

Exploring the Role of Maternal Parenting Styles in Smartphone Addiction and Emotion Regulation among Male and Female Young Adults

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Abstract

The current paper studied the role of maternal parenting styles in smartphone addiction and emotion regulation strategies (cognitive reappraisal and expressive suppression) among male and female young adults. A sample of 107 university students (61 males, 46 females; M age = 21.86, SD = 2.81) completed standardized measures of **Parental Authority Questionnaire (PAQ)** (Buri, 1991), **Smartphone Addiction Scale – Short Version (SAS-SV)** (Kwon et al., 2013) and **Emotion Regulation Questionnaire (ERQ)** (Gross & John, 2003). As a result Correlational analyses indicated that maternal authoritarian parenting style was significantly positively associated with smartphone addiction and cognitive reappraisal as an emotion regulation strategy. Regression analyses further showed that authoritarian parenting significantly predicted smartphone addiction, and cognitive reappraisal as an emotion regulation strategy. Furthermore, findings revealed no significant gender differences across the main variables; however, an additional analysis showed significant birth order differences, where first-borns reported greater use of cognitive reappraisal as compare to middle and last born. Whereas, last-born perceived higher maternal authoritative parenting as compare to middle and last born. These results underscore the influence of maternal parenting practices on maladaptive digital behaviors and highlight the role of birth order in perceiving different maternal parenting styles and use of emotion regulation strategies. Limitations, practical implications, and future research directions are discussed.

Keywords: Smartphone Addiction, Maternal parenting style, Cognitive reappraisal, Expressive suppression, Emotion regulation.

Introduction & Literature Review

Human behavior is shaped from different determining factors like environment, gene, geographical placement, historical heritage, social norms and immediate/extended relationships like parents, friends, peers, teachers, neighbors etc. However as a primary social agent parents and their parenting styles play a fundamental and consequential role in human development and shaping their behaviors. According to (Mukhtar and Ara, 2018) in Pakistani culture the young male and females are emotionally and financially dependent on their parents till the period of late adolescent. Parenting styles are identified by the distinct behaviors and approaches through which a parent interacts, disciplines, and communicates with their child. Parenting styles significantly impact their interpersonal relationships and the child's emotional, mental, and behavioral makeup. Baumrind's (1966, 1967, 1971) pioneering work in the typology of parenting styles provides further insight into

this subject. She categorized parenting styles into three: the authoritarian, authoritative, and permissive parenting styles. Authoritarian parenting is characterized by a high level of control and strictness, rigid expectations, and less warmth. This can make children more prone to anxiety, low self-esteem and insecure attachment which can predispose them to smartphone addiction. On the other side of the spectrum is permissive parenting, which constitutes low expectations, overindulgence, and more autonomy given to the children. These children are also at a higher risk of smartphone addiction due to lack of strictness and structure. Authoritative parenting strikes the right balance between these two extremes and is characterized by clear boundaries and affectionate, non-punitive, and open communication. This type of parenting enable children to develop healthy self-esteem and boundaries, reducing the likelihood of smartphone addiction.

Smartphones have radically revolutionized the way we communicate with each other and have become an integral part of our lives. Smartphones have become an indispensable aspect of the lives of young adults, as they have grown up with them. With an increasingly digitized world, our reliance on smartphones has increased exponentially. For young adults especially, they have become essential tools for managing daily lives and maintaining social connections. While these devices offer numerous advantages, their excessive use has raised concerns about the psychosocial effects of this overreliance, often referred to as smartphone addiction.

The term smartphone addiction is going to be allocated to a behavior when its excessive use disturbs the daily routine of a user. (Demirci K, Orhan H et al., 2014). Resultant dysfunctional patterns can be associated with problems in memory, attention, emotion regulation, sleep and food intake and in its hype it can drop off user's quality of life (Choi et al., 2015; Alhazmi et al., 2018; Domoff et al., 2020; Kumar et al., 2019). According to a processing model of reinforcement introduced by Strittmatter, the smartphone addiction are going to be persisted mainly because of difficulties in regulating emotions. Where, emotion regulation is attributed to person's capacity to identify emotions, monitor them, and finally modulating their responses. The said theoretical notions are been well supported by the current studies which showed that people who are addicted to smartphones are carrying less ability to deal with their emotions (Fu et al., 2020; Squires et al., 2020).

Furthermore researches have found, mother-adolescent relationship (MAR) or maternal parenting style as a strong predictor of decrease in smartphone addiction as a result of using healthy strategies to cope up with their emotional challenges (Huaiyuan, Q., Qinhong, K., & Cuihua, B., 2022). Another empirical finding suggested that mother's responsiveness as a basic aspect of authoritative parenting style, can significantly determine the higher ability of adolescents to cope with their emotions. Furthermore, research conducted on Chinese children showed that an authoritarian parenting style from the mother had a significant impact on the child's emotion regulation skills (Chang, L., Schwartz, D., Dodge, K. A., & McBride-Chang, C., 2003).

