

Poor Family-Functioning and Lack of Interpersonal Support as Predictors of Online Gaming Addiction in Adolescents

Isra Tariq¹, Saima Majeed²

Abstract

The present study aimed to investigate predictors of online gaming addiction in adolescents. To explore the gender differences across the study variables was another objective of the present study. It was hypothesized that poor family functioning and lack of interpersonal support would lead to online gaming addiction in adolescents. Further, the study investigated poor family functioning and perceived lack of interpersonal support as predictors of online gaming addiction in adolescents. For this purpose, a correlational study with a cross-sectional research design was used. The sample was collected from 115 participants (age= $M = 17.10$, $SD = 1.66$), boys ($f = 69$, 60%), girls ($f = 46$, 40%), using nonprobability, purposive and convenient sampling technique. The measures used in the study were Game Addiction Scale (Lemmens et al., 2009), Family APGAR Questionnaire (Smilkstein, 1978) and the Interpersonal Support Evaluation List (Cohen et al., 1985). Results of the study showed that family functioning ($r = -.25^{**}$, $p < 0.01$) and interpersonal support ($r = -.09^{*}$, $p < 0.05$) were negatively related to online gaming. Moreover, poor family functioning and lack of perceived social support predicted online gaming addiction in adolescents. Conversely, no gender differences across study variables were revealed for present sample.

Keywords: Adolescents, Family Functioning, Interpersonal Support, Online Gaming Addiction

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¹MS Clinical Psychology Scholar, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Pakistan.

²Associate Professor, Department of Psychology, Forman Christian College (A Chartered University), Lahore, Pakistan.

Corresponding Author Email:

isratariq04@gmail.com

Introduction

Internet use has become an inescapable part of peoples' lives but recently the scientific researchers have focused particularly on young peoples' preoccupation with playing online games. More importantly, when gathering information related to someone's

health issues, the most important thing is focusing on family functioning (Lyu, 2017).

A family is considered to be nurturing a person's emotional and physical growth so five important factors constitute healthy family functioning. These factors are namely adaptation that is defined as utilizing the family's resources to deal with the problem-solving situation when a family crisis arises. Secondly, a partnership is defined as having a mutual understanding of decisions made in the family and nurturing each other's responsibilities. Next is growth that is defined as having support from family members to grow physically and become emotionally mature. Then comes another vital factor, affection that is defined as feelings of love and cares shared among the members of a family. Lastly, there is resolve, which is defined as committing to taking out time for family members to be able to grow emotionally and also having a mutual

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decision of sharing space and wealth amongst each other (Lyu, 2017).

A healthy family functioning protects adolescents and keep away from engaging in unhealthy and risky behaviors. Whereas a person's satisfaction with their family members and having a good family connection contribute to their well-being and reduce pathological addictions (Tafa & Baiocca, 2009).

Similarly, when a person is faced with a stressful situation, the availability of social support or even perceived availability of any social resource enables the person to have less pessimistic appraisals of that event. Interpersonal support is defined as such perceived availability of social support and it includes other components that constitute interpersonal support, for instance, appraisal support that is defined as when a person perceives the availability of a person to give them advice. Then comes belonging support that is defined as a person perceiving the availability of other people to provide a sense of companionship. Similarly, the last factor of interpersonal support is tangible support that is characterized as a person's perception of the availability of material support (Merz et al., 2014).

Talking about internet use, the recurrent use of online gaming among adolescents has become so problematic that it results in reduced interest in other social activities and causes significant distress to a level where people experience withdrawal symptoms when they have to withhold from playing. Online gaming becomes a matter of concern as adolescents become more disengaged from school and other activities, and when this concern is not taken into account by the authority figures, it gets detrimental as it can become an addiction. This online gaming addiction is defined as "the compulsive and excessive use of video games" that leads to having social and emotional problems in people, even though they develop such

problematic behavior patterns, it is hard to control the urge to their excessive playing behavior (Lemmens et al., 2009).

The literature is primarily generated from Asian countries that states young males are more addicted to online games, as there are certain brain pathways activated while playing these online games that are similar to a drug addict's brain. When these individuals play a game, a particular neurological response is stimulated that activates feelings of reward and pleasure and eventually the person becomes an addict (Petry & O'Brien, 2013).

