

Parental Warmth-Neglect, Perceived Phubbing and Emotional Behavioral Problems of Gen Z

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Abstract

Background: Adolescent years are crucial for development where parents have an important influence on the behavior of children. Although there is extensive evidence of neglect and affection as factors that affect emotional and behavioral development of children, the process is becoming more complex in terms of modern technology distraction. The phenomenon of “phubbing” by parents, which refers to the use of smartphones when talking with children, influences communication and family cohesion.

Objectives: In this correlational research, the relationship between parental neglect, parental phubbing, teenage phubbing behaviors (communication disturbance and phone addiction) and emotional-behavioral problems were studied.

Method: A sample of 515 adolescents ($M_{\text{age}} = 16.5$ years, aged 14–19) completed standardized self-report measures. Data was analyzed using serial mediation modeling via the SPSS PROCESS macro.

Results: Parental neglect perception and phubbing were significantly and positively associated with youth self-phubbing and emotional-behavioral problems. Serial mediation analyses found that parental neglect is a significant predictor of parental phubbing, which subsequently leads to youth communication problems and phubbing, culminating in emotional-behavioral problems.

Conclusion: The results clearly indicate how parental phubbing is a powerful form of relational neglect in the modern-day world, which can result in maladjustment among adolescents.

Keywords: Parental warmth/neglect; Perceived parental phubbing; Emotional-behavioral problems; Self-phubbing; Generation Z.

INTRODUCTION

Adolescence is a significant stage that is marked by neurobiological, social, and psychological changes [5]. In this stage, primary relationships with parents play a critical role in behavioral and emotional adaptation of a person. The history of research indicates that an emotional atmosphere of the family, which varies on a continuum between warmth and neglect, is a significant predictor of well-being of adolescents [5]. Warmth of parents promotes secure attachment, emotional resilience, and interpersonal competence in their children, while neglect leads to maladaptive trajectories of development, which are associated with internalizing and externalizing emotional and behavioral issues [23]; Muñoz-Rivas et al., 2021). In the context of collectivistic culture of South Asia and Pakistan, the nature of parental behavior, including warmth and neglect, has crucial psychological meanings that determine the development of emotional resilience or personality maladaptation in adolescents.

The modern dynamic of parenting is, however, vastly different because of the advent of mobile devices. In today's world, the age-old dynamics of care and neglect are often dictated through screens. The disruption that occurs is referred to as 'phubbing' which is a blend of the term's 'phone' and 'snubbing,' meaning when one interrupts a social interaction and gives attention to his/her mobile device [11]. If carried out by parents, perceived parental phubbing adds an additional dimension to relational deprivation. It acts as an obvious indicator of

emotional unavailability by conveying the message to the adolescent that the digital device means more than the person [49]. Parental phubbing, therefore, does not only distract but also jeopardizes emotional relationships within the family, working as a unique form of parental neglect in the digital age [31] ; Yildiz Durak, 2021).

This process is especially relevant for Generation Z (Gen Z), a generation born in an already formed digital world. Being digital natives, Gen Z members find smartphones indispensable parts of their daily lives, which makes them vulnerable to the role-modeling influence of their main caregivers (Dimock, 2019; Turner, 2015). When the perception of parental phubbing and negligence increases among adolescents, there is another type of reciprocal behavior – adolescents start using mobile phones too (Tandon et al., 2022). The use of mobile phone becomes a defense mechanism and/or mimicry to protect oneself from the alienation in the household [11]; Yildiz Durak, 2021). In Pakistan, such a technology-based alienation and repression of emotional experience have devastating effects. Maladaptive strategies used by young people to deal with ambient tension impair their hot executive functions (emotions regulation) and increase internalizing distress (anxiety) significantly while reducing subjective well-being [17]. However, the issue does not end here. Depending on digital technologies makes it even harder. High levels of adolescent self-phubbing lead to a greater disintegration of the family unit and consequently result in a pathological emotional-behavioral state.

To understand the effects of digital distractions in the family, this study combines the Attachment Theory by John Bowlby and the Ecological Systems Theory of Urie Bronfenbrenner. According to Attachment Theory, parental love forms a secure base from which the teenager is able to face different developmental challenges (Bowlby, 1988), while parental neglect seriously threatens this base (Bowlby, 1973). With regard to the digital era, the perception of parental phubbing might be seen as an unpredictable and irregular interruption of the attachment availability (Bowman, 2022). When a parent constantly diverts his/her attention towards the smartphone in interaction with the child, he/she gives an implicit message of emotional rejection and depreciation [49]. This visual communication, which represents neglectful behavior in a new way and repeats the typical behavior of parental deprivation, disturbs the secure base, develops the attachment anxiety or avoidance, and finally increases the susceptibility to mental disorders (Bowlby, 1969, 1973; Liu et al., 2020). Local findings confirmed that such rejection, especially maternal neglect and hostility, seriously affects the

self-esteem and emotional balance of young Pakistani patients, while paternal neglect and rejection become the strong predictors of psychological maladjustment [34].

However, the same period has seen the birth of Bronfenbrenner's Ecological Systems Theory. It assumes that human development is influenced by "proximal processes," which are the constant face-to-face interactions of individuals with their immediate surrounding, referred to as microsystem (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998). Nowadays, the smartphone has become the invasive artifact that interferes with these processes in adolescents' microsystem [36]. Instead of being used merely as an instrument, parental phubbing use turns out to be a factor preventing the proper development of relationships in families [31]. Moreover, this issue affects the microsystem itself. The breakdown of face-to-face interactions results in the disintegration of primary mechanisms of cognitive and psychological development of a person, which leads to subsequent misbehavior (Bronfenbrenner, 1979; [36]. At the national level, it has been empirically proved that the deterioration of the immediate environment and parent-child relationship greatly contributes to increasing internalizing and externalizing problems of Pakistani adolescents with the help of SDQ [21]; Hamdani et al., 2024).

The core mechanism of this study lies in a specific, sequential path:

*Parental Neglect → Parental Phubbing → Adolescent Self – Phubbing
→ Emotional – Behavioral Problems*

For a better understanding of the above trajectory, it is critical to understand the reasons for which underlying parental neglect forms the antecedent of parental phubbing. The emotionally neglectful parents who are known to be unresponsive and less emotionally engaged (Greene et al., 2020; Musser et al., 2018) will use their smartphones as a buffer zone or avoidance mechanism. These parents will find it easy to use their smartphones to avoid the challenging emotional interactions and pressures in active parenting (Leung, 2024; [53]).