A study conducted in Australia (Giles and Price, 2008) found that mothers' psychological control had a higher correlation with children's problematic computer use than fathers' psychological control. The rationale was that maternal parenting may have a greater impact on the child psychologically than the father's. Hence, maternal control was linked with greater problematic computer use in the child as a way to evade control. Another study conducted on young adults in India revealed a significant positive correlation between mobile phone addiction and maternal authoritarian parenting style (Navyashri, S., & Mahesh, B. S. .2021).

The majority of researches on these variables have been done on the Western population where individualism is valued and parenting styles drastically differ than those in Eastern societies. There is a dire need to conduct research in eastern cultures analyzing the association between smartphone addiction, emotion regulation and maternal parenting styles to explore differences in culture, values and parenting styles. Therefore present research aims to bridge the gap by exploring the factors connected with the effects of smartphone addiction and overall addiction tendencies. Furthermore, it's not only aims to evaluate the mental health risks related to this addiction but also to find and design the strategies to cope up with these challenges and disturbances and lower down the probability of smartphone addiction.

In the current era smartphones have taken the place of life necessities influencing our ways of socializing, educating, keeping or enhancing businesses, engaging in fun activities or even being creative. In usual terms it makes our lives easy and accommodating but on the other hand it's over indulgence make many of us dependent which frequently called smartphone addiction and lead us to pay the psychological and physical cost in terms of sleep disruption, sadness, anxiety, decreased academic performance, and reduced self-regulation (Alotaibi & Khan, 2024). Furthermore smartphone addictions are emerging as an avoidance strategy which helps people to come out of their stressors for a while but immediately. As a result, people are less patient toward handling the stressors in a sustained way and resolve them in a long term manner. Subsequently the healthier ways to coping with emotional turmoil getting derailed (Park & Lee, 2024). This particular observation makes the connection clear between emotion regulation and smartphone addiction such as currently Kim et al (2025) identified the empirical evidence of a connection between impulsivity, and smartphone overdependence. Therefore it can be said that when adequate control mechanisms are absent, smartphones readily serve as "tools" for distraction, reassurance, or momentary respite, thereby reinforcing obsessive usage behaviors.

Parenting plays a crucial role in shaping both adolescents' media habits and their capacity for emotion regulation. Parenting styles, classically defined as authoritative, authoritarian, or permissive, establish the relational climate in which self-regulation skills are developed. Authoritative parenting, defined by warmth and consistent structure, has consistently been related to more favorable behavioral outcomes, whereas authoritarian and permissive methods correlate with a heightened danger of problematic smartphone use (Chen et al., 2024; Li et al., 2023). Zhang and colleagues (2025) recently showed that shyness and loneliness played a part in the link between parenting style and smartphone addiction. This shows how complicated the psychological mechanisms are.

Based on the work of Baumrind's (1967) typology, maternal parenting patterns are generally divided into three forms (authoritative, authoritarian, and permissive), each of which gives a specific influence on kids' development. As digital gadgets have become global, scholars have progressively studied the association between parenting practices and challenging smartphone use.

In a positive scenario the mothers who are practicing authoritatively, their children are having lower use of problematic technology. As a supportive evidence work of Li et al. (2019) showed a significant negative association between authoritative maternal style and the smartphone addiction scores, which might be a result of better emotional regulation and self-control. On the other hand a study conducted by Geng et al. (2021) found that lenient maternal parenting is positively related to higher smartphone dependency. Adolescents often require guidance and management regarding healthy digital engagement. The poor parental monitoring often reinforces addictive behaviors, chiefly among young adults, directing academic and social pressures.

It has been studied that mothers' use of an authoritative style reinforces the development of secure attachment and emotional flow, which boosts children to engage in positive regulation strategies that improve resilience (Lopez et al., 2021). On the other hand, maternal permissiveness was seen to be linked with warmth, which may direct emotion regulation due to the poor guidance and steady boundaries, often leading to avoidance strategies (Aunola et al., 2015). Furthermore, cultural background knowingly moderates these relations; in collectivist civilizations, authoritarian parenting may not forever predict maladaptive regulation to the same level as in Western households (Cheung & Pomerantz, 2015).

Beyond personal and familial relationships, parenting practices interact with more general societal and technological elements to shape teenagers' smartphone usage patterns. According to social learning theory, children see and absorb how their parents use technology, hence parental modeling is a key factor in determining how adolescents behave online (Bandura, 2018). Research indicates that parents who use their phones a lot when interacting with their family unintentionally normalize excessive screen time, which increases the likelihood that teenagers will become dependent on their phones (Hiniker et al., 2019).

