Impact of Internet Gaming Disorder on Self-Appraisal Among University Students: Moderating Role of Gender

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The objective of the current study was to assess the impact of internet gaming disorder on self-appraisal. Moreover, role of gender as a moderator on the relationship between internet gaming disorder and self-appraisal among university students was also explored. A sample of 300 students was collected through purposive sampling technique, from different universities of Islamabad and Rawalpindi. The participant's age range was 18-28 years. Self-report measures i.e., Internet Gaming Disorder Scale-short form (Pontes & Griffiths, 2015) and Core Self Evaluation Scale (Judge, Erez, Bono, & Thoresen, 2003) were administered. Results yielded that internet gaming disorder negatively predicted self-appraisal among university students. Moreover, gender worked as a significant moderator on the relationship between internet gaming disorder and self-appraisal. The independent sample *t*-test showed that males reported a higher level of internet gaming disorder as compared to females. Males showed less self-appraisal as compared to females. This study will help to identify the effects of internet gaming disorder on self-appraisal among university students. Furthermore, intervention plans can also be developed for students by decreasing their gaming activity and increasing their self-appraisal and bringing them back to their normal life.

Keywords. Internet gaming disorder, self-appraisal, gender, university students

During the last decade, the overall usage of the internet has enlarged. It has been reported that the usage of the internet has been increased in the developed countries by about 239% (International Telecommunication Union, 2012). More recently the usage of internet

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has become excessively vital part of people's life, as reported by Internet World Stats (2019) that increase in internet users globally reached more than 4.5 billion in June 2019. Davis (2001) proposed the cognitive behavioral model in which he differentiated between generalized pathological internet use and specific pathological internet use. The generalized pathological internet usage states the overall use of internet multidimensionally, whereas specific pathological use of internet identifies the usage of internet for a specific purpose (i.e. online gambling).

To investigate that two distant forms of internet addiction exit i.e., generalized and specific internet use, a cross cultural study was conducted which revealed that specific form of internet usage focuses on pathological use of different forms of online activities which includes online video gaming or other social activities online (Montag et al., 2015). With an increase in prevalence of internet gaming causing functional impairment and psychological distress, internet gaming disorder is considered to be an extremely important area of research (Lemos, Cardoso, & Sougey, 2016). In US a study conducted with a sample of 1178 adolescents revealed that 8.5% of individuals playing games were classified as pathological gamers. In other countries, other samples also generated similar results, which include 11.9% in Germany, 10.3% in China, 7.5% in Taiwan, and 8.0% in Australia, while the prevalence in Great Britain is 18.3% (Niemz, Griffiths, & Banyard, 2005).

In wide-ranging fact, it is stated pathological gaming can be described as a constant, frequent, and extreme involvement with video games or computer gaming that are failed to be controlled, regardless of the problem associated with it (Griffiths & Wood, 2000; Lemmens, Valkenburg, & Peter, 2009). Researchers are suggesting that the video gaming disorder and internet addiction disorder should be considered and classified as two different units because internet addiction disorder is wide-ranging (i.e., it may indicate different behaviours that are potentially online) whereas, video gaming can be both online and offline games (King & Delfabbro, 2013; Starcevic, 2013). Unnecessary internet usage for game playing may lead individuals towards symptoms about problems as well as making them addicted (Ko, Yen, Chen, Yeh, & Yen, 2009; Leung & Lee, 2012).

All over the world, numbers of gamers are rising (Chan & Vorderer, 2006) and computer gaming has been reported to become an ingredient in our daily living (Park & Ahn, 2010; Sun, Ma, Bao, Chen, & Zhang, 2008). As argued by some researchers (Tejeiro Salguero & Morán, 2002) that computer gaming can be stated as behaviour that bears a resemblance to pathological gambling and substance

dependence. People are reported to play games for diverse reasons (Yee, 2006). Although, initially video and computer games were developed with the purpose of leisure time activity and to provide amusement to the gamers, but it takes excessive time of gamers and may disturb an individual's life significantly (Chiu, Lee, & Huang, 2004). Around 20 million people are estimated who play across the world massively online role-playing multiplayer games and out of them around 10 million play World of War Craft (Billieux et al., 2013). Massively multiplayer crowd reported having great satisfaction in-game, plan to carry on playing, and they tend to have additional online friends as compared with other computer games player (Yee, 2006).

