A STUDY OF FACTORS AFFECTING GAME ADDICTION AMONG CHILDREN AND JUVENILES IN BANGKOK : CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT

TREERAT YOCHANUNG

A THESIS SUBMITED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS (ADDICTIONLOGY)
FACUTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2008

Thesis
Entitled

A STUDY OF FACTORS AFFECTING GAME ADDICTION AMONG CHILDREN AND JUVENILES IN BANGKOK: CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT

……
Mr. Treerat Yochanung
Candidate

……
Lect. Unisa Lerdtomornsakul,
Ph.D.
Major-Advisor

……
Asst. Prof. Chankanit K. Suriyamanee,
Ph.D.
Co-Advisor

……
Assoc. Prof. Pol. Col. Lamduan Srimanee,
Ph.D.
Co-Advisor

……..
Prof. Banchong Mahaisavariya,
M.D.
Dean
Faculty of Graduate Studies

……
Assoc. Prof. Tongtavuch Anukarahanonta,
Ph.D.
Chair
Master of Arts Programme
in Addictionlogy
Faculty of Graduate Studies

Thesis
Entitled

A STUDY OF FACTORS AFFECTING GAME ADDICTION AMONG CHILDREN AND JUVENILES IN BANGKOK : CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT

was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Arts (Addictionlogy)
on
January 16, 2008

……
Mr. Treerat Yochanung
Candidate

……
Prof. Pol. Col. Pisan Mookjang,
Ph.D.
Member

……
Lect. Unisa Lerdtomornsakul,
Ph.D.
Member

……
Assoc. Prof. Pol. Col. Lamduan Srimanee,
Ph.D.
Member

……
Asst. Prof. Chankanit K. Suriyamanee,
Ph.D.
Member

……..
Prof. Banchong Mahaisavariya,
M.D.
Dean
Faculty of Graduate Studies
Mahidol University

……
Prof. Banchong Mahaisavariya,
M.D.
Dean
Faculty of Graduate Studies
Mahidol University

ACKNOWLEDGEMENT

This thesis had successfully been completed with the kind contributions of Dr. Unisa Lerdtomornkul; Asst. Prof. Dr. Chankanit K. Suriyamanee; Assoc. Prof. Pol. Col. Dr. Lamduan Srimanee for their advices and corrections. Thanks were extended to Prof. Pol. Col. Dr. Pisarn Mookjang who accepted to be an expert member of the thesis committee and his comments, advantageous to the researcher.

Gratitude was extended to all Directors of public schools in Bangkoknoi and Bangkokyai for the data collection and all students who were the respondents that they made this research possible.

Thanks to all lecturers in The Program of Master of Arts, School of Addiction Sciences for their instructions and consultations to this researches.

Had this research been useful to public at large, the researcher rendered all virtues to his father and mother with deepest gratitude including his family and relatives for their moral supports. Without the supports of the families of Toopbhabutr and Sawadee, this study would have been completed. Had there been any mistakes in this thesis, the researcher would humbly accept for further improvements.

Mr. Treerat Yochanung

A STUDY OF FACTORS AFFECTING GAME ADDICTION AMONG CHILDREN AND JUVENILES IN BANGKOK : CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT

TREERAT YOCHANUNG 4837816 GRAD/M

M.A. (ADDICTIONLOGY)

THESIS ADVISORS : UNISA LERDTOMORNSAKUL, Ph.D., CHANKANIT K. SURIYAMANEE, Ph.D., LAMDUAN SRIMANEE, Ph.D.

ABSTRACT

This study investigated individual factors, family factors, and social and environment factors that affect game-addiction among children and youth in secondary education level; studied factors of game-addiction affecting learning achievement of children and youth in secondary education level and studied influences of game-addiction on aggressiveness of children and youth in secondary education level. Samples were 350 secondary students in Bangkoknoi and Bangkokyai Bagkok Metropolis, Thailand**.** A questionnaire was used in data collection**.** Statistical applications were percentage, mean, standard deviation, MRA, ANOVA and MCA.

Most samples were 14 years old and male, studying in Grade8 and receiving money daily to go to school. Their expenses for computer games were from their savings. Normally, they played games once in a while in a week and often during weekends with friends. They began to play games form a primary level. The regular period of play was during 13.01-16.00 hours. They had a moderate learning achievement with GPA of 2.51-3.00 and played games for 1-2 hours/day on average.

Factors of game-addiction affected youth learning achievement, i.e. receiving money to go to school, average monthly income of the father, feeling when not playing games, expenses of playing games, regularly play of games /week, and playing games by slot and online games in descending order.

Recommendations from the study – the Ministry of ICT should code laws and measures for clear control of playing games online affecting controls of proper game themes, proper period of playing /day, proper controls on game shops and their registration.

KEY WORDS : GAME ADDICTION / CHILDREN AND YOUTH

97 pp.

การศึกษาปัจจัยที่มีผลต่อการติดเกมส์ของเด็กและเยาวชนในเขตกรุงเทพมหานคร : กรณีศึกษาในเขตบางกอกน้อยและเขตบางกอกใหญ่ (A STUDY OF FACTORS AFFECTING GAME ADDICTION AMONG CHILDREN AND JUVENILES IN BANGKOK : CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT)

ตรีรัตน์ โยชะนัง 4837816 GRAD/M

ศศ.ม. (วิทยาการเสพติด)

คณะกรรมการควบคุมวิทยานิพนธ์ : อุนิษา เลิศโตมรสกุล, Ph.D., ชาญคณิต ก. สุริยะมณี, Ph.D.., ลำดวน ศรีมณี, Ph.D.

บทคัดย่อ

การศึกษาในครั้งนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยส่วนบุคคล ซึ่งได้แก่ (Individual factor) (Family factor) (Social and environmental) มีผลต่อการติดเกมส์ของเด็กและเยาวชน เพื่อศึกษาปัจจัยของการติดเกมที่มีผลต่อการเรียนของเด็ก และเยาวชนในระดับมัธยมศึกษาตอนต้น และเพื่อศึกษาอิทธิพลของการติดเกมที่มีผลต่อความก้าวร้าวของเด็ก และเยาวชนในระดับมัธยมศึกษาตอนต้น กลุ่มตัวอย่าง ได้แก่ เด็กและเยาวชนที่กำลังศึกษาอยู่ในชั้นมัธยมศึกษาตอนต้นและตอนปลาย ในพื้นที่เขตบางกอกน้อยและเขตบางกอกใหญ่ จำนวน 350 ราย เก็บรวบรวมข้อมูลโดยใช้แบบสอบถาม สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ค่าร้อยละ (Percentage) ค่าเฉลี่ยเลขคณิต (Mean) ส่วนเบี่ยงเบนมาตรฐาน (Standard Deviation) Multiple Regression Analysis การวิเคราะห์ความแปรปรวน (ANOVA) และการวิเคราะห์การจำแนกพหุ (M.C.A.) ผลการวิจัยสรุปได้ ดังนี้

กลุ่มตัวอย่างส่วนใหญ่มีอายุ 14 ปี เป็นเพศชาย กำลังศึกษาอยู่ในระดับ ม.2 ได้รับเงินให้ไปโรงเรียนเป็นแบบรายวัน มีเงินค่าใช้จ่ายในการเล่นเกมส์คอมพิวเตอร์เป็นเงินเก็บของตนเอง โดยปกติในหนึ่งสัปดาห์จะเล่นเกมส์นานครั้ง เล่นในวันเสาร์-อาทิตย์ เล่นกับเพื่อน เริ่มเล่นเกมส์คอมพิวเตอร์ตั้งแต่ประถมศึกษา ช่วงเวลาที่เล่นเกมส์เป็นประจำ คือ เวลา 13.01-1600 น มีผลการเรียนอยู่ในระดับปานกลาง มีเกรดเฉลี่ยอยู่ในระดับ 2.51-3.00 และเล่นเกมส์เฉลี่ยวันละ 1-2 ชั่วโมง

ปัจจัยด้านการติดเกมส์มีผลต่อการเรียนของเด็กและเยาวชน ได้แก่ การได้รับเงินไปโรงเรียน รายได้เฉลี่ยต่อเดือนของบิดา ความรู้สึกถ้าไม่ได้เล่นเกมส์ ค่าใช้จ่ายในการเล่นเกมส์ โดยปกติการเล่นเกมส์ในหนึ่งสัปดาห์ และการเล่นเกมส์แบบเครื่องหยอดเหรียญและเกมส์ออนไลน์นอกเหนือจากเครื่อง PC ตามลำดับ

ข้อเสนอแนะจากการวิจัย กระทรวงเทคโนโลยีสารสนเทศและการสื่อสาร(ICT) ควรมีการออกกฎหมายและมาตรการควบคุมที่เด่นชัดในการเล่นเกมส์ออนไลน์ ซึ่งจะมีผลดีต่อการความควบคุมทั้งในลักษณะเนื้อหาของเกมส์ที่เล่น ระยะเวลาในการเล่นเกมส์แต่ละวันให้เป็นไปอย่างเหมาะสม รวมทั้งการควบคุมร้านเกมส์ การจดทะเบียนจัดตั้งร้านเกมส์ ให้เป็นไปอย่างเหมาะสม

97 หน้า

CONTENTS

CONTENTS (Cont.)

LIST OF TABLES

CHAPTER 1
INTRODUCTION

1.1 Background and significance of the problem

Since the past, human beings co-stayed with invented technologies that ever served their facilities. However, the present social conditions is rushing and aggressively competing and with time constrained by works, it reduced their private time. The invented technologies for facilities especially ‘computer’ became the key player for work assistance and responding human beings in different aspects. Under its capacities, the programmers explores popularized programs spreading worldwide called the ‘program game’.

Currently, problems and consequences against the game-addicted youth are growing critical. Rationally, they have been forced to unconsciously fall into the snare of the computer games. The game-maniac youth similarly appeared the ‘substance dependent’ and the pathological gambling’. Meaning, they were enjoying during playing games and were satisfied of winning and desired to wing more game rate. So, they were satisfied to gradually spend more time with games. This behavior was slowly implanted in the players into normality. Solving problems alone, and no interactions with others and environments around them, youth were always preoccupied with games. This gave away and drove them to negatively behave leading to selfishness, impatience and turning them being more aggressive.

Impacts of playing computer games of youth were ignored from most people including their parents and themselves about the ill-effects hidden under the fine pictures and sounds were deadly demon to crush players, environment around societies and the country.

Recently, there were countless researches stating the violence of the computer games sharing impacts on youth aggression – youth absorbed violence after playing computer games. The Child Foundation reported that children often played violent games absorbed and accumulated conscience and consequences were their

personalities were gradually changed into aggressiveness. And it was certain that they used violence to solve problems when countering conflicts with others. Computer gurus disclosed that most parents misunderstood that playing games helped children to concentrate but actually, it completely destroy their concentration. Dr. Sopha Choophicahikul, a lecturer in psychology, Faculty of Social Science and humanities, Mahidol University noted about such behavior that it bloomed fascination and lust, in particular the boys during the age of fight maniac and winning-led. At the meantime, game players followed the game moods to win but if defeated, they were irritated, and stressful. Dr. Sopha stated psychologically, any behaviors frequently acted would turn to be traits and personalities. Some youth achievers in studies by prolong playing games, they absorbed impulsiveness and moodiness.

Examples form incidents during May 23, 2007: Maniac youth of 20 years gun down 3 police and people and 6 injured in Talad Thai. Late, a detective team of the Klongluang District Police Station searched a residence No. 301 3rd Floor of Ratchada Mansion, Bangkok and found the criminal owned 3 samurai swords, star weapons, Halloween masks, black ninja dress, 2 AKA ammunition holders and 30 AKA bullets, a bow, an electric shock machine, and some electric sets with game machines about fights between police and felons and evil heroes. The police assumed many causes of felony either by oppressions and mental disorder from being preoccupied with fight games of both being the felon and the police or the heroes and the felons, which le him to be aggressive. But those were only suspicions. (Daily Newspaper dated May 25, 2007).