Moreover, an inconsistent and emotionally deprived parenting as a type of an insecure attachment style may lead to higher dependency on smart phone for securing social validation. (Schimmenti et al., 2020). Furthermore, according to George & Odgers (2022), peer pressure can also increase the compulsive smartphone usage and use of inappropriate coping strategies among individuals both in young adults or teenagers who face dysfunctional parental supervision as its evident that peer pressure usually interact with parental style. One more potential moderating variable can be cultural contexts such as in collectivistic cultures like Pakistan, adolescence might be expected to be more compliant toward their elder's expectations which could increase the negative impacts of the authoritarian parenting style on the excessive use of media and emotional repression (Dwairy & Achoui, 2019). These results clearly indicating towards the sheer need of culturally relevant strategies and therapies which can focus on improving on peer dynamics and parental modelling in addition to improving parenting style and emotion regulation while addressing youth's smart phone addiction.

These finding are of tremendous interest when digital expansion is getting wider day by day. According to a report (DataReportal, 2024) in Pakistan around 63% of the population is owning its own smartphones with 189 million mobile connections with a bombardment of digital and smart technologies. With reference to recent empirical findings by Konok et al., (2024), excessive use of smartphones can cause a significant decline in focus, sleep, and mental health. Moreover, If we look into the gender and smartphone usage females use has been significantly higher than the previous times which can be a indicator of change in maternal preferences and family interactions (GSMA, 2025) leading probably to the change in maternal parenting, therefore as a primary caregivers and domestic decision maker, their parenting style can influence their children's how emotion regulation moves and their use of technology.

The evidence indicates that maternal parenting style may influence teenagers' vulnerability to smartphone addiction by affecting their emotional management abilities. Authoritative mothers may cultivate resilience and adaptive skills that mitigate problematic usage, but authoritarian or permissive methods may weaken regulation and elevate risk. Nonetheless, investigations specifically addressing the mediating function of emotion regulation, especially within South Asian cohorts, are still scarce. This study seeks to examine the influence of mothers' parenting style on adolescent smartphone addiction, particularly emphasizing emotion control as a potential outcome. By contextualizing this study within Pakistan's swiftly digitizing social environment, the results will enhance theoretical frameworks of behavioral addiction and offer culturally pertinent insights for prevention strategies, parental education, and school-based psychoeducation.

Rationale

In Pakistani culture, mothers are traditionally regarded as the primary caregivers and central figures in shaping their children's emotional, behavioral, and moral development. Unlike many Western societies, where parenting roles may be more evenly distributed, the Pakistani family system, whether nuclear or joint, places a distinctive emphasis on the mother's influence in child-rearing (Haque, 2019; Zaidi & Shuraydi, 2002). From early childhood, mothers are expected to provide not only nurturance but also guidance in self-control, interpersonal relationships, and moral conduct. This deep-rooted cultural expectation frames maternal parenting style as a pivotal determinant of psychosocial outcomes in young adults.

Parenting style has been shown to significantly affect children's emotional regulation strategies and their capacity to manage stress in later life (Muris & Meesters, 2014). Permissive context, where interdependence and collectivist values are emphasized, maternal warmth and responsiveness are often equated with security and social adjustment, whereas authoritarian or permissive styles may create vulnerabilities in self-regulation (Batoool & Bond, 2015). Emerging adults in Pakistan, who are increasingly exposed to rapid technology change and high smartphone usage, often manage a dual reality: conventional family expectations on one hand, and digital freedom on the other (Iqbal et al., 2021). This tension can make the way mothers raise their children even more important for things like smartphone addiction.

As a potential variable the culture is also playing significant role in smartphone addiction as a rising issue as in Asian countries the said issue is not only determined by youngsters' own choice but also by their family values, parental perceptions, and emotional support from their extended family relations.(Shaikh et al., 2020). These issues might also be attributed to financial support as well. Moreover the parenting style which mothers opt to rear a child, whether authoritative, authoritarian, or permissive, may influence the young adults' ways of managing their emotions and achieving pleasure which in terms of dysfunctionality ultimately can cause excessive smartphone use (Ghosh & Ray, 2017). For example, according to Gross & John (2003) mothers with overly controlling styles can push their children toward overindulgence into digital spaces for seeking independence which they cannot achieve otherwise, while a supportive mother may help his or her children to learn healthier ways to deal with their emotions which may lower the probability of having problems with their smartphones.

