

## **Influence of Gender, Residence and Type of Family on the Gaming Addiction and Academic Achievement of the High School Students**

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### **Abstract**

The research paper deals with the influence of the independent variable of gaming addiction upon the dependent variable academic achievement among the High school students the influence of the subgroup variables gender, locality of residence and type of family upon the gaming addiction, and academic achievement among the High school students were also investigated in this study. The samples included High school students from Government, Government aided and Corporation schools located in and around Chennai district. The standardised tool Game Addiction Scale of Jeroen's Lemmens, Patti M. Valkenburg and Jochen Peter (2009) was used to study the Gaming addiction existing among the High school students. The findings have revealed that their gender, locality of residence, type of family does not have significant influence on their gaming addiction, but their type of school management has significant influence on their gaming addiction.

**Keywords:** Gaming addiction, Attitude towards Physical Education, Academic achievement

### **Introduction**

Game addiction is frequently found to be increasing at an alarming rate among the adolescents throughout the world. Game addiction is characterized by severely reduced control over gaming habits, resulting in negative impacts on daily functioning, including personal, social, educational and occupational responsibilities. The game addiction has influenced the participation of individuals in sports and outdoor games. They have fantasy towards virtual games and develop game addiction gradually which persists for a prolonged period of time. The school children slowly develop lack of interest in real time indoor and outdoor games.

They however enjoy the physical education that is being given to them at the school level which is noteworthy. Hence forth there is an urgent need felt by the investigator to assess the level of gaming addiction especially among the adolescents which might influence their academic achievement since they are in the transition period from child hood .The investigator felt that there is a urgent need to investigate the game addiction among the High schools students who are in the adolescent stage .They were selected as the sample as they are in an important period of facing stress and strain of adolescent transition period and they are going to enter the Higher secondary level which influences their Higher education related to their future career.

### **Review of the Related Literature**

Game addiction is currently one of the most discussed psychosocial aspects associated with playing computer and videogames. Recently, the American Medical Association (2007) strongly encouraged the American Psychiatric Association (APA) to consider the inclusion of “Video Game Addiction” as a formal diagnostic disorder in the upcoming revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V, expected in 2012). Although the APA (2007) does not consider “Video Game Addiction” a mental disorder at this time, such a diagnosis could be confirmed by 2012, if research warrants it.

The main aim of the current study is to respond to the need for more research on this issue by developing a Game Addiction Scale for Adolescents based on criteria for pathological gambling found in the DSM (APA, 1980, 1994, 2000). We specifically focused on adolescents because (a) they generally play computer and videogames more frequently than adults (e.g., Griffiths, Davies, & Chappel, 2004) and (b) they are considered more vulnerable to game addiction than adults are (Griffiths & Wood, 2000). There is considerable disagreement among researchers about the concept of “game addiction.”

Although the term addiction is not used by clinical psychologists, game addiction is the most prevalent term among researchers to describe excessive, obsessive, compulsive, and generally problematic use of videogames (e.g., Charlton & Danforth, 2007; Chiu, Lee, & Huang, 2004; Chou & Ting, 2003; Fisher, 1994; Griffiths & Davies, 2005; Grüsser, Thalemann, & Griffiths, 2007; Hauge & Gent)

### **Statement of the Problem**

The problem selected for the study is entitled as “**INFLUENCE OF GENDER, RESIDENCE AND TYPE OF FAMILY ON THE GAMING ADDICTION AND ACADEMIC ACHIEVEMENT OF THE HIGH SCHOOL STUDENTS**”. The present study has been specifically intended to find out the influence of the Gaming addiction on the academic achievement among the High School students.

### **Operational Definition**

#### **Gaming Addiction**

Gaming addiction refers to the video gaming addiction existing among the individuals. It denotes their personal liking, mania and prolonged use of video gaming which regularly has become their leisure time activity.

#### **Academic Achievement**

Academic achievement refers to the academic performance exhibited by the students in their school subjects. This indicates their achievement test scores as obtained by the students which proves their academic attainment after studying the subjects.”

### **Objectives of the Study**

The following were the objective of the study

1. To find out the level of gaming addition among the High school students
2. To find out the level of academic achievement among the High school students.
3. To find gaming addiction among the High school students with respect to them gender.
4. To find gaming addiction among the High school students with respect to the locality of residence.
5. To find gaming addiction among the High school students with respect to the type of family.
6. To find out if there is any significant relationship between gaming addiction and academic achievement among the High school students.