With its easy access, online gaming has become a widely used leisure activity where most college students are reported to be daily users with majority being the males. One reason for the continued engagement of young males into online gaming is having good game skills which are then reinforced by getting a good reputation and earning respect amongst other players (Lafreniere et al., 2009; Yan et al., 2014).

Moreover, game playing is a leisure activity that entertains around 1.5 billion only in the Asian region and with that figure, it is on the top of the list of video games consumers worldwide, and around 2.7 billion people are gamers around the globe with the majority being youngsters (Price, 2020). Players spend on average 7 hours every week and this has increased 19.3 per cent over the last year.

This is why it has become an obstacle in maintaining healthy interpersonal relationships as addicts are spending more time playing rather than interacting with other people (Kim et al., 2008; Yang et al., 2020). Nonetheless, according to some researchers, it is stated that little engagement in online gaming is normal and is considered to be beneficial as it releases emotional discomfort and gives relief to the person (Green & Bavelier, 2003; Prot et al., 2014). However, in 2012, there were numerous neuroimaging studies presented in a

systematic review, that explained the mechanism and pathology regarding those individuals with gaming addiction and in 2013, “internet gaming disorder” was included in “Diagnostic and Statistical Manual of Mental Disorders” (DSM-5), third section, as a condition that requires further researches to be carried on (American Psychological Association, 2013).

This excessive use of gaming includes emotional and behavioral symptoms in adolescents and according to a widely used theoretical model presented by Brown (1997) explains that there are six major features present in the user for a significant period, to make an indication of being an “addict”. These core features are salience, tolerance, withdrawal, mood modification, conflict and lastly relapse. Along with this criterion, playtime is also a criterion to make the indication of game addiction and for this Griffiths et al. (2016) identified the time of 41 hours per week for addiction.

Just like any other country in the world, the trend of online gaming has become quite common in Pakistani people, and according to a report by a game tracker, there are around 2000 people who play online games at every gaming database there is (Bonnaire & Phan, 2017).

In a study conducted by Phan et al. (2012), they found participants mostly played strategic games (47%), while (39%) of them were into action and role-playing games. According to them, males mostly preferred playing violent games, exciting and multiplayer online games while girls on the other hand, preferred playing more less competitive and less violent games (Homer et al., 2012; Quaiser-Pohl et al., 2006). Therefore, the authors suggested that playing such violent games become an important risk factor in becoming a game addict and adolescents are especially reported as being more attracted towards violent games

(Allahverdipour et al., 2010; Dai & Wang, 2015).

Due to its excessive use, Hussain and Griffiths (2009) proposed a motivational theory for game playing behaviors, stating that addictive behavior was a way to cope up with daily life stressors and escapism from real-life stressful situations, also building online relationships rather than building in-person relationships, having control, recognition, the excitement and feeling of accomplishment. These factors were also indicated as being the risk of developing gaming addiction.

A cognitive-behavioral model of internet addiction states that people with motivational drives to seek rewards may be a factor contributing towards online gaming. In addition to this, the diminished cognitive control over an individual’s motivational drives leads to decision making of excessive game playing. However, this becomes a vicious cycle when the individual is reinforced through online experience and tends to play again and again (Potenza, 2013). The “rewarding” is perceived as when the person gets the feeling of being in control and also getting immediate achievement from gaming (Li et al., 2016).

It was observed that internet addiction especially for playing games was more common among cognitively immature individuals aged between 12-18 years, as this population is considered as more at risk for becoming addicts. During adolescents’ years, parental support is seen to decrease, and it had shown to have a negative influence on them (Helsen et al., 2000).

Furthermore, family is an important aspect of the physical and mental growth of the individual. As a family consists of all the members, similarly, it also affects the growth of every member present in the family. A widely used theoretical framework presented by Olson et al. (2007) states as having three dimensions of family functioning namely

“family intimacy, adaptability and communication”. Family intimacy here refers to the nature and amount of relationships shared among family members whereas family adaptability refers to the family need to alter the power structure of the family and a set of family rules to deal with the environmental stressors and pressures. Lastly, family communication encompasses the style of communication that would eventually build up intimacy and adaptability among the members.

