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Impact of Cognitive Distortions on Online Game Addiction: Moderating Role of Narcissistic Personality Trait

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Abstract

Game addiction is recognized as a significant behavioral issue, which is closely linked to cognitive distortions. The interplay between game addiction, cognitive distortions, and narcissism presents a complex scenery of behavioral and psychological factors. This study used cross sectional design. The sample was 220 university students (male=140, female=80) with age (*M*= 22.60, *SD*=1.17) studying at Bahauddin zakariya university Multan. The participants were selected through convenient sampling technique and three questionnaire (cognitive distortion scale, game addiction scale, and narcissist personality inventory) were used to collect data from participants. The results explored a significant positive relationship between cognitive distortions, narcissism and game addiction (p<.01), the cognitive distortions were found to predict game addiction significantly (p<.001). The results also revealed that the narcissistic personality traits moderated and weakened the association between cognitive distortions and game addiction (p<.01). In conclusion, despite their cognitive distortions, people with higher levels of narcissism are less likely to become addicted to games, probably because they have more self-esteem and access to other forms of validation. This study highlight the need for tailored treatment programs that address both cognitive distortions and personality traits, as well as preventive measures aimed at fostering healthier cognitive and emotional development in young adults.

Keywords: Behavioral Issues, Cognitive Behavioral Model, Cognitive Distortion, Game Addiction, Narcissism, Online Game Addiction, Personality Trait

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Introduction

With the development of technology, online gaming has emerged as a necessary kind of entertainment (Li et al., 2009). Age groups that have changed might still be motivated to play online games for fun, competition, or companionship (Yee, 2006). Disregarding the fact that playing video games can be entertaining and have educational benefits excessive gaming has been connected in a subset of gamers to syndromes linked to addictive behaviors (Wang et al., 2019).

The nation's growing popularity of online gaming has a negative effect on high school students' daily lives, as evidenced by research done over the past ten years. This impact takes the form of poor academic performance, depression, anxiety, and low achievement motivation (Okwaraji et al., 2015). Various studies on the addiction to online gaming among teenagers claim that video games negatively affect the lives of teenagers.

Cognitive distortions are unreasoned supposed thought outlines which yield or

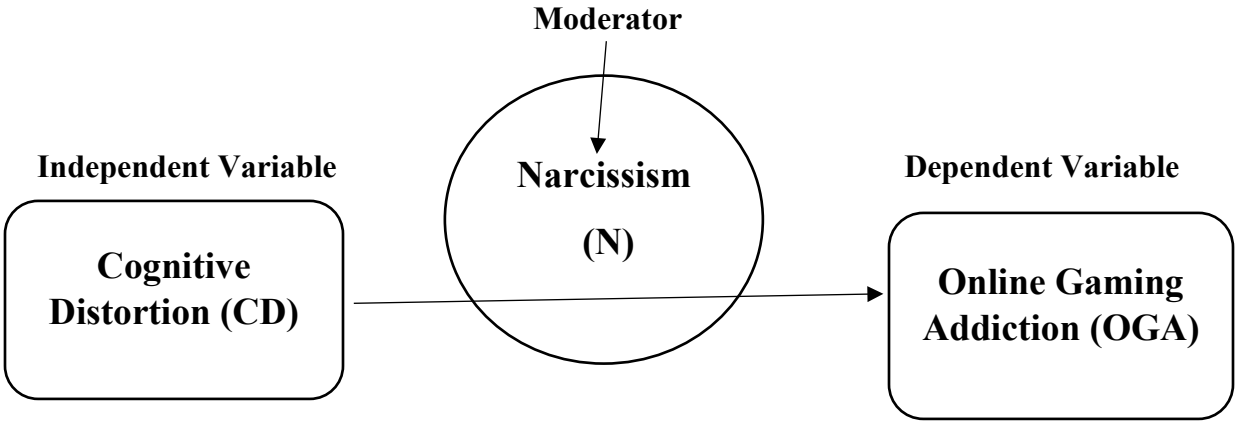
support unwanted behavior (Fortune & Goodie., 2012). Cognitive distortions were primarily defined as the product of information processing in ways which eventually resulted in apparent faults in intellectual thinking. Adolescents face difficulties in the cognitive area, including low cognitive flexibility, difficulty responding, answering questions that are similar to one another, and repeatedly making the same mistakes (Zhou et al., 2012). Such extensive use gives rise to some problems. Extended and uncontrolled internet use cause different psychological, and cognitive features as compared to people who use internet less frequently (Cao & Su, 2007). Therefore, irrational notions about intolerance for dissatisfaction, interpersonal distortions, depressed views of the world, and emotional disturbance are linked to internet addiction (Çelik & Odacı, 2013). Furthermore, A narcissistic personality is defined by traits like intense fantasies about dominance, attractiveness, and success; intense sensitivity to criticism; and unmatched emotions. In actuality, there is a correlation between a rise in online game addiction and high levels of narcissistic personality traits (Hasanvand et al., 2015). According to the Big Five Theory, neuroticism is the best indicator of problematic internet use as a coping mechanism for unpleasant emotions, a means of establishing social connectivity and belonging, and a means of avoiding loneliness (Amichai-Hamburger & Ben Artzi, 2003). The inclination and behavior patterns that define a person as distinctive are referred to as their distinctive personality. Although people occasionally engage in identical actions, they also have distinctive characteristics that set them apart from other people.