### **Need for the Study**

Game addiction here refers to the video gaming addiction that is prevailing among the present younger generation especially among the school children. Pandemic period has

increased the frequent usage of mobile phones and electronic gadgets which lead to gaming addiction among the school children. After post pandemic period also, they are not able to overcome their gaming addiction. Positive Attitude towards physical education is the need of the hour which is considered to be healthy by the Educationists. Parents, teachers and the Educationists are concerned about the academic achievement of the students. They consider gaming addiction especially being virtual in nature is mesmerizing for the kids that happens to be a common threat that might affect the academic achievement of the students especially at the school level. The investigator henceforth decided to conduct a study to find out the influence of the independent variables of the game addiction on the dependent variable of academic achievement among the High school students.

The High school students were chosen to be the sample for the study as they are in the adolescent stage and in a crucial period of transition facing stress and strain. Hence forth the investigation was done to find the impact of subgroup variables of Gender, Locality of residence (Rural/Urban), Type of family (Nuclear/Joint), institutional variables like type of school management (Government/Government aided/Private school) upon the independent variables of game addiction and the dependent variables of the academic achievement. The investigator has felt that the difference in type of school management and might have influence on the gaming addiction, and academic achievement. In most of the schools, usage of electronic gadgets in the school are banned.

The locality of the residence of the school students being rural or urban influences their game addiction. The children who are living in urban areas have Wi-Fi facilities at home. They have browsing centres with internet facilities in the nearby areas. The type of the family also has indirect influence on making the children being game addicted. In the joint family, elderly people will take care of the children and they advise them not to use mobile phones or electronic gadgets unnecessarily. They will advise them not to play video games in mobile phones and restrict its usage. Whereas in most of the families which is nuclear in nature, there is no one to guide and educate the children regarding the ill effects of game addiction and the parents cannot monitor their children from being affected by game addiction.

### **Methodology**

The investigator has used normative survey method for selecting the sample for the present study. About 248 students studying in Government, Government aided and Private

schools of Chennai city were chosen as the sample. About 144 boys and 104 girls from The High School comprised the sample. The independent variable is Gaming Addiction and the dependent variable is Academic Achievement. The subgroup variable chosen for the study are gender (Boys/girls), type of school management (Government/Government aided/Private) and locality of the residence (urban/rural), and their type of family (Nuclear and joint family).

### Description of the Tool

Game Addiction Scale, the standardised tool of Jeroen.S Lemmens, Patti M. Valkenburg and Jochen Peter (2009) was used for investigating the Gaming addiction among the High school students. The tool was based on seven criteria of salience, tolerance, mood modification, withdrawal, relapse, conflict and problems. The tool had 5 dimensions of Time spent on games, loneliness, life satisfaction, social competence and aggression. It is a five-point scale. The scale had 21 statements. It had 14 positive and 7 negative statements. There are 5 responses given again each statement They Always, Agree, Never, Sometimes, mostly often. The maximum score is 105 and the minimum score is 1.

**Table 1**

#### Showing the scoring details of game addiction scale

Nature of the statement	Item number	Never	Rarely	Sometimes	Often	Very often
Positive Statement	1,2,4,7,8,9,10,12,13,15,17,18,20	1	2	3	4	5
Negative Statement	3,5,6,11,14,16,19,21	5	4	3	2	1

### Academic Achievement-

The Half Yearly Examination marks of the students were chosen as the academic achievement scores.

### Pilot Study

Pilot study was conducted for 60 high school students from the Government High school of Chennai.

### Reliability and Validity of Game Addiction Scale

The reliability of the tool has been found by Cronbach's Alpha method using a sample of 60 and the reliability coefficient obtained was 0.75. The square root of reliability coefficient can be considered so the validity (Garrett) and the validity coefficient obtained was 0.86.

### Main Study

The investigator got permission from the Headmasters of the Government, Government, Government aided and Private schools in and around Chennai city for the collection of the data. The tools were personally administered to the sample which included 248 High School students.

