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Effect of Video and Computer Games on Behavioral Disorder of Adolescent User: Challenge before Teachers

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Abstract

Education system continues to face stern challenges due to swiftly technologies changes and consequences of that. Beside growing computer and information technology in world some new pattern of activities in recent decades grown up such as video and computer games that effect of them on children and adolescents users become new educators and parents source of concern. They are interactive games where user has to practice more and more in order to be the best and if the game has a negative content will effect on children' behavior as a result of potential acting reciprocally .Main goal of this study is to identify adolescents' abnormal behavior due to using computer and video games. And in additional categorized the participants' favorite video and computer games according to contents. Five hundred and seventy 14 to 16-year-old boys from four schools participated. result have shown statistically reliable difference between the mean number of higher (*M*: 1.44 ,*SD* : .97) and lesser (*M*: 1.09 , *SD*: 1.02) than mean time user of video and computer game in *hostility* Dimension , *t* (570) : 4.168 , *p:* .01 , α :.05 . in descriptive part between all dimensions only level of depression

mean has found higher between lesser user of video game .additional result have shown out of 92 video games mentioned as favorite games by participant 32 percent were belongs to M type of games means have a content Equivalent TV Ratings Mature (+17) .and 68 percent of participants prefer to playing alone than in accompany with others.

Introduction

Education system continues to face stern challenges due to swiftly technologies changes and consequences of that. Beside growing economical and information technology in world some new pattern of activities in recent decades grown up such as video and computer games that effect of them on children and adolescents users become new educators and parents source of concern. One of the most popular multimedia activities in last three decades is electronics games. Truly for this generation who is growing up in digital era, the interactive media is not entirely new phenomenon. It become as a dominate activity for them in 21st century .in the years ahead, it's clear that the interactive entertainment media will have extra main role in the social and educational experiences of children and adolescents in the world and as well as in relation between them and educators , parents and society due to changes in them behaviors .

Video and computer games are now a common part of leisure activity for children and adolescents. The colorful, magnificent, entertaining and attractive elements of these games make them popular. They are accessible by a variety of devices, the range of handhold machine such as game console and mobile phone and computers and even accessible in social network as facebook that allow people to play in different situation and even during travelling .due to these factors they have users of all ages, genders, ethnic and backgrounds.

The worldwide pc-based game market is worth as $10.7 billion as of 2008 .this number includes retail sales, online revenue, digital distribution and relevant ad sales. By 2015 analysts predict the global video game industry will reach $91 billion .gaming industry in India is estimated only USD 239 million .however, this segment is expected to

show high growth of 53% within 2013. Today we are in the middle of a new revolution in both technology and culture, a dramatic change in which our children are pioneers

Effect of video and computer games on young users

In the years that have followed, researchers found that video and computer games can indeed have several positive and negative effects on user .children and adolescents playing video games for increasing amount of time, and the games themselves become more graphically violent over time. parents ,educators ,physicians and researchers commence to questions what the impact of these changes might be .behaviors from the media are often times considered appropriate behaviors by adults and children .those behaviors are often interpreted into everyday life .it only stands to theoretical reason that violent video games would have a similar impact into lives as one would identify with the characters in video games , (Anderson & dill ,2000) .video game also encourage players to identify with and role plays their favorite characters. This is referred to as a "first person" video game (Anderson & Dill, 2000) because players are able to make decisions affecting the actions of the character they are imitating. After a limited amount of time playing a violent video game, a player can "automatically prime aggressive thoughts" (bushman & Anderson, 2002). The researcher concluded that players who had prior experience playing violent video games responded with an increased level of aggression when they encountered confrontation (bushman and Anderson .2000). Konjin ,bijvank , bushman (2007) found that adolescent boys who identified with aggressive characters in immersive , realistic games were most aggressive , going so far as blast opponents with noise levels they believed would cause permanent hearing damage . According to gentile and Anderson (2003) there are some reasons that video and computer games cause even a greater impact on adolescents compare to the violent programs on televisions such: Identification with an aggressor increases limitation of the aggressor ; Active participation increases learning ;Violence is continues ;Repetition increases learning and Rewards. We can generalization these result to other aspects of behavior. Most of the studies about the impact of using computer and video game on users are focused on aggressive behavior; however, a few studies have investigated the other aspects as obsessive –compulsive. In this regard, as the health crises besetting our children continue