The degree and frequency of behavioral tendencies displayed by people account for this variance (David & Andrzej, 1997). Personality characteristics are believed to be noteworthy factors that could contribute to the growth and upkeep of online gaming (Dieris-Hirche et al., 2020; Mihara & Higuchi, 2017). Children and teenagers who play online games too much can suffer psychological, physical, and social consequences. Children that play violent video games at a young age are more likely to exhibit an inclination toward violence, which can have detrimental effects, particularly on their personalities (von der Heiden et al., 2019). Cognitive distortions are correlated with both internet addiction and smartphone addiction among urban and rural students (Binte Zaman et al., 2020). Cognitive distortions are linked to internet addiction and a variety of online activities. Internet addiction has been explained by Catastrophizing, personalization, and selective abstraction cognitive distortions (Özparlak & Karakaya, 2022). Online game addiction can be predicted by rumination, short term thinking and all or nothing thinking (Li & Wang, 2013). Loneliness have positive relationship with cognitive distortions and internet addiction (Demir & Buga, 2019).). Online game addiction can be predicted by personality trait, parenting style and cognitive distortions (Payam & Mirzaeidoostan, 2019). A study in China reveals that there is a positive association in relative deprivation, internet addiction and maladaptive cognition (Guo et al., 2024).

Theoretical Underpinning

The proximate enough critical cause of internet addiction is maladaptive cognition, such as catastrophizing, as demonstrated by Davis' (2001) Cognitive Behavioral model. These automatic negative beliefs have an impact on people's cognitive, emotional, and behavioral reactions.

Figure 1
Conceptual Framework



Hypotheses

H1: There is significant correlation between cognitive distortions, narcissism and game addiction.

H2: There is significant impact of cognitive distortion on game addiction.

H3: There is moderating role of narcissism on the relationship of cognitive distortions and game addiction.

Method

Cross-sectional survey research design was employed for this study.

Participants

The target population for this survey was university students in bachelor program. Non probability convenient sampling technique was used to gather data from respondents. 210 male and female university students participate in this survey. This study took place after attaining approval from institutional review board. The ethical guidelines of American Psychological Association were followed.

Instruments

Inventory of Cognitive Distortion

Inventory of cognitive distortion (Roberts, 2015) consisting of 53 items and each item scored on five point Likert scale. This scale has twelve factors (personalization, magnification, fortune telling, externalization of self-worth, perfectionism, dichotomous thinking, emotional reasoning, minimization, comparison to others, should statements, catastrophizing, emotional reasoning and decision making).

Online Gaming Scale

Online gaming scale (Lemmens et al., 2009) consisting of 21 items. Each item was given a score on five point Likert scale. There are seven factors of this scale (salience, tolerance, mood modification, relapse, withdrawal, conflict and problem).

Narcissistic Personality Inventory

The Narcissistic Personality Inventory was developed by Raskin and Hall in 1979. The NPI has gone through several changes, from 220 items to NPI-40 in 1984 and NPI-16 in 2006 by Ames et al. NPI-16 is short, unidimensional scale that consists of 16 pairs of items. These three scales were used to get the data from the participants (university students).

Results

SPSS version 26 was used to analyze the data. Scales reliability was examined through reliability analysis and Hayes first model was used to analyze moderation.

Table 1
Cronbach Alpha Reliability Analysis (N=220)

Instruments	No. of items	Alpha Coefficient
Cognitive Distortions	53	.94
Game Addiction	21	.90
Narcissism	16	.62

Table 2
Pearson's Correlation between Variables (N=220)

Instruments	Game addiction	Narcissism	Cognitive distortions
Cognitive distortions	.60**	.25**	_
Game addiction	_	.17**	_
Narcissism	_	_	_
Mean	49.46	5.64	127.83
Std. Deviation	13.57	1.36	21.88

**p<.01

Table2 shows that cognitive distortions and game addiction are positively associated (r= .60**) whereas cognitive distortions and narcissism are negatively associated (r= .25**). Similarly, game addiction and narcissism are negatively associated (r= .17**).

Table3
Simple Linear Regression Analysis between Cognitive Distortions and Game Addiction (N=220)

Path	ß	t	R-square
Cognitive distortions →Game addiction	.30	11.10	.36

Regression analysis shows that cognitive distortions significantly impact game addiction r (219) = .60, p<.001.