The internet gaming disorder has lots of known and unknown causes. A model (Davis, 2001) proposed that problematic cognitions may cause pathological internet usage, these distorted cognitions regarding self include negative self-appraisal. Psychologists identified two forms of self-appraisal or self-evaluation which are reflected self-appraisal and direct self-appraisal. Reflected self-appraisal explain the state in which a person believes what others think about them and direct self-appraisals a state explaining what we think of ourselves. One of the derivatives of social interactions theory is self-appraisal, which can be described in both ways of taking the perspective of oneself and taking the perspective of another person's about oneself. Thus, self-appraisal can be divided as direct self (What a person considers about himself) (Pfeifer et al., 2009) and reflected self (e.g., what a person considers about the views of another person about himself). Although, it has been reported that reflected self-appraisal has lesser effects as compared to direct self-appraisal on a grown person's life (Wallace & Tice, 2012).

The positively reflected self-appraisal (Bouchey & Harter, 2005) or the negatively reflected self-appraisal (Bartusch & Matsueda, 1996) both influences youngster's behavior either in adaptive (academic achievement) or maladaptive (delinquency) means, respectively. In correspondence to this, Lazarus (1991) identified that an individual's cognitive evaluation and positive appraisal tendency shapes emotional and coping responses of individuals in a positive way that tends to have beneficial effects. It was indicated that positive appraisal style yields high life satisfaction (Huebner, Suldo, & Valois, 2005). Above-mentioned studies point towards the possibility, that a high level of adolescents' life satisfaction is linked with adaptive or positive self-appraisal. According to researchers (Judge, Bono, & Locke, 2000), inner self-evaluations or self-appraisals is a hidden, wide and high order characteristic specified by four deep-rooted personality

characteristics including: (i) self-esteem which is defined (Harter, 1990) as the complete judgment that one has of himself/herself as an individual; (ii) generalized self-efficacy which researchers (Locke, McClear, & Knight, 1996) have identified as an assessment of how good a person may accomplish when faced with diverse circumstances; (iii) neuroticism, which is explained (Watson, 2000) as an intensity to have a pessimistic explanatory/cognitive style focusing on one's negative traits; (iv) locus of control which are the beliefs regarding root causes behind actions in an individual's lifespan (Rotter, 1966). The locus is internal when a person perceives actions as being dependent on behaviour of their own. A person may collect from unity amongst these characteristics the core self-evaluation which is considered as an elementary and necessary appraisal of an individual's effectiveness, capability, and worthiness. Another recent research revealed that internet gaming disorder was significantly negatively associated with self-concept clarity, whereas, lower self-concept clarity was associated with greater likelihood of internet gaming disorder (Sporcic & Glavak-Tkalic, 2018).

Referring to the literature, researchers have defined various factors explaining problematic usage of the internet. It is observed that internet usage is also a way to release stress(Chou, 2001; Douglas et al., 2008; Larose, Mastro, & Eastin, 2001; Wan & Chiou, 2006)which is initiated by person-to-person communication (Caplan, 2010). In the same way, researchers (Brandon & Evans, 1984) have found that people use the internet to attain optimistic answers and to pay compensation for maladaptive cognitions about themselves or negative self-appraisals. Burleson and Goldsmith, (1998) identified several conditions to disclose the outcome of adaptive cognitive appraisal. For example, when the conversation on the internet includes the discussion of distressing stuffs which enables re-evaluation, the cognitive appraisals then increase adaptive answers.