Surveys in Thailand showed that regular internet user habits at 58% for children and 90% for youth. 85% of children and 87% of youth had never been trained in using internet before. 39% of children and 80 % of youth used internet by 41% at schools, 31% at home, and 24% at internet café. 40% of parents unrestrictly control internet uses, 24% closely control. 68% of parents did not install firewall screening indecent programs in their children's computers. Only 15% of parents installed the screening programs and 17% of parent knew nothing about it even the reliable institutions like schools 71% parent did not know whether the schools n stall such program. (Morakot Khanuengsukkhasem cited in www.bangkokbiznews.com: August 20, 2004). Existing surrounding partially encourage children with opportunity

and values of playing games more regardless internet cafes street-wide and in department stores s well as residences where all drove children addicted in the computer games.

It was seen from above that either directly or indirectly, fast or slow children will play computer games and absorb them into the behaviors which might rise problems for schools, a and societies. These problems will soar into the national or international criminal problems, had it been viewed passively.

This research was to study factors affecting games addicted, learning factors, and youth aggressiveness. Findings might be useful for schooling circle, family institutions, and child institutions for further designing plans to develop children and youth quality.

1.2 Research objectives

1.2.1 To study individual factors, family factors, and social and environment factors affected game-addiction among children and youth.

1.2.1 To study factors of games-addiction affecting learning achievement of children and youth in secondary education level.

1.2.2 To study influences of games-addiction affecting aggressiveness of children and youth in secondary education level.

1.3 Research hypotheses

1.3.1 Individual factors, family factors, and social and environment factors affected game-addiction among children and youth.

1.3.2 Factors of game-addiction affect the learning achievement of children and youth.

1.3.3 Factors of game-addiction affect the aggressiveness of children and youth.

1.4 Scope of the study

In the investigation of "A Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai." Population was the junior and senior secondary level students. A questionnaire was used as instrument for data collection which is conducted by the Accidental Sampling for 350 samples during July - September 2007.

1.5 Research variables

1.5.1 Personal Factors, i.e. GPA, game-charges, children and youth income paid by parents.

1.5.2 Family factors, i.e. family status.

1.5.3 Social and environment factors, i.e. peer group conformity, information received on games, number of computer-game shops in the zones, and places of playing games.

1.5.4 Game-addiction viewed by play-hour a day.

1.5.5 Learning achievement viewed by play-hour a day.

1.5.6 Results of aggressiveness measurement viewed by average score.

1.6 Definition of terms

1.6.1 Children were referred to individuals aged more than complete 7 years but not exceeding complete 14 years.

1.6.2 Youth was referred to individuals aged more than complete 14 years but not exceeding complete 20 years.

16.3 Learning achievement was referred to studying results measurable by examinations or practices viewed from the previous semester examination results.

1.6.4 Game-addiction was referred to regular behavior of playing computer game of children and youth with many hours and unable to control one's mood of irritation and stress if no play.

1.6.5 Factors affecting game-addiction were referred to personal factors, family factors; social and environmental factors affecting youth's game-addition.

1.6.6 Information received of games was referred to obtaining information of games form magazines, TV and other media.

1.6.7 Aggressiveness was referred to expressions, gestures and wording found din the violent mood from missing targets.

1.6.8 Types of game online was referred to a game computer playable by 2 persons or more around Thailand or worldwide connected by telephone modem or internet.

1.6.9 Types of game not online were referred to computer games not connected by telephone modem or internet playable by CD in CPU and following the instructions.

1.6.10 Style of playing game was referred to methods and characteristics of playing games, such as plying period, duration of playing, types of games played games charges, and consequences.

1.6.11 Personal and family background was referred to gender, age, and income of children and youth and family conditions.

1.6.12 Success of playing games was referred to desire to play game or select game types for playing and after playing, the games meet their mood.

1.7 Expected benefits

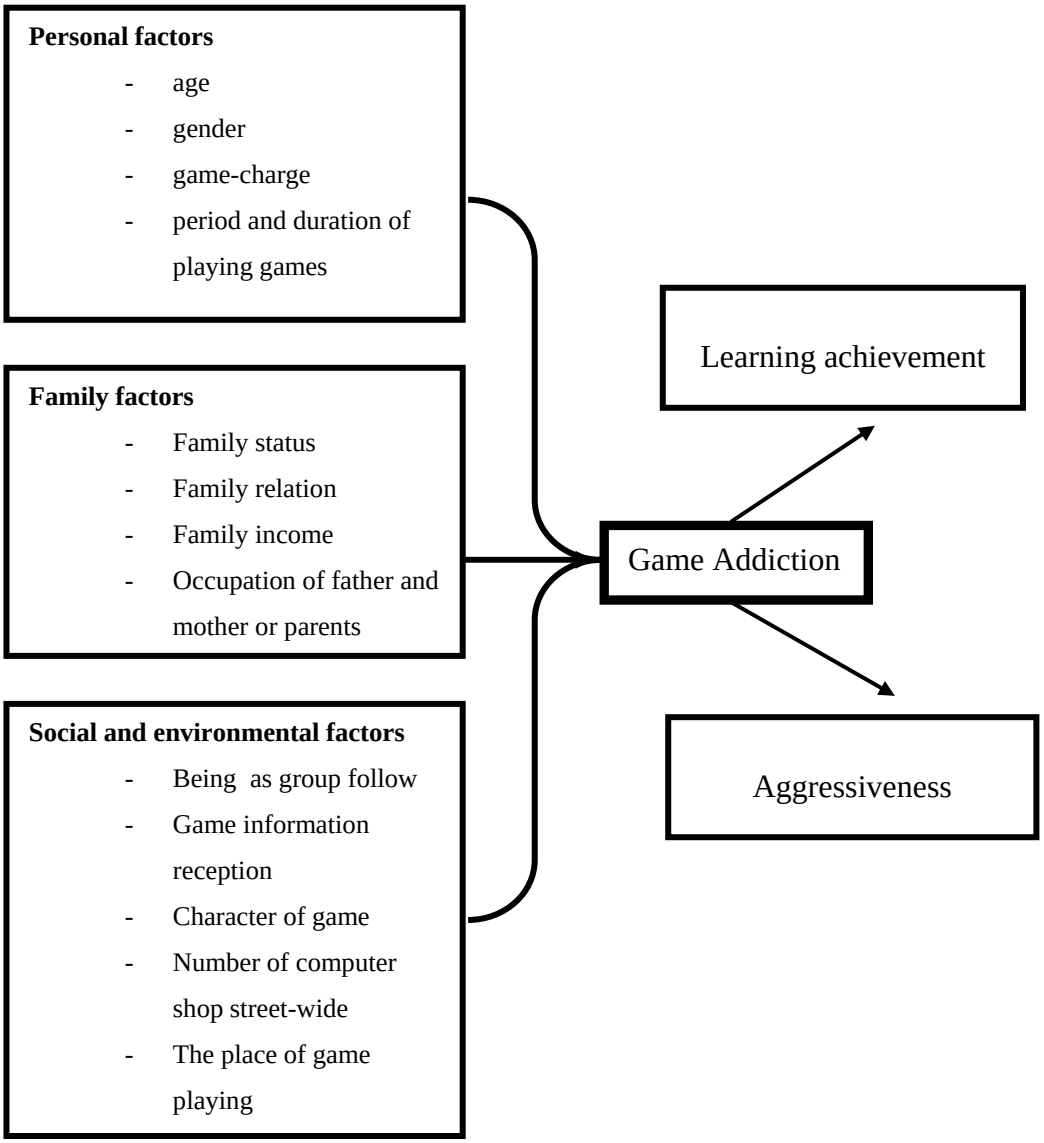
1.7.1 Acknowledging relationship between playing games and the learning achievement and aggressiveness of children and youth in secondary level in the zones of Bangkoknoi and Bangkokyai.

1.7.2 Enabling school administrators, teachers, lectures, parents and persons involved with children and youth applying findings in designing their academic affairs on supervising the time management of the children.

1.7.3 Acknowledging behaviors and common nature of game-players and enabling data from game-play to develop development indicators for different aspects for children and youth.

1.7.4 Applying findings to set plans and remedies in order to solve problems of children and youth who addict computer games.

1.8 Conceptual framework



CHAPTER 2
LITERATURE REVIEWS

Literatures of ‘a Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai’ were reviewed on concepts, theories and related researches for this investigation as follows.

2.1 Birth of VDO games
2.2 Types of computer games
2.3 Impacts of playing computer games
2.4 Laws and policies in controlling internet
2.5 Learning achievements
2.6 Aggressiveness
2.7 Concepts and theories of criminology
2.8 Related researches
2.9 Related researches from abroad.

2.1 Birth of VDO games

The first world VDO game sprung from USA in 1979 under the production of the Atari. 2 years after that the Atari enter Thailand. At first it was bought for abroad as gifts for children. Even popular among exclusive children but there were gaps to gush in VDO game among the Thai youth. (Vibha Udomchant cited in Summary of Impact of VDO Games over Children: Chulalongkorn University, 1993)

Sales volumes of The Atari VDO games in USA during 1980-1981 peaked to 3 billion US dollars. One six of the US children accommodate a VDO game at home. In mid 1983-1985, the VDO game sets were less popular and sales volumes dumped to the beginning. Recent 5 years, the VDO game manufacturers broke and had to sell out business. The Atari turned to develop computer game. At the meantime, Japanese companies in 1980 developed technologies more advanced than

the prototypes with ‘liquid crystal’ screen called ‘press-game’ for launching sales. After being successful in Japan, they moved to US and EU markets with better prospects of popularity. VDO games were developed from computer, so it was divided into 2 parts, i.e. hardware or the play-set and its software or game casket. VDO game was a plaything specially designed alike computer with CPU (central processing unit) as a micro computer set.

Moreover, a computer contains a screen and keyboard to react with the machine whereas the VDO game uses the monitor screen or the common TV screen with knops or joy sticks to react. At present, micro VDO games have been developed like a hand phone with casket changeable and portable.

Natures of early games were simple in black and white virtual and with restrictions on graphic and movements. Games ran from simple left-right but later creative games were with more varieties. The 3 dimension graphic had been applied with more sensitive movements and attractive colors a well as adapting movie, cartoon and life story of individuals to create games (Kulthida Dhamvirat, 2005:19-21). In particular the VCD computer games were popular among the game players, and common shops for hire. There were various themes with amazing colors more virtual reality even supported in hand-phones for more uses friendly.

2.2 Types of computer games

Players were liberal to choose by interest and varieties either by theme. What was state here was the Flash Game created by Macromedia Flash and divisible in to 9 themes.

1. Action: themes were attack charges of each base by personal capacity such as boxing, kicking, jumping, shooting and wiping away enemies each base stood with boss like Batman, Superman, and Contra and so on.

2. Fighting: a man-on-man fights or in team by de-staging the opposite. Each cast had its own attack-technique or trump attack different from others and had to precisely press the technique to use the trump attack such as in the Street Fighter.

3. Shooting: concentrating more on shooting the opposite or target with multiple natures including fly-fight, shooting, flying target such as the Gradius.

4. Adventure: following the theme to explore in different situation emphasizing solving riddles in each scene such as Indiana Jones.

5. Stimulation & Stimulation: games of plots using intellectual for paling and solving problems on using resources and members along each base.

6. Sport: games competition worth playing with friends only.

7. Puzzle: requiring intellectual to crack problems and riddles such as Finding Faults.

8. Racing: engine speed competition such as motor or boat races.

9. Skill: edging skills of mouse using and keyboard such as click by rhythm, move mouse to designated direction, press keyboard by instruction.