The aforementioned discussion have contributed to understand the psychosocial aspects of mothers' parenting style and its impacts on smartphone addiction and emotional control. It bridges the gap in the existing literature by covering the technology-related behavioral problems in the context of Pakistani family life, where mother's influence is still strong in both late adolescence and early adulthood (Batool & Bond, 2015; Haque, 2019). Comprehending this connection has pragmatic ramifications for culturally attuned therapies, steering parental education initiatives, and shaping legislation that acknowledge the convergence of familial dynamics and digital wellness.

Methodology

Objectives

- To study the correlation between maternal parenting styles, smartphone addiction, and emotion regulation strategies.
- To investigate the impact of maternal parenting styles on smartphone addiction and emotion regulation strategies.
- To examine gender differences in perception of maternal parenting style, smartphone addiction and emotion regulation strategies.
- To assess birth-order differences in study variables.

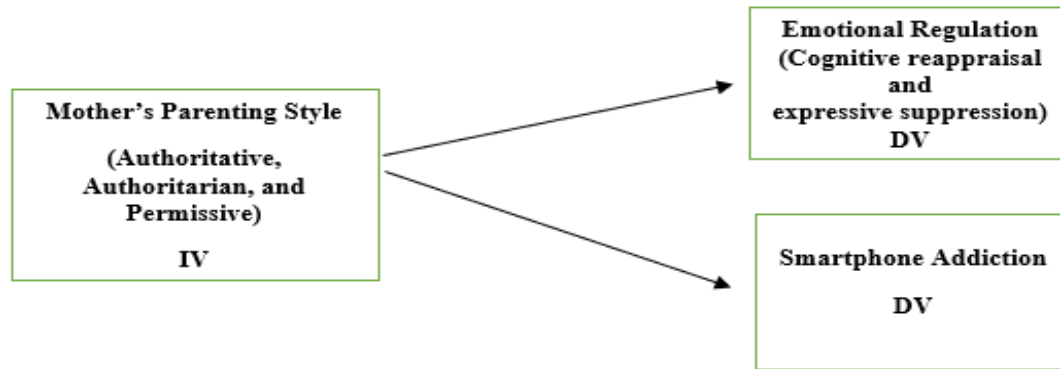
Hypotheses

1. There would be a significant relationship of Maternal parenting styles with smartphone addiction and variables of emotion regulation strategies (cognitive reappraisal, and expressive suppression).
2. Maternal parenting styles would be a significant predictor of smartphone addiction and emotion regulation strategies (cognitive reappraisal and expressive suppression)
3. There will be a significant difference between male and female young adults with reference to smartphone addiction perception of their maternal parenting styles and emotion regulation strategies (cognitive reappraisal and expressive suppression).

Research Design

The present work employed a correlational method with comparative elements. The design was suited to examine both group differences (based on gender and birth order) and predictive relationships (maternal parenting styles as predictors of smartphone addiction and emotion regulation strategies).

Research Model



Sample

A sample of 107 undergraduate students was recruited from universities in Pakistan using convenient sampling. It included 61 men (57%) and 46 women (43%), with a mean age of 21.86 years ($SD = 2.81$). Regarding birth order, 34 participants (31.8%) were first-born, 49 (45.8%) were middle-born, and 24 (22.4%) were last-born. In terms of family systems, 79 participants (73.8%) reported living in nuclear families and 28 (26.2%) in joint family systems.

Instruments

Smartphone Addiction Scale – Short Version (SAS-SV) (Kwon et al., 2013) is a 10-item tool focused on measuring problematic smartphone use (extra use, withdrawal, and daily-life trouble). It's a 6-point Likert scale, ranging from 1 ("strongly disagree") to 6 ("strongly agree"), with higher scores representing a greater smartphone addiction. Proposed cut-off values are 31 for males and 33 for females; beyond these, problematic use is shown. The scale has established strong internal consistency (Cronbach's $\alpha = 0.91$) with the current value ($\alpha = .804$) and has been broadly validated across nations, including those in South Asia.

Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003) was developed to measure two emotion regulation strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). This 10-item scale has 7-point Likert scoring from 1 ("strongly disagree") to 7 ("strongly agree"). Higher subscale scores are directed towards more reliance on that strategy. Reported reliability coefficients are $\alpha = .79$ for reappraisal and $\alpha = .73$ for suppression, with strong construct validity. The study's $\alpha = .694$ for cognitive reappraisal and $\alpha = .618$ for expressive suppression.

Parental Authority Questionnaire (PAQ) (Buri, 1991) is a self-report tool with 30 items used to check parenting styles as perceived by children or teens. It contains 3 dimensions: authoritative, authoritarian, and permissive parenting, with 10 items each. It is a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). In the present study, only the maternal form was administered. Previous studies have reported acceptable internal consistency across subscales (α ranging from .74 to .87). The PAQ has been extensively used cross-culturally to examine parental influences on psychosocial growth. The current study showed $\alpha = .697$, $.717$, and $.691$, respectively, for each subscale.

