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Gaming Dependence in the Boat of Sadistic Tendency and Psychological Distress: The Pulling and Driving Factors of Aggression and Satisfaction

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Abstract

The study examines gaming addiction, violence, university student satisfaction, mediators, and demographic disparities. The Game Addiction Scale, Buss Perry Brief Aggression Questionnaire, Kessler Psychological Distress Scale, Sadistic Tendencies Assessment, and Satisfaction with Life Scale were administered to a diverse group. Gaming addiction increases aggression and decreases life pleasure. The study also found that sadistic tendencies and psychological anguish mitigate these connections. Gaming addiction increases aggression, mediated by sadism and psychological distress. Gaming addiction negatively predicts life satisfaction, and sadistic inclinations, psychological discomfort, violence, and satisfaction are strongly correlated. University student characteristics were gender- and region-neutral. This study reveals the complex relationship between gaming, psychology, and university well-being. Practical effects may influence psychological variables in gaming solutions. The lack of gender and geographical inequities challenges assumptions, allowing a more comprehensive approach to gaming activity in diverse societies.

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Introduction

Video games have become widespread in the contemporary era, captivating individuals of diverse ages and backgrounds. Video games have the potential to provide numerous advantages, such as enhanced cognitive abilities and increased social interaction (Small et al., 2020; Halbrook, O'Donnell & Msetfi, 2019). However, excessive involvement can be harmful and result in a condition called gaming addiction (Nawaz, 2023; Zhang, Lam & Wu, 2022), which can negatively affect mental health and overall well-being (Moore, Satel & Pontes, 2022; Vuorre et al., 2022). Furthermore, gaming addiction has been linked to cognitive deterioration and impulsivity (Niu et al., 2023; Pontes, Kuss & Griffiths, 2017). Such addiction can be harmful, which is a condition characterized by a persistent and problematic pattern of gaming behavior that greatly disrupts daily life (American Psychiatric Association, 2013).

An important issue regarding gaming addiction is its capacity to impact aggression and satisfaction. Numerous studies have shown a positive relationship between gaming addiction and aggression (Vishwakarma, 2021; Caner & Evgin, 2021), while others have found no significant link (Agbaria, 2021; Kanat, 2019). The observed inconsistency may stem from methodological discrepancies across studies or from the complex interaction between

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individual variation and game content (Volpe et al., 2022). Moreover, the significance of satisfaction in relation to gaming addiction is still unclear. While gaming can bring satisfaction and pleasure to specific individuals, it can also cause frustration and dissatisfaction for others (Kosa & Uysal, 2022; Kuss & Griffiths, 2017). This prompts the inquiry as to whether satisfaction contributes to the perpetuation or improvement of addictive behavior.

Recent research has indicated a possible correlation between sadistic inclinations and addiction to gaming. Sadism is defined as the inclination to cause harm or distress to others deliberately, and individuals who exhibit sadistic tendencies may have a higher vulnerability to developing a gaming addiction (Denson et al., 2022; Jones, 2019; Billieux et al., 2015). This correlation can be elucidated by the fact that certain video games promote aggressive and violent conduct, which may resonate with sadistic individuals (Salahuddin & Muazzam, 2019).

