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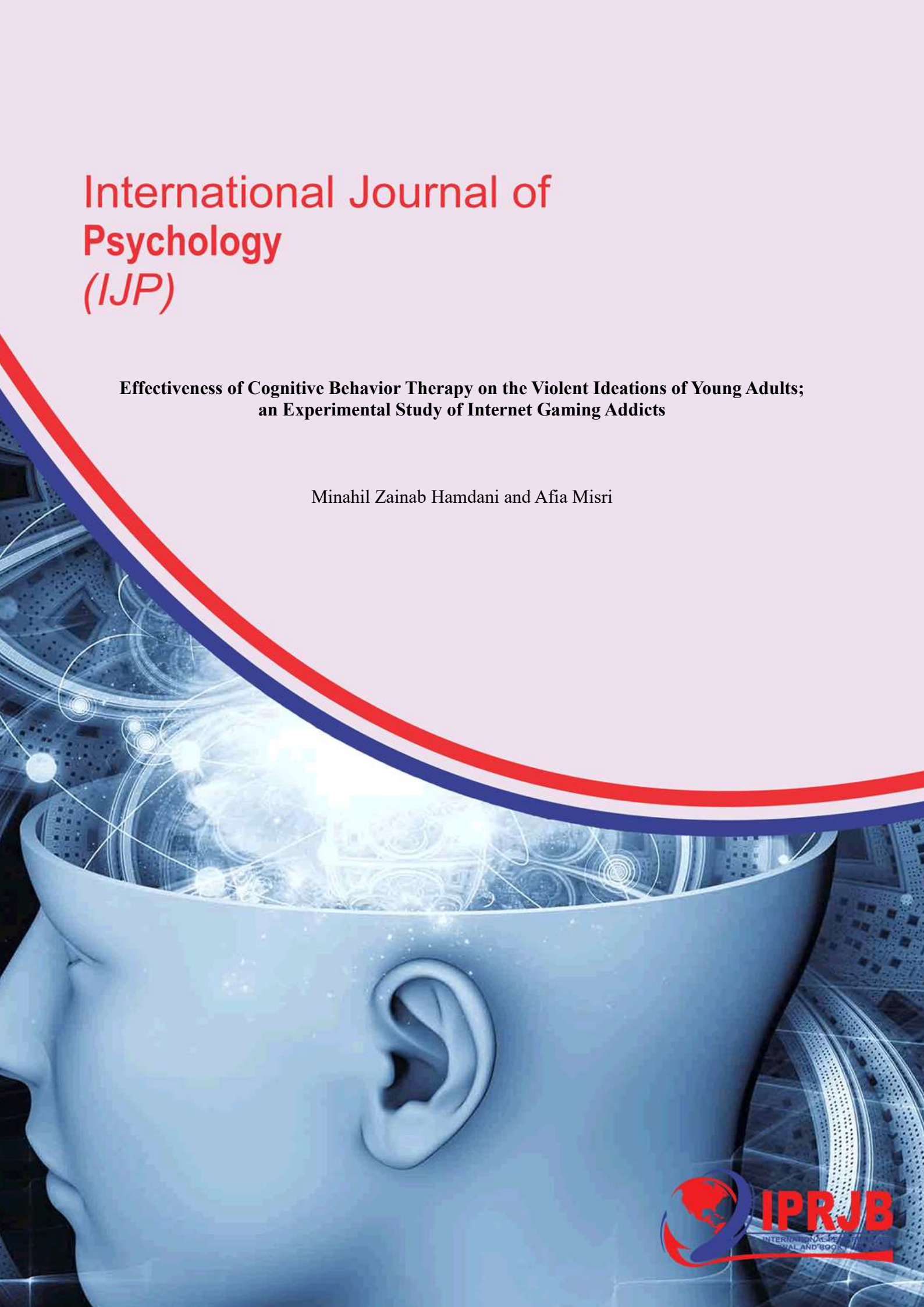
Minahil Zainab Hamdani and Afia Misri



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Effectiveness of Cognitive Behavior Therapy on the Violent Ideations of Young Adults; an Experimental Study of Internet Gaming Addicts

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Abstract

Purpose: The increasing prevalence of internet gaming addiction in recent times has caused major concerns about its psychological and behavioral impacts, particularly violent ideations. This study explores the relationship between internet gaming addiction and violent ideations in young adults, emphasizing the need for effective intervention strategies. These results highlight the potential of CBT as a robust intervention mechanism for people suffering from violent ideations due to internet gaming addiction.

Methodology: The study was divided into two parts. The first study was qualitative, and it was conducted to assess the perceptions of internet gamers and non-gamers about internet gaming and the existence of violent ideations in Pakistan. The second study was quantitative; its sample was 200 young adults (M=135, F=65) recruited from gaming lounges and universities in Islamabad and Rawalpindi, Pakistan. The second study was divided into two phases, screening phase and quantitative phase. Two scales were used for assessment: the Internet Gaming Disorder Test (IGDT-10) and the Violent Ideations Scale (VIS) (Kiraly et al., 2017; Murray et al., 2018).

Findings: Findings revealed that internet gaming addiction (IGA) is positively significantly correlated with violent ideations (VI) ($p<.001$), and internet gaming addiction also significantly predicts violent ideations ($p<.001$). It also explores the impact of demographics, revealing no significant correlation between gaming addiction and violent ideations across age, gender, marital status, living situation, while a significant correlation between IGA and VI across gaming hours and gaming duration. The study also includes an intervention stage in which the participants underwent a Cognitive Behavioral Therapy (CBT) intervention plan. A paired sample t-test was applied to compare the mean differences, and the analysis of the pre-test and post-test scores showed a significant decrease in violent ideations in internet gamers ($r=.937$, $p<.001$).

Unique Contributions to Theory, Practice and Policy: The study is guided by Vygotsky's activity theory, which is a framework that describes human activities as complex, interrelated systems. The theory focuses on human actions' collective, artifact-mediated, and object-oriented nature. It looks at an activity as a system with components like subjects, tools, and constantly interacting objects. The study recommends that research be conducted in other demographic regions or on a broader level. The study also recommends that more comparative intervention-based research should be conducted to compare different treatment methods.