Procedure

Participants were approached through classroom announcements and online platforms, after obtaining permission from university administration. Informed consent was gained from the sample, and confidentiality was assured. Scales were administered both in group settings and individually, taking approximately 20–25 minutes to complete. The study adhered to ethical principles outlined by the American Psychological Association (APA, 2020), with permission from the Institutional Review Board.

Results

Table 1: Frequency and Percentages of Demographic Variables (N=107)

Variables	<i>F</i>	%	<i>M</i>	<i>SD</i>
Age	-	-	21.86	2.81
Gender				
Male	61	57		
Female	46	43		
Birth Order				
First born	34	31.8		
Middle child	49	45.8		
Last born	24	22.4		
Family System				
Nuclear	79	73.8		
Joint	28	26.2		

Table 1 shows the frequency distribution and the percentages of the demographic variables. The study focused on targeting the true representative participants from the selected population.

Table 2: Descriptive Statistics and Alpha Reliability Coefficients of Study Variables (N=107)

Variables	Items	<i>A</i>	<i>M</i>	<i>SD</i>
Smartphone Addiction	15	.804	49.57	9.96
Emotional Expression				
Cognitive Reappraisal	6	.694	29.90	6.27
Expressive Suppression	4	.618	20.18	4.38
Mother's Parenting Style				
Authoritative	10	.697	35.26	6.05
Authoritarian	10	.717	32.99	6.49
Permissive	10	.691	34.03	6.22

Table 2 shows that, according to the values of Mean, Standard Deviation, and the alpha reliabilities of all scales and subscales, they lie within the acceptable range.

Table 3: Independent sample t-test for the gender differences on study variables (N = 107)

Variables	Male		Female		<i>t</i>	<i>p</i>	Cohens' <i>d</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Smartphone Addiction	3.345	.712	3.250	.597	.728	.468	.144	
Cognitive Reappraisal	4.967	1.03	5.007	1.06	-.195	.846	.038	
Expressive Suppression	4.954	1.05	5.168	1.15	-.997	.321	.194	
Authoritative	3.450	.620	3.341	.627	.899	.370	.174	
Authoritarian	3.391	.608	3.176	.688	1.75	.089	.331	
Permissive	3.527	.563	3.523	.664	.033	.974	.006	

Note: M=Mean, SD=Standard Deviation, *t*= t-test statistic

The analysis showed insignificant gender differences in the variables of Smartphone Addiction, Cognitive Reappraisal, Expressive Suppression, Authoritative, Authoritarian, and

Permissive parenting styles.

Table 4: Mean differences between study variables across birth order (N = 107).

Variables	Birth Order	M	SD	F(2,106)	P	η ²	Post-hoc
Smartphone Addiction	1.First Born	3.121	.7318	2.477	.089	.015	-
	2.Middle Born	3.334	.6374				
	3.Last Born	3.502	.5694				
Cognitive reappraisal	1.First Born	5.318	1.106	4.809	.010*	.084	1>2
	2.Middle Born	4.659	.9777				
	3.Last Born	5.173	.9292				
Expressive suppression	1.First Born	5.051	1.185	.534	.588	.010	-
	2.Middle Born	5.134	1.088				
	3.Last Born	4.854	1.002				
Authoritative	1.First Born	3.435	.6480	5.432	.006**	.094	3 > 1 3 > 2
	2.Middle Born	3.420	.5361				
	3.Last Born	3.870	.5736				
Authoritarian	1.First Born	3.379	.6361	2.705	.072	.049	-
	2.Middle class	3.149	.6252				
	3.Last Born	3.491	.6736				
Permissive	1.First Born	3.461	.6300	.488	.615	.009	-
	2.Middle Born	3.338	.6347				
	3.Last Born	3.454	.6014				

Note. $p < .01^*$, $p < .001^{**}$, $F =$ Levene's statistic; $p =$ significance value; $\eta^2 =$ eta-squared
 Table 4 shows the mean difference with the research variables with birth order, showing the significant difference on the subscale of cognitive reappraisal and the authoritative parenting style of the mother. Furthermore, post hoc analysis showed significantly higher scores of cognitive reappraisals in firstborns as compared to second borns. Additionally, authoritative parenting is more prevalent in last lastborn as compared to the first and middleborn.