The results obtained were subjected to suitable statistical analysis. Mean and standard deviation was done to find out the average and deviation among the various subgroups of the sample refined to the present study. "t"-test was done to find out the significance of mean difference between the subgroup variables chosen for the study. Analysis of variance was calculated for finding out the variance existing among the subgroups. Correlation was done to verify the existence of the significant relationship between the independent variable of the game addiction and the dependent variable of academic achievement among the High school students.

**Table 2**

**Critical Ratio value for the gaming addiction of High school students with respect to their gender.**

Sample Subgroup	Categories	N	Mean	S. D	't' value	Level of significance
Gender	Boys	160	58.00	5.70	1.747	N. S
	Girls	88	56.00	5.80		

Since, the obtained value is lesser than the table value. The null hypothesis is accepted and henceforth it is concluded that there is no significant difference in the game addiction among the High school students with respect to their gender. There is no significant difference in the Game addiction between boys and girls.

**Table 3**

**Analysis of variance scores in gaming addiction among the High school students from Government, Aided and Private management**

Sample Subgroup	Categories	N	Mean	S. D	'F' value	Level of significance
Type of school management	Government	99	58.35	5.70	0.600	0.962
	Aided	70	56.57	5.50		
	Private	79	57.30	5.60		

Since, the obtained value is greater than the table value at 0.962 the level of null hypothesis is rejected. There is significant difference in gaming addiction among the High school students with respect to their type of school management. The government school students (Mean score 58.35) have more game addiction when compared to the students from government aided (Mean score 56.57) and private schools (Mean score 57.3).

**Table 4**

**Critical Ratio value for the gaming addiction of High school students with respect to their locality of residence**

Sample Subgroup	Categories	N	Mean	S. D	't' value	Level of significance
Locality of residence	Rural	79	58.55	5.70	1.9566	N. S
	Urban	169	57.03	5.70		

Since, the obtained value is lesser than the table value. The null hypothesis is accepted and henceforth concluded that there is no significant difference in Game addiction among students with respect to locality of residence. The students coming from both rural and urban background as their locality of residence do not differ in their game addiction.

**Table 5**

**Critical Ratio value for the gaming addiction of High school students with respect to their type of their family**

Sample Subgroup	Categories	N	Mean	S. D	't' value	Level of significance
Type of Family	Joint family	63	57.15	5.70	0.5773	N. S
	Nuclear family	185	57.63	5.70		

Since, the obtained value is lesser than the table value. The null hypothesis is accepted and henceforth concluded that there is no significant difference in game addiction among the

High school students with respect to their type of family. The students coming from nuclear and joint family do not differ in their game addiction.

**Table 6**

**Critical ratio value of the Gaming Addiction and Academic Achievement between High school students**

Variables	Calculated 'r' value	Table of 'r' value	Level of Significance
Game Addiction and Academic Achievement	0.7652	0.05    0.113 → 0.01 <del>0.148</del>	0.01

It is inferred from the above table that the calculated 'r' value for the Game Addiction and Academic Achievement is (0.7652) among the high school students. This indicates the existence of the perfect positive correlation between Game Addiction and Academic Achievement. The game addiction has influenced the academic achievement of the High school students.

## Results and Discussion of the Study

### Game Addiction

There is no significant difference in game addiction High school students with respect to gender. The girls are playing online/video games equal to that of the boys. The game addiction was found to be common among them. Hence forth the boys and girls studying at the High school level do not differ in their game addiction. There is significant difference in gaming addiction among the High school students with respect to their type of school management. The government school students (Mean score 58.35) have more game addiction when compared to the students from government aided (Mean score 56.57) and private schools (Mean score 57.3). The Government school students are more addicted to game compared to Private and Aided School students. This might be due to their exposure to online games and video games and accessibility to mobile phone during and after pandemic period.

The students studying in different types of school management had to attend online classes during pandemic period using mobile phone and laptop during pandemic period. The

consequence of this had led them to game addiction after their online classes which is prevalent even now among the High school students. There is no significant difference in Game addiction among students with respect to locality of residence. This proves the locality of residence whether it is urban or rural in nature has not influenced the game addiction. The students ailing both from rural and urban areas have game addiction in common. There is no significant difference in game addiction among the High school students with respect to their type of family.