Further, Venus Udomprasertkul from the Research Institute of Medicine, Chulalongkorn University and Chayakarn Sirirat from Demonstration School of Chulalongkorn University at the secondary level (www.chula.ac.th) studied 'Behaviors of Computer Game Playing of the Secondary Students.' They found that the computer games were divisible into 10 types, i.e.

1. Evasion Action
2. Cannoning
3. Plays
4. Simulation
5. Strategic plotting
6. Sports
7. Motor race
8. Adventure
9. Fights
10. Puzzles.

Besides, there were simulations such as monopoly, ginkgo, finding faults and so on. At present, the most popular games are games online.

2.3 Impacts of playing computer games

Consequences of playing computer games were collected and surveyed. The researcher divided into 2 parts, i.e. its Advantages and Disadvantages and impact against players.

2.3.1 Advantages

Collected articles of children computer games by Chulalongkorn University (cited in workshop of Impact of VDO Games against Children, Chulalongkorn University: 1993) were summarized as below.

Howard University (1993) – children with opportunity to play VDO games acquired skills to access computer easier than others because they had opportunity to be smart to play games and best solves programmed problems.

Bengamin Comaine (1993) from Howard University stated it helped training intellectual skills and viewed that superficially VDO games might be only play sets for common entertainment. Actually, Playing VDO games were differed from other playing with set regulations to be sought by the player. It was the nature of data collection base don Pararal Process or multiple dimensions data collection. During playing children were challenged by VDO games to win oneself all the time. So, playing VDO games edged the brain of children.

Saharan Eksomtharamet (1993) a child psychologist, the Psycho-Health Center viewed that VDO games partially helped children concentration. Actually, they had the same concentration and not longer but better because the VDO screen always aroused to use new casts and not passive. The child's interest was always similarly stipulated. Further, its advantages might help reduce other substance dependents such as clubs, bars and narcotics and so on.

Benjaporn Panyayong (1993) a child psychologist, the Psycho-Health Center viewed that its advantages were thinking. Some games helped edging intellectual in analyzing to solve problems but just some games only. But if teamworking was trained for them, it might be more benefitful for team-solving. Emotion of playing games was another way helping lighten stress, aggressiveness and gaining emotional enjoyment.

Jeffy Goldstein (1995) a child psychologist from Trete University, Netherlands asserted that VDO games supported education and less impacting than other violent programs in TV. Violence in VDO games were all graphics whereas in TV presented real violence (Arbhabhon Piyavej, 1995:28)

John Konrath stated major cause of violence in VDO games were action and impractical to life. Actually, such actions were depended on situation such as we could not carry AKA gun outside home and wiped out the McDonald (www.theroc.org/roc-mag/textarch/roc15/roc15-08.htm).

2.3.2 Disadvantages

Besides advantages claiming opportunities for children to train their skills, disadvantages from computer games had been collected by Chulalongkorn University (cited in workshop of Impact of VDO Games against Children, Chulalongkorn University: 1993) as below.

Suparat Eksomtaramet (1993) a child psychologist, the Psycho-Health Center stated when children were in games they were in their worlds. It was a one-way communication because the games had no emotion, no thanks, no apology, and might de-skill on social association or relation among people around them.

Benjaporn Panyayong (1993) a child psychologist, the Psycho-Health Center viewed that behavioral disadvantages even children claimed having friends but personally, it was not so just only truants to play games. It supported negative behaving and emotion, no movement in other part, no skills for movement, no language and listening skills learnt. So, children lacked learning on emotion and interactions.

Phannasri Somsopha (1993) a guidance teacher from Wat Borvornniwet Public School stated on the disadvantages that it caused truancy to play games feeling great and challenging. This led them to be the underachievers.

Sakulyuch Horphibulsuk (1993) – most children spent time playing games ignoring other things such as running for exercises and might also damage their eye-sights.

Arbhabhon Piyavej (1995) – electronic playthings critically affected verbal language or emotion or attitudes. Meaning, samples preferred fights expressed

on killing enemies as totally eliminating problems and their attitudes were killing others before they killed us.

2.3.3 Impact on players

Besides advantages and disadvantages of playing ocmputer0game behaviors and through workshop on impact of VDO games against children; comments and articles collected by Chulalongkorn University (cited in workshop of Impact of VDO Games against Children, Chulalongkorn University: 1993) were:

Sakulyuch Horphibulsuk (1993) stated children spent most time on playing games neglected other things such as running for exercises and might affect their eye-sights.

Look-rak Magazine (1993) presented an article related to the consequences of VDO game playing that this contemporary play sets of modern children attracting countless children but creating great worries to parents and teachers because the game-addiction children were similar to addicts and days with games leading to inertia and lost interest to learn or completing other housework and their duties.

Satien Wongsarnsert (1993) Associate Den of Faculty of Engineering, Chulalongkorn University stated the aggressive fight games with unending dying cartoons and rising to continue fights causes passiveness with wining over violence. During playing games, they participated with it, co-assaulted within the game. Quantity of emotion and participation tended to create violence.

Yongyos Protprakorn (1993) a computer scholar stated about the impact of VDO games over children in a workshop on “Cruelty Down Deep” organized by a working committee for children that it affected children physically when they over playing games leading to loss of eye-sight because of focusing on TV screen where it was diffusing the ultraviolet. Besides, toward the game end, players would be peak aroused, felt exhaustion because of throbbing. Had they regularly exercise, there would be no problem because their heart muscles worked all the time. If being weak or irregular heart-beat, it led to high blood pressure and might get shock easily.

Sopha Choophikulchai (1993) a psychologist for child and a lecture of Faculty of Social Sciences and Humanities, Mahidol University stated content of plays would be absorbed into subconsciousness of children. They became aggressive and turned them underachievers. They only concentrated on VDO games only and failed / When they played they focused winning and when their parents called for other errands they raged because disliking disturbers and senseless with time during playing.

Amphol Soo-amphan (1993) Head of Child Psychiatry Unit, Chulalongkorn hospital gave interviews to the Nation a newspaper that VDO games even useful in helping develop relativity of senses of touch for eyes and hands but more damaging rather than benefiting. Children easily changed mood and were bias, e.g. moodiness, aggressiveness, and degrading on marks with impoliteness and impulsiveness.

Udomsilp Srisaeng-ngarm (cited in Arbhabhon Piyavej, 1995:1) stated on effects over health of players in his article entitled ‘Warning VDO-mania of Chorea.’ He noted that play VDO endangered for the epileptic especially the hidden ones because when playing, it stimulate enjoyment in brain causing chorea or stress and leading to critical chorea.

Prasert Pholpalitkarnphim (2002) a specialist on child psychiatry stated that games were not only making mental addiction but also damaging the body because they were manufactured for children to stare. And more staring meant less blinking causing platycoria accelerating signals rushing to the central nervous system and producing dopamine to respectively activate the nervous system. Advantages were children were over enjoying, over sighted, and more forceful; like taking amphetamine and difficult to withdraw. This caused longing to play again. So, games cause children on time lost, ill-sighted, ill-health, bewildering and impatient. More critical was that epileptic children might be more epileptic and those never had been, might be affected. (The Naewna Newspaper, January 26, 2002).

2.4 Laws and policy in controlling internet

2.4.1 Laws about internet

Thailand coded the Computer Acts BE. 2550(2007) directly covered Internet affairs but unclear on controls of game-addiction youth which was the heartache to parents. The Criminal Codes were applied in most lawsuits on insult and the Acts of Promoting Indecent Adultery (Chart Prachachuen cited in www.matichon.co.th: March 3, 2005).

Problems of the game-addiction children worried parents and not just around home but gradually broadened into the social problems. They were so serious as chaining them at homes when finding no way-outs hoping for sharp withdrawal as they often found in newspapers. These might be just petty parts of problems really occurred and displayed for societies to acknowledge. This problem was found under the roofs of many thousand homes with different severity.

The Ministry of Education itself with laws but only protecting students and cannot arrest as one-stop-service. Turing to the Ministry of ITC, which should be the most well-prepared being the owner of information, manning full personnel with advanced knowledge. It also persuaded the government to issue rigid measure controlling the Internet Café to frame 4 following problems. (Source: The Thairat Newspaper)

1) Restrict hour-plays for children of less than 18 years of not playing games more than 3 hours.

2) Prohibit luck gambling.

3) Regulate to register the Internet shop for supervision and

4) Campaign with parents to realize punishment of prolong playing games

2.4.2 Policy of controlling internet of Ministry of Commerce

ICT of the Ministry of Commerce regulated to register the Internet Café nationwide Year 26 Copy 3457(2657) to issue the ministerial rules enforced business practitioner of the internet café to apply for registration with regulating even the open-close hour and age-limit after 22.00 hrs., including invited them to find out problems.

Bhumin Leetheeraprasert, MD and the Chair Counselor Board of the Ministry of ICT in developing the e-society disclosed with the Prachachart Dhurakit" newspaper that after Suraphoing Suebwonglee, MD the minister of ICT had met with the private sectors to find remedial measures on children and youth addicting games. At that moment, the board accelerated and especially focused on law enforcement as referendum to regulate the ministerial rules because during waiting for the Draft and its enforcement, it should have taken another year and it would be too late.

In regulating the obligations of the practitioners of the internet café, they had to register for license at the Ministry of Commerce, where environment and obligations would be fixed such as open-close hours, age of clients after midnight, and liquor sales prohibitions and so on.

Bhumin stated that in the past the internet cafes were without controls for whom ever wanted without license. However, the ministry called for meeting with them during the end of the month to examine to what extent measures covered and appropriate. By initial inquiries with the business practitioners, it fit time limit for youth aged less than 18 years and not to exceed 23.00 hours. Practitioners agreed on the matters and seeking police assistances for the stance alike other entertainment places, in general.

The case of shut-down servers of the service providers after midnight, Bhumin stated that such proposal was too wild since it discriminated private rights besides youth. The target of this meeting was to seek control measures for using the services of the internet cafes. The case of children played at home, their parents had to eye them because shutting–down servers not to provide services for all discriminated other rights who played games for relax during night hours after works but could not find from the café services.

The case of the ICT request the company owning the paten of Ragnarok program submit registered clients around 600,000 members for analyses of customer base group. By reason, the past criticisms were just from feeling and needed to clear data that which group played online games.

A news source among the online providers stated if content of online games at that moment, whether the Ragnarok or other programs, their contents were not violent. The intention of the games was to build community of those with similar

taste via internet which is alike web board. The difference was the online games connect servers worldwide. It was commented that real track of problem solving was to cultivate the consciousness among children enable them to management their time correctly (Prachachart Dhurakit, cited in www.thaicleannet.com).

2.4.3 The cabinet policy in controlling internet

The Cabinet approved the first 4 rigid rules of age limit of less than 18 years could play online games not more than 3 hours a day, forbidding luck gambling, trading items, registering internet shops and campaigns for youth and parents to be conscious of danger in over playing games and pass on the matter to the Ministry of Interior for ministerial rules drafts.

Jakkapop Penkhae, speaker of the office of the Prime Minister voiced after the cabinet meeting that cabinet agreed with measures of online game controls as being proposed by ICT. Reasons, in the past, countless numbers of youth less than 18 years spent time like the games online maniac. Researches from abroad found that playing game caused addiction. And prolong playing made the mind helpless to distinguish reality. Some reports proposed to the cabinet in abroad pointed that games addiction for more than 3 hours was alike using some types of narcotics unable to detect truth and untruth. This considerably affected the mind and enabled to create mental disorder of restlessness, stress or exhaustion. They had happened in Thailand even yet endangering.

The Cabinet approved 4 initial measures to control games online, i.e.

1) Limit play-hour for game online of youth less than 1 8 years for not more than 3 hours.

2) Forbid gambling, luck draw and trading items

3) Regulate on registration license of internet shop for supervision of service

4) Campaign among youth and parents to realize dangers of games online for prolong playing.