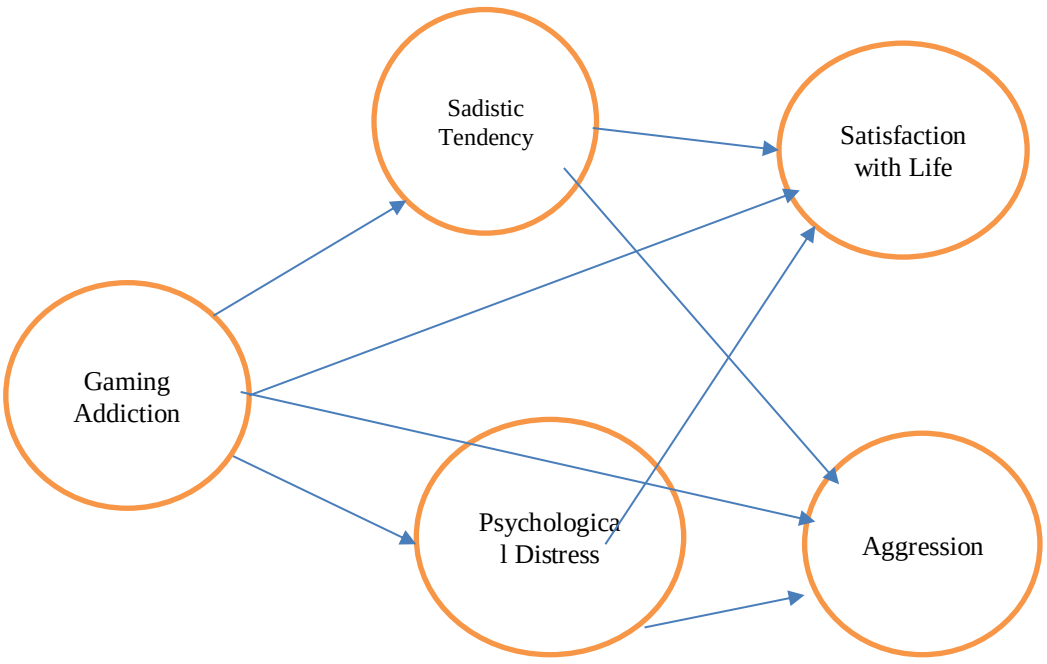
Furthermore, the existence of psychological distress is an additional pivotal aspect to take into account when examining the consequences of gaming addiction. Research has indicated that individuals who suffer from gaming addiction frequently exhibit symptoms of depression, anxiety, and other mental health disorders (Zhu et al., 2021; Nawaz et al., 2020). Also, the relationship between gaming addiction and psychological suffering was described as bidirectional, as people with psychological discomfort may use gaming as a coping tool, but excessive gaming may worsen it (Montag et al., 2019). These comorbid conditions can worsen the adverse effects of gaming addiction and impede individuals' capacity to manage stress and participate in healthy relationships.

Summing up the literature above shows that the field has developed significantly, as recent studies have been integrated to better understand the complex relationships between gaming addiction, aggression, satisfaction, sadistic tendencies, and psychological distress. The following sections of this paper will investigate intermediaries and explain these linkages in greater detail.

Hypotheses

- H1. Gaming addiction will predict a high level of aggression and a low level of satisfaction through the mediation of sadistic tendencies and psychological distress.
- H2. There will be a significant correlation between the study's variables.

Figure 1: Conceptual Model



MATERIALS AND METHODS

Participants

The sample selection was determined by accessibility and involved inviting university students to participate through a purposive sampling technique. A total of 355 students from diverse faculties and departments at the University of Peshawar were included. Ethical considerations were followed in treating participants, ensuring anonymity, obtaining free and informed consent, and maintaining absolute confidentiality.

Game Addiction Scale

The survey employed a slightly modified iteration of the 21-item Game Addiction Scale (GAS; Lemmens, Valkenburg & Peter, 2009), recognized for its robust reliability and concurrent validity. Exemplary GAS items included questions such as "Did you think about playing a game all day?" and "Did you spend more time on games?" Participants assessed each item on a 5-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often).

Aggression (Buss et al.)

Buss and Perry Brief Aggression Questionnaire (BAQ) was used, specifically focusing on the physical aggression and rage subscales (Bryant & Smith, 2001; Webster et al., 2015), comprising three items each, rated on a scale from extremely unlike me (1) to very like me (5). The instrument yields a cumulative score ranging from 0 to 24. The scale's current Cronbach's alpha is 0.82.

The Kessler Psychological Distress Scale

The Kessler Psychological Distress Scale (K-6) is a concise six-item adaptation of the K-10, designed to assess psychological and non-psychological distress. This scale gauges generic psychological distress by encompassing behavioral, emotional, cognitive, and psychophysiological manifestations. For this study, the alpha reliability stands at 0.88.

Sadistic Tendencies

The abbreviated 10-item SSIS is a concise version of the Sadistic Attitudes and Behaviors Scale, demonstrating test-retest reliability, internal consistency, and supporting evidence for construct validity (O'Meara et al., 2011). Our assessment of sadism comprised three distinct scales, each using a 7-point rating system (1 = strongly disagree; 7 = strongly agree). An illustrative SSIS item reads, "I have intentionally caused harm to others for my entertainment."

Satisfaction with Life Scale (SWL).

Diener, Emmons, Larsen, & Graffin (1985) introduced the Satisfaction with Life Scale (SWL), a self-administered assessment comprising 5 items evaluated on a 7-point Likert scale. The scale uses a scoring system in which 1 indicates the lowest (strongly disagree) score and

7 the highest (strongly agree) score. Cronbach's alpha reliability of the SWL scale was acceptable at 0.79.