It is the adolescent who picks up this habit from the parents and imitates it. Parental phubbing modeling leads to the development of reciprocal behavior pattern where the adolescent shows high incidences of self-phubbing as manifested through deep-seated communicative issues and phone obsession (Karadağ et al., 2015; Zhang et al., 2021). It can be clearly explained using Social Learning Theory that emphasizes the power of observational learning where individuals pick behaviors mainly through observation (Bandura, 1971; Wang

et al., 2022). This defensive or imitation use of technology is done by escaping an alienating tech-dependent environment (Kardefelt-Winther, 2014; Niu et al., 2020).

However, this digital withdrawal causes a spiraling problem in that as the teenager becomes more entangled in the digital universe, genuine communication with his family and society disintegrates entirely (Geng et al., 2021). The combined isolation experience initiated by the parent and then perpetuated through the digital obsession of the teenager results in an extreme increase in the emotional-behavioral disorders of both internalizing and externalizing nature [49]; [53]. Whereas previous research conducted in a regional capacity has focused heavily on the investigation of such disorders in a Pakistani medical context [51]; [34], there is a huge gap in the knowledge of how these emotional-behavioral disorders arise from the technological neglect experienced by healthy Gen Z adolescents.

To bridge this gap, this current study adopts a quantitative, cross-sectional approach to explore the pathway between parental neglect and perception of parental phubbing and self-phubbing among adolescents leading to internalizing and externalizing emotional-behavioral issues in Punjab, Pakistan.

The Normalization of Phubbing in Contemporary Pakistani Interaction

The exponential rise and omnipresent nature of mobile devices have brought about significant changes to the landscape of human interaction in our modern times. Key to this change is the phenomenon of "phubbing" (phone snubbing), which has gone from being a rare occurrence to a regular, almost expected phenomenon within different social ecologies. Instead of causing social tensions, phubbing has quickly been normalized through a rapid process. The heavy usage of communication devices has caused social norms to shift, turning phone snubbing into an expected social behavior.

This normalization phenomenon is especially true for young adults and teenagers, who live their lives completely immersed in technology. In the cultural environment of Pakistan, this normalization comes with the backdrop of strong collectivist principles and close-knit family ties. As a result, as the behavior gets normalized, the psychological barriers protecting face-to-face interaction spaces continue to disintegrate, leaving future generations open to the impact.

Predictors of Phubbing Behavior: Parental Climate and Social Modeling

The growth of such an activity as phubbing is highly determined by a number of relational dynamics that involve the interaction between the parent and the child in the family. Not only are these technological addictions, but rather they are highly rooted in developmental theories like those of Bowlby's and Bandura's.

The Dual Axles of Parenting: Warmth vs. Neglect

The interpersonal experience of the individual during early childhood with their primary caregivers is formed into rigid internal working models that guide expectations, emotional regulation, and behavior for life. The atmosphere at home depends on where parents lie on a continuum ranging from warm to neglectful and guides the development of the attachment styles. Practically, the attachment styles determine resilience or vulnerability to digital relational trauma.

Parental warmth leads to the development of the secure attachment style and provides an adolescent with psychological resources and self-esteem [34]. On the other hand, neglect and hostility by parents lead to anxious or avoidant attachment style [34]. Maternal hostility and paternal neglect in Pakistani families have been found to be significant predictors of emotional dysregulation, poor self-esteem, and severe psychological maladjustment among adolescents [34]. If neglected or rejected adolescents perceive parental phubbing, they experience it in terms of rejection. Since there is no secure base, the adolescent relies on the obsessive use of mobile phones and self-phubbing as an avoidant response to alienation.

Social Learning Theory and Familial Modeling

Combining social learning theory, the domestic setting acts as the key stage for behavioral modeling. Adolescents do not just respond to the lack of emotion from their parents but watch and replicate the behaviors being modeled by their caregivers. The phubbing of the parents becomes the model behavior for the kids to emulate whenever they feel bored or stressed with another person.

In the joint and tight nuclear families of Pakistan, where interpersonal boundaries have traditionally been respected, parental behavioral modeling becomes a strong social script [34]. The child imitates the indifference and phone-fixation of his parents through the process of observational learning [34]. This makes the smartphone become a source of attraction for the

youth as a psychological haven and leads the youth to withdraw into the digital world and snub real-world interlocutors because of their avoidant behaviors [34].

Psychological and Behavioral Consequences: Internalization and Externalization Processes

The emotional and behavioral reactions to the detrimental parenting environment emerge in the form of psychological disorders that can be clearly observed among the youth population of Pakistan [51]; [17].

Internalizing Emotional Consequences

Phubbing and parental rejection experiences psychologically take their toll on people in terms of the development of internalizing emotional problems [51]; [34]. Being repeatedly phubbed and rejected makes people face acute interpersonal conflicts which make them feel less valuable [34]. This deterioration of the interpersonal relationship causes overall dissatisfaction with life and becomes a straightforward path to higher levels of anxiety and depressive symptoms [51]; [17]. From an everyday experiential perspective, phubbing is a chronic micro-stressor which undermines self-esteem, making victims develop anxiety and depression [34];[17].

Gender differences in Pakistan become apparent when studying socio-cultural and clinical studies on how these problems manifest. Females show much higher levels of internalizing emotional problems and distress compared to males [17].

Externalizing Behavioral Consequences

At the same time, phubbing is an active catalyst for the externalization of behavioral issues and relational volatility (Hamdani et al., 2022). On the surface, phubbing results in direct interpersonal confrontation, bringing more conflicts, rage, and aggression (Hamdani et al., 2022). Victims of phubbing are not helpless people; often, they experience feelings of anger and resentment that show up in "tit-for-tat" responses to their caregivers' behavior. To defend themselves and receive outside confirmation, victims of phubbing will take their smartphones, thus repeating the other person's snubbing in the form of self-phubbing.

Regarding the problem of behavioral problems in Pakistan, males tend to have much higher levels of overt behavioral and social problems under chronic relational stress than women (Hamdani et al., 2022).

The Vicious Cycle of Loneliness

Such retaliatory mechanisms ensure that this pattern will be perpetuated. Loneliness is such an effective element in this loop. People suffering from higher levels of base loneliness, often resulting from lack of emotional warmth from parents or having gone through relational difficulties at a young age, are likely to indulge in their mobile phones excessively to act as a substitute for socializing [34]; [17].

But this very design of digital migration status makes the situation worse, as people who have felt excluded socially will become increasingly preoccupied with online activities to feel included again, which results in them phubbing others, thus isolating themselves even more and further contributing to the vicious circle of mental stress and relational exclusion [34]; [17].