to grow, and as the industry continues to expand, the need for additional research becomes ever more apparent. Only by overcoming our ignorance and filling in the gaps of our understanding about the impact of video and computer games on users, we will be able to determine how to address the problems which we already face and the ones we foresee. We need more research on the ways interactive entertainment affects on behavioral health and development. Main goal of this study is to identify adolescents' abnormal behavior due to using computer and video games.

Method

Participants

The selected participants were from a middle high socio –economic English and Marathi school located in Pune city ,maharashtra ,india .five hundred and seventy 9th and 10th grade of student participants in this study .student recruited from three urban private schools and one public school .the mean age of respondent was 15.5 (sd.=0.62).

As this study utilized human participants and investigated on behavioural problems, certain issues were addressed. The respondents were also advised that they could withdraw from the study even during the process. With this, the participants were not forced to participate in the research. The confidentiality of the participants was also ensured by not disclosing their names or personal information in the research. Only relevant details that helped in answering the research questions were included.

Procedure

Data were collected between June to October 2010 ,each participants completed first an survey (the scl-90-r test ,a 90 –item self report symptom inventory(Derogatis .Third Ed) designed to reflect the psychological symptom pattern include somatization ,obsessive – ,interpersonal sensitivity ,depression , anxiety ,hostility , phobic anxiety ,paranoid ideation ,psychotictism. each item is related on a five point scale of distress (0-4) ranging from 'not at all' to 'extremely' . second a questionnaire that gathered descriptive data about respondent's favorite video and computer games , time spending for playing these games per week ,preference of playing alone or with friends in home or game parlor (game net).

Result

participant were asked the amount of time spend for playing video and computer games weekly on a 5 choice answer scale of nothing to above 18 hours .based on answers categorized in two group as a higher than mean user (mean of time respondent =6.88 and s =4.77) and lesser than mean user .To test significant difference between abnormal behavior among user (high and less than mean time of video and computer) , independent samples *t*-test ,in statistical package for social science *spss* was performed to examine main and potential effects of using video and computer games on behavior of users .therefore in conducting a independent sample *t*-test for this study ,time amount of gaming consider as a independent variable ;the result of student scl-90 r symptom dimensions scores were dependent variable. An alpha level .05 was set to analyze the significant difference of hypothesis. For interpretive of scl-90-r a profile *mean* scores of raw data have used on the non patient adolescents male norm. And used descriptive frequency method for parents and additional users question about games' content.

Descriptive statistics of behavioral problems including Somatization, ,Obsessive – ,Interpersonal Sensitivity ,Depression , Anxiety ,Hostility , Phobic Anxiety ,Paranoid Ideation ,Psychotictism ,can be seen in table 1. In all aspects the higher than mean time user had a slightly greater amount mean than lesser user else depression. In hostility dimension this difference is statistically significant .the result of *t*-test have shown in table 2.

Table.1. Means and Standard Deviation of ***scl-90-r dimensions***

Group Statistics

	user	N	Mean	Std. Deviation	Std. Error Mean
somatization	high	285	.9065	.85733	.05078
	less	285	.8895	.88479	.05241
obsessive compulsive	high	285	1.1772	.86562	.05128
	less	285	1.1365	.94209	.05580
interpersonal sensitivity	high	285	1.0496	.86474	.05122
	less	285	.9789	.89541	.05304
depression	high	285	1.0052	.88697	.05254

	less	285	1.0532	1.02420	.06067
anxiety	high	285	.9596	.86474	.05122
	less	285	.9189	.89541	.05304
hostility	high	285	1.4472	.97769	.05791
	less	285	1.0979	1.02256	.06057
phobic anxiety	high	285	.8052	.76031	.04504
	less	285	.7807	.72648	.04303
paranoid ideation	high	285	1.1863	.88760	.05258
	less	285	1.1633	.98892	.05858
psychoticism	high	285	.7908	.66067	.03913
	less	285	.7812	.72351	.04286