Keywords: *CBT, Intervention, Internet Gaming Addiction, Violent Ideations*

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INTRODUCTION

Internet gaming has become widespread among children and adults nationally and internationally (Anderson et al., 2010; Ferguson, 2010; Griffiths et al., 2012; Zahra et al., 2019). Internet games can be defined as games played online through a source of internet. These games differ from platform and other video games (Sardone et al., 2009).

Whether played individually or with multiple players online, mobile video games have gained immense popularity, especially when available for free download (Sherry et al., 2006). With approximately 5.44 billion individuals globally having access to the Internet, it is noteworthy that a significant portion of this demographic comprises young adults and adolescents (Statista, 2024).

The issue of internet gaming addiction has garnered attention due to its association with addictive behaviors. This study endeavors to address previous research shortcomings, particularly concerning sample limitations. The examination of problematic and addictive gaming behavior, which commenced earnestly in the 1980s, has gained increasing prominence within the healthcare community (World Health Organization, 2018). A significant milestone in this trajectory occurred with the inclusion of "Internet gaming disorder" (IGD) in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by the American Psychiatric Association in 2013, marking a pivotal recognition of gaming-related issues (American Psychiatric Association, 2013). In addition, the recently updated edition of the DSM-5, called DSM-5TR, incorporated the “Internet gaming disorder” diagnosis in Section 3, thus indicating that more attention has been paid to this phenomenon and that more research is needed (American Psychiatric Association, 2022).

Internet Gaming Addiction can be defined as consistent and compulsive use of Internet games. The concept of addiction in the context of gaming is not defined by the DSM-VTR. However, it is defined as excessive gaming usage (Kuss & Griffiths, 2012). IGA interferes with daily life functioning, and people who have internet gaming addiction have the potential to develop IGD (Petry et al., 2015). Hence, it has to be made clear that internet gaming addiction has a clear difference from internet gaming disorder and gaming disorder.

It was important to acknowledge that the widespread availability of internet gaming yields both positive and negative consequences, shaping the behaviors and experiences of users in multifaceted ways (Griffiths, 2010). According to Social Cognitive Theory, the behaviors observed in individuals during gaming can lead to both positive and negative outcomes (Bandura, 2001). Moreover, Internet Gaming has many benefits as well. Over the past three decades, researchers have conducted numerous studies to investigate the effects of internet games on players' behaviors (Anderson et al., 2010; Ferguson, 2010; Gentile et al., 2014). Games with complex narratives increased spatial navigation, memory, perception, and problem-solving abilities (Green & Bavelier, 2003). Many modern video games encourage cooperation among players, have promoted prosaic behavior, strengthened bonds between players, and developed leadership qualities (Gentile et al., 2009).

While discussing Internet gaming addiction, discussing different categories of internet games seemed necessary. One type of gaming is Massively multiplayer online games (MMOGs). MMOGs include shooting games, roleplaying games, battle arenas, and strategy games (Bainbridge, 2010; Daniel, 2012; Vik, 2005). Massively multiplayer online roleplaying games (MMORPGs) and Multiplayer online battle arenas (MOBA) are subgenres of MMOGs

(Bainbridge, 2010). Battle Royales and simulation games are also popular types of internet games, PUBG and Fortnite being examples of Battle Royales (Daniel, 2012). Shooting games include first-person shooter games (FPS) and third-person shooter games, with first-person and third-person perspectives, respectively. Other categories of internet games include sports, adventure, racing, and fighting games. Research has shown that MMOGs have been the most addictive (Guan & Chen, 2023; Gupta et al., 2020).

Hence, transitioning from the realm of pure gameplay to the potential cognitive implications, the current study explored violent ideations. Violent ideations, characterized as thoughts about causing harm to others, were distinguished from aggressive plans or threats (Gellman & Suddath, 2005; Murray, 2016). These ideations, deeply rooted in cognitive processes, could take various forms, ranging from recurrent thoughts to subtle, unnoticed mental occurrences (DeWall, 2011). The cognitive neo-association theory and Zillmann's cognition-excitation interdependency model were among the theories that elucidate the connection between violent thoughts and actual aggressive behaviors (Berkowitz, 1989; Zillmann, 1988).

The situated learning theory proposed by Brown et al. (1989) suggests that learning outcomes, including the assimilation of violent narratives, were intricately linked to the contexts in which they were acquired. Numerous studies have explored the direct link between violence in video games and aggressive behavior, yielding significant findings (Anderson & Dill, 2000; Anderson & Bushman, 2002). It was observed that exposure to violent video games is correlated with aggressive thoughts and behaviors, both in controlled environments and in daily life (Anderson et al., 2010). Anderson and Bushman (2002) indicated a correlation between media violence and misinformation among the American public.

In response to the challenges discussed, in-depth comparisons of various pharmacological and psychosocial interventions for IGA were conducted in a clinical trial study (Raneri et al., 2022). Valuable insights were given to pediatric mental health practitioners seeking efficacious treatment approaches. Consequently, clinicians were increasingly inclined to diagnose IGD in children at an earlier stage, as indicated by the findings of meta-regression analyses (Wang et al., 2017). To address the burgeoning issue of internet gaming addiction, there was a call for increased involvement of psychiatrists in prevention and treatment efforts (Starcevic et al., 2020). Moreover, optimal treatment outcomes necessitated collaborative efforts involving government policymakers in adolescent mental health, urging the integration of medication alongside cognitive behavioral therapy (CBT) or multi-level counseling (MLC) interventions (Chang et al., 2022).

Problem Statement

Internet gaming addiction has been studied globally, with its impacts on the behavior and mental health of people. Negative outcomes include a decline in academic performance, an increase in aggression, and social isolation. Studies have reported that internet gaming addiction causes an increase in violent behavior and aggression and impacts gamers' daily lives (Anderson & Dill, 2000; Griffiths, 2010). Despite a plethora of research on the subject, there is a lack of studies, which indicates a knowledge gap, on the direct link between internet gaming addiction and violent ideations, as most of the research has been focused on aggressive behavior rather than cognitive outcomes like violent ideations.