METHODOLOGY

Research Design

This research used a quantitative cross-sectional correlational survey design to examine the associations between parental warmth-neglect, parental phubbing, adolescent self-phubbing behavior, and emotional and behavioral difficulties among generation Z teenagers in Punjab, Pakistan. This research design is suitable for analyzing predictive paths, sequential mediation process, and interactions within the large demographic group at one point of time.

Participants and Sampling

Prior to running a power analysis, the software program, G Power, was used to determine the sample size needed for the research. With an effect size of .01, $\alpha = .05$, and desired correlation of $r = .70$, the recommended sample size is around 560. Sample data collection has resulted in the recruitment of $N = 515$ adolescent participants of Generation Z (1997-2012) age group (14 to 19 years old) from schools and colleges in Punjab, Pakistan using convenience sampling.

Inclusion Criteria

Inclusion and exclusion criteria were rigorously applied to account for possible confounding variables. To participate in the study, the participants must:

1. Owning and using a smartphone personally.
2. Belonging to an educational institute at present.
3. Have their parents alive.
4. Living in the urban parts of Punjab to have equal initial exposure to digital technology and screen mediated family interactions.

Exclusion Criteria

Participants were excluded from the study if they:

1. Had been through parental bereavement.
2. Not attending any educational institution at present.
3. Did not own a smartphone.
4. Physical or psychological disabilities.
5. Living in rural parts of Punjab.

Measures

Demographic Data Form

The demographic form was tailored to gather the baseline demographics such as age, birth order, and education.

Parental Acceptance and Rejection Questionnaire-Short Form (PARQ-SF)

The perception of parental warmth and neglect was determined by the use of 24-item Parental Acceptance and Rejection Questionnaire Short Form. This tool is based on the theory

of Parental Acceptance-Rejection Theory (PARTheory). It is a 4-point Likert Scale scoring from 1 (all/most of the time) to 4 (never). The questionnaire measures the following four dimensions: warmth/affection (eight questions); hostility/aggression (six questions); indifference/neglect (six questions); and undifferentiated rejection (four questions). There are fifteen reverse scored questions in order to reduce the response bias. The score ranges from 24 to 96. Higher total score indicates high parental rejection and neglect, and vice versa.

Perceived Parental Phubbing Scale (PPPS)

The scale used to assess parental phubbing consisted of an adaptation of the unidimensional scale initially used by Roberts and David (2016). Designed to assess parental neglect caused by smartphones in romantic relationships, the scale has also been successfully applied in measuring phubbing behavior in parent-child interactions (David & Roberts, 2020). Phubbing is defined as the experience of being overlooked or ignored in a face-to-face situation because of caregiver's use of smartphones. The scale includes 9 items scored from 1 (Never) to 5 (Always) on a 5-point Likert scale, with 1 item reverse-scored.

Phubbing Scale (PS)

The phubbing behavior of the teenagers was evaluated through a 10-item Phubbing Scale by Karadağ et al. (2015). The items of this scale are rated according to a 5-point Likert-type scale, which ranges from 1 (Never) to 5 (Always), thus providing a possible score from 10 to 50, whereby high scores imply:

- Communication Disturbance (5 items: 1, 2, 3, 4, and 10), capturing the extent to which phone use disrupts active, face-to-face conversations.
- Phone Obsession (5 items: 5, 6, 7, 8, and 9), assessing the compulsive drive to carry and check the device outside of active communication contexts.

Strengths and Difficulties Questionnaire (SDQ)

Maladjustment of adolescents was gauged through the use of the Strengths and Difficulties Questionnaire youth self-report measure (Goodman, 2002). This tool consists of 25 items that have responses ranging from 0, 1 and 2 corresponding to Not True, Somewhat

True and Certainly True, respectively. There are five factors in the test including Emotional Symptoms, Conduct Problems, Hyperactivity/Inattention, Peer Relationship Problems and Prosocial Behavior. The test comprises of 13 reverse-coded items to guard against response bias. High levels of scores on the first four factors show that there are severe problems on internalizing (emotional, peer relationship problems) and externalizing (conduction, hyperactivity) issues.

Procedure and Ethical Considerations

After obtaining the required institutional approval from the Board of Studies and authorization from the primary authors for using the scales, data was collected from urban educational institutions in Punjab. Cooperation from the institutions was obtained via school and college administration.

Ethical standards as per APA (2020) guidelines were strictly adhered to:

- **Informed Consent:** Participants were thoroughly briefed on the study's scope, objectives, and voluntary nature. Informed written consent was obtained from all participants, including parental/guardian assent for minors.
- **Anonymity and Safety:** Complete confidentiality and anonymity were guaranteed; no personally identifying details were requested, and data were restricted strictly to academic research purposes.
- **Right to Withdraw:** Participants were informed of their explicit right to withdraw from research at any point without penalty or adverse consequences.

Data Analysis Strategy

Data analysis will be done using IBM SPSS Statistics version 24. Data analysis procedure will entail the following steps:

- **Descriptive & Bivariate Testing:** Descriptive statistics (Means, Standard Deviations, frequencies) will be computed to summarize demographic attributes and core study variables. The Pearson product-moment correlation analysis will be done to explore the directional bivariate relationships of the primary variables.

- **Regression Modeling:** Multiple regression analyses will evaluate the direct predictive capacity of parental warmth and neglect on the adolescents' social and behavioral outcomes.
- **Sequential Mediation Analysis:** A serial mediation analysis will be conducted through the SPSS PROCESS macro to establish the sequential role of perceptions of parental phubbing and self-phubbing behaviors in mediating the link between parental warmth-neglect and outcomes.

RESULTS

The key aim of this analysis is to systematically conduct a thorough examination of empirical evidence ($N=515$) regarding the testing of hypothesized relationships concerning the intersections of parental factors, digital engagement, and teen adjustment. All data screening, descriptive management, and inferential modeling have been done using IBM SPSS Statistics (Version 24.0) with the addition of the PROCESS Macro (Version 4.3) computation software (Hayes, 2013).

Frequency and percentages were first generated to describe the demographic profile of Generation Z. Descriptive statistics and psychometric properties, such as mean, standard deviation, and Cronbach's alpha (α) for each measure, together with skewness and kurtosis measures, were then assessed to ensure baseline reliability and normality of distribution. Pearson Product Moment Correlations were second performed to assess the directional relationships between the principal continuous variables. Simultaneous multiple regressions analyses were performed thirdly to examine the unique predictive contributions of maternal and paternal warmth-neglect, parental phubbing, and self-phubbing components on internalization and externalization behavior problems. To test demographic differences and possible systemic confounders, several t-tests for independent samples and Multivariate Analysis of Variance (MANOVA) analyses were performed fourth across the categorical groups. Finally, path analysis with bootstrapping procedures in PROCESS Macro was employed to test the serial mediation models. The following tables present empirical data and local statistical interpretations.

