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Original Article

PARENT–CHILD RELATIONSHIP, PSYCHOLOGICAL DISTRESS, AND INTERNET GAMING DISORDER AMONG ADULTS: THE MEDIATING ROLE OF EMOTIONAL NEGLECT

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ABSTRACT

The increasing prevalence of Internet Gaming Disorder (IGD) among adults has raised significant concerns regarding its psychological and developmental antecedents. The present study aims to investigate the relationship between parent–child relationship, psychological distress, and Internet Gaming Disorder, with a particular focus on the mediating role of emotional neglect. Drawing upon Attachment Theory and the cognitive behavioral model of behavioral addiction, this study proposes that early relational experiences with caregivers significantly influence emotional well-being and maladaptive coping behaviors in adulthood. A quantitative, cross-sectional research design will be employed, with a sample of 250 adults aged 18–35 years who engage in online gaming. Data will be collected using standardized instruments, including the Parent–Adult Child Relationship Questionnaire (PACQ), Kessler Psychological Distress Scale (K10), Internet Gaming Disorder Scale–Short Form (IGDS9-SF), and the Emotional Neglect subscale of the Childhood Trauma Questionnaire (CTQ). Statistical analyses include descriptive statistics, Pearson correlation, regression analysis, and mediation analysis. Furthermore, emotional neglect is expected to mediate the relationship between parent–child relationship and both psychological distress and IGD. The findings of this study have important implications for clinical interventions, family-based therapies, and mental health prevention strategies.

I. INTRODUCTION

Researchers note the parent–child relationship as one of the most important contexts affecting healthy development. Developmental psychologists highlight its central role in the forming of an individual's social competence, emotional stability, self-esteem, and adaptive responses (Bowlby, 1982; Bronfenbrenner, 1979). Researchers argue that a lack of caring and acceptance during early life stages leads to poor psychosocial functioning in many ways (Cicchetti & Toth, 2016). For instance, individuals who experience neglect and harsh parenting are more likely to struggle with depression, anxiety, and poor social skills later in life (Mikulincer & Shaver, 2007). Furthermore, childhood maltreatment can disrupt biological systems, which in turn increases the risk of developing psychological disorders and poor mental health in adulthood (Infurna et al., 2016). Emotional neglect involves failure to provide comfort, love, acceptance, and protection (Glaser, 2002). Researchers associate

emotional neglect with unhealthy emotional regulation and attachment, depression, anxiety, and psychological distress (Infurna et al., 2016).

In addition, Internet gaming can provide a variety of rewarding experiences, such as social interaction, competition, and achievement, which can be particularly appealing to emotionally neglected individuals (Kardefelt-Winther, 2014). Internet Gaming Disorder (IGD) has become one of the most widely studied behavioural addictions, largely due to the rapid expansion of digital technology and the increased availability of online gaming platforms. While gaming offers many benefits such as entertainment, cognitive stimulation, social interaction, and stress relief for most people, excessive and uncontrolled gaming may result in significant impairments in psychological, social, occupational, and academic aspects of life. The parent–child relationship is the emotional, behavioral, and psychological connection between parents and their children. It is a reflection of the degree to which a child is loved and accepted, protected, communicated with, supported, disciplined, guided, trusted, and respected by their parents (Bowlby, 1982). In particular, studies have found that children who were raised in supportive and loving families were more likely to have functional adult relationships and better emotional regulation compared to those who grew up in unsupportive family environments (Bornstein, 2015; Morris et al., 2017). Furthermore, poor parent–child relationships can contribute to the development of psychological conditions such as depression and anxiety during adulthood (McLeod et al., 2022). More specifically, psychological distress has negative effects on the individual's day-to-day social, personal, work, and family life and causes a feeling that one is unable to cope with normal demands (Mirowsky & Ross, 2003). People with depression, anxiety, loneliness, and other distressful feelings experience negative emotions more intensely and are more likely to engage in activities to avoid these distressing emotions.