Procedure

The initial phase involved securing authorization from Institutional Heads as the primary step before commencing data collection. Subsequently, a purposive sampling technique was employed to approach students in the second step. In the third stage, students were provided with a comprehensive briefing that emphasized the voluntary nature of their participation and clarified that no academic credit would be granted as an incentive for participating in the research survey. Questionnaires were disseminated during class sessions, with participants spending approximately 15 to 20 minutes on completion. Following the conclusion of data collection, all questionnaire responses were aggregated, entered into data management software (SPSS and AMOS), and subsequently analyzed.

Ethical approval

Informed consent was obtained from the participants, and they were briefed on the purpose of the current research. No such committee exists at our institute; therefore, all ethical considerations were kept in mind throughout the process.

Results

Figure 2: Path model of the study

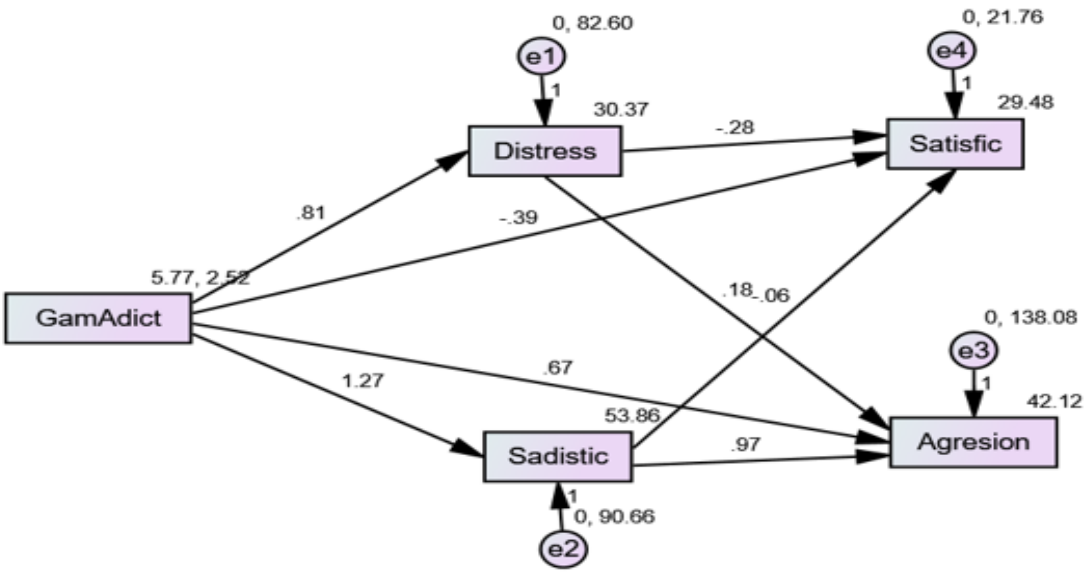


Table 1: Regression Analysis for Mediation of Sadistic Tendency and Distress between Gaming Addiction and Aggression

	Variable	*B*	95%CI	*SE B*	β	R^2	ΔR^2
Step 1						.04	.04***
	Constant	99.63	[93.66, 105.62]	3.05			
	Gaming Addiction	2.04	[1.04, 3.04]	.51	.21		
Step 2						.41	.37***

	Constant	46.06	[37.62, 54.51]	4.29			
	Gaming Addiction	.78	[-.02, 1.58]	.41	.08		
	Sadistic Tendency	.99	[.86, 1.12]	.07	.62		
Step 3						.42	.01***
	Constant	42.12	[33.18, 51.04]	4.54			
	Gaming Addiction	.67	[-.13, 1.47]	.41	.07		
	Sadistic Tendency	.96	[.84, 1.10]	.07	.61		
	Psychological Distress	.17	[.04, .31]	.07	.10		

Note. CI = Confidence Interval
***P<.001.

Table 1 shows the impact of gaming addiction, sadistic tendencies, and psychological distress on university undergraduate students' aggression. In step 1, the R^2 value of (.04) revealed that gaming addiction explained a 4% variance in the aggression level of university students with F (1, 353) = 16.15, p<.001. The findings revealed that gaming addiction positively predicted aggression (β = .21, p<.001).

In step 2, the R^2 value of (.41) revealed that gaming addiction and sadistic tendency explained a 41% variance in the aggression level of university students with F (2, 352) = 125.48, p<.001. The findings revealed that gaming addiction (β = .08, p<.001) and sadistic tendency positively predicted aggression (β = .62, p<.001).