Building upon this, there was another theory named as McMaster family functioning mode theory suggests that the family’s role is to provide accurate environmental conditions for the members to develop and grow physically, socially and psychologically. So, it further suggests that when a family completes a series of specific tasks set by the family system, they become a healthy functioning family. The tasks include problem-solving, affective involvement, emotional response, communication and behavior control. These are the certain family tasks that if the family member would realize and follow them properly, it would depict a healthy family functioning (Dai & Wang, 2015).

It will be appropriate to say that the family system provides an emotional and organizational environment to members in a dyadic relationship; the parent-adolescent dyadic subsystem helps in accomplishing family goals and ultimately lead to the well-functioning of the family. In this subsystem, parents have the ultimate responsibility to provide nurturance and guidance (Randall & York, 2020).

Similarly, if the adolescents want to perceive their parents as supportive, the family functioning should be high (Osborne, 2019). They further argued that a healthy family functioning is achieved when there is an emotional climate present among the family and there is enough balance applied among

the connectedness and separateness by the parents in the family. Therefore, the adolescents try to keep the balance among connectedness and separateness with their family members and their peers and in doing so, they perceive their parents as supportive. Furthermore, a healthy family system shows flexibility in the set of rules of the family system. Whereas families with extreme and rigid rules are considered to be low in parental support and also the emotional bonding among the members is seen as minimal. This does not allow for the families to change.

Moreover, it was proposed by Dishion and McMahon (1998), that parental monitoring involves giving attention to adolescents by keeping a check of their schedules, their friends, interests and their activities. By keeping a regular check-in in their lives, promote the healthy development of the adolescents and it shows the involvement of the parents in children’s life. It eventually leads to less engagement in risky and problematic behaviors by adolescents. The regular guidance and involvement of parents positively relate to healthy behavior, identity achievement and a balanced parent-adolescent relationship (Siu et al., 2016). However, during the adolescent’s period, perceived social support is essential to cope up with the problems and dilemmas faced by adolescents. As adolescents go through stressful times, so social support from peers, aid in reducing the effect of a negative situation, also help to change the meaning of the stressors and the emotional response they show towards it. other than peers, another significant source of support for adolescents are teachers and parents (Yildirim & Zeren, 2021).

In addition to this, Liu et al. (2017) in a study concluded that the gamers who play for long hours become more impulsive and they develop negative behavior that leads to being addicted to playing games that is why they

are unable to recognize the altering effect addiction is having on their life. Furthermore, King and Delfabro (2016) argued that gamers spend long hours on online gaming leading to less human interaction and they not only ignore their daily responsibilities and school work but also it also affects their mental, physical health and their friendships. Moreover, being addicted to gaming and not giving time to relax makes them more irritable and violent towards their family members and significant others.

Adding to this, there was a study that focused on the negative effects of gaming addiction common among adolescents were social phobia, anxiety, depressive symptoms, conduct problems and having low academic achievement found among them (Brunborg et al., 2014; Li et al., 2016). These emotional problems are defined as symptoms of anxiety and depression that affect daily living, school achievement and relationships of the person. also, these problems tend to persist into adulthood as well.

Moreover, Taechoyotin et al. (2020), found that individuals who engage in online gaming usually have lesser social support from their family members, peers, teachers and they try to seek support from the internet via games. In a study by Chen et al. (2017), it was described that low social support was related to high risk for online gaming behavior among adolescents. Other researchers were of the view that adolescents engage more in online gaming as compared to adults and they are the ones who require more social support, furthermore, it was claimed that low social support increases the possibility of depression among adolescents which makes them vulnerable towards becoming game addicts (Brown & Larson, 2009; Ybarra, 2004).

In addition to this, health and high family functioning are related to the social development of adolescents. However, parental guidance is an essential activity to

keep the children away from unhealthy practices such as illicit drug use or video game addiction. So, Bybee et al. (1982) proposed three patterns of parental guidance namely restrictive, unfocused and lastly evaluative. According to the restrictive pattern of parenting, the parents stop or limit the child's usage of the internet. Further, the evaluative pattern refers to when parents discuss with their children the content of the internet use, whether it is good or bad and they also explain that this specific internet content is unrealistic. Lastly is unfocused parenting, which proposes that when parents merely sit beside the child while they are playing games or watching television and it encourages the behavior (Wu et al., 2016). Nonetheless, this pattern of family functioning is defined primarily as "the psychological and physical growth and maturation of the family members, involving 5 important aspects". The 5 components include adaptation, partnership, growth, affection and resolve which makes up the APGAR index model presented by Smilkstein (1978). So, studies that reported adolescents with low family functionality had poor family relationships and low parental support making them engage in problematic behaviors such as becoming gaming addicts, substance abusers or problematic drinking abusers.