Table 4
Moderation by Narcissism for Cognitive Distortions and Game Addiction (N=220)

Paths		ß	t	LLCI	ULCI
Constant		49.98	67.41	48.52	51.44
Cognitive distortions		.30	10.84	.24	.35
Narcissism		.40	.7264	- .68	1.48
Cognitive distortions * Narcissism		-.05	-3.01	-.09	-.01
R square	.38				
R^2-Change	.02				

Note: LLCI= Lower limit confidence interval, ULCI=Upper limit confidence interval.

Table 4 shows that narcissism significantly moderate (weaken) the relationship of cognitive distortions and game addiction, F (216) = 9.06, p<.01.

Discussion

The findings prove the first hypothesis that there is a significant relationship between cognitive distortion, narcissism and game addiction. Cognitive distortions are linked to internet addiction and a variety of online activities. The results are consistent with the study on high school students explores that there is significant relationship between online addiction variables and cognitive distortions, narcissist personality and parenting styles (Payam & Mirzaeidoostan, 2019).

Second hypothesis that the adults with high cognitive distortions have more game addiction. Irrational and biased thought processes known as cognitive distortions can make maladaptive habits like excessive gaming worse. This is consistent with other studies that shows a connection between different addictive behaviors and cognitive distortions, implying that people with distorted thought processes might utilize gaming as an escape or coping technique. A study of Indian young adults explains the adults having internet game disorder have higher maladaptive cognition (Kakul & Javed, 2023). Problematic internet use is positively correlated with cognitive distortions as well as it is greater in families whose members are more than five (Agnihotri & Shanker, 2023). Cognitive distortions are related to problematic internet use directly and non-directly (Kuzucu et al., 2020).

The third hypothesis explore that narcissistic personality moderate the interaction of cognitive distortions and game addiction. The narcissism personality weaken the relationship of cognitive distortions and game addiction. Despite their cognitive distortions, those with higher levels of narcissism may be less likely to become addicted to video games, according to the weakening impact that has been seen in this findings. There are a few things that narcissistic people have in common that could explain this. For example, narcissistic people frequently have an exaggerated perception of who they are, and they could play video games not as a way to decompress but rather as a way to boost their confidence and win over others to their point of view (Bushman & Baumeister, 1998). They may be shielded by their sense of superiority from the unpleasant feelings that usually lead to addiction, which weaken the effect of cognitive distortions on their gaming habits. This result is consistent with previous research indicating personality factors may have a moderating effect on the behavioral effects of cognitive distortions (Morf & Rhodewalt, 2001). The relationship between narcissism and cognitive distortions emphasizes how complicated addiction processes can be, and it raises the possibility which suggest therapies for game addiction may be necessary to take individual personality characteristics into consideration. For instance, treatment strategies for narcissistic people may center on raising their level of self-awareness and promoting wider and adaptable means of obtaining validation and self-worth. A study on gamers explores that narcissism personality trait have negative relationship with game addiction and social isolation which reveals that players who play online games will have good social and interpersonal skills will others (Nawaz et al., 2020).

Conclusion

It is concluded that adults with cognitive distortions are more prone to game addiction is supported by the current study. This result is consistent with earlier studies showing that maladaptive habits, such excessive gaming, are made worse by unreasonable and biased mental processes. This study also concluded that the association between cognitive distortions and game addiction is weakened and moderated by narcissistic personality traits. Despite their cognitive distortions,

people with higher levels of narcissism are less likely to become addicted to games, probably because they have more self-esteem and access to other forms of validation.

Limitation and Suggestions

The research has some limitations even though it makes valuable contributions. For example, the use of cross-sectional data restricts the ability to establish a cause-and-effect relationship between the underlying variables. To gain a deeper insight into the interplay of cognitive distortions, narcissism and game addictions, it is recommended to conduct a follow-up longitudinal study. In this study only one moderator has been studied, additional variables (impulsivity, self-control and other personality characteristics) can be considered who may have interaction effects.

Implications

These findings have important implications for our understanding of and ability to treat game addiction. Individuals with strong cognitive distortions may benefit most from cognitive-behavioral therapies, which restructure these problematic thought processes. Programs for treating game addiction should take each patient's unique personality into account. Interventions for narcissistic individuals may need to prioritize raising self-awareness and advocating for more healthy means of building self-esteem. Understanding how cognitive distortions and narcissistic qualities contribute to game addiction can aid in the creation of preventive measures, such as education programs aimed at promoting young adults' healthier cognitive and emotional development.

Contribution of Authors

Nosheen Saba: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft

Iram Batool: Methodology, Writing - Reviewing & Editing, Supervision

Huma Batool: Methodology, Formal Analysis, Writing - Reviewing & Editing

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [N.S.] upon the reasonable request.

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