Attachment Theory, proposed by Bowlby (1969, 1982) and later expanded by Ainsworth et al. (1978), will be the core theoretical framework for this study. In childhood, parent–child relationships influence the formation of internal working models about the self and others. In adulthood, internal working models determine how individuals interact with the environment and cope with stress. Family Systems Theory, proposed by Minuchin (1974), was used to examine the influence of parent-child relationships on emotional neglect and psychological distress. According to Minuchin's theory, a family is a social system that consists of interdependent family members. The Transactional Model of Stress and Coping, proposed by Lazarus and Folkman (1984), will be used to explain how psychological distress influences the development of IGD. According to the model, stress occurs when individuals perceive an event or situation as threatening or challenging and believe that they do not have the resources to cope with it. The Interaction of Person–Affect–Cognition–Execution (I-PACE) Model, proposed by Brand et al. (2019), was used to explain how psychological distress influences the development of IGD. According to the model, individual differences, such as personality, affective traits, cognitive patterns, and executive functions, influence people's behaviours, including gaming behaviours.

II. METHOD

Participants

The present study employed a correlational research design to look at the links between parent–child relationship, psychological distress, Internet Gaming Disorder (IGD), and emotional neglect in adults. The study included 250 adults aged between 18 and 35 years who regularly play online games. Participants were recruited from universities, colleges, workplaces, and online gaming communities. This number was chosen using G*Power software. The study used purposive sampling and eligibility required being aged 18–35 years, frequently playing internet-based games, understanding English or Urdu, providing informed consent, and completing the questionnaires. Individuals with serious diagnosed psychiatric conditions that could interfere with responding, or receiving treatment for severe mental illness or behavioral addiction, were excluded according to the thesis protocol.

Measures

[I] The Parent–Adult Child Relationship Questionnaire (PACQ) was created by Peisah and colleagues in 1999 to evaluate the quality of the relationship between adult children and their parents (Peisah et al., 1999). The PACQ

has 13 questions that cover different aspects of the relationship between adult children and their parents (Peisah et al., 1999). Participants rate each statement on a 5-point scale, from 0 (Strongly Disagree) to 4 (Strongly Agree). Studies have reported Cronbach's alpha values between 0.70 and 0.85, which means it has acceptable to good internal consistency (Peisah et al., 1999; Schwarz et al., 2010). **[II]** The Kessler Psychological Distress Scale (K10) was developed by Kessler and colleagues in 2002 as a quick tool to check for non-specific psychological stress in community and clinical settings (Kessler et al., 2002). The K10 includes 10 questions that ask about how often people experienced symptoms of anxiety and depression in the past four weeks. Participants rate each statement on a 5-point scale from 1 (None of the Time) to 5 (All of the Time). The scores from each question are added together to form a total score ranging from 10 to 50, with higher scores indicating more psychological stress. Studies have found Cronbach's alpha values from 0.88 to 0.93, showing very good internal consistency (Kessler et al., 2002; Andrews & Slade, 2001).

[III] The Internet Gaming Disorder Scale–Short Form (IGDS9-SF) was developed by Pontes and Griffiths in 2015 based on the nine criteria for Internet Gaming Disorder outlined in the DSM-5 (5th ed.; American Psychiatric Association [APA], 2013). It is designed to assess how severe gaming problems are and to identify people who might be at risk of developing a disorder from gaming. The IGDS9-SF includes 9 questions, each relating to one of the DSM-5 diagnostic criteria. (Pontes & Griffiths, 2015). Participants rate how much each statement applies to them on a 5-point scale from 1 (Never) to 5 (Very Often). Studies have reported Cronbach's alpha values ranging from 0.80 to 0.90, showing high internal consistency (Pontes & Griffiths, 2015; Monacis et al., 2016). **[IV]** The Childhood Trauma Questionnaire (CTQ), specifically the Emotional Neglect Subscale, was developed by Bernstein and colleagues in 2003 to assess experiences of childhood abuse. For this study, only the Emotional Neglect Subscale was used, as it directly relates to the mediating variable in the study's conceptual framework. The Emotional Neglect Subscale has five questions that ask participants to reflect on their experiences of not receiving enough emotional care, affection, attention, or support from their parents or primary caregivers during childhood. Participants rate each statement on a 5-point scale from 1 (Never True) to 5 (Very Often True). The scores from each question are added up to form a total emotional neglect score, with higher scores indicating more emotional neglect and lower scores showing more emotionally supportive caregiving. Studies have reported Cronbach's alpha values around 0.80, showing good reliability (Bernstein et al., 2003). It also has strong validity, making it an appropriate tool for assessing childhood emotional neglect.

