

MOOD DYSREGULATION, SOCIAL ADJUSTMENT AND LEVEL OF FRUSTRATION AMONG E-GAMERS: MODERATING ROLE OF PSYCHOLOGICAL DISTRESS

Original Article

Saira Nasir^{1*}, Shamshad Bahsir²

¹Scholar of MS Clinical Psychology, Department of Psychology, Lahore Garrison University, Lahore, Pakistan.

²Assistant Professor, Department of Psychology, Lahore Garrison University, Lahore, Pakistan.

Corresponding Author: Saira Nasir, Scholar of MS Clinical Psychology, Department of Psychology, Lahore Garrison University, Lahore, Pakistan, sairanasir455@gmail.com

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ABSTRACT

Background: Excessive online gaming has emerged as a global psychological concern, particularly among youth, leading to emotional instability, social maladjustment, and distress. Prolonged gaming exposure can disrupt mood regulation and increase frustration tolerance thresholds, mimicking symptoms observed in disruptive mood dysregulation disorder (DMDD). Understanding these psychological mechanisms among e-gamers is crucial for developing targeted prevention and intervention strategies to mitigate the emotional and behavioral consequences of digital gaming addiction.

Objective: This study aimed to examine the impact of mood dysregulation on social adjustment and level of frustration among e-gamers, while also exploring the moderating role of psychological distress.

Methods: A correlational research design was employed using purposive sampling. Data were collected from 304 participants (123 men, 181 women) aged 16–25 years ($M = 20.33$, $SD = 2.34$) from various cities in Pakistan. Screening was conducted through the Game Addiction Scale (cutoff ≥ 17.5). Standardized instruments measured mood dysregulation, psychological distress, social adjustment issues, and level of frustration. Data were analyzed using IBM SPSS version 26, applying Pearson correlation, linear regression, ANOVA, t-tests, and Hayes' PROCESS macro for moderation analysis. Ethical approval and informed consent were obtained before data collection.

Results: Pearson correlation analysis showed significant positive relationships among all variables: mood dysregulation with psychological distress ($r = .66$, $p < .01$), social adjustment issues ($r = .45$, $p < .01$), and level of frustration ($r = .43$, $p < .01$). Regression results indicated that mood dysregulation significantly predicted social adjustment ($\beta = .45$, $R^2 = .21$, $p < .001$) and level of frustration ($\beta = .43$, $R^2 = .19$, $p < .001$). Moderation analysis revealed that psychological distress negatively moderated the association between mood dysregulation and frustration ($\beta = -.009$, $p < .01$).

Conclusion: Excessive gaming significantly elevates mood dysregulation, frustration, and social maladjustment among youth. These findings highlight the need for early psychological interventions to prevent DMDD-like symptoms and guide mental health professionals in addressing gaming-related emotional dysregulation.

Keywords: E-gamers, Frustration, Mood Dysregulation, Psychological Distress, Social Adjustment, Video Games, Youth.

INTRODUCTION

The rapid rise of electronic gaming has transformed leisure activities worldwide, evolving from casual entertainment into a competitive industry known as e-sports. This growing global phenomenon attracts millions of young individuals who spend extended hours immersed in virtual environments that often simulate high-intensity, reward-driven experiences (1). While e-sports offer opportunities for cognitive engagement and skill enhancement, their excessive and prolonged use has raised concerns regarding the psychological well-being of players, particularly adolescents and young adults. Young people are increasingly susceptible to developing mood dysregulation—a state of persistent irritability and emotional instability—as a consequence of long-term online gaming exposure (2). Studies have shown that adolescents with gaming addiction frequently exhibit chronic irritability, disproportionate temper outbursts, and behavioral responses that exceed typical age-appropriate reactions (3). Such individuals often display sustained anger or frustration even between outbursts, a condition that may be observable by parents, teachers, or peers (4). Online gaming environments provide temporary escape from real-life stressors, which makes them particularly appealing to individuals experiencing emotional or psychological difficulties (5). However, excessive engagement can reinforce maladaptive coping mechanisms and aggravate psychological distress. Research conducted among high school students in Al-Qassim, Saudi Arabia, reported a significant association between frequent gaming and deteriorating mental health, characterized by symptoms such as fatigue, worry, melancholy, and social withdrawal (6). Psychological distress encompasses a range of negative affective states—fear, anger, irritability, and loss of motivation—that can hinder daily functioning (7). Amateur e-sport players, in particular, are more vulnerable to such distress because they often pursue competitive success without structured training, psychological guidance, or mental resilience programs (8).