Table 1

Demographic Characteristics of Study Participants ($N=515$)

Demographic Variables	<i>F</i>	%
Gender		
Male	125	24.3
Female	390	75.7
Age Groups		
14-16	175	34.0
17-19	340	66.0
Birth Order		
First Born	146	28.3
Second Born	155	30.1
Others	214	41.6
Education Level		
Matric	111	21.6
Intermediate	404	78.4
Sector		
Private	362	70.3
Public	153	29.7
Mother's Education		
Undergraduate	326	63.3
Graduate	178	34.6
Postgraduate	11	2.1
Father's Education		
Undergraduate	273	53.0
Graduate	208	40.4
Postgraduate	34	6.6
Mother's Job Status		
Employed	126	24.5
Unemployed	389	75.5
Father's Job Status		
Employed	486	94.4
Unemployed	29	5.6
Family Type		
Nuclear	322	62.5

Joint	193	37.5
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The frequency distribution of variables such as gender, age category, birth order, education level, sector, mother's education, father's education, employment status, and family type is provided in Table 1 below.

Table 2

Descriptive Statistics of Scales (N=515).

Scales	<i>k</i>	<i>M</i>	<i>SD</i>	α	Range	Min	Max	Skewness	Kurtosis
Maternal Warmth-Neglect	24	64.03	7.75	.86	72	27	99	-.09	1.61
Paternal Warmth-Neglect	24	67.24	9.87	.86	95	32	127	-.09	3.55
Perceived Maternal Phubbing	9	17.41	6.40	.84	36	9	45	1.16	1.89
Perceived Paternal Phubbing	9	19.68	7.95	.86	36	9	45	.83	.43
Self-Phubbing	10	23.88	9.44	.80	78	10	88	1.00	3.57
Emotional Behavioral Problems	25	55.26	6.45	.71	35	37	72	.11	-.41

Note. Standard error ^a=.11; Standard error ^b=.22

Table 2 presents the descriptive statistics and reliability coefficients for all study measures. The Parental Acceptance–Rejection Questionnaire (PARQ) yielded mean scores of 64.03 (SD = 7.75, α = .86) for mothers and 67.24 (SD = 9.87, α = .86) for fathers, demonstrating strong reliability. Perceived parental phubbing had a mean score of 17.42 (SD = 6.39) for mothers and 19.68 (SD = 7.94) for fathers, with Cronbach's α coefficients of .84 and .86 respectively, which indicates adequate internal consistency. The Phubbing Scale had a mean score of 23.88 (SD = 9.44) and good internal consistency (α = .80). The Strengths and Difficulties Questionnaire (SDQ) in terms of emotional-behavioral problems had a mean score of 55.26 (SD = 6.44) with a Cronbach's α of .71, which indicated moderate reliability. All scales have acceptable psychometric properties. The skewness values varied between $-.138$ and 1.16 while kurtosis values ranged between $-.415$ and 3.57 , which is considered as an acceptable level of ± 2 (George & Mallery, 2010). All in all, these findings show that the scales were reliable and appropriate for analysis.

Table 3*Pearson Correlation among Study Variables*

Sr. No.	Variables	1	2	3	4	5	6	7	8
1	Maternal Neglect	-	-	.11*	.10	.02**	.09	.11*	-.11*
2	Paternal Neglect		-	.12**	.17**	.07**	.07	.13**	-.28**
3	Perceived Maternal Phubbing			-	-	.19**	-.21**	.20**	-.17**
4	Perceived Paternal Phubbing				-	.13**	-.11*	.14**	-.15**
5	Self-Phubbing					-	.13**	.25**	-.16**
6	Externalizing Problems						-	.42**	-.16**
7	Internalizing Problems							-	-.24**
8	Prosocial Behavior								-

Note. *** $p < .001$, ** $p < .01$, * $p < .05$

Table 3 presets the Pearson correlation coefficients among all the study variables including parental neglect, perceived phubbing, self-phubbing, and emotional-behavioral problems (internalizing problems, externalizing problems, and prosocial behavior). Parental neglect (both maternal and paternal) was positively associated with internalizing and externalizing problems while negatively associated with prosocial behavior, highlighting its detrimental impact on adolescent adjustment. Perceived paternal phubbing (both maternal and paternal) showed positive correlations with self-phubbing and internalizing/externalizing problems, while negatively associated with prosocial behavior. Overall, the correlation matrix suggests that parental neglect and phubbing tendencies are linked with maladaptive emotional–behavioral outcomes among adolescents.

Table 4*Mean, standard deviation and t- values for Age groups on Study Variables*

Variables	14-16 (n=175)		17-19 (n=340)		<i>t</i>	<i>p</i>	<i>Cohen's d</i>	95% <i>CI</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				<i>LL</i>	<i>UL</i>
Maternal Neglect	29.37	9.12	28.97	9.36	.46	.50	0.043286	-1.30	2.09
Paternal Neglect	28.66	9.79	29.28	9.72	-1.8	.41	0.859041	-3.40	.16
Perceived Maternal Phubbing	17.11	6.63	17.58	6.42	-.79	.42	0.072021	-1.64	.70
Perceived Paternal Phubbing	19.13	7.04	19.97	8.37	-1.14	.23	0.108616	-2.30	.61
Self-Phubbing	23.10	8.84	24.27	9.73	-1.33	.93	0.125865	-2.90	.55
Internalizing Problems	21.51	3.27	21.32	3.48	.58	.28	0.056269	-.44	.81
Externalizing Problems	22.13	3.06	22.04	3.09	.32	.91	0.029268	-.47	.65
Prosocial Behavior	11.79	2.30	11.81	2.38	-.08	.55	0.008546	-.45	.41

Table 4 presents the mean, standard deviation, and independent-samples *t*-test values for study variables across two age groups (14–16 years, *n* = 175; 17–19 years, *n* = 340). Results revealed no statistically significant mean differences between the two age groups on any of the study variables, including parental warmth and neglect, perceived parental phubbing (maternal and paternal), self-phubbing, internalizing problems, externalizing problems, and prosocial behavior ($p > .05$). Although not significant, younger adolescents (14–16) reported slightly higher levels of perceived maternal phubbing, and prosocial behavior, while older adolescents (17–19) showed marginally higher scores on father neglect, perceived father phubbing, and externalizing problems. However, these differences were small, with negligible effect sizes (Cohen's *d* ranging from .01 to .15). Overall, the findings suggest that age did not play a significant role in shaping the key psychological and behavioral variables under investigation.