Procedure

The data collection process started after receiving ethical approval from the Department of Clinical Psychology, The Superior University, Lahore. After obtaining approval, the researcher created a questionnaire booklet. Participants were recruited through in-person method. After obtaining written consent, participants completed the questionnaires individually in a quiet and comfortable setting. After collecting the data, all questionnaires were checked for completeness. Permission for the study was secured from the University's Research Ethics Committee prior to starting the data collection process. Taking part in the study was completely optional. Only those who gave written consent were allowed to take part in the study. The privacy and anonymity of all participants were fully ensured throughout the research. All the information collected was kept strictly confidential and used only for academic and research purposes. The collected data were entered, coded, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS), Version 27. Descriptive statistics were used to present the demographic characteristics of the participants and the distribution of the study variables. Pearson correlation coefficients were used to determine the direction and strength of the associations among the study variables. Simple linear regression analyses were conducted to examine the proposed predictive relationships in the research hypotheses. Two separate mediation analyses were conducted.

III.RESULTS

Table I: Descriptive Statistics and psychometric properties for study measures (N = 250)

Variable	*M*	*SD*	Range	*Cronbach's α*
Emotional Neglect	15.30	5.24	5-25	.86
Internet Gaming Disorder	23.14	7.90	9-45	.89
Psychological Distress	28.73	9.84	10-50	.91
Parent–Child Relationship	20.13	9.74	13-52	.88

Note. M= Mean; SD= Standard deviation; α= Cronbach's reliability alpha

Table 1 presents the descriptive statistics and psychometric properties of the study measures. The results indicate that Psychological Distress had the highest mean score (M = 28.73, SD = 9.84), followed by Internet Gaming Disorder (M = 23.14, SD = 7.90). Parent–Child Relationship had a mean score of 20.13 (SD = 9.74), whereas Emotional Neglect showed a mean score of 15.30 (SD = 5.24). Reliability analysis indicated that all scales demonstrated good to excellent internal consistency, with Cronbach's alpha coefficients above the recommended threshold of .70. Psychological Distress showed excellent reliability (α = .91), while Internet Gaming Disorder (α = .89), Parent–Child Relationship (α = .88), and Emotional Neglect (α = .86) demonstrated good reliability. These findings indicate that all instruments used in the study were internally consistent and reliable for the present sample.

Table II: Pearson Product-Moment Correlations of Emotional Neglect, Internet Gaming Disorder, Psychological Distress, and Parent–Child Relationship

Variables	1	2	3	4
1. Emotional Neglect	—	.246**	.205**	-.242**
2. Internet Gaming Disorder		—	.255**	-.171**
3. Psychological Distress			—	-.264**
4. Parent–Child Relationship				—

**p*<.05, ***p* < .01

The findings indicated that emotional neglect had a significant positive correlation with Internet Gaming Disorder (r = .246, p < .001), suggesting that individuals experiencing greater emotional neglect tended to exhibit higher levels of problematic gaming behaviour. Emotional neglect also demonstrated a significant positive relationship with psychological distress (r = .205, p = .001), indicating that increased emotional neglect was associated with higher psychological distress. Furthermore, parent–child relationship showed a significant negative correlation with emotional neglect (r = −.242, p <.001), suggesting that healthier parent–child relationships were associated with lower emotional neglect. Internet Gaming Disorder was significantly positively associated with psychological distress (r = .255, p < .001), indicating that individuals experiencing greater psychological distress also reported higher gaming disorder symptoms. A significant negative relationship was observed between parent–child relationship and Internet Gaming Disorder (r = −.171, p = .007), indicating that stronger parent–child relationships were associated with lower gaming disorder. Similarly, parent–child relationship was negatively associated with psychological distress (r = −.264, p < .001), suggesting that individuals reporting healthier relationships with their parents experienced lower psychological distress.