There have been studies discussing the negative aspects of internet gaming, including aggression, but there has been no focus on exploring how aggression or isolation leads to

violent ideations (Ahmer et al., 2020). As violent ideation is a relatively new phenomenon in Pakistan, as compared to extensively researched aggression or daily life impairment, the current research included a qualitative exploratory study to validate the existence of this phenomenon in Pakistan and its better understanding. Hence, the focus of qualitative study was to explore the existence of internet gaming addiction and whether it's associated with violent ideations or not. When the narrative shifts to the Pakistani context, research is scarce regarding the factors that cause violent thoughts among video game users where such games highlight interventional studies. There is also a lack of literature on specific intervention approaches to diminish or reduce violent ideations (Awan et al., 2021; Shabbir et al., 2020). Of the gaps in the literature, none is wider than the one that pertains to the delivery of interventions to people with aggressive and violent cognitions. The research aims to fill this literature gap and, in doing so, offer crucial data regarding the association between internet gaming addiction and violent ideations that may help thousands of people who belong to the gaming society.

A lack of intervention-focused literature targeted at the discussed domain highlights the literature gap. The current study aims to fill this literature gap by proposing Cognitive behavior therapy (CBT) as an effective intervention to address violent ideations in internet gamers.

Hence, the current study investigates and analyzes the effectiveness of CBT intervention, designed to assist individuals struggling with Internet gaming addiction in managing violent ideations. Furthermore, this study intends to raise awareness within society about internet gaming addiction and its potential consequences and shed light on the intervention strategies used to confront these issues. This helps individual gamers and enlightens policymakers about wider social consequences associated with online games. This research would benefit gamers on an individual level and help people understand internet gaming on a societal level. It will also help policymakers to understand the problems and develop relevant policies to help the gaming community.

Theoretical Framework

Many theorists argue that game-based learning has its foundations in several conceptual propositions. These foundations include various affective, motivational, cognitive, and sociocultural theories (Nacke & Deterding, 2017). The foundational theory that is the foundation of the current study is activity theory (Vygotsky, 1978).

Developed by Vygotsky in 1978, activity theory is a framework that describes human activities as complex, interrelated systems. The theory focuses on human actions' collective, artifact-mediated, and object-oriented nature. It looks at an activity as a system with components like subjects, tools, and constantly interacting objects. The primary goal of the activity is to transform an object into an outcome, and this transformation process is mediated by tools (both physical and conceptual). The social and cultural context plays a crucial role in shaping these activities, emphasizing the importance of historical and cultural contexts in understanding human behavior.

The current study discusses how internet gaming addiction is related to violent ideations, and how Cognitive Behavior Therapy is effective in reducing violent ideations. The activity theory explains the impact of internet gaming on human behavior. In essence, the research suggests that gaming is not just a pastime. It is an activity deeply rooted in complex systems where each element - from the game's rules to the community's values - can shape a player's mindset. When

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these elements collectively lean towards violent themes without any counterbalance, it could potentially pave the way for violent ideation among gamers.

In this systemic activity, the gamer (Subject) becomes intensely engrossed in the violent themes of a game (Object) using their cognitive faculties and the video game interface (Tools). The immersive nature of addictive gaming, combined with the rules of the game and societal perceptions of violence (Rules), might amplify violent perceptions and blur the boundaries between the virtual and real worlds. Within the broader gaming community (Community), if there is an overemphasis on violent victories and minimal social checks or balances, it could further encourage and normalize violent ideation. The roles individuals adopt in this community, such as dominant players or passive spectators (Division of Labor), might also impact the internalization of violent narratives.

In the activity of gaming, CBT plays the role of a mediating artifact. The behavioral experiments and modification techniques used during CBT help gamers to explore other non-violent activities or even other games that do not promote violent ideations. This as a mediator, shifts the activity system towards a healthy outcome.

Activity theory supports the effectiveness of CBT on reduction of violent ideations. In this systematic activity, the gamer (Subject) works on the goal of reducing violent ideations (Object). Techniques of CBT (Tools) are used in the group therapy setup (community), with rules of the therapy and goals (rules). The distribution of tasks during the therapy process (division of labor) includes the role of therapist and the role of client, which will impact the reduction of violent ideations.