Table 5: Pearson Product Moment Product Correlations of Study variables (N=107)

Variables	1	2	3	4	5	6
1. Smartphone Addiction	-	.265**	.031	.122	.197*	.031
2. Cognitive Reappraisal		-	.196	.171	.322**	.147
3. Expressive Suppression			-	.099	.157	.159
4. Authoritative				-	.363**	.523**
5. Authoritarian					-	.258**
6. Permissive						-

Note: $p < .05^*$, $p < .01^{**}$

Result shows the correlation among study variables; an insignificant correlation was found between smartphone addiction, expressive suppression, authoritative, and permissive parenting.

Table 7: Simple Linear Regression Analysis Showing Parenting Styles with Emotional regulation.

Predictors	Cognitive Appraisal			Multicollinearity Diagnosis	
	<i>B</i>	<i>t</i>	<i>p</i>	<i>Tolerance</i>	<i>VIF</i>
Authoritative	.051	.315	.735	.699	1.43
Authoritarian	.465	3.32	.001*	.919	1.08
Permissive	.139	.819	.414	.668	1.49

Note: $R = .222$, $R^2 = .049$, $\Delta R^2 = .027$

Predictors	Expressive Suppression			Multicollinearity Diagnosis	
	<i>B</i>	<i>t</i>	<i>p</i>	<i>Tolerance</i>	<i>VIF</i>
Authoritative	.317	1.77	.078	.699	1.43
Authoritarian	.254	1.64	.102	.919	1.08
Permissive	-.062	-.331	.741	.668	1.49

Note: $R = .222$, $R^2 = .049$, $\Delta R^2 = .027$

Table 6 shows that a unit change in the predictor variable of Cognitive Reappraisal will result in a significant change in the criterion variable of Social Media addiction with a predictive change of 7%. However, expressive suppression was not significant.

Table 7: Simple Linear Regression Analysis Showing Parenting Styles with Smartphone Addiction.

Predictors	Smartphone Addiction			Multicollinearity Diagnosis	
	<i>B</i>	<i>t</i>	<i>P</i>	<i>Tolerance</i>	<i>VIF</i>
Authoritative	-.002	-.021	.984	.699	1.43
Authoritarian	.220	2.34	.021*	.919	1.08
Permissive	.036	.314	.754	.668	1.49

Note: $R = .222$, $R^2 = .049$, $\Delta R^2 = .027$

Table 7 exhibits that a unit change in the predictor variable of Authoritarian parenting will result in a significant change in the criterion variable of smartphone addiction with a predictive change of 3.9%. However, authoritative and permissive parenting were insignificant predictors.

Discussion

This article explained the associations among maternal parenting styles, smartphone addiction, and emotion regulation strategies in young adults. Reliability analysis demonstrated that all measures used in this study possessed acceptable internal consistency. In a sample of 107 university-aged participants from Karachi, Pakistan, the current study investigated the relationship between maternal parenting methods, teenage emotion-regulation techniques, and smartphone addiction. The descriptive analyses, group comparisons, correlations, and regression models all yield several important conclusions that together shed light on the relationship between problematic smartphone use and maternal caregiving as well as individual emotion-regulation skills.

Along with the sample details already mentioned in methodology section, examining the effects of age, birth order, sibling position and family structure have made the information and analysis more balanced and fruitful. The comparatively early mean age aligns with the developmental window during which smartphones play a crucial role in education, entertainment, and social interaction, but it is also the time when behavioral addictions frequently reach their peak. Moreover, every scale showed satisfactory internal consistency, with Cronbach's alphas falling between .618 and .804. Given its modest number of items, the Expressive Suppression subscale's lower alpha (.618) is still within a reasonable range for exploratory work. For this population, the measures are generally regarded as psychometrically sound, which lends confidence to the next analyses.

In favor of the first hypothesis, weak but statistically significant relationships were identified between smartphone addiction and both cognitive reappraisal and authoritarian parenting. A negative correlation suggests that smartphone addiction is more common among teenagers who are less able to cognitively reframe emotional circumstances. This lends evidence to the idea that reliance on digital gadgets for diversion or mood restoration is a result of challenges with adaptive emotion regulation. Notably, increased smartphone addiction correlated with heightened utilization of cognitive reappraisal, indicating that individuals might employ reappraisal techniques to alleviate guilt or distress associated with excessive smartphone usage. Previous research has identified this paradoxical link, wherein attempts at emotion management might inadvertently validate or normalize maladaptive technological practices (Horwood & Anglim, 2021).

According to a small but significant positive connection, teenagers who believe their mothers are less affectionate and more controlling are a little more likely to use smartphones problematically. An authoritarian parenting style exhibited a favorable link with smartphone addiction, which aligns with

other research suggesting that stringent and restrictive parenting approaches may cultivate externalizing behaviors and maladaptive coping mechanisms, including obsessive technology use (Yaffe, 2020). This conclusion is consistent with studies conducted in East Asian and Western contexts, which show that a variety of risky behaviors in adolescents are predicted by strong control and low warmth. Although parental authority is culturally accepted in collectivist societies like Pakistan, too much control seems to impair teenagers' ability to self-regulate and may drive them to turn to digital devices in search of independence and social interaction.