In step 3, the R^2 value of (.42) revealed that gaming addiction, sadistic tendencies, and psychological distress explained a 42% variance in the aggression level of university students with F (3, 351) = 87.05, p<.001. The findings revealed that gaming addiction (β = .07 p<.001), sadistic tendencies (β = .61 p<.001), and psychological distress positively predicted aggression (β = .10, p<.001).The regression weights for gaming addiction subsequently reduced from model 1 to model 2 and model 3 (.41, .07, & .07) but remained significant, confirming the partial mediation. More specifically, gaming addiction had direct as well as indirect effects on the aggression of university students.

Table 2. Regression Analysis for Mediation of Sadistic Tendency and Distress between Gaming Addiction and Satisfaction with Life

	Variable	***B***	**95%CI**	***SE B***	**β**	R^2	ΔR^2
Step 1						.04	.04***
	Constant	17.55	[15.43, 19.68]	1.08			
	Gaming Addiction	-.70	[-1.05, -.34]	.18	-.20		
Step 2						.07	.03***
	Constant	23.24	[19.48, 27.02]	1.92			
	Gaming Addiction	-.57	[-.92, -.21]	.18	-.16		
	Sadistic Tendency	-.11	[-.16-.05]	.03	-.19		
Step 3						.28	.20***
	Constant	29.48	[25.93, 33.03]	1.80			
	Gaming Addiction	-.39	[-.71, -.08]	.16	-.11		
	Sadistic Tendency	-.07	[-.18, -.03]	.03	-.11		
	Psychological Distress	-.28	[-.33, -.22]	.03	-.46		

Note. CI = Confidence Interval
***P<.001.

Table 2 shows the impact of gaming addiction, sadistic tendencies, and psychological distress on university undergraduate students' aggression. In step 1, the R2 value of (.04)

revealed that gaming addiction explained a 4% variance in the aggression level of university students with F (1, 353) = 1504, p<.001. The findings revealed that gaming addiction negatively predicted satisfaction with life (β = *.20, p<.001). In step 2, the R2 value of (.07) revealed that gaming addiction and sadistic tendency explained a 7% variance in the satisfaction level of university students with F (2, 352) = 14.14, p<.001. The findings revealed that gaming addiction (β = -.16, p<.001) and sadistic tendency negatively predicted aggression (β = -.19, p<.001). In step 3, the R2 value of (.28) revealed that gaming addiction, sadistic tendencies, and psychological distress explained a 28% variance in the satisfaction level of university students with F (3, 351) = 45.59, p<.001. The findings revealed that gaming addiction (β = -.11 p<.001), sadistic tendencies (β = -.11 p<.001), and psychological distress negatively predicted satisfaction (β = -.46, p<.001). The regression weights for gaming addiction subsequently decreased from model 1 to model 2 and model 3 (-.20, -.16, &-.11) but remained significant, confirming the partial mediation. More specifically, gaming addiction had direct as well as indirect effects on the aggression of university students.

Table 3 - ***Evaluation Table of Correlation among Variables of the study model***

Variable	Mean	SD	1	2	3	4	5
Gaming Addiction	5.77	1.59	-	-	-	-	-
Sadistic Tendencies	61.18	9.74	.207**	-	-	-	-
Psychological Distress	35.04	9.19	.140**	.179**	-	-	-
Aggression	111.43	15.53	.209**	.640**	.223**	-	-
Satisfaction	13.51	5.50	-.202**	-.221**	-.500**	-.207**	-

p<.001 *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

It is revealed that there is a significant correlation between gaming addiction, sadistic tendencies, psychological distress, aggression, and satisfaction.

Discussion

The increasing prevalence of video games in modern society has raised concerns about their potential effects on mental well-being. The objective of this research was to investigate the intricate associations that exist among gaming addiction, aggression, satisfaction, sadistic tendencies, and psychological distress. The proposed hypotheses were validated through exhaustive examination by the collected data. We discuss the implications of the principal findings in light of the prior research. Life satisfaction was negatively correlated with gaming addiction, while aggression was positively correlated with gaming addiction. Sadistic tendencies and psychological distress partially mediate the relationship between gaming addiction and aggression, according to the mediation analysis, validating the complex web of factors that influence mental health outcomes. Positive correlations were identified between satisfaction, gaming addiction, sadistic tendencies, and psychological distress. The findings of this study emphasize the interrelatedness of these factors, suggesting that they function in concert rather than independently. There were no statistically significant variations observed regarding gaming addiction, sadistic tendencies, psychological distress, aggression, or satisfaction levels by gender or region. This phenomenon underscores the universality of these concerns among university students and challenges prevalent stereotypes.