Nowadays most of the families have mobile phones and laptops. They have internet facilities at home. Both the family members and the school children use them regularly for educational, vocational and entertainment purpose. The school children have game addiction irrespective of the type of family to which they belong to because the family members are unaware of the fact about the children's purpose of using the laptop or mobile phones for. This is a matter of serious issue and the family members must have concern and take care of their children's physical and mental health by checking their usage of the tech facilities effectively. There is significant difference in usage of mobile phone for gaming among the High school students with respect to usage of mobile phone for gaming.

The Means scores of the students who use mobile phones for gaming are found to be more (Mean score 58.09) which proves that they have more game addiction than those who don't use mobile phones for gaming (Mean score 56.97). This indicates that the parents must restrict the usage of electronic gadgets by their children unless and until they need them in case of emergency or if they have to use it for educational purpose. They must have a check on them so that they will not be addicted towards gaming unnecessarily which might affect their academic achievement directly or indirectly. There is no significant difference in game addiction among students with respect to Usage of Internet for gaming. The internet accessibility is not available in all the areas.

Nowadays the school children have started playing downloaded games which does not need internet facility. This might be the reason for the result of the investigation which revealed the existence of no significant difference in game addiction among students with respect to Usage of Internet for gaming. There is no significant difference in game addiction among students with respect to Place used for playing game. They choose the place to play according to their convenience and preference.

There exists perfect positively correlation between Game Addiction and Academic Achievement. It is inferred from the above table that the calculated 'R' value for the Game Addiction and Academic Achievement is (0.7652) among the High school students. There will be significant relationship between gaming addiction and academic achievement. The investigator found out from the results that the game addiction might have positively influenced the student's academic achievement. The results reveal that though game addiction is not advisory by it might have helped them in reducing their academic stress and frustration indirectly. At the same time the findings cannot be generalized to the whole population of the High school students. Home related Factors such time management and parental control might also have controlled their game addiction at home to the optimum level so that it has not affected their academic achievement.

### **Educational Implications of the Present Study**

The study has revealed an interesting fact that gaming addiction has influenced the academic achievement of the High school students. Game addiction to the extreme level is characterized by severely reduced control over gaming habits, resulting in negative impact on an individual's daily functioning, including personal, social, educational and occupational responsibilities. The teachers and parents have equal responsibility in promoting the students to play outdoor games rather than playing virtual games. Virtual games are usually played through offline or online mode. Virtual games if played at an extreme level for prolonged period might affect the physical, mental health of the school children. It in turn affects their academic achievement. Hence the Head of the Institution in the School and the teachers working in different types of management must promote participation of the students in sports.

The Physical Education period must not be misused by the teachers for completing their syllabus, revising the portion or giving test on any circumstance. Since Physical Education deserves equal importance as that of the academic achievement of the students as it promotes their physical, mental and emotional wellbeing. The gender bias must be removed by the teacher as both of them are interested in sports and attending to Physical Education Period.

Moreover, even though that the study has revealed the existence of positive correlation between the game addiction and the academic achievement among the High school students, it is not advisable for the younger generation to develop game addiction in the virtual sense even though it reduces their stress and frustration. Both home and school environment must be

healthy and learning promoting atmosphere for the school children as they are in the crucial stage of deciding their higher studies and career. They should not be misled by virtual game addiction.

Parental control, management, due care, concern, guidance and counseling, healthy food and life style, regular study habits, periodic rest, participation in outdoor games, practice of yoga and listening to music promotes healthy learning environment at home. Even if they have habit of playing video games, it should be under parental control that too for a particular time period and not more than that. Since prevention is better than cure, the parents must not encourage their children having mobile phone with them unless it is of emergency need. They must advise them about the consequences of game addiction.

The Central and the state government have to conduct awareness programs in the school and advertise about their consequences using mass media. The schools should frame rules and regulations emphasizing strict discipline by prohibiting the usage of electronic gadgets among the school children. In Parent Teacher Association, the parents must be given advice about the consequences of game addiction. They must cooperate with the teachers. They must not allow their children to play online games at home. They must not give their personal mobile to their children and allow them to play at home. If the children are using laptop or mobile phone it should be for educational or entertainment purpose rather than playing online games. The time factor is of due concern. The parents must monitor their children's time period of using electronic gadgets and what they are using it for. The parents must encourage their children to participate in outdoor and indoor games rather than restricting them from playing games.

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