Social adjustment is another domain profoundly influenced by excessive gaming behavior. It refers to an individual's ability to establish and maintain positive interpersonal relationships and participate effectively in social environments (9). Poor social adjustment manifests as withdrawal, anxiety, avoidance, or interpersonal conflicts, all of which are frequently reported among individuals excessively involved in online gaming (10). Persistent engagement in solitary digital environments can erode real-world social communication skills, leading to isolation and detachment from family or peers (11). Frustration is an additional emotional outcome observed among gamers. It arises when players encounter challenges or obstacles that prevent them from achieving desired goals, leading to feelings of anger, annoyance, or disappointment (12). According to flow theory, when task difficulty exceeds a player's skill level, frustration escalates, negatively affecting both performance and emotional well-being (13). In the context of e-sports, where success depends on precision and competition, repeated failures or technical barriers can amplify these emotional responses, further linking frustration to mood dysregulation and distress. Despite the global expansion of e-sports, existing empirical research predominantly originates from Western nations such as the USA, UK, Netherlands, and Germany (14). Limited evidence is available from developing countries like Pakistan, where internet access and digital entertainment are rapidly growing among youth. This gap highlights the need for culturally contextualized investigations into how excessive e-gaming influences emotional regulation, frustration tolerance, social adaptability, and psychological distress among Pakistani players. Therefore, the present study aims to empirically examine the impact of mood dysregulation on social adjustment, level of frustration, and psychological distress among e-gamers in Pakistan. The objective is to explore the interrelationships among these psychological variables to better understand the mental health implications of excessive gaming behavior and to inform preventive strategies for youth well-being.

METHODS

A correlational research design was employed in the present study to examine the association between mood dysregulation, social adjustment, level of frustration, and psychological distress among e-gamers. The study utilized a purposive sampling technique to ensure the inclusion of participants meeting the predetermined criteria of excessive gaming behavior. A total of 450 responses were initially obtained from young individuals actively engaged in online gaming across public and private sector institutions in multiple cities of Pakistan. After screening with the Game Addiction Scale (13), 146 responses were excluded for not meeting the addiction criteria, resulting in a final sample size of 304 participants. The sample comprised 123 men and 181 women, with a mean age of 20.33 years ($SD = 2.34$), representing a youth demographic predominantly between 16 and 25 years of age. Participants were included if they were identified as addicted to e-games through the Game Addiction Scale (score ≥ 17.5), owned a personal smartphone, laptop, or computer, and fell within the age range of 16–25 years. Exclusion criteria comprised individuals with any physical or sensory disabilities, those with chronic medical conditions such as diabetes, hypertension, or cardiovascular disorders, and participants who scored below the cutoff threshold on the screening tool. These criteria were established to minimize confounding factors that could influence

psychological outcomes unrelated to gaming behaviors. Prior to data collection, ethical approval was obtained from the Institutional Review Board of the respective university ensuring adherence to ethical research standards. Participants were briefed about the objectives of the study, their right to withdraw at any stage, and the confidentiality of their responses. Written informed consent was obtained from all participants before data collection commenced.