Table III: Simple Linear Regression Predicting Psychological Distress from Parent–Child Relationship (N = 250)

Predictor	*B*	*SE*	*B*	*t*	*P*
Constant	34.58	1.71		20.23	<.001
Parent–Child Relationship	−0.29	0.07	−.264	−4.32	<.001

Note. R = .264, R^2 = .070, Adjusted R^2 = .066, F(1, 248) = 18.66

A simple linear regression analysis was conducted to examine whether parent–child relationship significantly predicted psychological distress among adults. The overall regression model was statistically significant, F(1, 248) = 18.66, p < .001, explaining **7.0%** of the variance in psychological distress (R^2 = .070). Parent–child relationship significantly and negatively predicted psychological distress (β = −.264, t = −4.32, p < .001)**.** The negative regression

coefficient indicates that stronger and healthier parent–child relationships were associated with lower levels of psychological distress among adults.

Table IV: Simple Linear Regression Predicting Internet Gaming Disorder from Parent–Child Relationship (N = 250)

Predictor	*B*	*SE*	*B*	*T*	*P*
Constant	25.88	1.4		17.61	<.001
Parent–Child Relationship	−0.14	0.05	−.171	−2.74	.007

Note. R = .171, R^2 = .029, Adjusted R^2 = .025, F(1, 248) = 7.50

A simple linear regression analysis was performed to determine whether parent–child relationship significantly predicted Internet Gaming Disorder among adults. The regression model was statistically significant, F(1, 248) = 7.50, p = .007, accounting for 2.9% of the variance in Internet Gaming Disorder (R^2 = .029). Parent–child relationship emerged as a significant negative predictor of Internet Gaming Disorder (β = −.171, t = −2.74, p = .007**).** This finding suggests that participants reporting healthier parent–child relationships experienced lower levels of problematic gaming behaviour.

Table V: Emotional Neglect as a Mediator between Parent–Child Relationship and Psychological Distress

Effect	*B*	*SE*	*t*	*P*	*95%* CI
Total Effect (c)	−0.267	0.053	−5.04	< .001	[−0.371, −0.163]
Direct Effect (c′)	−0.192	0.049	−3.92	< .001	[−0.289, −0.095]
Indirect Effect (a × b)	−0.075	0.026	—	—	[−0.132, −0.031]

Note. Bootstrap sample = 5,000; mediation is significant because the 95% confidence interval does not include zero

Table VI: Emotional Neglect as a Mediator between Parent-Child Relationship and Internet Gaming Disorder

Effect	*B*	*SE*	*t*	*P*	*95% CI*
Total Effect (c)	-0.136	0.048	-2.84	.005	[-0.230, -0.042]
Direct Effect (c′)	-0.089	0.046	-1.94	.053	[-0.179, 0.001]
Indirect Effect (a × b)	-0.047	0.018	—	—	[-0.088, -0.018]

Note. Bootstrap sample = 5,000; mediation is significant because the confidence interval excludes zero.

IV. DISCUSSION

The current study explored the connection between parent–child relationships, psychological distress, and Internet Gaming Disorder (IGD) in adults, with a specific focus on the role of emotional neglect as a mediator. All five hypotheses were confirmed by the findings. The first hypothesis suggested that there would be a significant relationship between parent–child relationships and psychological distress in adults. A Pearson product–moment correlation revealed a significant negative connection between parent–child relationships and psychological distress. Similarly, McLeod et al. (2022) observed that unsupportive parenting and poor parent–child relationships were linked to depression, anxiety, emotional instability, and other psychological issues. The second hypothesis suggested that the parent–child relationship would significantly predict psychological distress in adults. A simple linear regression analysis revealed that the parent–child relationship significantly and negatively predicted psychological distress. This suggests that stronger parent–child relationships are linked with lower levels of psychological distress. Bowlby (1982) proposed that early relationships with caregivers shape internal working models of the self and others.

