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Correlates and Predictors of Gaming Addiction among Adolescents

Abstract

The present investigation was designed to study the correlates and predictors of gaming addiction among adolescents. For the purpose a sample of 188 adolescents who like gaming were selected from various schools of Chandigarh. GASA by Lemmens, Valkenburg and Peter (2009) was used to identify gaming addicted adolescents. SWFL by Ramon, Zabriskie and Ward (2013) was used to assess satisfaction with family life. Loneliness and aggression was measured by using De Jong Gierveld Loneliness Scale by Gierveld and Tilburg (2006) and The Aggression Questionnaire by Buss and Perry 1992. Pearson's Correlation method and three Stage Hieratical Regression Model were applied respectively to identify the coefficients of correlation and predictors of gaming addiction.

Keywords: Gaming Addiction, SWFL, Loneliness, Aggression

Introduction

With the advancement in technology and the nature of work, smart phones, laptops, tablets and similar gadgets have become essential devices without which an individual can't even imagine his/her life and hence video gaming is considered as one of the popular sources of entertainment among people (Saqib, Saqib, Wahid, Ahmed, Duhayr, Zaghoul, Ewid & Al-Mazrou, 2017) especially adolescents and young adults (Rohilla, 2018a). Gaming addiction can be defined as "an excessive and compulsive use of computer or video games that result in social and/or emotional problems; despite these problems, the gamer is unable to control this excessive use" (Lemmens, Valkenburg & Peter, 2009).

Rohilla (2018a) studied the prevalence rate of gaming addiction among adolescents and concluded that in her study among males 62.35% were normal gamers and 37.64% were problem gamers whereas 89.32% females were normal gamers and 10.68% were problem gamers. In another study researcher found that male adolescents were more addicted to gaming than female adolescents (Rohilla, 2018b).

Numerous researches have studied the ill effects of excessive gaming, some of them characterized the gaming addiction and some researchers tried to distinguish between addicts and non-addicts (Kardefelt-Winther, Heeren, Schimmenti, Rooij, Maurage, Carras, Billieux, 2017; Schou Andreassen, Billieux, Griffiths, Kuss, Demetrovics, Mazzoni, & Pallesen, 2016; Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015).

Gaming addiction has both physiological as well as psychological side effects on adolescents (Spada & Caselli, 2017; Meng, Deng, Wang, Guo, Li, 2015; Higuchi, Motohashi, Liu & Maeda, 2005). Several studies have indicated that excessive gaming cause sleep disturbance (Hale & Guan, 2015; Hysing, Pallesen, Stormark, Jakobsen, Lundervold, & Sivertsen, 2015; Higuchi et al., 2015) anxiety and depression among people (Schou Andreassen et al., 2016; Wei, Chen, Huang, & Bai, 2012).

Review of Literature

Rohilla, (2018)a conducted an investigation on two hundred adolescents with mean age of 15.5 years selected from various schools of Chandigarh and found that 37.64% of the male population were problem gamers out of which 18.75 % were monothetic gamers and 81.25% were polythetic gamers. Researcher also found that among female sample 10.68% were problem gamers out of which 9.09% were monothetic gamers and 90.90% were polythetic gamers.

Rohilla (2018)b found that statistically significant gender difference ($t=1.06^{**}$) exists on gaming addiction among adolescents where males emerged to be more addicted to gaming (mean=20.88) than females (Mean= 18.91).



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Wong and Lam (2016) studied gaming addiction on a sample of thirteen adolescents with mean age of 13.6 years and found that 53.8% play games at internet cafes almost regularly, 23.1% play only on weekends and other holidays, 15.4% play on weekdays and 7.7% play only once a month. Researchers also discussed that 38.5% of their sample considered as pathological gamers and two were classified as problem gamers.

Jeong, Kim, Lee, and Lee, (2016) conducted a study on 789 subjects selected from Seoul, the capital of South Korea. Results showed that aggression plays a crucial role in predicting the degree of game addiction. Online games emerged as one of the means to channelize aggression. Both depression and loneliness depicts the strong associations with aggression.

Wang, Chan, Mak, Ho, Wong, and Ho, (2014) conducted a pilot study on the prevalence and Correlates of Video and Internet Gaming Addiction among Hong Kong Adolescents. Researchers selected the sample of 503 adolescents and found that of the total sample 46% regularly play video games, 47.2% play few days a week, 22.9% play on weekdays. More of male adolescents (54%) play games than female adolescents (38%). 15.7% of the total sample met the criteria of probable gaming addiction where the proportion boys were significantly higher (22.7%) than girls (8.7%).

Zamani, Chashmi and Hedayati, (2009). Studied the effect of Addiction to Computer Games on Physical and Mental Health of students and found statistically significant positive correlation between the gaming addiction and physical and mental health of the students and significantly negative correlation between gaming addiction and 'impaired social functioning'.