Table.2. *t*.test of *behavioral problem* dimensions

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
som	Equal variances assumed	.173	.678	.233	568	.816	.017	.072	-.12	.160
o-c	Equal variances assumed	.772	.380	.537	568	.591	.040	.077	-.10	.189
i-s	Equal variances assumed	.117	.733	.959	568	.338	.070	.077	-.07	.215
dep	Equal variances assumed	.750	.387	-.59	568	.550	-.04	.082	-.20	.109
anx	Equal variances assumed	.117	.733	.552	568	.581	.04	.073	-.10	.185
hos	Equal variances assumed	.314	.576	4.16	568	.000	.34	.083	.184	.513

phob	Equal variances assumed	2.077	.150	.394	568	.694	.024	.062	-.09	.146
par	Equal variances assumed	3.413	.065	.292	568	.770	.022	.078	-.13	.177
psy	Equal variances assumed	1.412	.235	.166	568	.868	.009	.058	-.10	.123
add	Equal variances assumed	4.012	.046	-1.5	568	.112	-.11	.074	-.26	.022

Interpretation Part A

As the significance for levene's test is above 0.05 in all dimensions, the equal variances assumed. A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M*: .90 , *SD*: .85) and lesser *M*: .88 , *SD* : .88)than mean time Indian user of video and computer game in *Somatization Dimension* , *t* (570) : 233, *p*: .816, α :.05 . However due to *descriptive statistics* and according table 1, the high user on average still had a slightly higher score than less user group in *Somatization* Dimension.

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M* 1.17 ,*SD* : .86) and lesser (*M*: 1.13 , *SD* : .94)than mean time Indian user of video and computer game in *obsessive –compulsive Dimension* , *t* (570) : .537 , *p*: .591 , α :.05 . However due to *descriptive statistics* and according table 1, the high user on average still had a slightly higher score than less user group in *obsessive –compulsive* Dimension.

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher *M*: 1.04 , *SD* : .86) and lesser (*M*: .97 , *SD* : .89)than mean time Indian user of video and computer game in *interpersonal sensitivity Dimension* , *t* (570) : .959, *p*: .338 , α :.05 .

However due to *descriptive statistics* and according table1 , the higher user on average still had a slightly higher score than lesser user group in *interpersonal sensitivity Dimension*.

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M*: 1.00 ,*SD*: .88) and lesser (*M*: 1.05 ,*SD* : 1.02)than mean time Indian user of video and computer game in *Depression Dimension* , *t* (570) : .598 , *p*: .550 , α :.05 . However due to *descriptive statistics* and according table 1 , the lesser user on average still had a slightly higher score than higher user group in *Depression Dimension*.

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M*: .95 ,*SD* : .86) and lesser (*M*: .91 ,*SD*: .89) than mean time Indian user of video and computer game in *Anxiety Dimension* , *t* (570) : .552, *p*: .581, α :.05 . However due to *descriptive statistics* and according table 1, the higher user on average still had a slightly higher score than lesser user group in *Anxiety Dimension*.