Cognitive appraisal according to Burleson and Goldsmith, (1998) facilitates in systematizing and simplifying feelings and thoughts regarding distressing occasions. Caplan and Turner (2007) indicated that defamed matters can be appraised as extra challenging and less threatening as soon as a person uses the internet for seeking support emotionally. For example; an individual's fear regarding sharing their awkward problems is weakened (White & Dorman, 2001; Wright, 2002), for those individuals online discussion of defamed matters on the computer is supposed to be less frightening as compared to person-to-person communication (Walther & Boyd, 2002). Generally, youngsters are additionally expected to illustrate the symptoms of pathological gaming than people belonging to any other age group

(Griffiths & Wood, 2000; Ha, Yoon, & Choi, 2007; Parke, Griffiths, & Irwing, 2004). As compared to female adolescents, male adolescents specifically are expected to play more games increasingly and are more addicted to pathological games (Chiu et al., 2004; Gentile, 2009; Ko et al., 2005). Several other recent researches are also in line with this gender related differences in IGD, as males usually spend more time playing games as compared to females (Bonnaire & Baptista, 2019; Chang, Hsieh, & Lin, 2018). Across the age group of adult and adolescents, males are more likely than females to develop internet gaming disorder (Choliz & Marco, 2011; Kokonyei et al., 2019; Stavropoulos et al., 2019; Wichstrom, Stenseng, Belsky, Von Soest, & Hygen, 2019). Moreover in a sample of German adolescents the prevalence rate was reported to be 5.9% in boys and 1.0% in girls (Wartberg, Kriston, & Thomasius, 2020).

The objective of this research was to study the impact of internet gaming disorder on self-appraisal among university students with moderating role of gender. The present study is designed to address the gap in existing literature regarding the occurrence of internet gaming disorder in male and female university students of Pakistan. The increasing use of internet games is causing an impact on self-appraisal among university students in Pakistan and lack of research in this area serves as a baseline for the current study. Davis (2001) explained that excessive internet gaming could lower a person's self-efficacy causing self-doubt and leading to negative self-appraisal. Previously, a study showed that negative cognitive stress appraisal effect problematic internet use (Senol-Durak & Durak, 2017). Another research revealed that internet gaming disorder had positive relationship with stress, anxiety, depression and insomnia (Fazeli et al., 2020) but how individuals with internet gaming pathology evaluate themselves has not been studied before.

Few researches conducted in Pakistan have demonstrated that maladaptive internet usage affects different domain of life among university students including educational, physical health, social relationships and psychological health (Ahsan, Rasheed, & Zonash, 2019; Khan & Muqtadir, 2016; Suhail & Bargees, 2006). Thakur, Azeem and Gilani (2020) revealed that male students of private institutes have more easy access to internet as compared to public institutes students. A cross sectional survey conducted in Peshawar revealed that male students play games for social motive whereas female students paly games for coping motives (Salam, Sadiq, Tajamul, Sethi, & Irfan, 2019). Javaeed, Jeelani, Gulab, and Ghauri (2020) concluded that those students who were addicted to internet showed lower academic performance as compared to those who were

not internet addicts. Like this, another Pakistani research concluded that students who have excessive internet use could end up with decreased performance in academics (Ansar et al., 2020). In conclusion, these researches show that excessive use of internet or online gaming can lead to various pathological problems. However, these behavioral problems arise only when there are maladaptive cognitions. Thus, it is vital to focus on how internet gaming can affect self-appraisal among university students. Moreover, it could be very useful to see if there is any moderating role of gender on the relationship between internet gaming and self appraisal. Keeping these points in mind, the present study was planned. Based on existing literature, following objectives and hypotheses were formulated.

Objectives

1. To study the relationship between internet gaming disorder and self-appraisal among university students.
2. To determine gender differences in internet gaming disorder and self-appraisal among university students.
3. To find out the moderating role of gender on the relationship between internet gaming disorder and self-appraisal among university students.

Hypotheses

1. Internet gaming disorder is negatively related with self-appraisal among university students.
2. Internet gaming disorder negatively predicts self-appraisal among university students.
3. Male university students are more addicted to internet gaming as compared to female students.
4. Male university students are low on less self-appraisal as compared to female students.
5. Gender moderates the relationship between internet gaming disorder and self-appraisal among university students.