The Ministry of Interior proceeded to regulate the ministerial rules enforced but at the moment it had to use the “Initial Measure’ because the it was far more critical than what was specified such as youth spent entire night and returned in

the morning, luck draws, gambling among game onliners more, enticement to spent more time on games such as the Marathon games or some contest for some groups. These damage minds and body of the Thai youth and counted countering policy in the HR investment of the nation.

To be as guide in surfing internet safely and with confidence that websites youth entering found no danger disguised; one should realize the good website, not harming-hidden for youth and their qualities so that they could be recommended for youth to further visit.

2.4.4 Policy to control internet shops

Clear announcement of programmers, individualities, groups or organization should indicate clear resources. Website creators must allow comments, criticism and question from users. Owners must be responsible on all information on web window either contents, wording, patent and all ownership on the webpage. Illegal websites must totally not be referred or linked. Objectives of creating websites must be clear, evident indication of the purposes such as for trade, for knowledge, and of entertainment and so on. Contents must be relevant to the purposes emphasizing creativity and development. Contents must be properly meaningful and useful for both knowledge and entertainment. Each page should have proper time for loading and not too long, regularly used and stable with identity respondable for each one. There must be clear introductions without private data upon visiting the website. Considering and introducing a website for youth security, it was indispensable to correctly encourage experiences and increasing judgment for them to use upon visiting the website. Then playing internet would be more secure for all.

2.5 Learning achievements

2.5.1 Definition of learning achievements was:

Sudham Janhorm (1976:19 cited in Renoo Jankuyom, 1995:26) defined that learning achievements were studying results, i.e. knowledge, skills and various abilities students gained from instructions, totally called learning achievements.

Paisarn Wangpanij (1983: 89 cited in Renoo Jankuyom, 1995:26) defined it as individual ability gained from learning, instructions, changing behaviors and learning experiences gained from training and instructions.

Puongkaew Kojathanont (1987 cited in Renoo Jankuyom, 1995:26) defined it was knowledge, understanding, ability, academic natures and brain capacity such as intellectual levels, thinking, solving problems of children expressed in marks tested in the learning achievement test or reports in both writing and speaking.

2.5.2 Factors affecting learning achievements

Learning achievement in the learning process of the learners whether high or low depended upon many factors as many psychologists and scholars noted (Prasit Saichomphoo, 1996:21-22)

Bloom (1967) stated about studying theory in schools that there were 3 factors influencing learning achievements;-

1) Cognitive Entry Behavior – prior knowledge, ability and skills of learners.

2) Affective Entry Characteristics – motivation driving learners to learn new things, i.e. interest in subject learnt, attitude over subject contents, and institutionalizing acceptance of self-ability and so on.

3) Quality of Instruction – learning efficiency gained by learners such as guidance for application and motivation of the teachers for the learners and so on.

Klausmier (1961 cited in Bussara Chanont, 2533:41) defined that factors influencing learning achievements were not only learners and teachers but also other factors affecting learning such as home, environment and personal studies of learners and so on. He proposed 3 factors as below.

1) Traits of learners – promptness of brain, intellectual, body and the physical ability and mental traits, i.e. interest, motivation, attitude and values, health, self-comprehension, situation comprehension, age, and gender and so on.

2) Traits of teachers – intellectual, sound on subject taught, developing knowledge, physical skills, mental traits, health, self-comprehension, situation comprehension, age and gender and so on.

3) Behavior between the teacher and the learner – interaction especially between knowledge and thinking, techniques for teaching the physical skills, mind and moods and so on.

4) Group traits – structure, attitude, unity and leadership and so on.

5) Identity traits – response, tools and devices and so on.

6) External drive – home, environments, art and culture influences and so on.

Prescott (Prescott, 1916 cited in Bussara Chanont, 2533:43) conducted surveys for 30 years to investigate factors influencing learning achievements of students and found that

1) The Physical factors – rate of the physical growth, health, defects and gestures.

2) Love factors – relation between father and mother, parent and children, relation among children, and relation with family members.

3) Cultural and socialization factors – customs and traditions, family lifestyle, residential environments, training from home and family status.

4) Peer group factors – freeing group of the same age at home and in school.

5) Self-development factors – intellectual, interest, attitude over learning.

6) Self- adjustment factors – problems of adaptation and problems of emotional expressions.

It is concluded that factors influencing learning achievements of learners contained personal traits – interest, attitudes over things, intellectuals and health. Environmental traits contained residence, schools, economy, attention of teachers and parents, peer relation and so on. All these factors could be supported by teachers and parents in order to improve learners' situations.

2.5.3 Related researches of computer games and learning achievements

Debra Lieberman 9 cited in Worrapoj Puongsuwan, 1998) studied Television and Computer: Children's Pattern of Media Use and Academic Achievement. Survey was conducted in 5 schools in California with K4, 5, 6, and 8

comparing the primary levels with the secondary levels in order to investigate nature of using computers, learning, and programs, doing homework by computer, paying games with micro-computer, playing games at game-shops in department stores, and game shops in general. She found that playing computer games had relationship with the economic status and in most societies; the males were players and gained poor learning achievement, less watching TV and poor imagination.

Rabhibhon Maniwong (1990) studied Relationship between Factors of Playing Games and Learning Achievement of the Junior Student Year 1 in Bangkok. She found that playing VDO games containing factors leading to learning supports. Factors de-achieving learning such as finding repetitively negative factors from both analyses and within 2 schools, i.e. playing games in shops with hiring sets. This was to confirm that problems concerned many involved persons that children rent game sets from shops spread around Bangkok. This made children without game sets at home spent time and money with shops, uninterested in learning and retuning home unpunctually.

Vibha Udomchan (1987) studied Affects of VDO Games over Japanese Children. She found that VDO games more or less affect Japanese children even no evidences to confirm but turning them less achieving. However, 63.6% of parents pointed out that VDO games affected their children 60.6% and they dislike them to play.

Somporn Suthassanee (1987) studied Factors Relating Causes and Aggressiveness of Students in Bangkok; investigating factors of learning achievement and aggressiveness. She found that the learning achievement was a variable indicating an extent of achievement or failure. Had the learning achievement been poor, it prove being failure. It was counted a variable impulsive to oppression leading to aggressiveness. Many researches found that high learning achievers had proper socialization while the poor achievers had aggressive behavior. Those were found in the researches of Mitchell and Shepherd (1966: 248-254) surveying 6,300 children aged 5 and 6 years in the public schools of Buckinghamshire. Parent responded questionnaire of their children's learning achievement. Problematic behaviors at schools were self-inadaptability and aggressiveness. Those reported by parents of bias on crying, and nail biting would find problematic at schools such as aggressiveness,

stealing, lying, aggressive behaviors and negative relationship with learning achievement.

Suk Dejchai, Jiraporn Meesomsap and Naphon Samma studied Psychological Factors Contributing to Academics Achievement on what psychological factors affecting learning achievements and also found that aggressiveness had relationship with learning achievement. Goldstein and Hilburn (1962) fund that high ability groups had negative relationship with means of learning scores and needs of aggressiveness. Meaning, high ability person with poor learning outcomes had strong aggressiveness. So, aggressiveness influenced learning outcomes in health subjects and physical exercises, Mathematics and Foreign Languages.

2.6 Aggressiveness

2.6.1 Definition of aggressiveness

It was divided into 3 definitions as found from literature reviews as:-

2.6.1.1 Emotional

It was a concept that aggressiveness was to burst out rage caused by individuals or things to make rage and its levels gradually heightened till unable to control and needed to express aggressiveness. For example, being belittled or provoked, and disheartened at first it might be red face, and clutching hands with rage. When it grew stronger, it charged for assault or violent aggressiveness to the provokers. Sometime, one could only get angry and self-harming such as fisting, crunching jaws or lips bite till pains.

2.6.1.2 Motivational

It emphasized motive allowing individuals acted violently and more aggressively. Acting aggressively must be with endangering motive against others and made others painful such as the Palestinian terrorists slaughtering the Israelite sportsmen in the Munich Olympic, Germany in 1972 or hijacking and threatening to bomb airline killing passengers in order to demand the government surrendering to their conditions raised.

So, definition of this aggressiveness was interested in the rationality behind it rather than action.

2.6.1.3 Behavioral

It was referred to the response to arousal endangering to other organs or harming other properties (Buss, 1961).

Discussing the definition of aggressiveness; Feshbach (1964, 1971) observed that even it was defined causing dangers or harming other to certain extent but some aggressivenesses were creative behaviors. Feshbach divided aggressive into 2 things– intentional aggressiveness and unintentional aggressiveness.

The unintentional aggressiveness was referred to action even harming or injuring others but it should not be counted aggressive because the consequences were accidental such as haste and carelessness that harmed other or their properties.

In conclusion, generally, aggressiveness was referred to the intentional endangering other with multiple methods both mind and body. Violence was then a form of aggressiveness but more hostility. Meaning it was the intentional assault or deadly to life (Feshbach, 1971, Berkowitz cited in Pissamai Phibulsawad et al, 1983:202-203).

Besides, aggressiveness was found in many forms based on Buss (1961:6-9) as in following Table 1 (Somporn Suthassani, 1987:2-3).

Table 1 Forms and aspects of aggressiveness analyzed by buss (21961)

Behavior	Active		Passive	
	Direct	Indirect	Direct	Indirect
Physical	boxing	Kidding	Block walkways	Indifference
Verbal	Insulting	Gossiping	Reprimanding	Denying

From Table 1, it was witnessed that aggressiveness was complicated physically and verbally with the nature of active and passive based on Buss. So, it violence was differed in le4vels. Behaving could be direct and indirect. Besides Buss, there was Holm (1984:143-1440 studied violence levels of the physical aggressiveness and found that violence levels started from minor to top major respectively alike pushing, boxing, throwing things to others, kicking, beating (with wood), gunning, and knifing .And, minor consequences of actions were bruises, minor

injury, minor bleeding, broken limbs while major consequences were amputation of arms and legs, and inactivating inner organs.

Here, the researcher defined aggressiveness as the individual behavior improperly acted verbally such as indecent speeches, insulting, or imitating words from games. Improper expression was caused by motive aroused by computer games intended other harms or endangering others. For example, power driven to enemy in the computer games and in real life, children might imitate the casts such as in playing with friends and might harm others.

2.6.2 Psychological theory related to aggressiveness

Arguments were what were causes made human aggressive. Many theories were proposed to explain aggressiveness as below.

2.6.2.1 Instinct Theory and Aggressiveness

The significant and most influential instinct theory was the theory of Psychoanalysis of Freud (Pissamai Phibulsawad et al, 1983:204-205).

In Freud's Theory of Aggressive Instinct, he conceptualized the aggressiveness as a primary drive showing the death instinct. For him, human life contained 2 conflicting forces- life instinct or Eros and dead instinct. He exemplified 2 behaviors of Masochism and Sadism, which came from the death instinct.

Masochism was a tendency that a human increase pleasure through paining oneself caused by one own aggressiveness.

Sadism was a tendency of a death instinct acted to others or troubling others and endangering societies. However, societies acted as middlemen to control this instinct by readjusting deadly aggressiveness expressed in acceptable ways rather than troubling and harming others such as seeking way-out in using violence and replaced by playing some sports, i.e. enmity, hostility or wishes to destroy others, i.e. impulse to kill others such as murderer.

2.6.2.2 Socialization Theory and aggressiveness

Psycho-sociologists believed that human aggressiveness also came from learning like other behaviors. Human leaned from imitation, observation and modeling especially the model, the group believed that learning was more

significant than other methods. Johnson (1972) stated learning from archetype was identical as follows: (Nuansiri Paorojit, 1985:113-115)

1) Knowing new reaction, memory from the model – individuals learned method the model used, which might be the new one unknown before. In addition, watching modeling and imitating was unlikely unerred, i.e. simpler that other methods and need less practices.