However, adolescence is a significant period of development and a period of social identity formation. Adolescents during this period maintain a distance from parents but staying close to them is really an important factor during this period. They distance themselves to explore different behaviors and roles. They explore and work to form an identity, and this is a time frame where peer group becomes significant aspect in adolescents' life. But distancing from parents can be challenging as they play a vital role in the identity formation of adolescents (Berk, 2006). This is why interpersonal support plays a vital role as it is

defined as someone available to provide a person with social support in time of need. It is provided by an individual's peers, parents and teachers (Liu et al., 2017). The support can be tangible, appraisal and belonging. Similarly, a study reported by Liu et al. (2017) showed that having less social support can lead to a person being engaged in increased use of media forums and leading to higher stress levels.

Apart from many of the reasons leading to adolescents' addictive behavior, another important factor is parenting. Parents are considered as role models and shown to have a positive influential image on their children, so parental guidance reduces the possibility of engaging in unhealthy activities such as gaming addiction. Parental guidance involves a set of rules and advice. Moreover, it includes giving their children direction and counselling when required, differentiating between right and wrong and guiding in daily activities. Most importantly being supportive of their children's performance (Vandermaas-Peeler & Way, 2018).

The purpose of the study was to examine the relationship of family functioning and interpersonal support with online game addiction among adolescents. Further, the study aimed at investigating the predictors of online gaming among adolescents.

The rationale and the likely benefits of present investigation to bridge the gap regarding low family functioning and interpersonal support contributing to risky behaviors among adolescents and increasing

the rate of emotional problems among them. So, teachers and health care professionals can target to help out the adolescent in curbing these addictive patterns and deal with them more effectively as well as to counsel and guide to the parents about the importance of family life and providing true interpersonal support to their offspring. The study intends to test following hypotheses:

Hypotheses

- Poor Family functioning and lack of interpersonal support are related and will likely act as predictors of online gaming addiction in adolescents.
- Girls and boys will likely be different across all study variables.

Method

Research Design

The quantitative research inquiry involving a correlational study with a cross-sectional research design was used.

Participants

G power analysis with 0.05 alpha level, 0.20, beta value and $r = 0.02$ gave estimation of 194 sample size. Due to COVID-19 restrictions and closure of educational institutions, it was difficult to collect the recommended sample size. Online survey was completed by 115 participants with an age range of 13 to 18 years ($M = 17.10$, $SD = 1.66$). The sample was collected through a non-probability purposive and convenient sampling strategy from adolescents studying in various educational institutes of Lahore.

Table 1
Demographic Characteristics of the Sample (N= 115)

| Variables | M (SD) | f (%) |
|-----------------------------|--------------|------------|
| Age | 17.10 (1.66) | |
| Gender | | |
| - Male | | 69 (60%) |
| - Female | | 46 (40%) |
| Education | | |
| - 9 th grade | | 4 (3.5%) |
| - Middle school | | 6 (5.2%) |
| - Matric | | 22 (19.1%) |
| - O levels | | 18 (15.7%) |
| - Intermediate | | 42 (36.5%) |
| - Undergraduate | | 21 (18.3%) |
| - Other | | 2 (1.7%) |
| Family system | | |
| - Joint | | 44 (38.3%) |
| - Nuclear | | 70 (60.9%) |
| Number of siblings | 3.26 (1.26) | |
| Birth order | 2.32 (1.25) | |
| Games category | | |
| - PUBG | | 46 (40.0%) |
| - Fortnite | | 11 (9.6%) |
| - Clash of kings | | 5 (4.3%) |
| - Call of duty | | 12 (10.4%) |
| - Amagus | | 4 (3.5%) |
| - Free fire | | 3 (2.6%) |
| - Played more than one game | | 16 (13.9%) |
| - Other | | 18 (15.7%) |
| Game played | | |
| - Weekly | | 32 (27.8%) |
| - Daily | | 67 (58.3%) |
| - Other | | 15 (13.0%) |
| Hours played | 3.44 (2.62) | |

Measures

Demographic Information Sheet

The demographic information sheet was given to participants which included the age, gender, family system, number of siblings, academic discipline, games category and hours played in a day.