Method

Research Design

The current research used quantitative approach. Cross-sectional survey research design was used to conduct this study. Data was collected through purposive sampling technique. Self-report measures were used for data collection.

Sample

A purposive sample comprising of 300 university students (boys = 150, girls =150) with age range of 18-35 years (M = 21.46, SD = 2.75) was collected from different private/government universities of Islamabad and Rawalpindi. In this research, only those participants were included who were involved in playing games on a computer or laptop, both online/offline, over a period of 12 months. All participants had at least 14 years of formal education.

Instruments

Demographic Data Sheet. A self-build demographic information sheet was used to gather knowledge regarding gender, age and education of participants.

Internet Gaming Disorder Scale-short Form. Internet Gaming Disorder Scale-short Form (IGDS-SF) (Pontes & Griffiths, 2015) was originally derived from the Internet Gaming Disorder Scale Test (IGD-20 Test) (Pontes Kiraly, Demetrovics, & Griffiths, 2014).The IGDS9-SF consists of 9 items. The nine questions of IGDS9-SFare responded by using a 5-point Likert scale in which: 1 (*Never*), 2 (*Rarely*), 3 (*Sometimes*), 4 (*Often*), and 5(*Very Often*). The scores are obtained by adding gamer's answers and range from a minimum of 9 to a maximum of 45 points, with the higher scoring indicating a high degree of gaming disorder. The IGDS9-SF internal consistency was .87 as measured by Cronbach's alpha (Pontes & Griffiths, 2015). The suggested cut-off of IGDS9-SF was 36 (out of 45) and has its empirical and clinical validity to differentiate disordered gamers from non-disordered gamers(Pontes & Griffiths, 2015).

Core-Self Evaluation Scale. Core-Self Evaluation Scale (CSES) (Judge et al., 2003) is used to measure the level of self-appraisal in an individual. The self-report measure CSES contains 12 items. The answer choices were: (1) *Strongly disagree,* (2) *Disagree,* (3) *Neutral,* (4) *Agree,* (5) *Strongly agree.* Out of 12 items, positively worded items are 6 and negatively worded items are also 6. Items 1,3,5,7,9,11 are positively scored and are scored by summing up. Items 2,4,6,8,10,12 are negatively worded and are reserved score. A higher score on CSES indicates more self-appraisal level and a lower score indicates low self-appraisal level. The reliability coefficient of Cronbach's alpha was .84 (Judge et al., 2003).

Procedure

Participants were approached at homes or universities and were notified regarding the research study. All participants were guaranteed that the data received from them would only be used for research. In this study, only those students were involved who were willing to participate and before the administration of the item booklet, the informed consent form was signed for the confirmation of their willingness. Then brief instructions were given to the participants and they were enquired if they have any confusion. All the test relevant material was gathered in a booklet form containing the Consent form, Demographic datasheet, Internet Gaming Disorder Scale-short form (Pontes & Griffiths, 2015) and Core-Self Evaluation Scale (Judge etal., 2003).To use these scales permission was also taken from their respective authors. Among the participants, the booklets were distributed and were informed to carefully read the instructions of each scale. Participants were asked to rate the statements honestly. On average, participants took 15-20 minutes for the completion of the booklet. Once the booklet was completed, it was checked for missing data. At the end, the participants were thanked for their cooperation and participation. The results were generated after statistical analysis. In order to address the ethical issues, the ethics committee of Foundation University Rawalpindi Campus was consulted, and the ethical protocol was approved by the committee.

Results

To study the relationship among variables bivariate correlation analysis was done results of which revealed that internet gaming disorder has a significant negative correlation with self-appraisal $(r = -.16^{**}, p <01)$ and for prediction linear regression analysis was performed results of which revealed that internet gaming disorder significantly predicted self-appraisal in the negative direction $(\beta = -.16^{***}, t = -2.91, p = .00)$ and accounted for 3% $(R^2=.03)$ variance in self-appraisal. While to study group difference independent sample t-test was performed. In addition, moderation analysis was computed through PROCESS Macro.