2) Help stop/ arouse simple behaving – learning from models gaining two things, i.e. if the model had expressed something and got punishment affecting watchers not to imitate. For example, a girl saw her brother stole money from their mother and got whipping; the girl might steal fearing whipping from the mother. Or, someone in the group dared to model for the group; members might follow the model. For example, among the protest members of bus fare rise and Mr. A. stepped forward started to throw bricks to the guard of the government. The action of Mr. A might be model arousing the other protesters to similarly throw bricks.

3) Help behavior learnt simpler to act – observing models learnt by individuals helped behaving easier and faster. For example, Mr. A pretended to look at the sky in a crowded road of a capital. Results were pedestrians could not avoid imitating Mr. A but looking at the sky.

Psychologists of learning who believed that aggressiveness came from modeling were Bendura, Ross and Ross (1961). Their famous experiment of learning and aggressiveness was they brought a child to a room full of toys to a corner and explained the child to have materials for painting. Later, they brought an adult into the same room in another corner. This adult would not paint but played big-balancing toys by boxing it got 10 minutes. The child could see the action all the time. Later, the child was brought to a new room with many toys and the balancing toy like in the first room; it was found that the child played with the balancing toys violently similar to the model of the adult.

Imitation had been investigated widely as found in Bendura et al. They pointed that example of aggressiveness enabled children to increase their aggressiveness by imitation or called ‘imitative aggression’. Findings of this group confirmed that a good society needed a good model for the next generation to imitate. Findings were further found that children imitated the same gender. So, parents had to

behave as good model for their children to imitate. Imitation needed no action but the observers might keep as memory and when repetitive action found and facilitated by environment, such behavior would be expressed. If aggression was often found and surplus, that aggression might be easily acted. (Noppamas Theerawekin, 1991:111-112).

2.6.2.3 The Reinforcement Theory and Aggressiveness

Many researches pointed out the important role of learning process by reinforcement that individual behavior came from learning from environments containing direct experience on its reward of punishment to of the action and learning from other behaviors. Reinforcement of individual levels was not only with materials but also favoritism.

Bendura (1973) rewarded or punished and the more the aggressiveness being reinforced; tendency of behaving was more likely. For example, individual was frustrated by hindrances to reach target or moody because of constraint, the person might run for assistance or avoided the situation. Some might be aggressive and some might overcome the obstacle. It depended on what method one had used in the past to reduce frustration. (Pissamai Phibulsawad et al, 1983:211-212) or with symbolic reward such as medals, score and also giving meaning of attentive care, recognition, praise, supports and acceptance. Many researches showed that the social reinforcement such as attentiveness or recognition for the children' behavioral improvement. For example Brow and Elliot (1965) pleaded teachers in a kindergarten school to pat attention and praise children if they paid concerned to another, speak good with friends, a at the same time taking no interest, wordless, smileless with children who bullied others, aggressive, and indecent speaking. It was found that after 2 weeks aggression in this kindergarten had drastically decreased.

2.7 Concepts and theories of criminology

2.7.1 Socialization theory

Socialization theory or the group dynamics theory or a process of social participation from being animal to be human; instincts turned to be human behavior as a living thing knowing hoe to remind oneself and able to lead one

behavior to the way conforming to expectations of others (Patchanee Choeyjanya; Metta Wiwattanakul; Jiraphan Anuwijsarawong, 1995: 21). The socialization theory was divisible into 2 types: the formal process and the informal process. The first was the learning process from friends, family, and media, which were events in an individual daily life.

In the investigation of the game playing behaviors of the secondary students in Bangkok; it should come from socializing with game-playing among friends and disseminating knowledge, game perception and game playing control by parents which might affect game-playing of students as well.

2.7.2 The uses and gratification theory

It prioritized recipients as users choosing to use different media and its themes to meet their own needs. Datch et al explained as follows (Peera Jirasophol, 1978:634-636):

1) Social and mind condition, which caused;
2) Individual needs that had
3) Expectations from media or other news sources and led to
4) Openness to receive media in different forms that gave results of…
5) Gaining satisfaction as expected.

The concepts showed that individuals chose media as needed or their own motive with objectives, and usefulness to differently meet their own satisfactions and reasons (cited in Peera Jirasophol, 1978). Considering factors of satisfaction on media was concluded as follows:

1) Satisfaction gained by 2 sources, i.e.

1.1) Gratification Sought – what an individual expected to find from media. For example: a businessman or a marketer used to read business magazine rather than other general types. Or, to buy a new car, a person bought a car magazine to read as chose the most popular magazine because fame owned accountable data.

1.2) Gratification Obtained relied satisfaction in application of media. For example: recipient satisfied with media received was likely to subscribe. This was witness with buying movie series. If the first series was satisfactory,

audience would follow the second one. Or examples above; the businessman or a marketer chose business magazines than other general ones believing that the business magazine provided what they want. And, at first, they might choose many magazines but after gaining data, they chose the best one and subscribed it.

2) Media structure was the nature to directly respond the gratification-sought, if satisfaction and opportunity obtained were relevant (Wibul, 1985). The structure was divided into 2 levels, i.e.

2.1) Quantity – a seekable media meant media easily sought when needed such as car magazines if individuals needed car information, they were bought the best one. If it was not found, individuals would seek other compensation.

2.2) Quality – accessible to recipients or meet the recipients' wants – if need a physical exercise manual, the seeker might buy a manual or VCD of exercising meeting the needs and nature of the news seekers.

Relevancy of seeking was the ability to access media of the recipient as seen in the example of VCD for exercising worth their needs. But if the recipients were unaffordable, they would choose a manual, which was cheaper.

3) Media Effect – it was divided into 2 categories, i.e. (Palmgreen, Wenner, and Rosengreen, 1985)

3.1) Gratification Obtained – depending on perception and interpretation of each individual; and

3.2) Other Consequence – it might affect perception, attitude and behavior expressed.

2.7.3 The diffusion of innovation theory

Innovation was a new thing entering societies accepted or not accepted. This theory stated accepting any innovations relied on individuals, communication system, the innovation itself and duration (Rogers, 1962 cited in Sanya Sanyawiwat, 1988:67-68). Adoption process contained 5 steps, i.e.

1) Awareness of the innovation existence – individual perceived new things entering societies or new products launched.

2) Interest in innovation – realizing new things or new products, there was interest and if there were, the following process proceeded.

3) Estimating innovation of its worth or acceptable values: and if there were, the following process proceeded.

4) Experiment – after estimation and found worth there would be experiment or using some parts.

5) Adopting innovation – after test and found worth, useful and proper; the innovation was adopted.

There were 5 factors creating innovation adoption, i.e.

1) The innovation adopter – in the same society under the same culture some adopters might adopt faster or slower about innovation.

2) The social system – the society must facilitate to adopt innovation e.g. hill tribes were differed from the urban societies in adopting innovation.

3) Communication – disseminating of innovation relied on communication to have adoption process at first stage. If the communication process of the society, the family or the individual were strongly efficient, more information was received and opportunity for innovation adoption was greater.

4) Innovation itself – it was a new thing, if its attributes met the social needs; dissemination would be rapid by individuals.

5) Duration – adopting innovation could be viewed in 2 aspects, i.e. depending on considerable time. On the other hand, duration of opening to adopt innovation fit the society. If fit, dissemination would be rapid and widespread.

2.7.4 Psycho-development theory

This theory stated human development since infancy evolved around physicals, crawling, sitting, standing, and walking all together. Development of thinking, emotion, personality and social were the adaptability to environments. Adjustment and expressions came from 2 processes (Sucha Jan-em, 1997:33-34), i.e.

1) Assimilation – a process to adopt experiences to be their own: children reacted to new things by their experiences. For example, a 2 year old child loved playing dolls by tossing and shaking, when it played a plane-toy or other toys, it would toss and shake those toys.

2) Accommodation – a process to readjust understanding or previous experiences to meet new environments. Had the child been able to learn that plane could fly, it would change new way of playing rather than tossing and shaking.

Piaget divided developments of cognition, thinking, and intelligence into 4 stages, i.e.

1) Sensorimotor Period – the child behavior of movement and it could not separate itself from environment. It ages were 0-2 years.

2) Pre-operational Period – the child at the age of 0-2 years was divided into 2 periods, i.e. the Preconception Thought : at this stage, the child did not understand reasoning assuming to be the time of imagination improved into period of 2-4 years and entered into the Intuitive Thought during 4-7 years. The child knew reasoning but just the nature of perception and understanding. If it believed, it would not change its thought. For example, the perception of size, if the child knew the size of a round object and asked to oblong it, the child would say it could not.

3) Formal Operation Period: 11-15 years- this was the top development in understanding; the child could solve problems constructively such as thinking like adult, able to solve complicated problems. Psychologists believed that cognitive development grew till old aged.

By nature of periodic development, various game productions had been categorized by age preferences of the players. From behavioral studies, playing computer games of the secondary students was focused on secondary education population by their class development among the junior secondary and the senior secondary under the dimension of intellectual development based on age criteria.

2.8 Related researches

Related researches of computer game playing children were emphasized on impact of playing games over behavior including researches studying negative impacts and those not.

2.8.1 Related researches on negative impact

Vibha Udomchan (1987:40) studied Impact of VDO Games. Senior children's opinion was investigated and parents and found that prolong playing games

cause blindness and learning results. But no evidences confirmed whether playing VDO games made studying poorer. However, children said playing games caused excitement, and enjoyment. Recommendations on playing games were 97.2% suggested the appropriate playing and only 2.8 % suggested not playing.

Kulthida Dhambhiwat (1990:109-110) studied Opinion of Father and Mother on Behavior Caused by Openness to Receive Media of VDO Games. She found that behavior of children came from VDO game playing at 66.8%; aggressiveness at 33.5% and violent aggressiveness at 2.7%. Impact on study was little. Just 13.1% found that openness to receive media VDO games turned children to have low in learning. Most parents were keys in controlling their children playing games but not participating in selecting games for their children but there was perception on behavior to receive Media VDO games at high level.

Rabhibhon Maneephong (1990:78) studied Relationship between Factors of Playing Games and Learning Achievement of the Junior Secondary Students Year 1 in Bangkok. She found that playing VDO games contained factors supporting learning and factors causing to poorer studying.

Arbhabhon Piyavej (1990:94-95) studied Impacts of Electronic Playing Machine against Communication Behavior of the Junior Secondary Students under the Department of the General Education: a case of schools in Bangkok. She found that playing VDO games did not affect open to receive media and information by chat but strongly affected attitudes, and emotion. Samples preferred playing fight games express that killing enemy completely solved problems.

2.8.2 Related researches on positive impact

Petchchomphoo Theppipit (1990:73-78) studied Relationship between Favorite of Comic Books, TV Programs and Computer Games with Aggressiveness of Senior Secondary Student K.12 in Bangkok. He found that students preferring computer games tended to be more aggressive. But those preferred reading comic books and TV programs were not more aggressiveness. Comic books, TV programs and computer games with positive and negative themes having casts expressing aggressiveness physically an emotionally would be imitated by children through observation, memory and directly learned from the computer games as “Press and

Kill" When a child pressed and able to kill, he got score increased based on concepts of reinforcement and with curiosity the child would imitate. Then after passing a base, the child would be curious about the next base.

Liebeman (1981: 95) studied Television and Computer: Children's Pattern of Media Use and Academic Achievement. It was conducted among 5 schools in California with K.4, 5, 6, and 8 to investigate nature of using computer, learning, and homework by computer, playing games through micro computer and playing games in department stores and game shops in general.

1) Working on computer had also relationship with economic conditions. Those having computers at home should have better affordable economy and the male used computer more but less socializing than the female.

2) Playing computer games had relationship with economic conditions and societies at large. Players were mostly males but with low reading achievement, less watching TV and poor imagination.

