanation for this relationship between parental smartphone addiction and poor self-esteem is best provided by the Bowlby attachment theory. This theory suggested that children of smartphone addicted parents developed avoidant or anxious attachment styles. Consequently, these children developed behavioral problems (aggressive, nervous, violent & less empathetic) in their later life.²⁹⁻³⁰ Therefore, the purpose of study was to highlight the negative impact of parental smartphone addiction on young children especially on their behavioral problems and self-esteem. Although, number of researches had been done on the topic of parental smartphone addiction, the focus of these studies was on its impact on children's internet addiction, psychological distress or loneliness. Furthermore, no research work has been done on this topic in Pakistani culture especially. This study not only helped to fill this gap but also helped us to understand the impact of parental smartphone addiction of child's behavior and on the process of healthy parenting.

Conceptual frame work

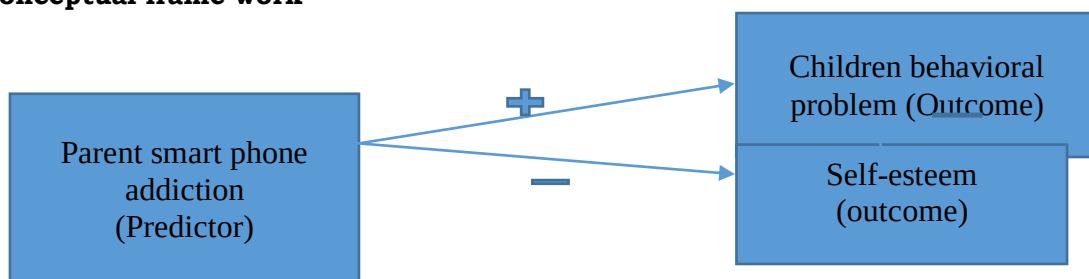


Figure 1. Schematic representation of the effect of parental smart phone addiction on children problem behavior and self-esteem among children.

The present study aimed to achieve the following objectives.

1. To examine the impact of parental smartphone addiction on children's problem behavior among children.
2. To investigate the effect of parental smartphone addiction on self-esteem among children.

3. To explore the mean differences in parent smartphone addiction on demographics variables including gender and age.

Hypothesis

1. Parental smartphone addiction will positively predict children's problem behavior among children.
2. Parental smartphone addiction will negatively predict children's self-esteem.
3. Mothers will exhibit more smartphone addiction than fathers.

Research design

This research was based on a correlational framework and data was collected through a survey method.

Sample

A sample of 500 parents (250 mothers & 250 fathers) of children with the age range of 6-13 years were initially selected by using convenient sampling techniques from different schools located in Rawalpindi & Wah Cantt. Out of 500 parents, 300 parents (192 mothers & 108 fathers) were identified as having problem of smartphone addiction by using the cut off value 31 for male and 33 for female on Smartphone Addiction Scale – Short Version (Kwon, Kim, Cho & Yang, 2013)³¹; which means that parents scoring above than cut off score were considered as smartphone addicted. After this, children (Boys =152, Girls= 148) of the selected group of parents were given a set of questionnaires (The Pediatric Symptom Checklist³²(Murphy et al. 1996) & Rosenberg self-esteem scale (Rosenberg, 1965)³³.

Instruments

1. Parent smartphone addiction

In order to calculate Smartphone Addiction, Kwon, Kim, Cho & Yang, (2013) developed a self-report measure 10 items with a 6 point Likert scale. Cronbach's alpha reliability of scale was .91 and for present study it was .88³¹.

2. Child behavior problem

The Pediatric Symptom Checklist (PSC) was used to measure the emotional and behavioral problem of child with the help of 35 items with 3 point rating scale (1 =never, 2=sometimes, 3= often). The scores of the test ranges from 35 to 105. The Cronbach alpha reliability of scale was range from .84- .92 (Jellinek et al. 1988; Murphy et al. 1992)³².

Self esteem

Rosenberg Self-esteem (1965) was used to assess the individual sense of worth in general. The scale is unidimensional in nature. This scale consists of ten items scored on a 4 point rating scale (1=strongly agree, 2=agree, 3=disagree 4=strongly disagree). The Cronbach alpha reliability of scale ranged from (.87 to .91)³³.

Data analysis

The data of this research was analyzed by using SPSS version 23. To examine the relationship between study variables, correlation coefficient was used. In order to test the hypothesis (impact of independent variable on dependent variables) t-test and Regression analysis were applied.