Conceptual Framework

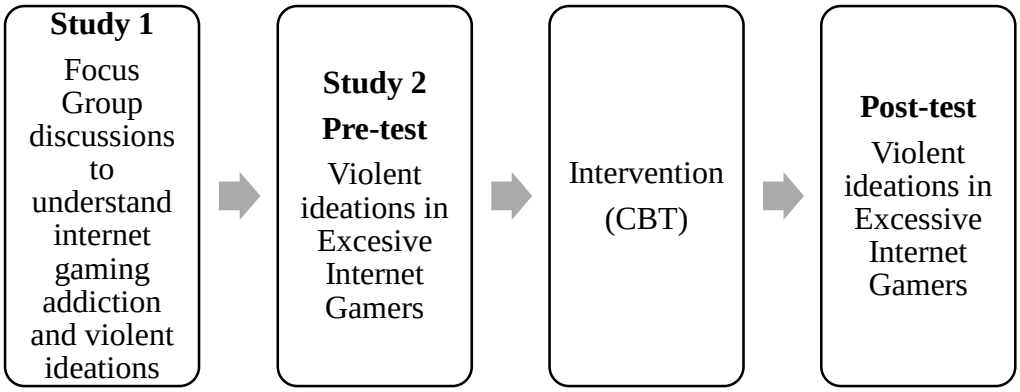

Figure 1: Conceptual Framework

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METHODOLOGY

Research Approach and Design

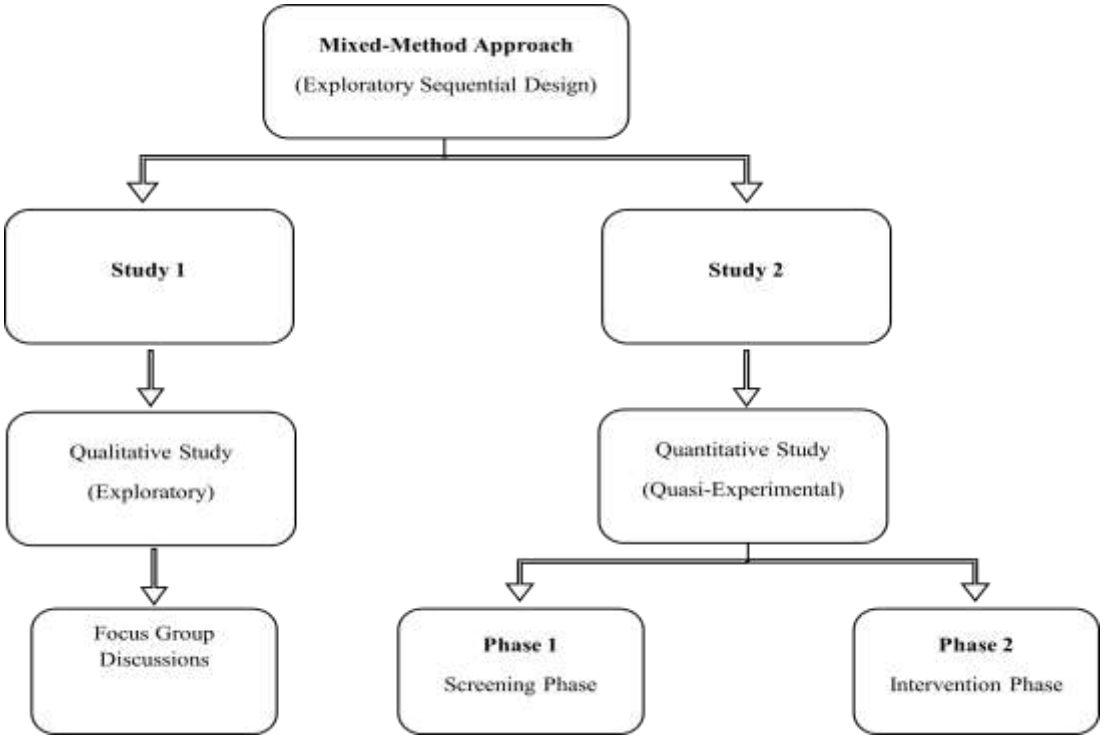

Figure 2: Research Approach

The current study opted for a mixed-method approach, and exploratory sequential design. The phenomenon of violent ideation has been studied to a limited level in Pakistan. Therefore, a qualitative exploratory study was conducted using an interview guide, to understand the subject and provide grounds for the main study. Following the first study, a quantitative quasi-experimental study was conducted. It was divided into two phases, with the first phase being the screening phase and the second phase being the intervention phase.

Locale

The study's locales were Rawalpindi and Islamabad, Pakistan. The data was collected from four internet gaming lounges located in Bahria town, Phase 7, DHA Phase 2, E-11/2, and I-8 Markaz. The data was also collected from Nust University and Fast University, Islamabad

Sample Size and Sampling Technique

The sample size was determined by using G-Power software for quantitative data collection. The sample for quantitative data was 200 individuals (M=135, F=65). The age range for the sample was 18-35 years, young adults because gaming is predominantly played in this age range (Yanev & Ivanov, 2023). A simple random sampling technique was used for the screening phase of the current research because it ensures equal representation from the targeted population and ensures generalization of results (Horton, 2024). A purposive sampling technique was used for the qualitative pilot study because the purpose was to select internet gamers. The current study focuses on finding individuals who engage in excessive gaming.

First, a qualitative study was conducted, and then, in the second study, quantitative analysis was conducted on participants to establish the relationship between variables. In the end, participants were screened and went through the intervention stage. In the end, a post-test was conducted.

Individuals in the 18- to 35-year-old age range were included. The individuals involved in excessive online gaming were included, which was determined through the screening tool called the Internet Gaming Disorder Test (IGDT-10). The individuals well-acquainted with English were included, as the scale was in English.

Individuals not in the 18- to 35-year age range were excluded. Individuals not involved in online gaming or even those who do not play gaming to an excessive level were excluded. Individuals already on medications were excluded. Individuals diagnosed with this disorder and seeking any clinical treatment for that were excluded.

Data Collection Instruments

Interview Guide

The interview guide was created before the qualitative study and in consideration of previous work done in the same field (King et al., 2012; Ryu et al., 2019). This interview guide was used for the focus group discussions in the qualitative study to establish people's perceptions and opinions of internet gaming.

Internet Gaming Disorder Test (IGDT-10)

Despite this declaration, the Ten-Item Internet Gaming Disorder Test (IGDT-10) is a brief screening tool that was to assess internet gaming addiction as consistent with the DSM-5-TR and has simple and coherent item terms (Kiraly et al., 2017). Kiraly et al. (2017) introduced it in 2017. The scale, in this case, has ten items. Scoring of the instrument involves using a 5-point Likert scale ranging from 'Never' (0) to 'Almost always/Always' (5), and any score of 5 or above is suggestive of possible cases of IGD based on DSM 5-TR. Regarding nine dichotomous items, the range of the Cronbach alpha coefficients was between .62 and .75.

The purpose of the scale is to indicate the cases at risk of internet gaming disorder. The scale screens out potential cases for clinicians to further diagnose according to DSM-5TR and clinical judgment. Hence, this scale identifies individuals with problematic behavior of preoccupation with internet gaming without implying a formal diagnosis (Kiraly et al., 2019).

Violent Ideations Scale (VIS)

The Violent Ideations Scale was developed by Murray et al. (2016). The VIS includes 12 items referring to thoughts of harming another individual, where harm includes, for example, killing, beating up, bullying, causing pain, and humiliating. The aggressive acts vary in the target referred to (e.g., a stranger, a person close to the respondent, a person despised by the respondent) as well as the seriousness of the imagined act (e.g., humiliating someone, beating someone up, and killing someone). Items also refer to thoughts of provoked and unprovoked aggression, mirroring the reactive versus proactive distinction identified in aggressive behavior research (Raine et al., 2006).