Table 5

Mean, standard deviation and t- values for Gender on Study Variables

Variables	Male (<i>n</i> =125)		Female (<i>n</i> =390)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>	95% <i>CI</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				<i>LL</i>	<i>UL</i>
Maternal Neglect	29.76	9.45	28.89	9.22	.91	.56	0.093191	-1.01	2.74
Paternal Neglect	29.95	9.40	29.66	9.89	.29	.18	0.030058	-1.68	2.27
Perceived Maternal Phubbing	17.58	6.72	17.37	6.30	.31	.56	0.032241	-1.07	1.50
Perceived Paternal Phubbing	19.86	7.57	19.63	8.07	.27	.49	0.029397	-1.38	1.83
Self-Phubbing	25.51	11.39	23.35	8.68	2.24*	.01	0.213311	-.26	4.06
Internalizing Problems	22.58	3.18	21.00	3.07	4.60***	.001	0.505522	.91	2.26
Externalizing Problems	22.14	3.11	22.04	3.07	.30	.87	0.032362	-.53	.72
Prosocial Behavior	11.72	2.38	11.82	2.35	-.39	.92	0.042282	-.57	.38

Table 5 presents the mean, standard deviation, and independent-samples t-test values for study variables across gender groups (male, *n* = 125; female, *n* = 390). The results showed that several variables did not differ significantly by gender, including parental neglect (maternal and paternal), perceived parental phubbing, externalizing problems, and prosocial behavior (*p* > .05). However, a highly significant gender difference was observed for internalizing problems, with males (*M* = 22.58, *SD* = 3.18) reporting significantly higher levels than females (*M* = 21.00, *SD* = 3.07), *t* (515) = 4.60, *p* < .001, indicating a moderate effect size (Cohen's *d* = 0.51). Additionally, a significant gender difference was sustained for self-phubbing, with males (*M* = 25.51, *SD* = 11.39) reporting higher baseline levels than females (*M* = 23.35, *SD* = 8.68), *t* (515) = 2.24, *p* = .01, reflecting a small effect size (Cohen's *d* = 0.21). Overall, these findings suggest that gender serves as a notable differentiating factor for internalizing distress and self-phubbing behaviors within the cohort.

Figure 1.1

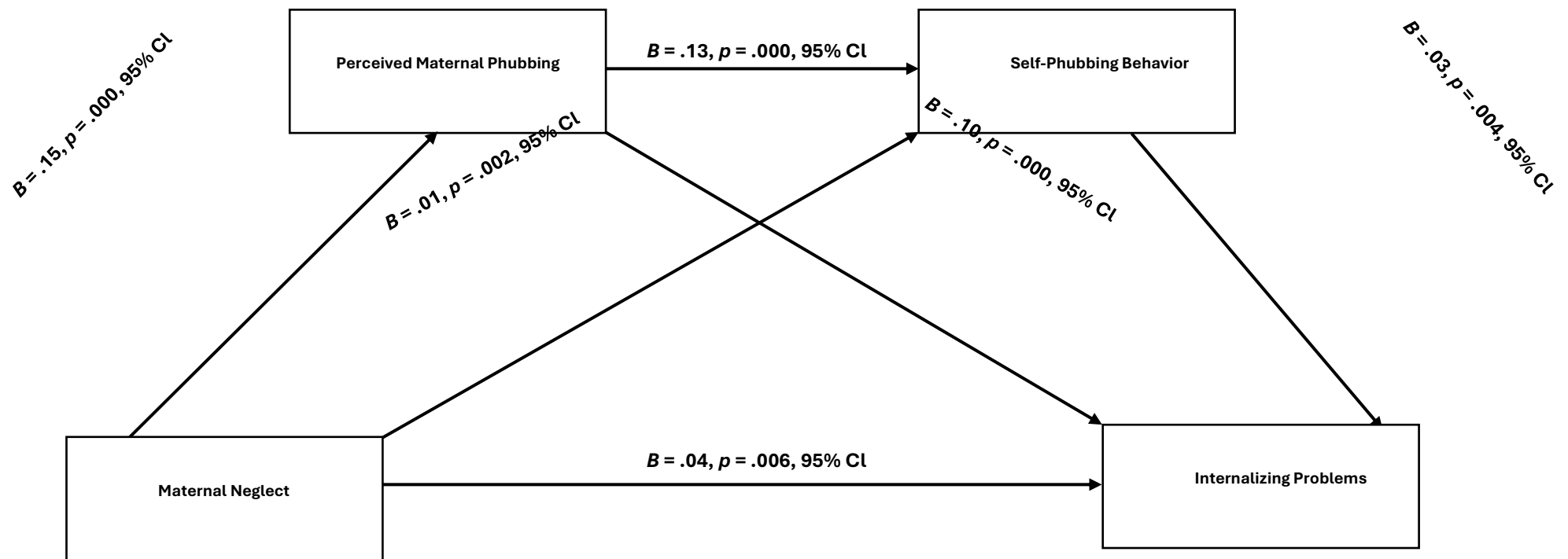


Fig 1: Conceptual Framework of Mediation Variables

Table 6

Serial Mediation Analysis of Perceived Parental Phubbing and Self-Phubbing between Maternal Neglect and Internalizing Emotional Behavioral Problems

Antecedent	Consequent								
	Perceived Maternal Phubbing			Self-Phubbing			Internalizing Problems		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Maternal Neglect →	.15	.05	.00	.01	.07	.00	.04	.02	.006
Perceived Maternal Phubbing →									
Self-Phubbing →									
Internalizing Problems									
Perceived Maternal Phubbing →	-	-	-	.13	.07	.00	.10	.02	.000
Self-Phubbing →									
Internalizing Problems									
Self-Phubbing →				-	-	-	.03	.01	.004

Internalizing

Problems

Table 6 shows the outcomes of the serial mediation analysis which was used to determine whether perceived maternal phubbing and self-phubbing act as mediators between maternal neglect and emotional-behavioral problems in children. It is evident from the outcomes that maternal neglect predicted perceived maternal phubbing ($B = .15, p < .000$) and self-phubbing ($B = .01, p = .002$). Perceived maternal phubbing positively predicted self-phubbing ($B = .13, p = .000$), whereas self-phubbing positively predicted internalizing problems ($B = .03, p = .004$). The findings suggest that maternal phubbing and self-phubbing behavior mediate the relationship between maternal neglect and emotional-behavioral problems internally, showing that maternal neglect indirectly leads to internalizing difficulties by means of phubbing.