Results

Table 1 Frequency and Percentages of Sample of Study

Characteristics		<i>F</i>	%
Parents	Mother	192	64
	Father	108	36
Gender of children	Boys	152	50.6
	Girls	148	49.3
Children grade	5 th	122	40.6
	6 th	118	39.3
	7 th	60	20.0
City	Rawalpindi	202	67.3
	Wahcantt	98	32.7

Table 1 shows that the frequency distribution and percentage of the all demographics factors in the present study. Sample consisted of parents [fathers (36%) & mothers (64%)]; children [boy (60.6%) & girls (49.3%)]; grade [5th (40.6%), 6th (39.3%), 7th (20 %)] and city [Rawalpindi (67.3%) & Wahcantt (32.6%)].

Table 2 Psychometric Properties for Scales on the Sample of Study

Scales	<i>N</i>	<i>M</i>	<i>SD</i>	Range	Cronbach's α
<i>Smart phone addiction</i>	(300)	149.03	16.87	166-149	.92
<i>Child behavior problem</i>	(300)	78.77	6.33	88-78	.79
<i>Self esteem</i>		32.70	2.46	37-32	.50

Table 2 shows psychometric properties for the scale used in present study. The Cronbach's α for parental smart phone addiction scale was .92 (>.80) which indicated high internal consistency. The Cronbach's α value for child problem behavior scale was .79 (<.80) which indicated high internal consistency. The Cronbach's α value for self-esteem scale was .50 (< .70) which indicated satisfactory internal consistency. So all the three measures are internally consistent and can be used for present sample.

Table 3 Correlations for Study Variables

Variables	1	2	3
<i>Smart phone addiction</i>	-	.67***	-.35*
<i>Child behavior problems</i>		-	-.56**
<i>Self esteem</i>			-

* $p < .05$.

Table 3 revealed in the sample of parents and children, parental smart phone addiction has significant positive correlation with child problem behavior ($r = .67$, $p < .001$) and significant negative correlation with child self-esteem ($r = -.35$, $p > .05$). Moreover, results also show that Child problem behavior has significant negative correlation with self-esteem ($r = -.56$, $p < .001$).

Table 4 Regression Coefficients of parental smart phone addiction on child problem Behavior

Variables	<i>B</i>	<i>B</i>	<i>SE</i>
Constant	42.49***		2.43
Smart phone addiction	.25***	.67	.01
R^2	.44		

Note. $n = 600$, *** $p < .001$.

Table 4 shows the impact of parental smart phone addiction on child problem behavior on parents and children. The R^2 value of .44 revealed that the predictor variable explained 44% in the outcome variable with $F(1, 298) = 239.24$, $p < .001$. The findings revealed that parental smart phone addiction predicted child problem behavior. ($\beta = .67$, $p < .001$).

Table 5 Regression Coefficients of parental smart phone addiction on self esteem

Variables	<i>B</i>	<i>B</i>	<i>SE</i>
Constant	51.02***		3.66
Smart phone addiction	.02***	-.35	.001
R^2	.12		

Note. $N = 600$, *** $p < .001$.

Table 5 shows the impact of parental smart phone addiction on self-esteem on children. The R^2 value of .12 revealed that the predictor variable explained 12% in the outcome variable with $F(1, 298) = 43.08$, $p < .001$. The findings revealed that parental smart phone addiction negatively predicted self-esteem. ($\beta = -.35$, $p < .001$).

Table 6 Mean, SD, t values of mothers and father on parental smart phone addiction (n=300)

Variables		Mothers (n= 192)		Fathers (n=108)		T	Cohen's d
		M	SD	M	SD		
Smart phone addiction		157.48	3.94	133.99	20.26	15.57	1.60
<i>df</i> =298 (<i>p</i> <.05)							

Table 6 revealed significant mean differences on parental smart phone addiction with $t(298) = 15.57$, $p < .001$. Findings showed that mother exhibited high scores on parental smart phone addiction ($M = 157.48$, $SD = 3.94$) compared to the fathers ($M = 133.99$, $SD = 20.26$).

Table 7 Mean SD and t values of children(boys & girls) parents wise on child Problem behavior and Rosenberg self-esteem scale (n=300)

Variables		Boys (n= 152)		Girls (n=148)		<i>t</i> (298)	Cohen's d
		M	SD	M	SD		
Mother	CBPS	82.63	3.67	77.92	9.12	2.20	.67
	RSES	22.47	9.36	30.31	6.26	4.50	.98
	CBPS	82.49	4.79	82.04	4.03	.63	.10
Father	RSES	25.51	7.62	26.51	7.45	.82	.13
<i>df</i> =298 (<i>p</i> <.05)							

Note: Child behavioral problem scale (CBPS), Rosenberg self-esteem scale(RSES)

Table 7 shows the mean differences among children (boys & girls) response on child behavioral problem scale and Rosenberg self-esteem scale. Finding shows that there was a statistically significant difference among children smart phone addicted mothers on CBPS [boys ($M=82.63$, $SD=3.67$) & girls ($M=77.92$, $SD=9.12$)] on RSES [boys ($M=22.47$, $SD=9.36$) & girls ($M=30.31$, $SD=6.26$)] as compare to children whom fathers exhibit the smart phone addiction .Moreover the results shows that overall boys score high on child behavioral problem scale and girls score high on Rosenberg self-esteem scale.