The study employed a battery of standardized psychometric instruments to assess the variables of interest. The **Game Addiction Scale** was used for screening participants for gaming addiction. The **Abbreviated Profile of Mood States (Revised Version)** was administered to measure mood dysregulation. The **Kessler Psychological Distress Scale (K10; revised version)** was utilized to assess psychological distress. The **Work and Social Adjustment Scale** was used to evaluate participants' social functioning and interpersonal adjustment (14-16). The **Need Satisfaction and Frustration Scale** measured the degree of frustration associated with unmet psychological needs during gaming experiences (17). Each instrument has been widely validated in prior psychological research, ensuring reliability and construct validity. Data were analyzed using **IBM SPSS Statistics version 26**. Descriptive statistics were computed to summarize demographic variables and study characteristics. Inferential analyses, including correlation, regression, one-way ANOVA, and independent samples t-tests, were conducted to identify relationships and differences among variables. Additionally, moderation analyses were performed using **Hayes' PROCESS macro** to explore conditional effects between variables, allowing for a more nuanced understanding of the interplay among mood dysregulation, frustration, social adjustment, and psychological distress in e-gamers. All data collection and analyses were performed with strict adherence to confidentiality and ethical integrity. Participants' identities were anonymized, and responses were used solely for academic purposes.

RESULTS

The analysis revealed that all scales demonstrated acceptable psychometric properties with Cronbach's alpha values ranging from .59 to .79, indicating satisfactory to good internal consistency. The mean score for mood dysregulation was 71.23 (SD = 14.81), for psychological distress 25.41 (SD = 7.52), for social adjustment issues 8.08 (SD = 4.39), and for level of frustration 26.66 (SD = 6.41). Skewness and kurtosis values for all variables were within acceptable limits, confirming normal distribution of data. Correlation analysis showed significant positive associations among all major study variables. Mood dysregulation exhibited a strong positive correlation with psychological distress ($r = .66, p < .01$), and moderate positive correlations with social adjustment issues ($r = .45, p < .01$) and level of frustration ($r = .43, p < .01$). Similarly, psychological distress correlated positively with social adjustment issues ($r = .44, p < .01$) and level of frustration ($r = .47, p < .01$), while social adjustment issues also correlated positively with level of frustration ($r = .28, p < .01$). Simple linear regression analysis indicated that mood dysregulation significantly predicted social adjustment issues ($\beta = .45, p < .001$), explaining 21% of the variance ($R^2 = .21, F(1,302) = 80.46, p < .001$). Similarly, mood dysregulation also significantly predicted the level of frustration ($\beta = .43, p < .001$), explaining 19% of the variance ($R^2 = .19, F(1,302) = 71.91, p < .001$). Moderation analysis further revealed that psychological distress significantly moderated the relationship between mood dysregulation and level of frustration. The interaction effect between mood dysregulation and psychological distress was significant ($\beta = -.009, p < .01$), indicating that the association between mood dysregulation and frustration weakened as psychological distress increased. At low levels of psychological distress, mood dysregulation showed a stronger relationship with frustration ($\beta = .19, p < .001$), which slightly decreased at moderate levels ($\beta = .11, p < .001$) and became non-significant at high levels of distress ($\beta = .05, p > .05$). The model accounted for 26% of the variance in frustration ($R^2 = .26, F = 36.29, p < .001$). Gender-based comparison revealed significant differences in mood dysregulation scores, with males ($M = 73.27, SD = 15.55$) scoring higher than females ($M = 69.85, SD = 14.16$), $t(304) = -1.98, p = .04$, suggesting that male e-gamers exhibited slightly greater mood instability. One-way ANOVA showed significant mean differences across gaming duration groups. Participants who played online games for 8–10 hours daily reported the highest mood dysregulation ($M = 80.76, SD = 17.10$), followed by those playing 4–6 hours ($M = 71.25, SD = 14.81$) and 2–3 hours ($M = 69.66, SD = 13.13$), $F(2,301) = 6.05, p < .01, \eta^2 = 0.04$. Similarly, social adjustment issues increased significantly with longer gaming duration, with the highest mean score among those playing 8–10 hours ($M = 11.30, SD = 4.88$), followed by 4–6 hours ($M = 8.84, SD = 4.26$) and 2–3 hours ($M = 6.98, SD = 4.03$), $F(2,301) = 15.10, p < .01, \eta^2 = 0.03$. Overall, the findings confirmed that excessive gaming was significantly associated with higher mood dysregulation, greater frustration, poorer social adjustment, and elevated psychological distress among e-gamers.