Figure 1.2

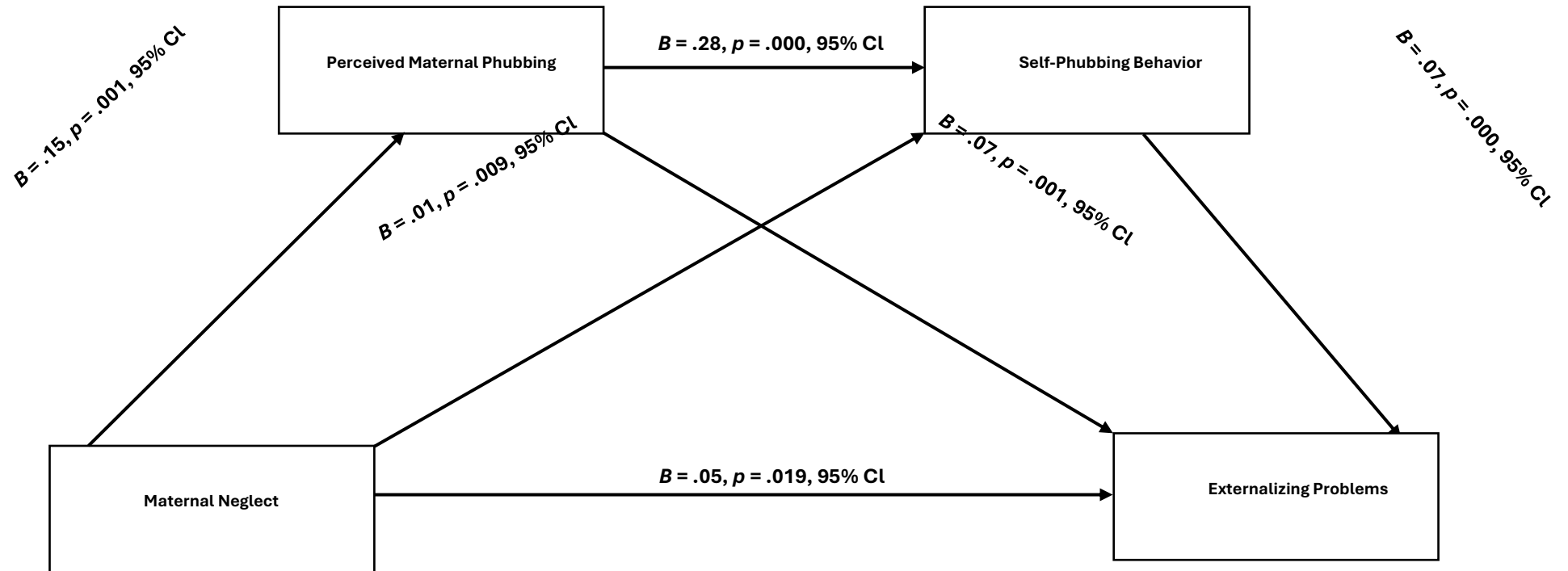


Fig 2: Conceptual Framework of Mediation Variables

Serial Mediation Analysis of Perceived Parental Phubbing and Self-Phubbing between Maternal Neglect and Externalizing Emotional Behavioral Problems

Antecedent	Consequent								
	Perceived Maternal Phubbing			Self-Phubbing			Externalizing Problems		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Maternal Neglect → Perceived Maternal Phubbing → Self-Phubbing → Externalizing Problems	.15	.05	.001	.01	.07	.009	.05	.02	.019
Perceived Maternal Phubbing → Self-Phubbing → Externalizing Problems	-	-	-	.28	.08	.001	.07	.03	.001
Self-Phubbing → Externalizing Problems				-	-	-	.07	.01	.000

Externalizing

Problems

Table 7 shows the results of the serial mediation analysis that tests whether perceived maternal phubbing and self-phubbing can mediate the association between maternal neglect and externalizing emotional-behavioral problems. Results show that maternal neglect had a significant and positive association with perceived maternal phubbing ($B = .15, p < .001$) and self-phubbing ($B = .01, p = .009$). Furthermore, perceived maternal phubbing had a significant and positive association with self-phubbing ($B = .28, p = .000$), and self-phubbing was associated with externalizing problems ($B = .07, p < .000$). These results imply that both perceived maternal phubbing and self-phubbing can be considered as significant mediators in the association between maternal neglect and externalizing emotional-behavioral problems.

Figure 1.3

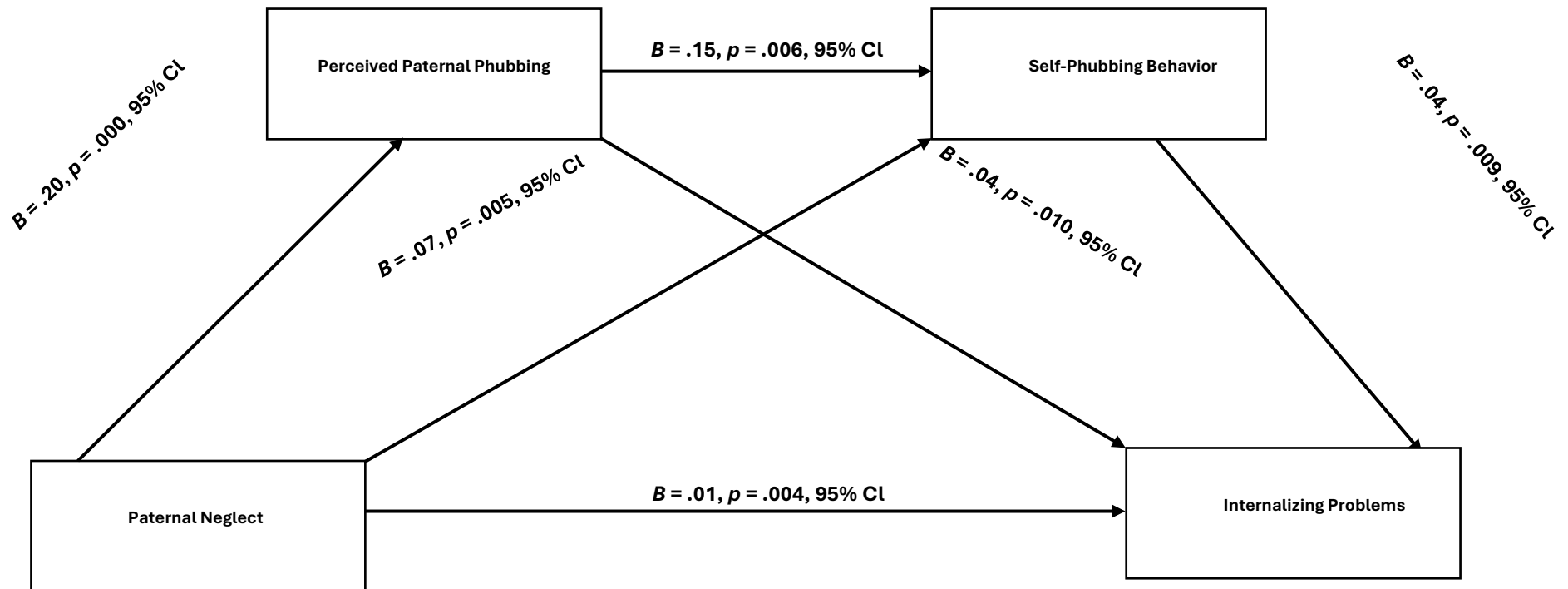


Fig 3: Conceptual Framework of Mediation Variables

Table 8

Serial Mediation Analysis of Perceived Parental Phubbing and Self-Phubbing between Paternal Neglect and Internalizing Emotional Behavioral Problems