Discussion

The present study examined the impact of parental smartphone addiction on child problem behavior and self-esteem. The study also found out the relationship between parental smartphone addiction, child behavior problem and self-esteem.

In the present first hypothesis was formulated about parental smartphone addiction positively predicting the child behavior problem. Due to parental smartphone addiction, many of parents couldn't provide their children the quality of time which they actually needed. This neglecting attitude of parents exerts a worse effect on child psychological, emotional and social development. As results, many children start to exhibit the behavioral problems at home and schools.³⁴⁻

³⁵Prior knowledge also supports this idea, as smartphone addiction in children

and teenagers has a negative impact, as excessive smartphone use can induce health symptoms such as weariness, dyspepsia, and sleep deprivation. Problems, as well as psychopathological issues such as despair, anxiety, and impulsiveness³⁶⁻³⁷. Furthermore, Gönener et al. reported that each smartphone use could result in physiological changes such as headache, dizziness, tinnitus, and a rise in body temperature³⁸⁻³⁹⁻⁴⁰. Smartphone addiction can also be a social issue because it has a detrimental impact on social development^{41,42} and has the potential to significantly impact school life and academic accomplishment^{43,44,45}. Parental smartphone addiction was found to be substantially related to general behavioral difficulties, internalization, and externalization in children. Despite the fact that there is Western literature on smartphones causing parental attention in the presence of their children^{46,47} Smart phones most likely prohibit parents from offering genuine emotional support to their children, causing tantrums or sulking, which just adds to the parents' stress, leading to more withdrawal from technology, and the cycle continues.⁴⁸

Another hypothesis is that parental smartphone addiction has a negative impact on children's self-esteem. The current study supported the theory. According to the results of the regression study, parental smartphone addiction negatively predicts child self-esteem. Existing research also suggests that self-esteem is negatively associated with Internet addiction and other addiction-like symptoms^{49,50}. In terms of interpersonal interactions, it appears that persons with low self-esteem prefer indirect communication over face-to-face engagement, whereas those with high self-esteem prefer face-to-face connection⁵¹. Several studies have found strong links between low self-esteem, problematic mobile phone use, and other addictive behaviors^{52, 53, 54}. Numerous empirical studies illustrate that some psychosocial factors are also found to depict dependency on the internet such as self-esteem, loneliness, depression and social skills.

Another hypothesis was developed in relation to gender disparities. According to the findings, mothers are at high risk of smartphone addiction. The literature also supports this, with certain research findings indicating that males use mobile phones more than females.⁵⁵ Other findings revealed that females are more reliant on their mobile phones for a variety of activities, and their usage is higher among women^{55,56}.

It is recommended that parents offer their children undivided attention and minimize the usage of smartphones in their presence. Inquiries on parental smartphone use should be included in routine history-taking for children with behavioral difficulties. If smartphone addiction is suspected, they should seek counseling because the problem is similar to substance misuse, with consequences not only for the individual but also for the children. The impact of parental smartphone addiction on children's behavior should be discussed on medical forums in order to develop appropriate interventions. The importance of this looming catastrophe should be widely disseminated through the media.

Conclusion

The study explores the effect of the parental smartphone addiction on child problem behavior and self-esteem. The results showed that parental smartphone

addiction was significant predictors of behavioral problems and self-esteem among children. Moreover, it was found that mothers' smartphone addiction exerts more negative influence on children (behavioral problems & self-esteem) than fathers. Parents' smartphone addiction has a huge impact on their children's, parents must be aware of the seriousness of the problems that cell phones pose.

Limitations

This study applies the quantitative research method to collect and analyze all the data, so future studies can use both quantitative and qualitative ones to add extra credibility to implications.

Practical implications

The present study has its implications in the field of child, school and clinical Psychology. As parental smartphone addiction has adverse effects on healthy parenting. Therefore, Parents should devote more time to their children and commit to spending quality time together. In this regard, parents can effectively reduce their children's loneliness and aid children in developing multiple interests for the elevation of their self-esteem by understanding what their children truly desire and accompanying them on their own terms, rather than focusing solely on their academic performances. Moreover, the research finding also encourages teachers to urge students to participate in classroom activities and interact with their peers more and more. As a result, students will achieve a sense of worth and efficacy and exhibit less behavioral problems. Meanwhile, teachers should gain a better knowledge of their students' relationships with their parents in order to provide kids with the most appropriate guidance on how to request more quality family time with their parents.

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