3) Playing games in department stores had relationship with economic conditions and male were most players in most societies, disliked reading and less watching TV.

4) There were differences between males and females especially, the males had more activities with computers.

Vibha Udomchan (1993:42) studied Attitudes of Adults and Children over VDO Games. A comparative study of data collected from Japan in 1980. Interest issues were found that attitudes over VDO games of the Thai children were more positive than the Japanese children. Thai children had less opportunity to play games; 97% for the Japanese children and 94% for the Thai children.

Strein (1987:70-72) studied Effect of Age and Visual Motor Skill on Preschool Children's Computer game Performance and found that there was relationship between age and ability in building and perceiving with playing VDO games. Studies were conducted among children during studying. It was found that age positively affected playing games. On the contrary, it was not found that perceptive skills affected playing games.

Griffith and Hunt (1995:189) studied Computer Games Playing in Adolescence. It surveyed the first hand players. How did they play? Surveys

conducted among 387 samples in UK. It was found that these youth played games 30 hours by average per week and there were no significant differences between male and female. Observations were the male more regularly played and with theme of violent games. Female loved enjoying games and entertainments. Those were major causes in choosing games among youth in UK.

Investigating playing computer games of the secondary students in Bangkok this time obtained the theoretical concepts from the related researches to set the frame work and model of:

- The Socialization Theory to be as guide for disseminating knowledge among children to be disseminators or recipients.

- The Social categories Theory and the Psycho-development and learning theory leading to distributions of gender, education based on learning development of each level.

- The Uses and Gratification Theory to determine categories of media students regularly perceive base on this theory and ability to access media. Most media used in this investigation were popular among the secondary students by media sought to meet their satisfaction and had the same direction. Meaning, media with theme required and perceived but id insufficient, received other ones with similar themes. This investigation concentrated on category of games and categories of media to compare their relevancy based the works of Petchchomphoo Theppipit (1990) studying Relationship between Favorite of Comic Books, TV Programs and Computer Games with Aggressiveness. His work was adopted as factor of violence but this research was to test the relationship of the theme, linkage between the modern media students perceived.

There were some issues influencing this research from the related researches above, i.e. the work of Rabhibhon Maneephong focusing factors supporting learning that VDO games made learning poorer. If children learned through computer, there might be similarly positive relationship with knowledge on IT. Lieberman (1981) found differences in genders in playing games. The works of Griffith and Hunts, (1995) supported these findings. They should also be tested with the Thai children who have opportunity to play games through computers whether were there similar effect. In addition, Strein (1987) stated about relationship between

age and games playing were differed, it was corresponded with the psycho-development as stated. Also, Arbhabhon Piyavej found that there was no relationship between the games and media perception and scoped only in Bangkok premises and the junior secondary students. This research has been broadened to other areas.

From the reviews of the related documents and researches above, it was concluded that most Thai children and youth favored computer games especially the male favored excitement, hot, and violence. The female favored games of education. Comparing the male and the female, the male played games more than the female. The primary students were more bias than the student in higher education. So, parents and working units involved should be strict and control their playing more. Young children should not play long hours of games to prevent them from biases but being useful to oneself and for the common good.

2.9 Related research in abroad

Strein (1987:70-72) studied Effect of Age and Visual Motor Skill on Preschool Children's Computer game Performance and found that there was relationship between age and ability in building and perceiving with playing VDO games. Studies were conducted among children during studying. It was found that age positively affected playing games. On the contrary, it was not found that perceptive skills affected playing games.

Griffith and Hunt (1995:189) studied Computer Games Playing in Adolescence. It surveyed the first hand players. How did they play? Surveys conducted among 387 samples in UK. It was found that these youth played games 30 hours by average per week and there were no significant differences between male and female. Observations were the male more regularly played and with theme of violent games. Female loved enjoying games and entertainments. Those were major causes in choosing games among youth in UK.

From the reviews of the related documents and researches above, it was concluded that most Thai children and youth favored computer games especially the male favored excitement, hot, and violence. The female favored games of education. Comparing the male and the female, the male played games more than the female.

The primary students were more bias than the student in higher education. So, parents and working units involved should be strict and control their playing more. Young children should not play long hours of games to prevent them from biases but being useful to oneself and for the societal good.

CHAPTER 3
RESEARCH METHODOLOGY

A survey research was conducted to investigate the Individual factors, the Family factors and the Social and environmental factors affecting games addiction of children and youth; games addiction affecting learning achievement and factors of playing games affecting aggressiveness of children and youth in the secondary level within the Bangkoknoi and Bangkokyai. The researcher conducted the methodology as below.

- documentary Study by collecting data related to the concepts, theories and related researches from document and official documents what the researcher had already reviewed.

- collecting data by using a modified questionnaire to be as tools in data collection for further analyses.

Research methodology was as follows:

3.1 Population and samples

They were 350 students studying in the junior and senior secondary levels in the Bangkoknoi and the Bangkokyai. All would be investigated and there was no need in sampling.

3.2 The formulation of the instrument

A questionnaire was the instrument in this research. The researcher had modified from reviewing documents and related researches in order to form the instrument covering the content of the investigation and for data collection. Procedures were:

3.2.1 Formulating a questionnaire

- conceptualizing form reviewing textbooks, academic papers, related theses and research reports.

- setting content of the questionnaire covering contents of the study enabling to answer facts conforming best with the research objectives.

- the draft questionnaire was submitted to the advisor, experts and the specialists for checking to gain better improvements with precision, clarity and content validity. Checking was focused on validity and reliability by 3 experts and the improved questionnaire was protested with 30 secondary students at Wat NaiRong Public School.

- The re-improved questionnaire was used in final data collection.

3.2.2 Essence of the questionnaire was divided into 5 parts:

Part 1: Personal data of children and youth, i.e. age, gender, education, learning expenses, games expenses, playing behavior, and learning achievement.

Part 2: Social structure in family – an assessment modified from nurturing children and relation within family based on Nitaya Ratreewijit (2001:95-97) fitting the research objectives, fieldworks and samples in this research.

Part 3: Social and environment factors

Part 4: Behaviors of different fields

Part 5: Opinion of consequences in playing games over learning achievement.

3.2.3 Questions' characteristics

Questions were characterized in 2 types, i.e.

1.) The close -ended questions with choices

2.) The rating scale questions based on Likert's Scale

Descriptions to measure variables contained both positive and negative. The positive descriptions were relevant to meaning of the variables needed measuring while the negative descriptions were meaning opposite to what needed to be measured. They were alternated to prevent biases. Rating scales were divided into 5 levels, i.e. strongly agree (SA); agree (A); uncertain (U); disagree (D) and strongly

disagree (SD). Scoring would have been alternated as below.

(Likert's Scale)	Applications	Positive Item	Negative Item
Strongly agree	Most	5	1
Agree	Much	4	2
Uncertain	Moderate	3	3
Disagree	Little	2	4
Strongly disagree	Least	1	5

Mean score were divided into 3 levels, i.e.

Positive

1.00 – 2.33 meant little affecting learning achievement

2.34 – 3.66 meant moderately affecting learning achievement

3.67 – 5.00 meant much affecting learning achievement

Negative

1.00 – 2.33 meant much affecting learning achievement

2.34 – 3.66 meant moderately affecting learning achievement

3.67 – 5.00 meant little affecting learning achievement

3.3 Testing the instrument reliability

3.3.1 Testing content validity

The draft questionnaire was tested on it content validity by submitting it to the advisors, experts, and specialists to check its content validity, linguistics, and accountability of the questions, for improvement and relevancy. After this process the research had re-improved the question again.

3.3.2 Testing reliability

The improved questionnaire had been conducted form its try-out with 30 students of similar attributes at Wat Nai Rong Public School and it is based on Cronbach's Alpha Coefficient as following formula.

$$\alpha = \left[\frac{n}{n-1}\right]\left[1-\frac{\Sigma s_1^2}{s_1^2}\right]$$

α = reliability of the questionnaire

n = number of the questions

S^2_1 = variation of each item

Σs^2_1 = sum of the variation of the total score

Alpha (α) = 0.85

Results were reported to the advisors, experts, and specialists till being approved for further data collection.

3.4 Data collection

The researcher had collected data by himself with following procedures.

3.4.1 Recommendations were requested from the joint-program of Faculty of Medicine, Siriraj Nursing Science; Faculty of Social Science and Humanities, and School of Criminology and Criminal=Justice, Mahidol University to the Directors of the schools in Bangkoknoi and Bangkokyai zones seeking cooperation in data collection among students.

3.4.2 The researcher explained the research objectives and details of the questionnaire before resuming data collection.

3.4.3 All data were inquired to cover all factors and rechecked for their completeness.

3.4.4 All 350 samples were collected and they were encoded for further analyses.

3.5 Synthesizing data

Al questionnaire were grouped by their variables for analyzed. SPSS was used in this application for interpretation and presented with description and tables.

3.6 Statistical application

SPSS was used and relevant statistics were applied as follows:

1. Percentage
2. Mean
3. ANOVA
4. M.C.A
5. Multiple Regression Analysis

Level of statistical significance was at 0.05

CHAPTER 4
RESULTS

Results of ‘a Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai’ were divided into 6 major parts as follows:

4.1 Personal Factors

4.2 Family Factors

4.3 Social and Environment Factors

4.4 Different Behavioral Factors

4.5 Opinion of Playing Games against Learning Achievement

4.6 Tests of Hypotheses

Table 2: Frequency and percentage of samples distributed by personal factors

Personal Factors	**F = (350)**	**% = (100)**
Age		
12 years	8	2.3
13 years	36	10.3
14 years	76	21.7
15 years	65	18.6
16 years	53	15.1
17 years	63	18.0
18 years	43	12.3
19 years	6	1.7
Gender		
Male	117	50.6
Female	173	49.4
Existing education level		
M. 1	24	6.9
M. 2	72	20.6
M. 3	67	19.1
M. 4	52	14.9

Table 2: Frequency and percentage of samples distributed by personal factors (Cont.)

Personal Factors	F = (350)	% = (100)
M. 5	66	18.9
M. 6	69	19.7
How do parents pay for your going to school?		
Daily	259	74.0
Weekly	66	18.9
Monthly	25	7.1
Daily amount		
10-50 Baht/day	41	11.7
60-80 Baht/day	96	27.4
90-110 Baht/day	79	22.6
120 Baht/day	44	12.6
No response	90	25.7
Weekly amount		
300 or less than 300 Baht/week	15	4.3
400-600 Baht/week	30	8.6
700 Baht/week	20	5.7
No response	285	81.4
Monthly amount		
1000-2000 Baht/month	10	2.9
3000-4000 Baht/month	11	3.1
5000 and more than 5000 Baht/month	4	1.1
No response	325	92.9
Normally in a week you play games…….		
Every day	66	17.4
Alternatively	38	10.9
Some day (once in 3-4 days)	58	16.6
Once in a while or by opportunity	168	48.0
Others	25	7.1
Paying for computer games has been gained from…….		
Self-collection	149	42.6
From father and mother	127	36.3
From siblings	1	3
From relatives	5	1.4
From friends	2	6
Others	66	18.9

Table 2: Frequency and percentage of samples distributed by personal factors (Cont.)