Antecedent	Consequent								
	Perceived Paternal Phubbing			Self-Phubbing			Internalizing Problems		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Paternal Neglect → Perceived Paternal Phubbing → Self-Phubbing → Internalizing Problems	.20	.05	.000	.07	.06	.000	.01	.02	.004
Perceived Paternal Phubbing → Self-Phubbing → Internalizing Problems	-	-	-	.15	.05	.000	.04	.02	.010

Self- Phubbing → Internalizing Problems	-	-	-	.04	.02	.009
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Table 8 presents the results of serial mediation analysis performed to determine if perceived paternal phubbing and self-phubbing mediate the effect of paternal neglect on emotional and behavioral problems. It has been found that paternal neglect is a significant and positive predictor of perceived paternal phubbing ($B = .20, p < .001$) and self-phubbing ($B = .07, p = .005$). Perceived paternal phubbing positively predicted self-phubbing ($B = .15, p = .006$), whereas self-phubbing positively predicted internalizing problems ($B = .04, p = .009$). This means that paternal phubbing and self-phubbing act as mediators in the sequence of events where paternal neglect leads to emotional and behavioral problems among children, implying that phubbing is an indirect effect of parental neglect.

Figure 1.4

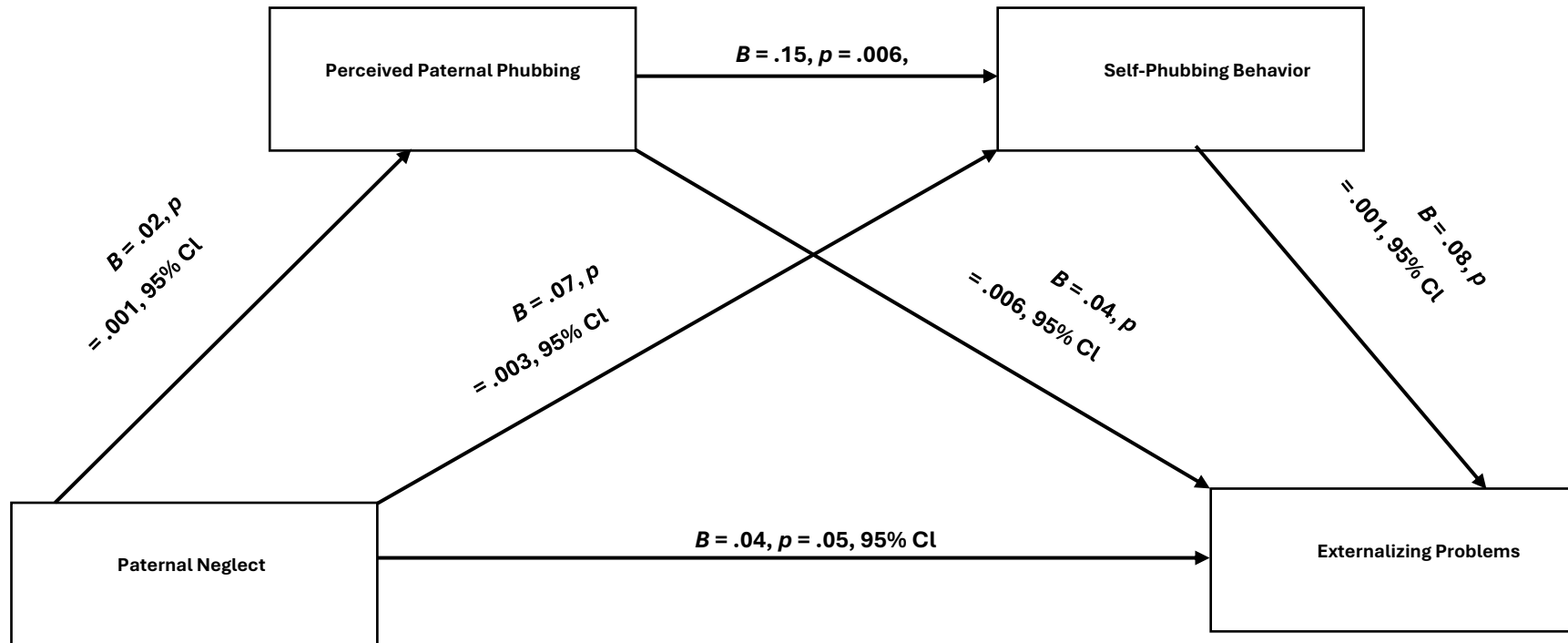


Fig 4: Conceptual Framework of Mediation Variables

Table 9

Serial Mediation Analysis of Perceived Parental Phubbing and Self-Phubbing between Paternal Neglect and Externalizing Emotional Behavioral Problems

	Antecedent			Consequent					
	Perceived Paternal Phubbing			Self-Phubbing			Externalizing Problems		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Paternal Neglect → Perceived Paternal Phubbing → Self-Phubbing → Externalizing Problems	.20	.05	.00	.07	.06	.00	.04	.02	.050
Perceived Paternal Phubbing → Self-Phubbing → Externalizing Problems	-	-	-	.15	.05	.00	.04	.02	.006
Self-Phubbing → Externalizing Problems				-	-	-	.08	.01	.000

Externalizing

Problems

Table 9 provides the results for serial mediation analysis to determine if paternal neglect and self-phubbing mediated by perceived paternal phubbing affect externalizing emotional behavioral problems. The results show that there was a significant positive prediction of paternal neglect on perceived paternal phubbing ($B = .20, p < .001$) and self-phubbing ($B = .07, p = .003$). In addition, there was a significant positive prediction of perceived paternal phubbing on self-phubbing ($B = .15, p = .006$), and self-phubbing on externalizing emotional-behavioral problems ($B = .08, p < .001$). These findings demonstrate that both perceived paternal phubbing and self-phubbing are significant mediators in predicting externalizing emotional-behavioral problems resulting from paternal neglect.