Family APGAR Index

It is a five items tool that assesses an individual's level of satisfaction with their

family functionality. It primarily focuses on an individual being satisfied with certain social components of the scale namely adaptation, partnership, growth, affection and lastly resolve. It is a 3-point Likert scale with 0.67 validity and is a reliable tool with Cronbach alpha 0.85 (Smilkstein et al., 1982).

Interpersonal Support Evaluation List

Further, a tool to measure the perception of

social support among 3 different dimensions such as appraisal support, tangible and belonging support was used. It is a 12 items scale with responses recorded on a 4-point Likert scale with validity of 0.84 and internal consistency of Cronbach's alpha 0.75 (Cohen et al., 1985).

Game Addiction Scale

Lastly, the Game Addiction Scale (Lemmens et al., 2009) was used as it assesses game addiction behaviors among adolescents and the 7 factors present in addiction are based on gambling criteria and there are 7 items in the scale which are adapted on DSM's criteria for game addiction. The items measure each component which are (salience, mood modification, tolerance, withdrawal, relapse, conflict and problems). It is a reliable tool with a Cronbach's alpha of 0.96. and has good concurrent validity of 0.87.

Procedure

The research began by taking permission from Institute Review Board of Forman Christian College (A Chartered University), Lahore and all the related research protocols were followed. The authors of the scales used in studies were approached for granting permission to use the measures for research purposes only. After receiving permission to

use the tools, the process for data collection was started. There were three tools in total that were to be administered to the participants. Before the participants began filling the survey, they were instructed to read and fill out the consent form and demographic information sheet. Since the educational institutes were closed, so the data was collected through online means. A google survey form was prepared with complete information regarding the purpose and nature of the study and their right to withdraw from a study at any point. Next to this information, was the informed consent form that needed to be signed by parents. After agreeing to be part of the study, the participants began filling the survey. In the end, they were thanked for their participation.

Results

The Statistical Package for Social Sciences (SPSS) version 22 was used to analyze the data. The results of the study suggested that sample distribution is free of skewness and kurtosis as it falls between the range of -2 to +2. This indicates that the data was normally distributed. The Cronbach alpha reliability of the scales used in the study showed good to excellent values.

Table 2

Relationship between Family Functioning, Interpersonal Support and Online Gaming in Adolescents (N= 115)

| Measures | 1 | 2 | 3 | 4 | 5 |
|-----------------------|--------|-------|-------|-------|-------|
| 1. Family functioning | --- | | | | |
| 2. Appraisal support | .13 | --- | | | |
| 3. Belonging support | .02 | .36** | --- | | |
| 4. Tangible support | .18* | .41** | .42** | --- | |
| 5. Online-gaming | -.25** | -.04 | -.09* | -.03 | --- |
| <i>M</i> | 6.54 | 10.55 | 10.20 | 11.38 | 19.18 |
| <i>SD</i> | 2.58 | 1.95 | 2.03 | 1.83 | 5.80 |

Note: * $p < .05$, ** $p < .01$

Pearson product-moment correlation was run to determine the relationship of family functioning and interpersonal support with online gaming in adolescents. There is a significant negative relationship between family functioning and online gaming among adolescents. Moreover, there is a significant negative relationship between components of

interpersonal support and online gaming. Results indicated that if family relationships are adequate, then adolescents will indulge less in online gaming addiction. Likewise, with appropriate interpersonal support, they also inclined less towards such negative behaviors.