H1 was supported by the regression analysis, which suggested that aggression and satisfaction are both directly and indirectly impacted by gaming addiction. This finding is consistent with prior investigations that have underscored the intricate connections among these variables (Addo et al., 2021; Elhai et al., 2020). The finding that sadistic inclinations serve as a partial mediator in the connection between aggression and gaming addiction is consistent with recent studies that emphasize the association between sadism and problematic gaming conduct (Kircaburun et al.,2021). This implies that individuals who possess sadistic inclinations might exhibit a heightened attraction towards violent video games and find enjoyment in participating in aggressive actions within the game, which could potentially translate into aggression in real life.

The finding that psychological distress serves as a partial mediator in the connection between aggression and gaming addiction is consistent with previous research that has established the co-occurrence of these traits, including that of Kuss and Griffiths (2012). This implies that people grappling with gaming addiction might encounter adverse affective states such as anxiety and frustration, which could potentially motivate them to engage in aggressive conduct as a means of coping with their difficulties or as an expression of their distress.

The correlation matrix revealed noteworthy correlations between satisfaction, gaming addiction, sadistic tendencies, psychological distress, and aggression. The interrelatedness of these variables is confirmed by these results, which lends credence to prior research (Hulaj et al., 2020; Esposito et al., 2020). The absence of substantial variations based on gender and region in the analyses disproved preconceived notions and underscored the widespread relevance of these concerns within the university student population. This viewpoint aligns with the advocacy for a broader perspective on the relationship between gaming and mental health (King et al., 2020).

Limitations

This study's capacity to establish causal relationships between variables is constrained by a cross-sectional design. Bean, Nielsen, Van Rooij, and Ferguson (2017) suggest that longitudinal research may yield a more comprehensive comprehension of the temporal intricacies associated with gaming addiction, aggression, and various other mental health consequences. The accuracy of reported gaming habits and mental health indicators may be compromised by response bias and social desirability bias introduced by self-report measures (Van Rooij et al., 2018). Further investigation might integrate multiple data sources and objective metrics to provide a more comprehensive evaluation. Because the research was limited to university students, the conclusions may not be fully applicable to other age cohorts or demographics. Examining various demographic cohorts would enhance the overall comprehension of the far-reaching consequences of gaming on mental well-being (Ruiz et al., 2023). Cultural nuances were not explicitly accounted for in the study. In light of the potential impact that cultural factors may have on gaming behaviors and mental health outcomes, it is recommended that future research investigate these dynamics with greater explicitness (Nguyen et al., 2017). The research failed to distinguish between gaming genres or the circumstances in which gaming occurred. Mental health outcomes may be influenced in unique ways by various genres and contexts (Granic, Lobel & Engels, 2014). Additional research may delve into these subtleties to attain a more detailed comprehension.

Recommendations

- Future research on sadistic tendencies, psychological distress, aggression, satisfaction, and gaming addiction should employ longitudinal designs.
- A comprehensive understanding can be achieved by integrating quantitative and qualitative methodologies, enhancing validity through triangulation.
- Cultural sensitivity is crucial in investigating gaming behaviors, necessitating cross-cultural comparative analyses.
- Research into video game attributes' varying effects on mental health, such as narrative substance and social functionality, can inform targeted interventions and guidelines, contributing to a nuanced understanding of these complex dynamics.

Implications

The findings of the study emphasize the necessity for well-informed interventions that target gaming addiction and its possible ramifications on mental well-being. Interventions must take into account the mediating function of sadistic tendencies and psychological distress in order to develop strategies that effectively mitigate these factors. Academic programs that aim to educate students, parents, and educators have the potential to significantly promote responsible gaming practices and mental health. Providing resources that promote healthy gaming practices and raising awareness of the potential repercussions of excessive gaming can help develop a more informed community. Mental health practitioners must remain vigilant regarding the indications of gaming addiction and its possible associations, such as aggressive behavior and psychological anguish. Incorporating gaming habit assessments into regular mental health screenings can enhance the efficiency of early detection and intervention. Policymakers and researchers must collaborate to formulate evidence-based gaming protocols and standards. This collaboration should have as its primary objective the reduction of potential negative consequences associated with addiction, aggression, and distress. It is critical to strike a balance between the welfare of society and the protection of individual liberties (Granic, Lobel & Engels, 2014).

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