The rapidly increasing popularity of video gaming has attracted the attention of numerous researchers to study the effects of gaming addiction (Barlett, Anderson, & Swing, 2009). Therefore keeping in view the above discussion the present study intends to access the correlates and predictors of gaming addiction among adolescents.

Hypothesis

1. Gaming Addiction is positively related with loneliness and aggression.
2. Gaming Addiction is negatively related with satisfaction with family life.

Objective of the Study

The aim of the present investigation is to assess the correlates and predictors of gaming addiction among adolescents.

Table-1: Correlation among Total Sample

Variables	Gaming Addiction	Loneliness	Satisfaction With Family Life	Aggression
Gaming Addiction	1	0.48**	-0.54*	0.68**
Loneliness		1	-0.11	0.46*
Satisfaction With Family Life			1	0.54*
Aggression				1

** : correlation significant at 0.01 level of significance

* : correlation significant at 0.05 level of significance

Table-1 is showing the correlation between gaming addiction, loneliness, satisfaction with family

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Method

A sample of 188 school students with mean age of 15.5 years who like gaming was randomly selected from Chandigarh. Further, those participants were screened out who matched the criteria of "problem gamers" using Gaming Addiction Scale for Adolescents (GASA) by Lemmens, Valkenburg and Peter (2009). On the basis of the scores obtained 43 individuals (32 males, 11 females) fell under the category of gaming addiction. To find out the predictors of gaming addiction Three Stage Hieratical Regression Model was applied. To find out the correlates and predictors of gaming addiction Perason's correlation method and Three Stage Hieratical Regression Model were applied respectively.

Measures

To Measure Gaming Addiction

GASA (Gaming Addiction Scale for Adolescents) by Lemmens, Valkenburg and Peter (2009) was used. It is a seven item scale with five possible responses (never-rarely- sometimes-often-very often). According to the scale, if the response "sometimes" or more on all of the items and on at least half of the items the individual will be consider as monothetic (pathological) or polythetic (excessive) gamers respectively. For the present investigation individuals with pathological and excessive gaming will be considered as problem gamers or game addicts.

Gierveld Loneliness Scale (Gierveld & Tilburg, 2006), a six item scale was applied to assess loneliness. The scale has both negatively stated and positively stated items. Total score range from 1-6. Higher score is the indicator of more loneliness.

To Measure Family Life Satisfaction

SWFL (Satisfaction with Family Life Scale) by Ramon, Zabriskie and Ward (2013) was used. It is a five items scale with seven possible responses (1- "Strongly disagree" and 7- "Strongly agree"). The range for the score is 1-35. Higher more will be satisfaction with family life.

To Measure Aggression

Aggression Questionnaire (Buss & Perry, 1992) was used. It is a twenty-nine item questionnaire and each item has five possible responses (1-"extremely uncharacteristic of me" and 5-"extremely characteristic of me"). Total score ranges from 29-145. Higher scores indicate higher aggression.

Results

The results for the present investigation are shown in the form of tables.

life and aggression among total sample (N=43). Results showed that statistically significant correlation

emerged between gaming addiction and loneliness (0.47**/p<0.01), satisfaction with family life (-0.59**/p<0.01) and aggression (0.68**/p<0.01). Significant correlation also emerged between aggression, loneliness (0.37*/p<0.05) and satisfaction with family life (-0.63**/p<0.01); whereas no significant correlation emerged between loneliness and satisfaction with family

life (-0.22/p>0.05). Therefore the findings showed that gaming addiction is negatively correlated with satisfaction with family life where as positively related with aggression. Loneliness is positively correlated with aggression and aggression is negatively related with satisfaction with family life.

Table-2: Correlation among Male Adolescents

Variables	Gaming Addiction	Loneliness	Satisfaction with Family Life	Aggression
Gaming Addiction	1	0.47**	-0.59**	0.68**
Loneliness		1	-0.22	0.37*
Satisfaction With Family Life			1	-0.63**
Aggression				1

** : correlation significant at 0.01 level

* : correlation significant at 0.5 level

Table-2 is showing the correlation between gaming addiction, loneliness, satisfaction with family life and aggression among male participants (N=32). Statistically significant results emerged between gaming addiction, loneliness (0.47**/p<0.01), satisfaction with family life (-0.59**), and aggression (0.68**/p<0.05). Statistically significant correlation also emerged between

aggression, loneliness (0.37*/p<0.05) and satisfaction with family life (-0.63**/p<0.05). No correlation found between loneliness and satisfaction with family life (0.22/p<0.05). Findings showed that gaming addiction is negatively correlated to satisfaction with family life, and positively related with aggression. Aggression is also negatively correlated with satisfaction with family life.