Table 1: Descriptive and the psychometrics properties for the scales in present study

Scales	M	SD	A	Range		Skewness	kurtosis
				Actual	Potential		
MD	71.23	14.81	.74	33-110	0-156	.15	-.28
PD	25.41	7.52	.79	10-49	10-50	.16	-.47
SAI	8.08	4.39	.78	0-19	0-20	-.00	-.34
LOF	26.66	6.41	.59	11-69	18-90	-1.03	2.81

Note. MD = mood dysregulation, PD = psychological distress, SAI = social adjustment issues, LOF = level of frustration

Table 2: Correlation for Study Variables

Variables	MD	PD	SAI	LOF
MD	-	.66**	.45**	.43**
PD	-	-	.44**	.47**
SAI	-	-	-	.28**
LOF	-	-	-	-

Note. MD = mood dysregulation, PD = psychological distress, SAI = social adjustment issues, LOF = level of frustration. **p<.01.

Table 3: Regression Coefficients of Mood Dysregulation and Social Adjustment Issues

Variables	B	B	SE
Constant	-1.16		1.10
MD	0.13***	.45	.01
R2	.21		

Note. MD = mood dysregulation, *p<.05. **p<.01. ***p<.001

Table 4: Regression Coefficients of Mood Dysregulation and Level of Frustration

Variables	B	B	SE
Constant	35.34***		1.92
MD	0.22***	.43	.02
R2	.19		

Note. MD = mood dysregulation, *p<.05. **p<.01. ***p<.001.

Table 5: Regression analysis examining the Interaction Effect of Psychological Distress on Mood Dysregulation and Level of Frustration

Variables	B	SE	95%CI
Constant	17.90	13.35	[4.65, 31.14]
MD	.35***	.16	[.154, .556]
PD	1.009**	1.73	[.482, 1.53]
MD X PD	-.009**	.003	[-.016, -.002]
Low PD	.19***	.04	[.104, .291]
Moderate PD	.11***	.03	[.047, .181]
High PD	.05	.04	[-.020, .138]
R ²	.26***		
F	36.29		

Note: MD = mood dysregulation, PD = psychological distress, CI = confidence interval. ***p<.001, **p<.01,

Table 6: Mean Comparison of youth on the basis of gender on Mood Dysregulation, Psychological Distress, Social Adjustment Issues and Frustration

Variables	Female		Male		t (304)	P
	M	SD	M	SD		
MD	69.85	14.16	73.27	15.55	-1.98	.04

Note. Male n=123, Female n=181, MD = mood dysregulation, *p<.05.

Table 7: Mean differences between youth regarding Mood Dysregulation and Social Adjustment Issues using one-way ANOVA.

Variables	2-3 hours (1)		4-6 hours (2)		8-10 (3)		Hours	F (2,301)	p	η ²	Post-hoc
	M	SD	M	SD	M	SD					
MD	69.66	13.13	71.25	14.81	80.76	17.10		6.50	.00	0.04	3>2>1
SAI	6.98	4.03	8.84	4.26	11.30	4.88		15.10	.00	0.03	3>2>1

Note. 2-3 hours=159,4-6 hours=119,8-10hours=26 MD = mood dysregulation, SAI = social adjustment issues. *p<.05