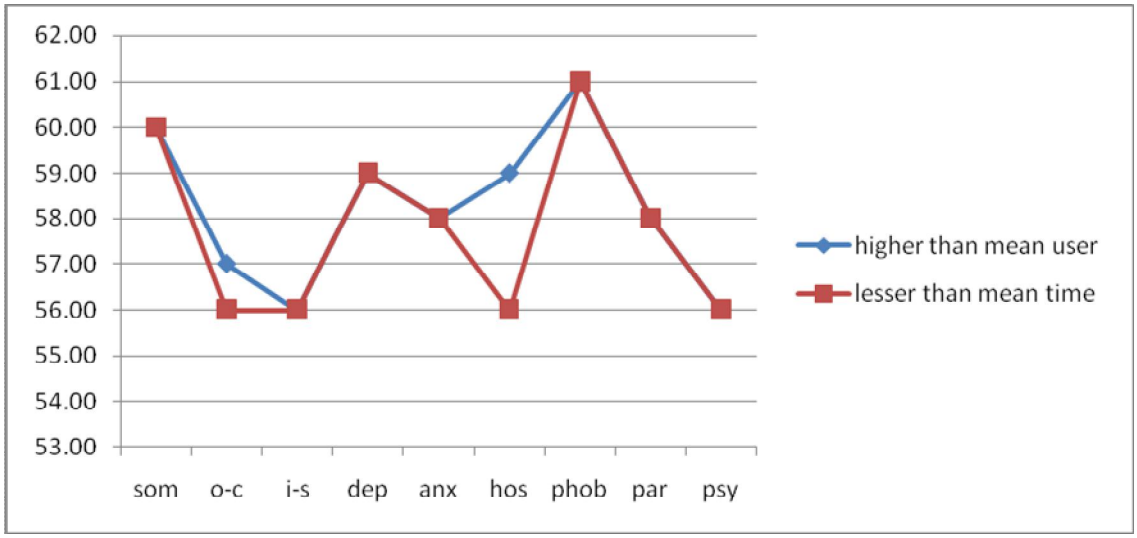
A *t*-test reveal a statistically reliable difference between the mean number of higher (*M*: 1.44 ,*SD* : .97) and lesser (*M*: 1.09 , *SD*: 1.02) than mean time Indian user of video and computer game in *hostility Dimension* , *t* (570) : 4.168 , *p:* .01 , α :.05 .

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M*: .80 , *SD* : .76) and lesser (*M*: .78 , *SD* : .72)than mean time Indian user of video and computer game in *Phobic Anxiety Dimension* , *t* (570) : .394, *p*: .694, α :.05

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (m:1.18 , s : .88) and lesser (m: 1.16 , s : .98)than mean time Indian user of video and computer game in *paranoid ideation Dimension* , *t* (570) : .292 , *p*: .770 , α :.05 .

A *t*-test failed to reveal a statistically reliable difference between the mean number of higher (*M*: .79 , *SD* : .60) and lesser (*M*: .78 , *SD*: .72)than mean time Indian user of video and computer game in *psychoticism Dimension* , *t* (570) : .166 , *p*: .868 , α :.05 .

Figure 1. ***scl-90-r*** profile



Interpretation of SCL-90-R Profile Part B

The respondent's scl-90-r symptom profile releaves a pattern of dimensions of distress as follow: There is some evidence to suggest that the both group respondents are experiencing difficulties with somatic complains obviously higher than average level.

The respondent's level of *obsessive-compulsive* is above normative. There is evidence suggests that the respondent may be suffering from a thoughts and actions that are experienced as a continuous, irresistible and unwanted. But not essentially remarkable. However the higher user has a greater level than lesser one. Level of *interpersonal sensitivity* symptom in both group respondents' profile are at normative mean levels and are essentially unremarkable.

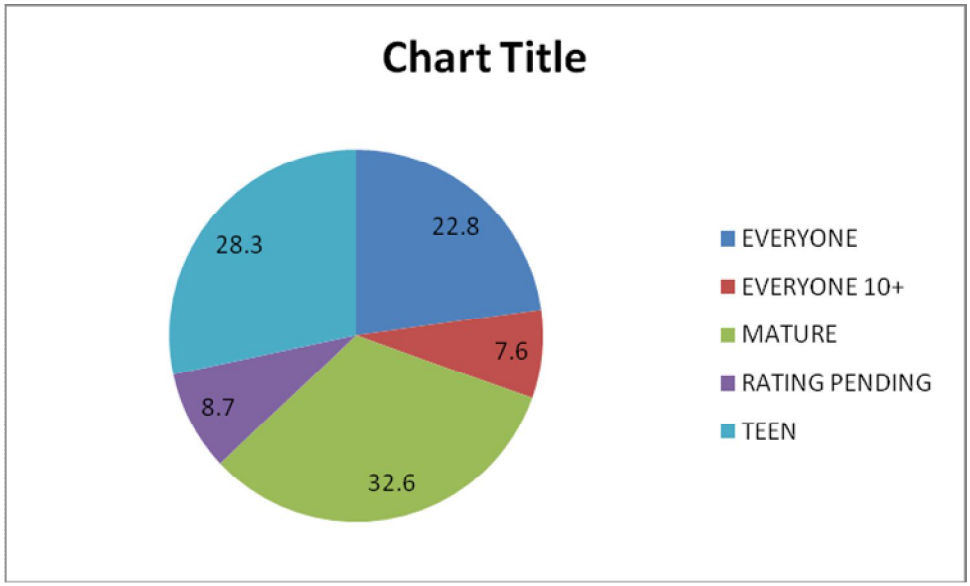
The respondent's record reveals level of *depression* above the normative mean, in both groups that can be remarkable. There is evidence suggests that the respondent may be suffering from Symptoms range of dysphormic mood and affect are represented as signs of withdrawal of life interest, lack of motivation, and loss of vital energy. The respondents' *anxiety* levels are obviously above average due to their profile, and are clearly indicative of a picture involving enhanced distress associated with nervousness and tension as anxiety components in both group but can be interpret as a normal situation relate to adolescence period of development.