Personal Factors	F = (350)	% = (100)
Normally, you mostly play game during….		
Weekday after school	95	27.1
Saturdays and Sundays	139	39.7
Semester holydays	36	10.3
Special holidays/ festive holidays	29	8.3
Others	51	14.6
During playing computer games, you mostly play with…….		
Alone	142	40.6
Friend	149	42.6
Siblings	48	13.7
Parents	3	.9
Others	8	2.3
You begin playing game at education level of …		
Primary	159	45.4
Junior secondary	152	43.4
Senior secondary	27	7.7
Others	12	3.4
Period of playing games each day		
01.00-04.00 Hrs.	1	.3
04.01-07.00 Hrs.	8	2.3
07.01-10.00 Hrs.	7	2.0
10.01-13 .00 Hrs.	28	8.0
13.01-16.00 Hrs.	108	30.9
16.01-19.00 Hrs.	93	26.6
19.01-22.00 Hrs.	86	24.6
22.01-24-59 Hrs.	19	5.4
Level of your past learning achievement is…		
Poor	14	4.0
Fair	78	22.3
Medium	189	54.0
Good	60	17.1
Very good	9	2.6
Your GPA is		
1.00-1.50	12	3.4
1.51-2.00	29	8.3
2.01-2.50	71	20.3

Table 2: Frequency and percentage of samples distributed by personal factors (Cont.)

Personal Factors	F = (350)	% = (100)
2.51-3.00	126	36.0
3.01-3.50	74	21.1
3.51-4.00	38	10.9
In the past till present you play….. hours a day		
1-2 Hrs.	153	43.7
3-4 Hrs.	135	38.6
5-6 Hrs.	43	12.3
More than 7 Hrs.	19	5.4
Playing games for …….months since beginning till present		
10 months or less	81	23.1
11-20 months	46	13.1
21-30 months	27	7.7
31-40 months	38	10.9
41-50 months	54	15.4
51-60 months	46	13.1
61 months and more	58	16.6
If a day you do not play game, you feel….		
Indifferent	306	87.4
Stressful	11	3.1
Irritating	11	3.1
Others	22	6.3

4.1 Frequency and percentage of samples distributed by personal factors (Table 1)

4.1.1 Samples aged 12 years were 2.3%, 13 years were 10.3%, 14 years were 21.7%, 15 years were 18.6%, 16 years were 15.1%, 17 years were 18.0%, 18 years were 12.3% and 19 years were 1.7%.

4.1.2 50.6% ere male and 49.4% were female.

4.1.3 Samples studying in M.1 were 6.9%, M.2 were 20.6%, M.3 were 19.1%, M.4 were 14.9%, M.5 18.95 and M.6 were 19.7%.

4.1.4 Samples received money from parent daily were 74.0%, weekly were18.9% and monthly 7.1%.

4.1.4.1 Daily received at 10-50 Baht was 11.7%; 60-80 Baht was 27.4%, 90-110 Baht was 22.6%, more than 120 Baht was 12.6% and no response was 25.7%.

4.1.4.2 Weekly received at 300 Baht and less was 4.3%, 400-600 Baht was 8.6%, 700 Baht and more was 5.75 and no response was 81.4%.

4.1.4.3 Monthly received at 1000-2000 Baht was 2.9%, 3000-4000 Baht was 3.1%, 5000 Baht and more was 1.1% and no response 92.9%.

4.1.5 Samples used personal saving to play computer games were 42.6%, from parents were 36.3%, from siblings were .3%, from relatives were 1.4%, from friends were .6% and from others were 18.9%.

4.16 Normally, sample played games during a week by playing everyday at 17.4%, alternated day at 10.9%, occasionally (3-4 times) at 16.6%, play by chances at 48.0% and other 7.1%.

4.1.7 Time of playing games, samples played after school were 27.1%, Saturdays-Sundays at 39.7%, semester holiday at 10.3%, special holidays/festive at 8.3% and other at 14.6%.

4.1.8 Companion of playing, samples played alone at 40.6%, with friends at 42.6%, with siblings at 13.75, with parents at .9% and with others at 14.6%.

4.1.9 Samples started playing computer games during primary at 45.4%, junior secondary at 43.4%, senior secondary at 7.7% and others at 3.4%.

4.1.10 Samples regularly play games during 01.00-04.00 hrs. at .3%, 04.01-07.00 hrs. at 2.3%, 07.01-10.00 hrs. at 2.0%, 10.01-13.00 at 8.0%, 13.01-16.00 at 30.9%, 16.01-19.00 hrs. at 26.6%, 19.01-22.00 hrs. at 24.65%, and 22.01-24.00 hrs. at 5.4%.

4.1.11 Poor achievers were 4.0%, fair achievers were 22.3%, moderate achievers were 54.0%, good achievers were 17.1% and very good achievers were 2.6%.

4.1.12 Samples GPA at 1.00-1.50 were 3.4%, 1.51-2.00 were 8.3%, 2.01-2.50 were 20.3%, 2.51-3.00 were 36.0%, 3.01-3.50 were 21.1% and 3.51-4.00 were 10.9%.

4.1.13 In the past, samples played games a day by average of 1-2 hrs. at 43.75, 3-4 hrs. at 38.6%, 5-6 hrs. at 12.3%, and more than 7 hours at 5.4%.

4.1.14 Since the beginning of playing games till present was 10 months and less was 23.15, 11-20 months was 13.1%, 21-30 months was 7.75, 31-40 months was 10.9%, 41-50 months was 15.45, 51-60 months was 13.1% and more than 61 months was 16.6%.

4.1.15 Samples felt indifferent if not playing games at 87.4%, stressful at 3.1%, irritating at 3.1% and others 6.3%.

Table 3: Frequency and percentage of samples distributed by family factors

Family factors	**F = (350)**	**% = (100)**
What is the status of your family (father and mother)?		
Harmonizing	236	67.4
Occasionally quarrelling	77	22.0
Regularly quarrelling	4	1.1
Occasionally beating	1	.3
Regularly beating	32	9.1
Others		
How is your father and mother‘s marital status?		
Co-stay	232	66.3
Divorce	49	14.0
Separated	42	12.0
Either one deceased	22	6.3
Both deceased	2	.6
Others	3	
Currently, whom do you stay with?		
Father and mother	264	75.4
Sibling	44	12.6
Friend	2	.6
Alone	40	11.4
Others		
Your father’s occupation		
No occupation/jobless	9	2.6
Civil servant	63	18.0
State enterprise employee	13	3.7
Company employee	40	11.4
Private business	48	13.7
Trader	51	14.6

Table 3: Frequency and percentage of samples distributed by family factors (Cont.)

Family factors	F = (350)	% = (100)
Common labor	93	26.6
Farmer	3	.9
Others	30	8.6
Your mother's occupation		
No occupation/jobless	46	13.1
Civil servant	21	6.0
State enterprise employee	8	2.3
Company employee	48	13.7
Private business	52	14.9
Trader	82	23.4
Common labor	68	19.4
Farmer	8	2.3
Others	17	4.9
Your father's monthly average income (every income)		
No income	10	2.9
< 5,000 Baht	19	5.4
5,000-7,000 Baht	63	18.0
8,000-10,000 Baht	40	11.4
9,000-12,000 Baht	58	16.6
12,000-15,000 Baht	34	9.7
> 15,000 Baht	92	26.3
Others	34	9.7
Your father's monthly average income (every income)		
No income	39	11.1
< 5,000 Baht	33	9.4
5,000-7,000 Baht	83	23.7
8,000-10,000 Baht	42	12.0
9,000-12,000 Baht	47	13.4
12,000-15,000 Baht	35	10.0
> 15,000 Baht	57	16.3
Others	14	4.0
Do tour father and mother know when you play games?		
Yes	314	89.7
No	25	7.1
Others	11	3.1

4.2 Frequency and percentage of samples distributed by family factors

4.2.1 The family status of samples with harmonizing at 67.4%, occasionally quarreled at 22.0%, regularly quarreled at 1.1%, beating sometimes at .3% and regularly beating at 9.1%.

4.2.2 The marital status of the parents of samples with co-stay was 66.3%, divorce at 14.0%, separated-stay at 12.0%, either deceased father or mother at 6.3% and both deceased at .6%.

4.2.3 Currently, samples stayed with parents at 75.4%, with relatives at 12.6%, with friends at 6% and alone at 11.4%.

4.2.4 Samples with jobless fathers were 2.6%, civil servant at 18.0%, state enterprise employees were 3.7%, company employees were 11.4%, private business were 13.7%, trading were 14.6%, common labors were 26.6%, farmers were .9% and others 8.6%.

4.2.5 Samples with jobless mothers were 13.1%, civil servant at 6.0%, state enterprise employees were 2.3%, company employees were 13.7%, private business were 14.9%, trading were 23.4%, common labors were 19.4%, farmers were 2.3% and others 4.9%.

4.2.6 Average income of the fathers (all incomes) by no income were 2.9%, less than 5000 Baht were 5.4%, 5000-8000 Baht were 18.0%, 8000-10000 Baht were 11.4%, 10000-12000 Baht were 16.6%, 12000-15000 Baht were 9.7%, more than 15000 Baht were 26.3%, and other 9.7%.

4.2.7 Average income of the mothers (all incomes) by no income were 11.1%, less than 5000 Baht were 9.4%, 5000-8000 Baht were 13.4%, 8000-10000 Baht were 12.0%, 10000-12000 Baht were 13.4%, 12000-15000 Baht were 10.0%, more than 15000 Baht were 16.3%, and other 4.0%.

4.2.8 Parent realized children playing games at 89.7%, not realizing at 7.1% and others 3.1%.

Table 4: Frequency and percentage of samples distributed by social and environment factors

Social and Environment Factors	F = (350)	% = (100)
Where do you mostly play computer games at?		
Home	183	52.3
Shop	135	38.6
Friend's home	13	3.7
Department store	2	.6
Others	17	4.9
What computer theme do you normally favor best? (ordering: 1= best; 5 = least)		
Action /escape		
No.1	66	18.9
No.2	33	9.4
No.3	33	9.4
No.4	25	7.1
No.5	42	12.0
Declined	150	43.1
Cannoning		
No.1	33	9.4
No.2	55	15.7
No.3	38	10.9
No.4	38	10.9
No.5	33	9.4
Declined	153	43.7
Simulation		
No.1	15	4.3
No.2	38	10.9
No.3	34	9.7
No.4	32	9.1
No.5	33	9.4
Declined	198	56.6
Sports		
No.1	19	5.4
No.2	36	10.3
No.3	34	9.7
No.4	30	8.6

Table 4: Frequency and percentage of samples distributed by social and environment Factors (Cont.)

Social and Environment Factors	F = (350)	% = (100)
No.5	29	8.3
Declined	202	57.7
Strategic planning		
No.1	38	10.9
No.2	26	7.4
No.3	32	9.1
No.4	39	11.1
No.5	39	11.1
Declined	176	50.3
Racing		
No.1	34	9.7
No.2	27	7.7
No.3	21	6.0
No.4	27	7.7
No.5	41	11.7
Declined	200	57.1
Adventuring		
No.1	47	13.4
No.2	48	13.7
No.3	57	16.3
No.4	52	14.9
No.5	22	6.3
Declined	124	35.4
Fighting		
No.1	22	6.3
No.2	27	7.7
No.3	39	11.1
No.4	64	18.3
No.5	53	15.1
Declined	145	41.4
Brain sharpening		
No.1	26	7.4
No.2	19	5.4
No.3	22	6.3

Table 4: Frequency and percentage of samples distributed by social and environment Factors (Cont.)

Social and Environment Factors	F = (350)	% = (100)
No.4	16	4.6
No.5	35	10.0
Declined	232	66.3
Role playing		
No.1	35	10.0
No.2	33	9.4
No.3	33	9.4
No.4	25	7.1
No.5	19	5.4
Declined	205	58.6
Others		
No.1	16	4.6
No.2	2	.6
No.3	6	1.7
No.4	7	2.0
No.5	4	1.1
Declined	315	90.0
You have played games for……..months.		
< 10 months	68	19.4
11-20 months	50	14.3
21-30 months	26	7.4
31-40 months	32	9.1
41-50 months	41	11.7
51-60 months	51	14.6
> 61 months	82	23.4
You have studied computer games from book manual before playing		
Every time	42	12.0
Occasionally	177	50.6
Never	120	34.3
Other	11	3.1
Besides studying computer games from book manual; you studied from Internet….		
Yes	202	57.7
No	139	39.7

Table 4: Frequency and percentage of samples distributed by social and environment Factors (Cont.)