Table 1 shows the mean, standard deviation, range, skewness, kurtosis and Cronbachalpha reliability of the study variables. Cronbach alpha reliability estimates of internet gaming disorder and self-appraisal are.73 and .64 which is acceptable as per criteria specified by George and Mallery (2010).

Table 1

Descriptive Statistics for Measures of Internet Gaming Disorder and Self-Appraisal (N=300)

Scales	k	α	M	SD	Range Potential	Actual	Skew	Kurtosis
IGD	9	.73	21.42	5.85	9-45	9-37	0.04	-0.51
CSES	12	.64	37.06	5.17	12-60	22-52	0.42	0.23

Note. **p* < .01, IGD = Internet Gaming Disorder, CSES = Core Self-Evaluation Scale.

Results in Table 1 also show the normal distribution of data and it's fulfilling the parametric testing's assumptions as skewness and kurtosis values ranged between -1 to +1 and are statistically acceptable (George & Mallery, 2010).

Table 2

Gender Difference on Study Variables (N=300)

	Male (n=150) M(SD)	Female (n=150) M(SD)	t(298)	p	95% CI LL	UL	
IGD	23.91(5.14)	18.96(5.47)	8.0	.00	3.74	6.15	0.13
CSES	36.74(4.96)	37.37 (5.36)	-1.04	.29	-1.80	.54	0.12

Note. IGD = Internet Gaming Disorder, CSES = Core Self-Evaluation Scale, CI = Confidence Interval, LL= Lower Limit, UL = Upper Limit.

***p < .001.

Table 2 shows a significant difference in terms of internet gaming disorder, as males have more internet gaming disorder as compared to females. Whereas, nonsignificant, difference was found on self-appraisal across gender. The IGD Cohen's *d* value was 0.13 and CSES was 0.12, both values were less than 0.2 showing negligible effect size (Cohen, 1977).

Table 3

Moderating Role of Gender on Relationship between Internet Gaming Disorder and Self-Appraisal (N=300)

Variables	Self-Appraisal B	S.E.	t(296)	p	ΔR²	ΔF
Constant	36.57	0.31	114.87	.00	.04	12.01***
Gender	-0.05	0.63	-0.08	.93		
IGD	-0.13	0.05	-2.46	.01		
Gender*IGD	-0.39	0.11	-3.46	.00		

Note. IGD= Internet Gaming Disorder.

***p < .001, ** *p*<.01, * *p* < .05.

Table 3 shows role of gender on the relationship between internet gaming disorder and self-appraisal. The main effect presented by internet gaming disorder is significant (β = -.13, p < .01). It shows that internet gaming disorder negatively predicts self-appraisal among university students. In addition, the table shows that interaction between internet gaming disorder and gender is negatively significantly predicting self-appraisal among university students. The model reveals that gender act as a negative significant moderator (β= -.39, p < .000) which shows that gender is moderating the relationship between internet gaming disorder and self-appraisal.
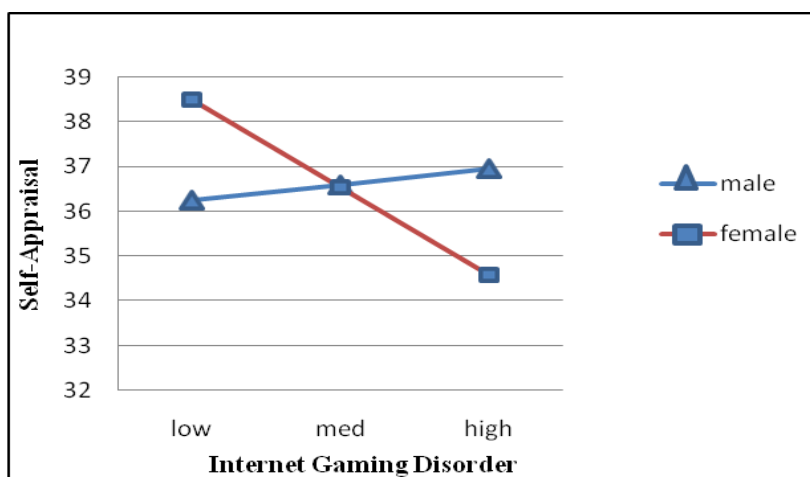