Items from the VIS were measured using the same response format on a 5-point Likert scale from Never (1) to Very Often (5). Items measuring VIS and internalizing problems were asked concerning the last month. The resulting total will give an indication of the frequency and

variety of violent ideations the respondent has experienced in the past month. A higher score indicates more frequent and diverse violent ideations, while a lower score indicates less frequent and less diverse violent ideations. The Cronbach's alpha for the Violent Ideations Scale is .90.

Procedure

The current research was divided into two studies. In the first study, focus group discussions were conducted with a small sample of people (n=8). These discussions aimed to delve deeper into the experiences and feelings of these individuals, seeking to elucidate the nuanced relationship between internet gaming addiction and violent ideation. An interview guide with open-ended questions guided these discussions. The interview guide was developed in a way to extract the phenomena of violent ideations through different factors because the term "violence" has a strong social stigma, and it creates biases among individuals. It often leads to social desirability bias; individuals alter their responses to be likable (Fisher & Katz, 2000; Tourangeau & Yan, 2007). It helped to understand the particular phenomena of violent ideation and its prevalence in Pakistan. The themes generated from the qualitative data supported the research idea that violent ideations need to be explored. Many themes were generated from focus group discussions. The researcher focused on the theme of violent ideation because there was a scarcity of research regarding internet gaming addiction and violent ideations globally and in the Pakistani context.

The second study was divided into two phases. In the first phase, quantitative data was collected, and analysis was conducted on 200 internet gamers. In the second phase, 10 participants were screened out, and intervention was carried out on them.

In the screening phase, the participants went through an experimental survey in which the Internet Gaming Disorder Test (IGDT-10) was used to identify internet gamers and the Violent Ideations Scale (VIS) for violent ideation. This quantitative phase gauged tendencies linking internet gaming addiction to violent ideation.

In the intervention phase, a CBT intervention was introduced in the third phase to the research participants who scored high on IGDT-10 and VIS and agreed to participate. These participants were contacted through their contact details. The ones who gave consent were included in the intervention group. A CBT intervention plan was developed, including techniques of cognitive behavior therapy (CBT), and comprised eight sessions in total, given in Table 1 (Brown, 1989; Miller, 2019).

In the fourth step, one follow-up session was conducted after a week of completing the intervention of 8 weeks. The post-intervention test was carried out using the Internet Gaming Disorder Test (IGDT-10) and Violent Ideations Scale (VIS). The post-intervention test scores were compared with pre-intervention test scores, and the effectiveness of CBT intervention was evaluated. Further, two follow-up sessions were conducted in the preceding month, with a gap of 15 days between both sessions. The purpose of these sessions was to ensure improvement in the participants and if they could maintain the coping skills they learned.

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Table 1: CBT Intervention Plan

Phases		Details	Description
Phase 1 & 2	Pre-Intervention Testing	Qualitative and Quantitative data collection and analysis	A qualitative study was conducted. Data was collected from 200 individuals, and participants were screened out for intervention.
Phase 3	Session 1-2	Rapport Building History Taking Psychoeducation Cognitive Restructuring	• All group members were introduced, a life map was drawn, and the program's objectives were introduced. • Discussion on life and gaming history, including patients' mood (depression and anxiety), loneliness, social environment, and family cohesion • Alternate thought record worksheet (For both IG and VI) and explained. • Irrational thoughts and behaviors were identified by looking at and examining their DTR • Psychoeducation about internet gaming and violent ideations.
	Session 3	Cognitive Restructuring	• Three Column Thought Record (Regarding violent ideations and aggression) – Event – Thought – feeling. (2) • The group was made to understand the concept of cognitive distortions and the relationship between problematic thoughts associated with interpreting events that serve as triggers for Internet addictive behaviors AND violent ideations/aggressive behaviors.
	Session 4	Internet Addiction techniques	• Counseling • Techniques like 3D's, Forceful coping, rational coping, and fogging were used for Internet gaming addiction. • Cost-benefit analysis training • Give homework to start doing a new activity
	Session 5	Anger Management Cognitive restructuring	• Coping skills anger worksheet • Methods of relaxation were taught to help with anger management) (Deep breathing) • Mindfulness psychoeducation • Alternate thought record worksheet (3) • Scaling to get feedback (On a scale of 1-10)
	Session 6	Self-Control Skills Cognitive Restructuring	• Self-control skills were developed, such as distraction, identifying internal stimuli, delaying gratification, and developing mediated thinking. • Group discussion was conducted regarding improvements and healthier alternate thoughts.
	Session 7	Implement recommended changes to make participants use alternate rational cognitions.	• Recommendation of the strict schedule of internet gaming and psychoeducation about why it is better. • Enquire how the new activity/hobby the group started is going. Recommend getting involved in healthy activities. • Recommendation of journaling
	Session 8	Summary Termination Follow-up Sessions	• Summary, therapy blueprint • Relapse Prevention • Termination discussion • Feedback (Scaling as well)
Phase 4	Follow-up Sessions Post Intervention Testing	Review of Symptoms IGDT and VIS	• Follow-up Sessions o One follow-up session after a week for post-treatment analysis was conducted. o For post-test analysis, the Internet Gaming Disorder Test (IGDT-10) and Violent Ideation Scale (VIS) were used.

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RESULTS AND INTERPRETATIONS

Study 1

The qualitative study was conducted before the screening of participants for intervention. The purpose of the qualitative study was to develop grounds for the main study and to validate the existence of the phenomena of violent ideations in Pakistan.

Thematic analysis was conducted on the focus group discussions, and three themes, with further sub-themes, were generated from the transcripts, which are discussed below:

Themes

Internet Gaming Addiction

Videogaming is quite prevalent in Pakistan. One participant said, “I see children being intrigued by games.” Another said, "I sometimes play for seven to eight hours or even more. However, my parents are not big fans of video games. Sometimes, I have trouble with them when they want me to carry out a task while playing, and I don't want to quit the game.”