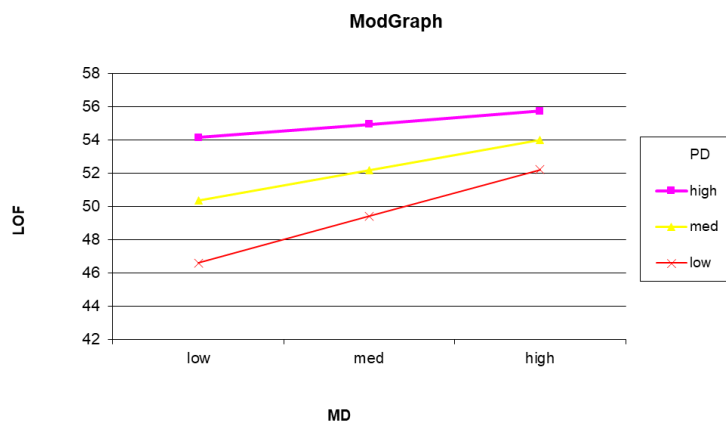


Figure 1 Mod Graph

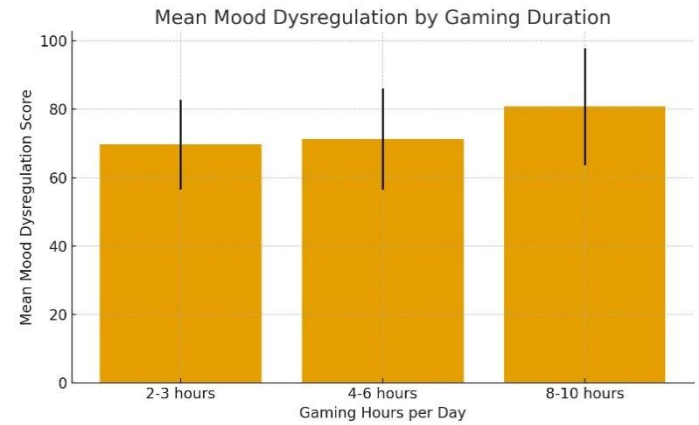


Figure 1 Mean Mood Dysregulation by Gaming Duration

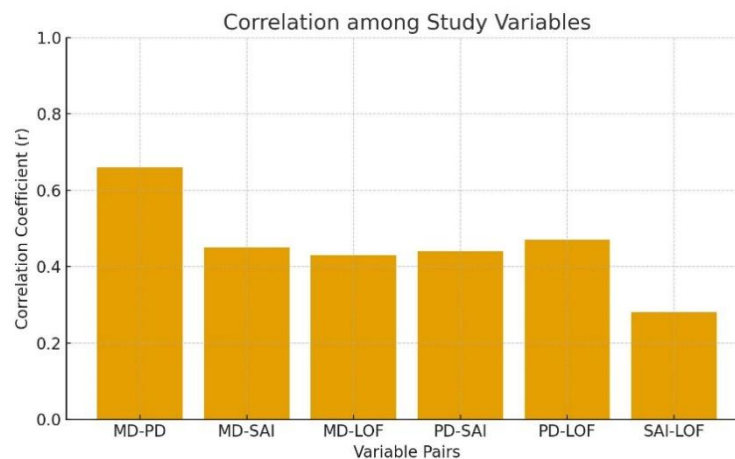


Figure 3 Correlation Among Study Variables

DISCUSSION

The findings of the present study provided comprehensive insight into the psychological outcomes associated with excessive engagement in electronic gaming among youth. The results strongly supported the hypothesized relationships, indicating that mood dysregulation, psychological distress, social adjustment issues, and level of frustration were significantly and positively correlated. These associations confirmed that young individuals who exhibit higher levels of emotional instability also experience greater frustration, difficulties in social adaptation, and elevated psychological distress. The findings reinforced the argument that prolonged exposure to competitive gaming environments may exacerbate mood-related disturbances and emotional volatility, consistent with earlier psychological frameworks that link maladaptive emotional regulation with poor social and behavioral outcomes (13). The study further established that mood dysregulation significantly predicted both social adjustment issues and level of frustration among e-gamers. This outcome aligned with existing theoretical and empirical evidence suggesting that impaired mood regulation impedes an individual's ability to form adaptive interpersonal relationships and respond effectively to stressors within social contexts (14). Individuals with chronic irritability or poor emotional control often display aggression, withdrawal, and maladaptive coping strategies, all of which can hinder their capacity to maintain balanced social functioning. Previous research has shown that adolescents with mood instability experience behavioral problems in school and conflicts in familial relationships, thereby supporting the current findings (15). Similarly, the significant relationship between mood dysregulation and frustration underscored the psychological strain that accompanies repeated failure or unmet expectations within competitive gaming settings. Neurological evidence suggests that individuals with severe mood

dysregulation exhibit abnormal activation in brain regions associated with emotional control, including the amygdala, striatum, and parietal cortex, particularly under conditions of frustration or negative feedback (16). This physiological dysregulation likely contributes to the persistent irritability and heightened frustration observed among excessive gamers. The current findings, therefore, provide behavioral validation for these neuropsychological mechanisms, illustrating that the inability to regulate mood amplifies frustration responses in high-stimulation environments such as e-sports.