Regression results provide additional validation for the fourth hypothesis. Smartphone addiction appeared to have a strong influence on cognitive reappraisal, having around 7% of the variance. This specifies that more smartphone use often creates maladaptive behavior, along with certain unhealthy regulating techniques. Two straightforward linear regressions were carried out to clarify predictive relationships: lower cognitive reappraisal was substantially predicted by smartphone addiction ($\beta = -.265, p = .006$), which explained 7% of the variance. This supports the hypothesis that compulsive digital engagement can undermine adaptive coping abilities or that teenagers with weak reappraisal skills are lured to phones as a coping method. Similarly, authoritarian parenting was a robust predictor of smartphone addiction, elucidating over 4% of the variance ($\beta = .197, p = .042$). A two-way process may be reflected in this relationship. Teenagers who believe their mothers are controlling may use smartphones excessively in an attempt to feel comfortable and independent; conversely, mothers may react to excessive smartphone use by enforcing stricter control, which teenagers subsequently interpret as authoritarian. These outcomes underline the impact of family patterns on technology usage behaviors, documenting the results of Li et al. (2022), which directed that authoritarian parenting increased the likelihood of problematic smartphone habits in teens.

It is mandatory to note that authoritative and liberal parenting did not have a considerable link with smartphone addiction. This implies that authoritarian skills have a dominating impact on creating poor digital outcomes. The lack of substantial predictive effects for authoritative and permissive parenting or expressive suppression highlights the particular significance of cognitive reappraisal and authoritarian maternal actions in the context of smartphone addiction. These results complement and build upon earlier research in a number of ways. Poor emotion control is often linked to problematic smartphone or internet use in international studies. When under stress, those with low cognitive reappraisal prefer to turn to avoidance or outside distraction, which makes smartphones a practical but maladaptive form of escape. In a South Asian context, our findings confirm this link, pointing to a cross-cultural trend. The lack of a connection to expressive suppression is fascinating since it suggests that reassessing emotional causes rather than suppressing feelings is the primary deficiency.

Although birth order has been an additional predictor of behavior, our results lend credence to the idea that last-born benefit from warmer, more balanced mother care, while firstborns have a developmental advantage in cognitive regulation. By affecting coping mechanisms and parent-child relationships, these patterns may indirectly influence how siblings use technology. The lack of gender disparities may be a result of Pakistan's shrinking digital gender gap and changing cultural norms that provide male and female teenagers with equivalent access to technology and parental expectations. This stands in contrast to previous research that showed clear gender differences, highlighting how quickly society is changing.

Contrary to the initial premise, the results indicated no significant gender differences in smartphone addiction, cognitive reappraisal, expressive repression, or maternal parenting methods. These findings are consistent with recent meta-analytic studies indicating that gender differences in problematic smartphone use are frequently minimal when cultural and environmental factors are considered (Lopez-Fernandez et al., 2023). It is significant that gender effects are minimal. Because societal norms discourage overt emotional expression, international literature frequently indicates higher rates of expressive repression among males and higher rates of smartphone overuse among females, who may use their phones more socially and emotionally. According to the current findings, the digital barrier has shrunk and cultural norms surrounding emotion may be merging within this sample of Pakistani universities. Women are rapidly adopting mobile internet, according to recent national data

(GSMA, 2025), which may close previous usage gaps. Similar views on maternal style may also be explained by the fact that changing gender norms in urban Pakistan may result in more similar parenting styles for sons and daughters.

An additional analysis regarding birth order reveals interesting results. There were significant distinctions found between first-born, middle-born and last-born young adults in terms of cognitive reappraisal and their perceived authoritative parenting. First-borns exhibited elevated levels of cognitive reappraisal compared to middle-born, indicating that children born earlier may cultivate more adaptive regulation skills, maybe attributable to increased parental attention or responsibility within the familial setting (Salmon et al., 2016). This implies that older siblings might learn more flexible ways to reframe emotional situations. According to family-systems research, firstborn children are usually given caregiving or role-modeling duties and receive more focused parental attention in their early years. Such encounters could foster emotional intelligence and self-control. Conversely, middle-born children may suffer from the "middle-child" effect, which could limit their ability to acquire complex cognitive coping mechanisms since they receive less individualized instruction and attention.