Figure 1. Moderating Role of Gender on the Relationship between Internet Gaming Disorder and Self-Appraisal.

Figure 1 shows that females who are less addicted to internet gaming are more likely to have high self-appraisal than males with less self-appraisal at a low level of internet gaming disorder, while females at a high level of internet gaming are predisposed to lower self-appraisal whereas, males at a high level of internet gaming are predisposed to more self-appraisal.

Discussion

The present study was aimed to study the impact of internet gaming disorder on self-appraisal among university students. The first hypothesis of the study was supported with statistically significant results, empirically establishing that a higher level of internet gaming disorder will have a low level of self-appraisal. The support of this hypothesis is shown in Bivariate correlation results and are consistent

with the previous findings. Problematic cognitions may cause pathological internet use which is further joined with behaviours that maintain or strengthen the maladaptive response. These cognitions are of two types; thought regarding oneself and thought regarding the world. The thought regarding self includes decreased self-appraisal. Henceforth, previous research also proposes parallel discoveries on the correlation between internet gaming disorder and self-appraisal (Davis, 2001). Another study was conducted to explore the relationship between online gaming motivation, self-concept clarity and problematic online gaming results of which indicated that internet gaming disorder was significantly negatively associated with self-concept clarity with higher level of escape motive and lower self-concept clarity associated with greater likelihood of internet gaming disorder (Sporcic, & Glavak-Tkalic, 2018).

The assessment of the effectiveness of internet gaming disorder as a negative predictor of self-appraisal among university students showed internet gaming disorder to be significant in negatively predicting self-appraisal. These results confirm past results where researchers found that internet gaming disorder is a negative predictor of self-appraisal among individuals. In 2001, Davis found that individual who has a negative view of evaluating oneself uses the internet to attain an optimistic interaction socially and other people's feedback thus showing that individuals playing games evaluates them self negatively and try to gain positive feedback online. Another research showed that self-concept clarity has a significant direct effect on internet gaming disorder and other motives for online video gaming like escape, coping and fantasy which revealed that low level of self-concept clarity predicted high level of internet gaming disorder's symptoms which suggested that players who had less clear self-concept were engaged in video gaming to achieve sense of stability, certainty and control temporarily which lacked in their real life leading to excessive online video game playing (Sporcic & Glavak-Tkalic, 2018).

Gender differences were also observed and it was hypothesized that as compared to females, males are more addicted to internet gaming and males will have less self-appraisal as compared to females, results of which indicate that males are addicted to internet gaming more than females while there is no significant difference in terms of self-appraisal among males and females (Table 2). Previous researches were also in line with this result as according to Xu, Turel, and Yuan, (2012) gender and age are important factors of computer game addiction, computer game usage time (CGUT), and choice of genres. Males will be addicted to internet gaming more than females