The moderating role of psychological distress in the relationship between mood dysregulation and frustration further clarified the complexity of emotional processes in e-gamers. The results indicated that while moderate levels of psychological distress intensified frustration, higher distress levels diminished this relationship, possibly due to emotional fatigue or desensitization effects. These findings suggest that individuals already experiencing significant distress may become less responsive to frustration cues because of cumulative psychological exhaustion. Such patterns have been observed in adolescents with chronic stress, where high emotional burden blunts reactivity but deepens underlying mood disturbances (17,18). Gender-based differences observed in mood dysregulation revealed that males reported higher levels of mood instability compared to females. This outcome was consistent with prior findings showing that men are more likely to exhibit externalizing symptoms, including aggression and irritability, while females tend to internalize emotional difficulties, often suppressing anger or distress (19). Cultural expectations and gaming preferences might further explain these differences, as males generally engage more in competitive or violent games, heightening the emotional and physiological arousal linked with mood dysregulation (21). The analysis of gaming duration demonstrated that youth who spent more than eight hours daily on gaming exhibited significantly higher mood dysregulation and social adjustment issues compared to those who played for fewer hours. These findings reinforced the growing evidence that prolonged screen exposure is associated with loneliness, social withdrawal, and reduced real-world social competence (22,23). Excessive gaming displaces face-to-face interactions and familial bonding, leading to diminished social support networks and weakened emotional resilience. Over time, this contributes to psychological maladjustment, reinforcing the cyclical relationship between emotional instability and gaming dependency.

Despite its meaningful contributions, the study possessed certain limitations. The use of self-report questionnaires may have introduced social desirability bias, as participants might have underreported gaming-related psychological symptoms. The length of the questionnaire could also have affected response accuracy, with some participants declining to complete it. Additionally, the cross-sectional design precluded causal inferences, leaving uncertainty as to whether gaming caused psychological dysfunction or whether preexisting emotional difficulties led to increased gaming engagement. Future studies should employ longitudinal and experimental designs to clarify causality, integrate clinical diagnostic assessments to improve validity, and explore the mediating roles of factors such as impulsivity, coping styles, and social support (24,25). The study's strengths lay in its empirical examination of a culturally underexplored population, contributing valuable data from Pakistan to a predominantly Western-centric research area. It also utilized well-validated psychometric instruments and robust statistical analyses, enhancing the reliability of the results. The integration of moderation analysis through Hayes' PROCESS added methodological sophistication, allowing for the identification of conditional relationships among key psychological variables. The implications of these findings are far-reaching for clinical practice, education, and family intervention. Early identification of e-gamers displaying mood instability and distress can aid mental health professionals in preventing the escalation of emotional disorders. Child and adolescent psychiatrists may use these findings to design interventions focusing on mood regulation and coping strategies for frustration. Moreover, the results underscore the importance of parental guidance in limiting screen time and promoting balanced daily routines that encourage social interaction and emotional regulation. Educational counselors can also apply these insights to develop preventive programs addressing gaming-related psychological risks within academic environments. In conclusion, the study demonstrated that mood dysregulation significantly affects frustration levels, social adjustment, and psychological distress among young e-gamers, emphasizing the necessity of psychological monitoring and early behavioral interventions. The findings contribute to a growing recognition of excessive gaming as a mental health concern requiring multidisciplinary attention.

CONCLUSION

The present study concluded that excessive engagement in online gaming among youth is closely associated with emotional instability, heightened frustration, social maladjustment, and psychological distress, reflecting patterns similar to disruptive mood dysregulation disorder (DMDD). These findings highlight the emergence of a significant mental health concern in the digital era, emphasizing the need for timely psychological assessment and intervention. The study's implications extend to psychologists, psychiatrists, educators,

and parents, offering insights into recognizing early signs of gaming-related emotional dysregulation and guiding the development of effective counseling and behavioral strategies to promote healthier coping mechanisms and emotional regulation among young gamers.

AUTHOR CONTRIBUTION

Author	Contribution
Saira Nasir*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Shamshad Bahsir	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published

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