Table 3

Hierarchical Regression Analysis Indicating Predictors of Online Gaming in Adolescents (N=115)

| Predictors | Online Game Addiction ΔR^2 | β |
|----------------------|------------------------------------|---------|
| Model I | .63 | |
| Family functioning | | -.25* |
| Model II | .75 | |
| Appraisal support | | .01 |
| Belonging support | | -.12 |
| Tangible support | | .06 |
| Total R ² | .012 | |

Hierarchical linear regression analysis was used to investigate the predictors of online gaming among adolescents. The first model includes the effect of family functioning and the significant regression equation was found to be ($F(1, 113) = 7.65, p < .001$). In the second model, the effect of components of interpersonal support was added and the regression equation was found to be ($F(4, 110) = 2.22, p < .001$). Moreover, the second model explained 75% of the variance in

gaming addiction. When the effect of family functioning was excluded from the second model, the variance reduced to 12% but the model remained significant ($F(3, 110) = 0.46, p = .71$). amongst the predictors, family functioning appeared as a negative predictor, while tangible support emerged as positive and belonging support emerged as a negative predictor of online gaming addiction among adolescents.

Table 4

Gender Difference in Family Functioning, Interpersonal Support and Online Gaming Addiction among Adolescents (N= 115)

| Variables | M(n=69) | | F(n=46) | | <i>t(df)</i> | <i>p</i> | 95%CI | |
|----------------|----------|-----------|----------|-----------|--------------|----------|-----------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | <i>LL</i> | <i>UL</i> |
| Family func | 6.44 | 2.68 | 6.69 | 2.44 | -.49(113) | .62 | -1.22 | .73 |
| Appraisal supp | 10.44 | 1.92 | 10.71 | 1.99 | -.72(113) | .47 | -1.01 | .47 |
| Belonging supp | 10.36 | 2.17 | 9.95 | 1.78 | 1.05(113) | .29 | -.36 | 1.17 |
| Tangible supp | 11.49 | 1.91 | 11.21 | 1.73 | .79(113) | .43 | -.42 | .97 |
| Online gaming | 19.73 | 5.92 | 18.34 | 5.59 | 1.26(113) | .79 | -.79 | 3.57 |

Note: M= male; F= female; Func= functioning; supp= Support; M= Mean; SD= standard deviation; CI= confidence interval; LL= lower limit; UL= upper limit

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

An independent sample *t*-test was used to find the gender difference between gaming addiction among adolescents, which indicated that there is no significant

difference in online gaming behavior across the gender on all of the study variables.

Discussion

The findings of the study suggested that adolescents with less family cohesion and broken family bonds made them want to seek that relation and other social relations from the virtual world indicating that problematic gaming was more common among the nuclear family system (Bonnaire & Phan, 2017; Choo et al., 2015).

The hypothesis of the study was accepted. This was consistent with the previous study stating that dysfunctional families made the adolescents get into addictive behavior like internet or gaming abuse (Wu et al., 2016). Similarly, another study also suggested that high-functional families were more likely to have good parent-child relations which made them self-sufficient to adopt better ways to deal with when faced with any conflict in life. This eventually prevents the children from getting into disruptive activities like

problematic addictive behaviors (Yan et al., 2014).

A study done by Floros and Siomos (2013), stated that having low family functionality was associated with having lesser resources, poor family relations and having less support from the parents. According to social control theory, it was formulated that adolescents' attachment towards their parents and having a high-functional family bond makes the children act in a way that is pleasing for the parents as they try to be less deviant (Hedzir et al., 2019). Another theory known as the developmental model related to adolescents' problematic behavior, formulated that when too many conflicts occurred in a family, it causes them to have low family functionality. This eventually leads to inadequate parental supervision (Jin Jeong et al., 2020). Moreover, in another study, it was formulated that more time spent on video

games was related to more aggression among adolescents (Ashraf, 2020).

The hypothesis was also accepted that interpersonal support that is belonging support emerged as a negative predictor so this showed that when adolescents have little to no perceived social support from their family and friends, they involve themselves in problematic behavior like online gaming. As supported by a previous study that when adolescents receive less social support from their family, friends and others, the psychological distress is not experienced by them, as it motivates them to alleviate the stressful event response by themselves which eventually leads to a less negative impact on them (Naseri et al., 2015).

Moreover, there was a study that found very low correlation between social support and video game addiction among adolescents (Yildirim & Zeren, 2021). Another study showed low negative relation between perceived social support and internet addiction among adolescents (Bilgin & Tas, 2018). There were fewer studies that showed that interpersonal support does not predicts online gaming addiction.