The *hostility* level has a obviously difference between higher and lesser user in respondent's profile .There is some evidence to suggest that the higher user respondent is experiencing difficulties with feeling of the negative affect state of anger that reflects as a aggression and rage or resentment: however, distress is not of a clinical weight .The respondent's *phobic anxiety* levels are obviously above average in both group, and are clearly indicative of a clinical picture involving enhanced distress associated with fear responses that is irrational and disproportionate to the stimulus and avoidance behavior. There is a some evidence of suspiciousness in the respondents' response, but not clinical in nature about *paranoid ideation* dimension of both group.

The respondent's *psychoticism* score is above mean range .however, it is some more likely that this reflects an intense experience with social alienation, rather than a thought disorder.

Part C: regarding the obtained result of preference playing situation 68 percent prefer gaming alone .the 3 top favorite games users have got rating out of 92 games nominated by participants according ESRB (Entertainment Software Rating Board) (Figure 1).the result revealed .22.8 of games were belongs to EVERYONE group that have content suitable for ages 6 and older. Titles in this category may contain minimal cartoon, fantasy or mild violence and/or infrequent use of mild language. 28.3 of games were belonging to EVERYONE+10 rates that may be suitable for ages 10 and older. With contain more cartoon, fantasy or mild violence, mild language and/or minimal suggestive themes.32.6 percent of games were belong to TEEN rating that suitable for ages 13 and older. Containing violence, suggestive themes, crude humor, minimal blood, simulated gambling, and/or infrequent use of strong language. 8.7 percent were belongs to RATING PENDING that have been submitted to the ESRB and are awaiting final rating. And 32.6 percent that was belongs to the last group MATURE rate that is suitable for persons ages 17 and older. Titles in this category may contain intense violence, blood and gore, sexual content and/or strong language.

Chart 1. Percentage of rating favorite games



Discussion

Different from previous studies that examined computer and video games this study was developed the investigate the effects of computer and video games on behavioral problem of adolescents student not only in aggressive criteria .aforementioned findings and the following conclusions may be drawn. First, computer-based video games were applied by more than 93 percent of adolescent in this study with difference amount of time only. Mean time of gaming video game rely on participants report was 6 hours per week .means approximately 50 minute per day .the rating of games have shown more than 32 percent of games about one third are belong to MATURE rating that involved the content of violence, blood and gore, sexual content and/or strong language than not suitable for user ages .the statistically significant difference between result of two groups (higher and lesser than mean time) user have found only in hostility dimension. obsessive compulsive also had a greater amount obviously in higher users *Mean* .Despite the fact that in all measures else depression mean amount of higher user were in greater level than lesser users. Most of participants preferred to play alone means to decrees of time to passing in interaction with peers or siblings .SCL -90-R profile indicates that among all dimensions beside the hostility and somatization ,phobic anxiety have a highly level can pictured clinically difficulties involving enhanced distress associated with fear responses that is irrational and disproportionate to the stimulus and avoidance behavior.

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