The third hypothesis suggested that the parent–child relationship would significantly predict Internet Gaming Disorder among adults. Regression analysis showed that the parent–child relationship significantly and negatively predicted IGD. Participants who reported more supportive and emotionally nurturing family relationships generally showed fewer symptoms of problematic gaming. You et al. (2025), through a systematic review and meta-analysis of 69 studies involving over 118,000 participants from 14 countries, found a significant negative association between the quality of parent–child relationships and gaming addiction. The fourth hypothesis proposed that

emotional neglect would significantly mediate the relationship between parent–child relationship and psychological distress. Therefore, emotional neglect partially mediated the relationship between parent–child relationship and psychological distress. Infurna et al. (2016) reported significant associations between childhood emotional neglect and depression, anxiety, personality dysfunction, substance use, and poor social adjustment. Finally, the fifth hypothesis stated that emotional neglect would significantly mediate the relationship between parent–child relationship and Internet Gaming Disorder. This hypothesis was also supported. The full mediation found in this study can also be explained by Compensatory Internet Use Theory. Kim et al. (2023) found that emotional neglect and emotional dysregulation were significant predictors of IGD in adults, while Li et al. (2023) discovered that childhood emotional neglect was linked to problematic gaming both directly and indirectly through emotional dysregulation and psychological distress.

Practical Implications

Clinicians and counselors may consider incorporating sensitive questions about emotional availability, family communication, and perceived neglect into assessments of adults presenting with distress or problematic gaming. Where appropriate, interventions can emphasize emotion regulation, supportive communication, stress management, and alternatives to gaming as the sole means of coping. Psychoeducation for parents and caregivers may reinforce the value of listening, validation, and consistent emotional responsiveness. Such recommendations are informed by the observed associations and broader theory; the present study did not test an intervention.

Limitations and Recommendations

Several limitations should guide interpretation. The cross-sectional design precludes establishing temporal order or causality. Purposive sampling limits generalizability beyond the recruited adults who frequently played online games. All measures were self-reported, raising the possibility of common-method variance, recall bias, and socially desirable responding. The parent–child relationship and childhood emotional neglect constructs may overlap conceptually, and the study did not establish how they are empirically distinguished beyond use of separate instruments. The sample excluded individuals receiving treatment for severe mental illness or behavioral addiction, which may limit applicability to clinical populations. Furthermore, regression models explained relatively modest proportions of outcome variance, indicating that additional factors deserve investigation. Multi-informant assessments and clinical interviews could complement self-report measures. Researchers should also test alternative models, include relevant confounders, and evaluate whether supportive family interventions or emotion-regulation programs improve psychological outcomes and problematic gaming symptoms.

V. CONCLUSION

This study explored the relationships among parent–child relationships, psychological distress, Internet Gaming Disorder, and emotional neglect in adults. Overall, the results indicated that healthier parent–child relationships were associated with lower levels of psychological distress and fewer symptoms of Internet Gaming Disorder. Emotional neglect partially mediated the relationship between parent–child relationships and psychological distress, and demonstrated an indirect-only or full mediation effect in the relationship between parent–child relationships and IGD. The study contributes to the existing literature by examining these variables within a single framework and by focusing specifically on adults. It also provides evidence from the Pakistani context, where culturally relevant research integrating family relationships, emotional neglect, psychological distress, and IGD remains limited. However, the results must be interpreted in the light of the study's cross-sectional design and reliance on self-report measures. While the findings demonstrate statistically significant relationships and indirect effects, they do not establish definitive causal relationships.

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