A model presented by McMaster's family functioning mode theory suggests that the family's role is to provide accurate environmental conditions for the members to develop and grow physically, socially and psychologically. This supports the findings that when a family completes a series of specific tasks set by the family system, they become a healthy functioning family and the children have more control over their behavior as it promotes growth and development of each member (Dai & Wang, 2015).

The second hypothesis was not accepted. It is supported by previous studies as well that gaming addiction is more common among males and that they frequently play online games, they have good navigational performance further they are considered to

have more attention span in games as compared to girls. Furthermore, girls tend to be more friendship seekers and achievement seekers in games whereas males are more manipulators, seek dominance and overpower opponents in games. However, both males and females equally enjoy making money in virtual work. Moreover, males are more into simulation and action-oriented games as they are competition minded which makes them an addict also (Kaur, 2020).

It was stated in a study that the motive behind females playing games was the same as males as they both enjoy the fantasy of the game world and they enjoy having a virtual identity and living through it. They both seek relationship diversion and excitement in their daily lives. Earlier it was observed in some studies that women do not engage much in games because lack of spatial skill and motor training, So, it was suggested that there should be more games that create an environment for females that does not alienate them with its stereotypical and sexist content (Irmak & Erdogan, 2016).

Another study, also stated that there was no gender difference when it comes to gaming addiction. The nature of playing the game among adolescents was common due to anxiety and depression, and they found playing games as an avoidance strategy to deflect negative emotional content. Moreover, it was stated that it was adapted as a coping strategy by the adolescents to deal with the negativity and stressful events (Chen et al., 2017). Another study focused on factors associated with adolescents' addiction to games and it made them have a sense of relief by being away from their current situation. It gave them escape from reality, to be able to feel relaxed and the need for interpersonal relations was also met and in this light, there was no particular gender difference found (Milani et al., 2018; Muezzin, 2015). Another study also stated that gender difference was non-existent when

it comes to gaming addiction (Demirtas-Zorbaz et al., 2015; Yildirim & Zeren, 2021).

Conclusion

The findings suggest that low and dysfunctional family systems and lack of empathy, affection and perceived support from the family members can make the adolescents adopt unhealthy ways of dealing with stressors and seek interpersonal relations, a sense of relief and escapism from daily life events through online gaming. The findings of the study will help adopt more healthy ways of communicating, supporting and providing empathy to the adolescents in their developmental period, for them to mature emotionally and mentally.

Limitations and Suggestions

The limitation of the study was that the data was gathered through online means, which may have resulted in less clarification of the items. Another limitation was that the observation of response to different items was not possible so future studies could focus on increasing the validity of the data collected through in-person channels. Sample size was proposed 194 through g power analysis but due to COVID-19 restrictions and closure of educational institutions, 115 participants completed the online survey. Nonprobability purposive and convenient sampling was carried out as complete information about number of target population was not possible to obtain due to lack of time, resources and closure of educational institutions as per SOPs of COVID-19.

Implications

In Pakistan, online gaming use is increasing by the day, so the current study can help distinguish the harmful impact this problematic behavior is having on individuals. The online gaming use for a certain limited time was not observed to be problematic as it can be leisure time for individuals. However, when this behavior becomes more frequent to the point of

developing an addiction, that is when the negative consequences appear in the lives of adolescents. Moreover, the study focused on the determinants of online gaming, which can aid the family members in adopting healthy ways of showing affection and empathy to the growing adolescents so that they do not feel the need to receive that through unhealthy ways. Similarly, interpersonal support from friends and family provided at the right time can make the adolescents process negative things in a better way rather than making them lead to escapism from reality into the virtual world. Moreover, the educational institutional board can organize awareness seminars regarding unhealthy addictive behavior patterns that are problematic and psycho-educate the students and parents on how to effectively deal with frequent use of gaming before it becomes an addiction. Nonetheless, knowing and understanding the gender preference can aid the marketers to smartly target the product and gaming services ads or in some cases, they can even develop product for different population. Also, game designers can incorporate activity and strategic modes into educational games to make it more entertaining yet exploratory for adolescents so that they can learn and also be able to adapt problem solving ideas from playing games.

Contribution of Authors

Isra Tariq: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing- Original draft

Saima Majeed: Conceptualization, Writing- Review & Editing, Supervision

Conflict of Interest

There is no conflict of interest declared by authors.

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