as men and boys are confirmed to be more addicted (Chiu et al., 2004; Chou & Tsai, 2007; Griffiths, Davies, & Chappell, 2004; Hartmann & Klimmt, 2006; Quaiser-Pohl, Geiser, & Lehmann, 2006; Walther, Morgenstern, & Hanewinkel, 2012) and pass more time playing computer games as compared to girls (Chou & Tsai, 2007; Festl, Scharkow, & Quandt, 2013; Lucas & Sherry, 2004; Witt, Massman, & Jackson, 2011). Male adolescents specifically are expected to play more games increasingly and are more addicted to pathological gaming as compared to adolescent girls (Chiu et al., 2004; Gentile, 2009; Ko, Yen, Yen, et al., 2005). It has been acknowledged that different behaviours are observed among boys and girls regarding the use of games (Lee, Bartolic, & Vandewater, 2009). Few other recent studies also revealed that males usually spend more time playing games as compared to females (Chang et al., 2018) and that this gaming behavior has been observed more in adults (Laconi et al., 2017) and adolescents (Wichstrom at al., 2019). A study conducted in Pakistan by Ahsan, Rasheed & Zonash (2019) showed that boys reported high level of internet gaming disorder as compared to girls. Studies regarding self-appraisal show that women are less and men are more confident on masculine gender-typed tasks as according to self-consistency theory men's high level of confidence on masculine tasks causes them to appraise more and have positive self-evaluations as compared to females having low expectancy on masculine related task (Deaux& Farris, 1977; Janman, 1987). Contrary to this a study conducted regarding attachment and self-evaluation in Chinese adolescents to investigate quality of attachment with mother, father and peers revealed gender difference with females reporting stronger attachment than males to their mothers as for females the quality of maternal attachment was strongly related to (self-appraisal) self-evaluation(Song, Thompson, & Ferrer, 2009).While other study shows that a class of students enrolled in 2006, it is interesting to know that the GPA of both male and females were essentially the same thus self-appraised themselves equally (Scherpereel & Bowers, 2008). This shows no significant difference among males and females for self-appraisal and supports this result finding (Table 2).

To assess the role of gender as a moderator in the relationship between internet gaming disorder and self-appraisal among university students, results of which reveals that gender act as a negative significant moderator which shows that gender is moderating the relationship between internet gaming disorder and self-appraisal (Table 3). This result is supported by previous research, a study conducted (Teeters, Ginley, Whelan, Meyers, & Pearlson, 2015) to check whether gender moderates the relationship between gaming

expectancy and gaming frequency thus revealed that gender moderated the relationship between the expectancies of social consequences, material gain, and gaming frequency. Also a meta analysis was conducted to examine gender related differences in specific internet addiction revealed that gender worked as a moderator in internet gaming disorder and social media addiction (Su, Han, Yu, Wu, & Potenza, 2020).

Limitation and Suggestions for Future Research

The first limitation of this research was that the sample was collected from Islamabad and Rawalpindi and only university students were taken thus, in future researches, other cities can be selected and other age groups should also be incorporated. Another limitation of this study was that only convenient sampling technique and self-report measures were used. So in future studies, other sampling techniques and experimental or interview method can be used.

Implications

The present study was designed to find out the impact of internet gaming disorder on self-appraisal among university students, along with the moderating role of gender on the relationship between internet gaming disorder and self-appraisal among university students. In this era, as the use of internet gaming is highly prevalent in different age groups, among which students are considered to be most addicted thus addiction to internet gaming among students not only affects their everyday performance but could also have an effect on their psychological, social, and academic life which may also cause various issues of health like sleep problems, loneliness, depression, anxiety etc. However, to have well-balanced life, people need to know how excessive use of gaming could lead to multiple problems, thus decreasing the time spend in-game playing to have a healthy life in all domains i.e., social, psychological, personal, and academic. Thus, for this purpose of awareness among people, mindfulness and training programs can be arranged by clinicians to help people enhance their self-appraisal by limiting internet gaming and becoming more adaptive in the real world other than the world of the game.

This study results can be of use for further researchers to apprehend the underlying cause of decreased self-appraisal which is excessive use of internet game playing. In Pakistan, research on internet gaming disorder is limited. This research will also form an apprehension of the phenomena from a native perspective and also

will help to make a surface for upcoming researches to discover other significances and reasons of internet gaming disorder.

Conclusion

The present research findings delivered durable and practical support for the predicting role of internet gaming disorder on self-appraisal. Internet gaming disorder is a significant negative predictor of self-appraisal among university students. The present study also has discovered the moderating role of gender and found that gender is a significant moderator in the relationship between internet gaming disorder and self-appraisal among university students.

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