Table-3: Correlation among Female Adolescents

Variables	Gaming Addiction	Loneliness	Satisfaction With Family Life	Aggression
Gaming Addiction	1	0.511	-0.42	0.63*
Loneliness		1	-0.10	0.37
Satisfaction With Family Life			1	-0.45
Aggression				1

** : correlation significant at 0.01 level

* : correlation significant at 0.05 level

Table-3 is showing the correlation between gaming addiction, loneliness, satisfaction with family life and aggression female participants (N=11). Results indicate that statistically significant correlation emerged

between gaming addiction and aggression (0.36*/P<0.05) which indicates positive relation between both the variables. No significant correlation found between rests of the variables.

Table-4: Model Summary

Model	R	R Square	Adjusted R Square	R Square Change	F Change	df1	df2	Sig.F Change
1	0.48	0.23	0.21	0.23	12.24	1	41	<0.01
2	0.69	0.47	0.44	0.24	18.17	1	40	<0.01
3	0.75	0.55	0.52	0.08	7.38	1	39	<0.01

Predictors: (Constant), Loneliness

Predictors: (Constant), Loneliness, Satisfaction with Life

Predictors: (Constant), Loneliness, Satisfaction with Life, Aggression

Table-4 is showing model summary. In model-1 R value come out to be 0.480, R² value come out to be 0.230 which is significant at F (1, 41) = 12.243 (F change), p<0.01. It shows that 23% of the variance is contributed by loneliness to the gaming addiction.

variance is contributed by satisfaction with family life and 47% together by loneliness and satisfaction with family life.

In model-2, R value found to be 0.686, R² = 0.470 which emerged to be significant at F (1, 40) = 18.170** (F change), p<0.01. It shows 24.1% of the

In model-3, R value emerged to be 0.745, R² = 0.555 which is found to be significant at F (1, 39) = 7.377 (F change), p<0.01. It shows 8.4% of the variance is created by aggression and 55.5% together by loneliness, satisfaction with family life and aggression.

Table-5: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	272.27	1			<0.01
	Residual	911.77	41	22.24	12.24	
	Total	1184.05	42			
2	Regression	557.07	2			<0.01
	Residual	626.97	40	15.67	17.77	
	Total	1184.05	42			
3	Regression	656.80	3			<0.01
	Residual	527.25	39	13.52	16.19	
	Total	1184.05	42			

Dependent Variable: Gaming Addiction

Predictors: (Constant), Loneliness, Satisfaction with Life

Predictors: (Constant), Loneliness, Satisfaction with Life, Aggression

Table-5 is showing ANOVA result for all the three models. It is found that all the three models emerged to be significant at 0.01 level of significance

where F value for loneliness found to be 12.243**, for satisfaction with family life $F = 17.770$ and for aggression F value emerged to be 16.194**.

Table-6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.96	2.56		11.33	<0.01
	Loneliness	-0.78	0.22	-0.48	-3.50	<0.01
2	(Constant)	22.078	2.69		8.22	<0.01
	Loneliness	-0.69	0.19	-.043	-3.70	<0.01
	Satisfaction With Life	1.83	0.43	0.49	4.26	<0.01
3	(Constant)	16.51	3.23		5.12	<0.01
	Loneliness	0.43	0.20	-0.27	-2.17	<0.05
	Satisfaction With Life	1.11	0.48	0.30	2.33	<0.05
	Aggression	0.10	0.04	0.39	2.72	<0.01

Dependent Variable: Gaming Addiction

Table-6 is showing regression coefficients. Beta coefficient showed loneliness (0.43), satisfaction with family life (1.110) and aggression (0.102) predicts gaming addiction among adolescents.

Conclusion

In the present investigation loneliness, satisfaction with family life and aggression emerged as correlates of gaming addiction. It is also found that all these variables can predict gaming addiction among adolescents. The results showed the similar findings from the previous researches which proved that adolescents who are addicts to gaming show more aggressive behavior, have poor self-control, and social skills (Liau, Neo, Gentile, Choo, Sim, Li, & Khoo, 2015; Anderson et al., 2010). The aggressive behavior is affected by psychological responses like anger, cruelty, or hostility, which video games, especially the violent types, typically invoke (Greitemeyer & Mügge, 2014). Numerous experimental, co-relational and longitudinal studies showed that gaming addiction results in elevated aggression in short term as well as in long term (Anderson, Shibuya, Ichori, Swing, Bushman, Sakamoto, & Saleem, 2010; Anderson, Gentile, & Buckley, 2007; Anderson & Dill, 2000). Bartholow, Bushman, and Sestir, (2005) found that violent video gaming may results in desensitization towards violence, decrease empathy and pro-social behavior among people. Overall it can be concluded that gaming addiction may adversely affect the behavior of an individual, it elevates the level of aggression among them. Loneliness is one of the contributory factor for getting addicted to the gaming addiction.

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