DISCUSSION

The results of this study provide crucial information on the changes occurring in parent-teen relationship dynamics in today's extremely digitized environment. Through analysis of the complex interaction between traditional caregiver attributes, technological disengagement, socioemotional resources of individuals, and behavioral consequences for teens, the results of the study validate and refine current models of development.

The Intergenerational Dynamics of Digital Disengagement

The initial hypothesis suggested that perceived parental phubbing would constitute a significant precursor to self-phubbing by adolescents, which would lead to higher levels of emotional and behavioral problems (EBPs). Bivariate correlation results were consistent evidence of the hypothesis validity. Perceived maternal and paternal phubbing exhibited strong, statistically significant positive associations with adolescent self-phubbing behaviors ($r = .19, p < .01$ and $r = .13, p < .01$, respectively). This behavior pattern is highly aligned with the Dyadic Phubbing Model and Social Learning Theory, implying that disengagement from communication is institutionalized and reciprocal in family systems.

Furthermore, adolescent self-phubbing demonstrated strong positive correlations with both externalizing pathologies ($r = .25, p < .01$) and internalizing distress ($r = .13, p < .01$). This trend ensures that parental distraction with their gadgets is not just about a solitary technology usage issue but also about initiating a detrimental modeling process whereby the teenager's entire immediate social world becomes compromised. This structural compromise replaces direct forms of interaction with a virtual isolation process, which in turn results in a local form of psychological malfunction such as distress, anxiety, or behavioral problems.

The Serial Mediation Cascade of Digital Neglect

A major contribution of this study is the validation of the hypothesized sequential paths using Hayes' PROCESS Macro. The serial mediation analyses showed strong evidence that maternal and paternal neglect indirectly influence adolescent maladjustment through specialized technology-mediated pathways. For instance, maternal neglect significantly and positively predicted perceived maternal phubbing ($B = .15, p < .001$), which generated adolescent self-phubbing ($B = .13, p < .001$), ultimately culminating in an escalation of internalizing

problems ($B = .03, p = .004$). A similar parallel structure was confirmed for paternal pathways, with paternal neglect due to parental climate leading to increased perceived paternal phubbing ($B = .20, p < .001$) and an avoidant digital retreat.

These sequential pathways expand the structural architecture of Parental Acceptance-Rejection Theory (PARTheory) and Attachment Theory into the technological age. From a cultural perspective, in the Pakistani collectivist structure, the adolescent in development views parental device distraction as a definite sign of emotional withdrawal and overall rejection, due to the predominant social virtues of family interdependence, emotional connectivity, and respect. The zero-sum nature of attentional allocation described in the Displacement Hypothesis implies that screen-mediated distraction transforms potential moments of caregiving into chronic relational micro-stressors.

Adolescents without a predictable, secure parental base use compulsive devices as a compensatory, avoidant coping mechanism. However, this digital retreat triggers a compounding developmental cascade rupturing active communication structures and intensifying internal emotional withdrawal and over externalizing conduct problems.

The higher baseline level of perceived paternal phubbing ($M = 19.68$) as compared to maternal phubbing ($M = 17.41$) indicates a changing dynamic in modern Pakistani households. Since historically they have been the primary economic providers, fathers may be acutely experienced by youth as engaging in technoference as a form of paternal neglect, a dimension that is highly predictive of structural maladjustment and negative worldview in local youth.

For the gender difference, the independent samples t-tests showed very significant gender differences. In this sample, male adolescents reported significantly higher baseline levels of self-phubbing ($M = 25.51$ vs. $M = 23.35, p = .01$) and internalizing problems ($M = 22.58$ vs. $M = 21.00, p < .001$) than females. This finding offers a different view in local literature. It shows that females often show more internalizing symptoms when under stress, or that there are no notable gender differences in internalizing aspects. This indicates that young Pakistani men might deal with specific developmental challenges due to familial neglect. As a result, they may turn to screen attachment to cope. On the other hand, the absence of significant differences in mean scores across age groups (14–16 vs. 17–19 years) reveals that this trend of using digital devices is fairly widespread among all of Generation Z.

Theoretical and Practical Implications

At a conceptual level, this study extends the Bioecological Systems Model by identifying and delineating how cell phones act as pervasive and provocative objects within the immediate microsystem, compromising the distal processes that underpin optimal youth development. Clinically, this study is highly pragmatic and offers actionable recommendations for practitioners (e.g., clinicians, family counselors), educational professionals, and policymakers. Specifically, clinical intake and assessment protocols for children exhibiting mood disorders or conduct problems should include an inquiry into patterns of family technoference and parents' own phone-modeling behaviors. In South Asia specifically, public health interventions including cultural sensitive "mindful parenting" and digital well-being programs should aim to promote and reinstate screen-free boundaries within the home as ubiquitous connectivity continues to erode household emotional architecture.

Limitations and Future Directions

In the present study there are a few weaknesses that limit generalizability. Firstly, the cross-sectional nature does not allow us to ascertain real chronological order or definitive causal vectors between variables. Therefore, to investigate the reciprocal and transactional feedback loops across different waves of development a longitudinal design (e.g. A cross-lagged panel) should be applied in subsequent studies. Secondly, an exclusive reliance on adolescent reports is likely to lead to a source of common method variance and subjective perception bias. To resolve this issue, future research must rely on a multi-informant perspective and an observational research methodology, complementing survey-based reports of adolescents with parental reports and Ecological Momentary Assessments (EMA). Finally, the present study's sample of urban adolescents within institutional sectors of Punjab may not fully capture diverse populations. Hence, the present investigation will require random-based sampling which encompasses rural and out-of-school youth to identify the broader socioeconomic factors.

Conclusion

In summation, this research reveals the deeper, structural and systemic impact the digital age has had on the bedrock foundation of the parent–adolescent bond. We can confidently demonstrate that the care and abandonment received by adolescents is no longer solely conceptual in terms of caregivers and is fully embodied and translated in digital Smartphone

engagement behaviors in which the parental form of 'Phubbing' becomes an obvious, potent form of emotional deprivation, causing a cascading developmental pathway in adolescence whereby adolescents also 'Phub' their own caregivers, this is followed by communication breakdowns and then emotional-behavioral disturbance. This technology-mediated detachment is indeed a serious danger for our Gen Z digital native teenagers and therefore it must carry with it a urgent behavioral command; in our desire for total digital connection, we need to preserve and protect the genuine, authentic human presence, emotional attentiveness and responsiveness that only face-to-face interaction can provide.

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