Additionally, last-born indicated greater maternal authoritative parenting in comparison to first- and middle-born, aligning with family systems theory, which posits that later-borns may experience more nurturing or permissive parenting as parents gain experience and become less stringent (Paulhus et al., 1999). When compared to their first- and middle-born siblings, last-born thought their mothers were more authoritative. With later-born children, parents typically loosen restrictions as their parenting style becomes more flexible and self-assured. The youngest children in South Asian homes are frequently seen as in need of nurturing and could profit from kinder, better-rounded discipline. The result is consistent with studies that demonstrate that as family dynamics settle, parental warmth for younger siblings frequently rises. For expressive suppression, authoritarian parenting, permissive parenting, and smartphone addiction itself, no apparent birth-order differences were found. This suggests that birth order does not directly impact the degree of smartphone misuse, even though it can influence emotion-regulation abilities and perceptions of maternal warmth and structure.

Interpreting these findings in the context of Pakistan gives them a greater depth. Over 60% of people are thought to own a smartphone these days, and teenagers depend more and more on mobile devices for social interaction, entertainment, and education. Mothers continue to be the primary caretakers and mediators of daily routines in many households; therefore, the emotional and technological development of adolescents is significantly influenced by the style of their mothers. A conflict in conventional family structures is highlighted by the strong correlation between smartphone addiction and authoritarian parenting. Adolescents exposed to globalized digital culture may demand autonomy that strong parenting unintentionally hinders, even while obedience and respect for elders are still prized. The dependence on cellphones as a substitute social space may increase as a result of this mismatch.

However, international data and the more authoritative scores reported by lastborns suggest that the protective impact of authoritative parenting is still likely to be significant, even though it is not statistically significant in this instance. In summary, these findings fill the gap in the growing body of literature that connects parenting styles to digital media patterns and show how significant it is for emotion regulation in shaping young adults' smartphone use.

Limitations

This study has recognized a few limitations. Firstly, the sample size (N = 107) was small and curbed to a specific area and culture, thereby narrowing its generalizability. Second, the use of self-report scales can cause response biases, including social desirability and recall errors. Third, only the mother's parenting style was assessed, excluding the possible influence of paternal or combined parenting tactics. Fourth, the cross-sectional design hinders the ability to deduce causal links regarding the relationship of parenting styles, smartphone addiction, and emotion control skills. Lastly, moderation and other demographic variables were not considered, which could have an influence on

the associations that were seen. Moreover, the data was collected from the individuals that lived in the Collectivistic environment thus the finding in this case won't be generalized to an entire population. Cultural differences would also play a vital role in the reporting of data. Thus, these differences could withhold the Universality of the data that is being reported. Collection of data from the representative sample that include the participants from various cultures, socio economic background and demographic could increase the generalizability of the findings.

Implications and Future Directions

The results findings are interesting in many ways and directing useful implications for the future endeavors. First and the most, family based interventions has to be implemented through psychoeducational workshops for the young adults who are having smartphone addiction or a potential to develop it in coming life. These workshops should have a tailored module congruent to the modern life challenges of digitalization and its penetration in the daily life routines of our youth. Secondly, psychoeducational workshops focusing on the parents should aware the parents about the positive impacts of authoritative parenting styles in contrary to permissive or authoritarian parenting. Moreover hands on training should be given to parents to execute the right way of an authoritative parenting style that equally manifest and implement love and discipline, leading to a harmonious and healthy family environment which automatically enhances the child's deep and quality involvement in family activities and gatherings, rather unnecessarily involve in smartphones and digital gadgets. Furthermore, there is also a room of incorporating activities, workshops and therapies specifically aimed to improve the emotional regulation as a skill including positive cognitive reappraisal, like mindfulness and problem-solving skills, can resolve the problems related to smartphone addiction or over-reliance.

As a future implication in the field of research and innovation, researchers should enhance the sample sizes as well as apply different data collection methods like longitudinal methods to more effectively generate causal relationships. Additionally, cultural contexts and variation can be studied as moderating variables between parenting and smartphone usage across various settings.

Conclusion

Present research have highlighted the influence of mothers' parenting styles on the smartphone addiction and emotional regulation among male and female young adults. Finding are indicating toward the empirical knowledge that authoritarian parenting can lead to smartphone addiction, while birth order affects both maternal authoritative parenting and emotional regulation approaches. These findings underline the worth of family relations in understanding and managing technology-related issues during emerging adulthood. Interventions related to functional positive parenting styles as future implications can be supportive element to not only make the parents aware of their crucial role in young's habits and use of smartphone and technology dependence but also their role in achieving adaptive self-regulation skills. This may lead to a significant decrease in unhealthy ways of smartphone usage. Present research is an academic contribution to the ongoing literature about how parenting, digital behaviors, and emotional well-being are connected with each other, especially with reference to Pakistan as collectivist and progressive society.

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