It was observed that internet gaming was feared by non-gamers and they saw it as a means to danger. Homicide cases were mentioned and the association between internet gaming addiction and violence was developed due to those cases. A participant said,

“I fear that more children can get sick like Zain and kill their own family. These games should be banned in my opinion.”

Boys are seen as more interested in gaming than girls. This observation underlines the cultural and social factors influencing gaming habits, suggesting that societal norms and expectations may play a role in shaping the gaming community, with boys more openly engaging in gaming activities compared to girls; as one participant said,

میں گیمنگ کیفے میں ہر وقت لڑکوں کو دیکھتا ہوں لیکن میں نے شاید ہی کسی لڑکی کو دیکھا ہو۔ یہ معاشرے کی حدود کی وجہ سے ہوسکتا ہے لیکن یہ ظاہر کرتا ہے کہ لڑکے زیادہ کھیلنے میں انٹرسٹڈ ہیں۔

Translation: "I see boys in the gaming cafes all the time, but I have hardly seen any girls. It could be due to societal boundaries but shows the prevalence."

Psychological Impact of Internet Gaming

Internet gamers are impacted on a psychological level due to excessive gaming. Due to long hours of gaming, they develop a sense of detachment and get frustrated and irritated.

Sense of detachment. The participants discussed the potential for gaming, particularly violent video games, to impact players' behaviors and attitudes.

One participant said, “It affects behaviors because children stop listening to parents.”

One participant said,

گیمنگ آپ کو دنیاوی معاملات سے دور کر دیتا ہے۔ میں صرف کھیلتے ہوئے خوش رہتا ہوں۔ اسی لیےتو میں کھیلتا ہوں۔

Translation: It distracts you from worldly affairs. I only feel happy while playing. I mean, that’s why I play.

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Restlessness and Irritability. Internet gamers tend to get restless when they do not complete their gaming missions or if they are disturbed while playing. They ignore daily life activities to play games. They feel restless if they are not gaming and doing something else.

A participant said, "I neglect eating and hygiene when gaming. I feel restless when I am not gaming."

A participant said,

"If you keep losing games, you may feel increasingly frustrated and restless."

Increased Aggression and Violent Ideations. As the researcher has concluded this theme from the focus group discussions conducted, some participants noted an increase in aggression and a decrease in patience, attributing these changes to the immersive and sometimes intense nature of gaming experiences; as a participant said,

"I guess many people get irritated or aggressive out of the gaming world as well."

Another one said,

مجھے یہ لگتا ہے کہ یہ قدرتی طور پر گیمرز میں غصے کو بڑھاتا ہے۔ آپ کو گیمنگ کے دوران غصہ کرنے کی عادت ہو جاتی ہے اور یہ آپ کی شخصیت کا حصہ بھی بن سکتا ہے۔

Translation: "I also think that it naturally increases aggression in gamers. You get used to being angry during gaming, that it could become a part of your personality."

One participant said, "Sometimes I wish I could roam around and complete Call of Duty missions in the real world, where I will win once I kill everyone else."

Another participant said,

ایک ایسی گیم تھی جہاں آپ لوگوں کو خاموشی سے چھرا گھونپ سکتے تھے، انہیں قتل کرسکتے تھے، اور پھر میرا دل کرتا تھا کہ زندگی میں دوستوں کے ساتھ ایسا کرنا بہت اچھا لگے گا، یقیناً کسی اصلی بلیڈ یا کسی بھی چیز سے نہیں۔ یہ صرف ایک مزے کی چیز تھی، اور یہ لگ رہا تھا کہ کر کے مزہ آتا۔

Translation: "There was a game where you could silently stab people like assassinating them, and then I would feel cool doing it in real life with friends, of course not with any real blade or anything. It was just a cool thing, and it just looked impressive."

Social Impact of Internet Gaming

A significant concern raised by the participants relates to the addictive nature of internet gaming and its consequent negative impact on personal responsibilities, including academic performance and household duties. One participant said, "It impacts people's behaviors. For instance, if you are playing a game like COD or Fortnite, it is so addictive that you keep on thinking about it even when not playing. Sometimes, during other activities, you go into scenarios."

Poor Performance in Academics: Excessive gaming causes Pakistani youth to perform poorly in academics. Many gamers reported that their work and studies are affected because of excessive gaming.

A participant said,

میری امی مجھ سے کہا کرتی تی کہ تمہاری گیمنگ کی عادت تمہیں ایک دن ناکامی کی طرف لے جائے گی۔ میں اس سے متفق نہیں ہوں لیکن میرا اندازہ ہے کہ اس سے میری پڑھائ کرنے اور اچھے نمبر حاصل کرنے کی صلاحیت متاثر ہوتی ہے۔

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Translation: My mother used to say to me that your habit of gaming will cause you to get to failure one day. I obviously don't agree but I guess it does affect my ability to study and get good grades.

Social Relationships: Internet gamers tend to have restrained social relationships. Their relationships with their family and friends are affected because they give all their attention to gaming.

Hence, this theme calls for a balanced approach to gaming, emphasizing the importance of moderation and the need for awareness regarding the potential for gaming to interfere with personal growth and responsibilities. As a participant said,

اس کے اڈکٹو ہونے کی وجہ سے لوگ ہمیشہ کھیلنا چاہتے ہیں۔ جب آپ محفلوں، ڈنر، دوستوں کے ساتھ ہینگ آؤٹ پر جاتے ہیں، تو آپ بہت جلد کام کر لیتے ہیں۔ گیمز کھیلتے ہوئے آپ صرف اپنے ہی زون میں سکون محسوس کرتے ہیں۔

Translation: "Because of its addictive nature, players always want to play. When you go to gatherings and dinners and hang out with friends, you get done with it very quickly. You just feel comfortable in your zone while playing games."

Social Isolation: The discussions reveal a complex relationship between gaming and social behavior. On the one hand, gaming serves as a virtual venue for social interaction, offering players a platform to connect, collaborate, and compete with others globally.

One participant said,

مجھے لگتا ہے کہ میں پبجی کھیلنے میں سب سے زیادہ دلچسپی رکھتا ہوں اور یہاں تک کہ اپنے فری ٹائم میں بھی، میں اکیلے میں کھیلنے کو ترجیح دیتا ہوں۔

Translation: "I think I feel that I am the most interested in playing PUBG and even in my free periods, I prefer playing in isolation rather than socializing."

Study 2

This section reports the findings and results of study 2. The study's assumptions were analyzed using SPSS versions 22.0. The chapter includes tables with information regarding the study's participants' demographics, the psychometric qualities of the scales used, correlation, and regression analysis.

Following are the results of **Phase 1**, the screening phase, of the Study 2:

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Table 2: Socio-Demographic Characteristics of Participants (n=200)

Category	N	%
Age 18-35	200	100
Gender		
Male	135	67.00
Female	65	33.00
Family System		
Nuclear family	108	54.00
Joint family	92	46.00
Employment Status		
Employed	75	37.50
Student	107	53.50
Unemployed	18	9.00
Marital Status		
Married	16	8.00
Unmarried	184	92.0
Hours of Gaming in a Day		
2-4 hours	149	74.5
6-8 hours	38	19.0
10-12 hours	7	3.5
14-16 hours	6	3.0
Duration of Gaming (Years)		
Six months	32	16.0
12 months	17	8.5
2-4 years	51	25.5
Five or more years	100	50.0

Note. n=frequency & %= Percentage

The results of independent sample t-tests revealed that there was no significant difference in IGDT (t=1.48, p>.05) and VIS (t=.773, p>.05) scores between males and females. There was no significant difference in IGDT (t=-.475, p>.05) and VIS (t=.949, p>.05) scores between married and unmarried internet gamers. There was no significant difference in IGDT (t=-.917, p>.05) and VIS (t=-.860, p>.05) scores between internet gamers living in nuclear and joint family systems.

The results of One-way ANOVA analysis revealed a non-significant mean difference across employment status on violent ideations with F (2,197), p>.05. Results also indicated a significant mean difference across hours of gaming in a day on internet gaming addiction and violent ideations with F (3,196), p>.05. Findings revealed that internet gamers who played for 10-12 hours showed higher levels of internet gaming addiction as compared to participants who played for 2-4 hours, 6-8 hours, and 14-16 hours. Results also indicated that internet gamers who played for 14-16 hours showed higher levels of violent ideation as compared to participants who played for 2-4 hours, 6-8 hours, and 10-12 hours.

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The One-way ANOVA analysis indicated a significant mean difference across years since respondents have been playing internet games on internet gaming addiction and violent ideations with F (3,196), p>.05. Findings revealed that internet gamers who have been playing for 5 or more years showed higher levels of internet gaming addiction as compared to participants who have been playing for 6 months, 12 months, and 2-4 years. Results also indicated that internet gamers who have been playing for 12 months showed higher levels of violent ideations as compared to participants who have been playing for 6 months, 12 months, and 2-4 years.

Table 3: Psychometric Properties of the Scales

Scale	K	M	SD	Cronbach's α
IGDT-10	10	7.03	4.14	.794
VIS	15	21.1	8.02	.911

Note. IGDT= Internet Gaming Disorder Test, VIS= Violent Ideations Scale, K= Number of Items, M= Mean, SD= Standard Deviation

The result of the current research shows that in Table 2, Cronbach's alpha reliability of the Internet Gaming Disorder Test (IGDT-10) was .794, which is a high reliability. The Cronbach alpha reliability of the Violent Ideations Scale (VIS) was .911, which is also high reliability.

Table 4: Inter Correlation among Independent and Dependent Variables

Variables	n	M	S.D.	1	2
1. IGDT-10	200	7.035	4.139	-	
2. VIS	200	21.07	8.002	313**	-

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

**. Correlation is significant at the 0.01 level (2-tailed). *Note. n=200, IGDT-10=Internet Gaming Disorder Test, VIS=Violent Ideations Scale*

The results of Pearson Product Moment Correlation showed that the Internet Gaming Disorder Test (IGDT-10) was found to be positively significantly associated with the Violent Ideations scale (VIS) among internet gamers. A positive correlation implies that when the values of IGDT-10 are high, the values of VIS are also high.

Table 5: Regression Coefficients of Internet Gaming Addiction on Violent Ideations

Variable	B	β	SE
Constant	16.81**		1.06
IGA	.604**	.313	.130
R^2	.098		

*Note. N=200, IGA= Internet Gaming Addiction, **p< .001*

Table 12 shows the impact of internet gaming addiction on violent ideation in internet gamers. The R^2 value of .098 revealed that the predictor variable explained 9.8% variance in the outcome variable with F (1, 198) p < .001. The findings revealed that internet gaming addiction positively predicted violent ideations (β=.313, p<.001).

The findings of the current study support the first hypothesis regarding the relationship between Internet gaming addiction and Violent ideations. The results of Pearson Product Moment Correlation and Simple Linear Regression supported the hypothesis. It can be understood better

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when seen in the context of Pakistan's socio-economic and cultural framework. In the cultural context of Pakistan, the association of internet gaming addiction and violent ideations is due to many different aspects. The citizens of Pakistan mostly have a high tolerance for aggression, especially males. It has become a social norm. Hence, it makes violent internet games all the more attractive for the youth as they relate to social norms. Other than aggression, extremism is also a phenomenon that has become very common in Pakistan.

This can also be linked to the social learning theory. Bandura's social learning theory further elaborates on this relationship, positing that seeing violent content in internet games can lead to violent ideations and violent behavior (Bandura, 1971; BMJ Global Health, 2023).

Phase 2

In phase 2 of study 2, 10 participants who underwent CBT intervention were screened out. A paired Sample t-test was conducted on this sample, pre- and post-intervention. The results of phase 2, the intervention phase, are given below:

Table 6: Socio-Demographic Characteristics of Participants (n=10)

Category	**N**	**%**
Age 18-35	10	100
Gender		
Male	6	60.00
Female	4	40.00
Family System		
Nuclear family	6	60.00
Joint family	4	40.00
Employment Status		
Employed	4	40.50
Student	2	20.00
Unemployed	4	40.00
Hours of Gaming in a day		
2-4 hours	1	10.00
6-8 hours	2	20.00
10-12 hours	3	30.00
14-16 hours	4	40.00
Duration of Gaming (Years)		
6 months	1	10.00
12 months	0	0.00
2-4 years	3	30.00
5 or more years	6	60.00

Note. N= frequency, %= percentage

The data reveals that most respondents were males (60.0%) and females (40.0%). Regarding family systems, 60.0% live in nuclear families and 40.0% in joint families. All screened participants were married. Regarding employment, 2 participants (20.0%) were students, 4 (40.0%) were employed, and 4 (40.0%) were unemployed. Internet gamers played for 14-16

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hours (40.0%), and the rest played for 10-12 hours (30%). 6-8 hours (30%), and 2-4 hours (10%). Most have been playing internet games for 5 or more years (60%).

Table 7: Mean Comparison of Internet Gamers before and after CBT on Violent Ideations

	Before CBT		After CBT					
Variables	**M**	**SD**	**M**	**SD**	**t (19)**	**p**	**r**	**Cohen's d**
Violent Ideations	23.8	13.9	14.1	8.61	6.57	.000	.937**	1.46

*Note: ** $p < .001$*

Table 14 revealed the mean comparison of Internet gamers before and after Cognitive Behavior therapy on Violent Ideations. Findings indicated significant mean differences in Violent Ideations with t (19) = 6.57, p < .001. Results show that mean scores on Violent Ideations decreased after Cognitive Behavior therapy. The value of Cohen's d was 1.46 (>. 80), which indicated a large effect size.

The current study's findings supported the second hypothesis, which was also the core of this research. The hypothesis suggested that an effective intervention technique, cognitive Behavior Therapy, would decrease violent ideations in internet gamers. Findings indicated significant mean differences on Violent Ideation frequency. Results show that mean scores on Violent Ideations subsequently decreased after Cognitive Behavior therapy.

Cognitive behavior therapy is an effective intervention technique in the context of Pakistan because the culture of Pakistan causes high levels of stress due to societal pressure. This societal pressure leads to maladaptive thinking patterns.

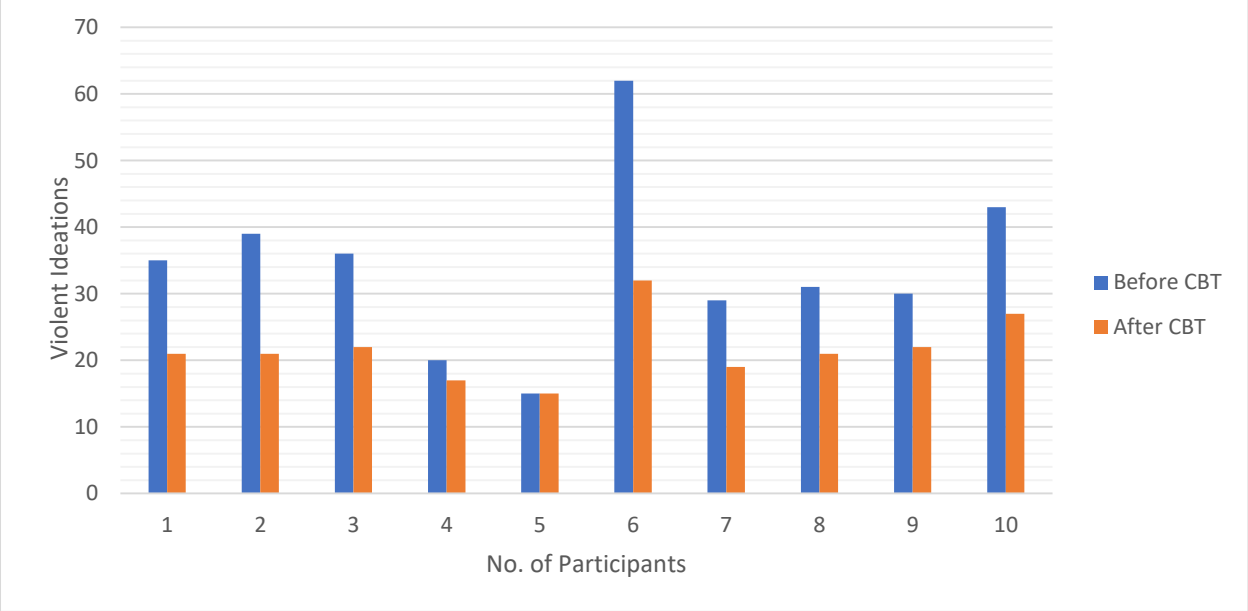

Figure 3: Violent Ideations before and after CBT

Note: The figure is based on results from the Paired sample T-test analysis

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CONCLUSION AND RECOMMENDATION

Conclusion

This research contributes to the theoretical and practical importance of Cognitive Behavior Therapy by testifying and indicating its effectiveness in treating violent ideations. The relationship between the Internet Gaming Disorder Test and the Violent Ideations Scale was explored and proved through analysis. After screening the participants, group CBT was applied to the volunteering participants, and it proved effective. The effectiveness of CBT was also suggested by previous literature on multiple mental health issues, including depression, phobias, anxiety disorders, and mood disorders. However, its work on excessive internet gaming and violent ideation has mostly been unexplored. Therefore, the present study targeted the internet gaming population who did not recognize the relationship between their excessive gaming and violent ideations and offered an intervention plan to reduce the ideations and improve their daily life functioning.

Limitations and Future Recommendations

The participants were drawn from the regions of Islamabad and Rawalpindi, which may affect the generalizability of results on internet gamers globally. There was a shortage of time for the current study, which could have affected the findings. Due to a shortage of time, a small sample size was chosen, which prevented an equal number of demographic groups from being chosen. This might have affected the findings of this study. Future research should be conducted in other demographic regions or on a broader level. The study was limited to Cognitive Behavioral Therapy (CBT) and did not include a comparison of CBT and other treatment methods. For further comprehension regarding the most efficient intervention for reducing violent ideations in excessive internet gamers, several interventions can be looked at, including reality therapy and multi-level counseling.

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