Social and Environment Factors	F = (350)	% = (100)
Others	9	2.6
Besides playing computer games from PC, you play with slot games and games online….		
Yes	211	60.3
No	132	37.7
Others	7	2.0
Deciding on most computer games; you consider them from….		
Theme favorite	187	53.4
Content or technique	63	18.0
Recommended by friend or siblings	34	9.7
By trends and peer group	39	11.1
Approval from parents	18	5.1
Other	9	2.6
Most computer games played are co-examined by parents in buying		
Every time	32	9.1
Occasionally	144	41.1
Never	167	47.7
Other	7	2.0
You play computer games as a hobby or not…		
Yes	121	34.6
No	216	61.7
Others	13	3.7

4.3 Frequency and percentage of samples distributed by social and environment factors

4.3.1 Samples playing computer games at home at 52.3%, game shops at 38.6%, friends' homes at 3.7%, department stores at 6% and others at 4.9%.

4.3.2 Types of games favorable to samples:

4.3.2.1 Action or escaped was rated first at 18.9%, rated second at 9.4%, rated third at 9.4 %, rated fourth at 7.1%, rated fifth at 12.0%, not selected at 43.1%

4.2.3.2 Cannoning was rated first at 9.4%, rated second at 15.7%, rated third at 10.9%, rated fourth at 10.9%, rated fifth at 9.4%, not selected at 43.7%

4.3.2.3 Simulation was rated first at 4.3%, rated second at 10.9%, rated third at 9.7%, rated fourth at 9.1%, rated fifth at 9.4%, not selected at 56.6%

4.3.2.4 Sports were rated first at 5.4%, rated second at 10.3%, rated third at 9.7%, rated fourth at 8.6%, rated fifth at 8.3%, not selected at 57.7%

4.3.2.5 Strategic planning was rated first at 10.9%, rated second at 7.4%, rated third at 9.1%, rated fourth at 11.1%, rated fifth at 11.1%, not selected at 50.3%

4.3.2.6 Car racing was rated first at 9.7%, rated second at 7.7%, rated third at 6.0%, rated fourth at 7.7%, rated fifth at 11.7%, not selected at 57.1%.

4.3.2.7 Adventure was rated first at 13.4%, rated second at 13.7%, rated third at 16.3%, rated fourth at 14.9%, rated fifth at 6.3%, not selected at 35.4%.

4.2.3.8 Fights were rated first at 6.3%, rated second at 7.7%, rated third at 11.1%, rated fourth at 18.3%, rated fifth at 15.1%, not selected at 41.1%.

4.2.3.9 Brain sharpening was rated first at 7.4%, rated second at 5.4%, rated third at 6.3%, rated fourth at 4.6%, rated fifth at 10.0%, not selected at 66.3%

4.2.3.10 Role play was rated first at 10.0%, rated second at 9.4%, rated third at 9.4%, rated fourth at 7.1%, rated fifth at 5.4%, not selected at 58.6%

4.2.3.11 Other kinds of games rated first at 4.6%, rated second at .6%, rated third at 1.7%, rated fourth at 2.0%, rated fifth at 1.1%, not selected at 90.0%.

4.3.3 Samples played games for 10 and less at 19.4%, 11-14 moths at 14.3%, 21-30 months at 7.4%, 31-40 months at 9.1%, 41-50 months at 11.7%, 51-60 months at 14.6%, and more than 61 months at 23.4%.

4.3.4 Samples game manuals from books and introducing manuals every time at 12.0%, occasionally at 50.6%, never at 34.3% and other at 3.1%.

4.3.5 Besides studying from manuals, samples studied from internet at 57.7%, never 39.7% and others at 2.6%.

4.3.6 Samples played games with PC, slot game box, and online at 60.3%, never 37.7% and others 2.0%.

4.3.7 Samples decided to play games by favorite at 53.4%, by theme and techniques at 18.0%, introduced by friends and siblings at 9.7%, by trends/ peer group

at 11.1%, approval from parents at 5.1% and by others at 2.6%.

4.3.8 Most games were co-examined by parents were 9.1%, occasionally at 41.1%, never at 47.4% and other at 2.0%.

4.3.9 Computer games were samples' hobbies at 34.6%, not hobby at 61.7% and other at 3.7%.

Table 5: Frequency and percentage of samples distributed various behavioral factors

Descriptions	**Levels of Opinions**				
	Regularly	Frequently	Likely frequent	Occasionally	Never
Rejecting orders of teacher or friend when they order to do unflavored thing.	12 (3.4)	28 (8.0)	70 (20.0)	185 (52.9)	55 (15.7)
Seeing friends tidy teacher's table, you tell friend in group that the friends are flattering the teacher.	1 (.3)	9 (2.6)	28 (8.0)	1.3 (29.4)	209 (59.7)
Favoring arguing to win those conflict with their ideas.	15 (4.3)	32 (9.1)	65 (18.6)	180 (51.4)	58 (16.6)
When friends caution your private matters, you are dissatisfied and tell them to mind their business.	11 (3.1)	13 (3.7)	10 (17.1)	143 (40.9)	123 (35.1)
Sometimes, when you dissatisfy someone, you are sarcastic to remind them	18 (5.1)	46 (13.1)	70 (20.0)	156 (44.6)	60 (17.1)
You regularly explode in class.	19 (5.4)	32 (9.1)	54 (15.4)	176 (50.3)	69 (19.7)
Sometime, you boast on your goodness, and ability to friends.	9 (2.6)	2 (.6)	36 (10.3)	177 (50.6)	126 (36.0)
When you are forbidden to do something you usually react why the person can.	15 (4.3)	34 (9.7)	71 (20.3)	156 (44.6)	74 (21.1)
Favor lying to elder if erring	7 (2.0)	16 (4.6)	52 (14.9)	226 (64.6)	49 (14.0)
If chided when erring, you will shame them	10 (2.9)	19 (5.4)	40 (11.4)	129 (36.9)	49 (43.4)
Enjoying provoking friend for anger.	10 (2.9)	24 (6.9)	40 (11.4)	179 (51.1)	97 (17.7)
If anyone breaks your belongings or provoking, you react with impolite words.	20 (5.7)	36 (10.3)	85 (24.3)	162 (46.3)	47 (13.4)

Table 5: Frequency and percentage of samples distributed various behavioral factors (Cont.)

Descriptions	Levels of Opinions				
	Regularly	Frequently	Likely frequent	Occasionally	Never
If you do not know the stealer, you condemn the person.	34 (9.7)	36 (40.9)	68 (19.4)	143 (10.3)	69 (9.7)
Sometimes, you challenge friends to compete with you.	9 (2.6)	20 (5.7)	73 (20.9)	145 (41.4)	103 (29.4)
If someone accuses and you are innocent you will immediately react.	88 (25.1)	65 (18.6)	89 (25.4)	75 (21.4)	33 (9.4)
If you have competitors in studying or other things, you usually say they cannot compete with you.	11 (3.1)	10 (2.9)	26 (7.4)	98 (28.0)	205 (58.6)
If overtaken, you are sarcastic that you dislike.	9 (2.6)	18 (5.1)	41 (11.7)	125 (35.7)	157 (44.9)
If you dislike some friends, you insult them.	6 (1.7)	13 (3.7)	47 (13.4)	136 (38.9)	148 (42.3)
You favor kidding the names of your friends' parents or name odd name to friends to shame them.	12 (3.4)	30 (8.6)	33 (9.4)	139 (39.7)	136 (38.9)
If you are shamed or vengeance, you immediately disclose their secrecy.	14 (4.0)	13 (3.7)	47 (13.4)	126 (36.0)	150 (42.9)
If you are punished without erring, you immediately react with dissatisfaction or anger.	29 (8.3)	42 (12.0)	64 (18.3)	133 (38.0)	82 (23.4)
Ever threatening those trouble or dissatisfy you.	15 (4.3)	24 (6.9)	22 (6.3)	89 (25.4)	200 (57.1)
If you dissatisfy anyone, you likely smash things	19 (5.4)	26 (7.4)	55 (15.7)	139 (39.7)	111 (31.7)
You talk to none when you are angry.	49 (14.0)	52 (14.9)	61 (17.4)	127 (36.3)	61 (17.4)
If someone is on your way, you push them away.	3 (.9)	24 (6.9)	28 (8.0)	102 (29.1)	193 (55.1)
If insulted or belittled, you immediately slap their faces or immediately reproach.	13 (3.7)	12 (3.4)	29 (8.3)	105 (30.0)	191 (54.6)
Using wood or knife to harm those making you angry.	11 (3.1)	13 (3.7)	20 (5.7)	47 (13.4)	259 (74.0)

Table 5: Frequency and percentage of samples distributed various behavioral factors (Cont.)

Descriptions	Levels of Opinions				
	Regularly	Frequently	Likely frequent	Occasionally	Never
Kick & box or harm those making you angry	5 (1.4)	24 (6.9)	41 (11.7)	132 (37.7)	148 (42.3)
Enjoy shaming friends.	15 (4.3)	13 (3.7)	25 (7.1)	123 (35.1)	174 (49.7)
Want to get or to see things of others; you immediately do it.	7 (2.0)	12 (3.4)	38 (10.9)	89 (25.4)	204 (58.3)
Being ordered to have overloaded, you subdue to do.	26 (7.4)	30 (8.6)	51 (14.6)	157 (44.9)	86 (24.6)
When someone break you belongings, you break theirs for revenge	12 (3.4)	23 (6.6)	32 (90.0)	119 (34.0)	164 (46.9)
You take things of other when they do not see.	5 (1.4)	15 (4.3)	19 (5.4)	75 (21.4)	236 (67.4)
Favor to block walkway by feet for those you dislike.	17 (4.9)	4 (1.1)	21 (6.0)	107 (30.6)	201 (57.4)
If being mocked , samples immediately throw things at the person	17 (4.9)	4 (1.1)	21 (6.0)	107 (30.6)	201 (57.4)
Favor fighting if challenged or provoked.	12 (3.1)	14 (4.0)	56 (16.0)	119 (34.0)	149 (42.6)
Self-punishment taken if doing bad or not reaching expectations.	18 (5.1)	39 (11.1)	55 (15.7)	129 (36.9)	109 (31.1)
If thrown at, you immediately break that object.	18 (5.1)	24 (6.9)	45 (12.9)	117 (33.4)	146 (41.7)
Being unreasonably punished or reproached, you always anger with others or objects.	16 (4.6)	45 (12.9)	51 (14.6)	152 (43.4)	86 (24.6)
During reading or working if being distracted, you switch on radio or make loud noise.	30 (8.6)	35 (10.0)	60 (17.1)	115 (32.9)	110 (31.4)
Favor bullying those smaller than you are when being dissatisfied.	11 (3.1)	19 (5.4)	15 (4.3)	79 (22.6)	226 (64.6)
Enjoy suffering animals	7 (2.0)	9 (2.6)	16 (4.6)	66 (18.9)	252 (72.0)

Table 5: Frequency and percentage of samples distributed various behavioral factors (Cont.)

Descriptions	Levels of Opinions				
	Regularly	Frequently	Likely frequent	Occasionally	Never
Favor damaging things such as writing on tables, walls and in other places.	8 (2.3)	19 (5.4)	21 (6.0)	141 (40.3)	161 (46.0)
Favor criticizing other you dislike to friends	13 (3.7)	34 (9.7)	45 (12.9)	167 (47.7)	91 (26.0)
Enjoy showing or bullying friends in what they hate or fear.	25 (7.1)	18 (5.1)	51 (14.6)	125 (35.7)	131 (37.4)

4.4 Frequency and percentage of various behavioral factors

4.4.1 Samples reject orders of teacher or friend when they order to do unflavored thing at 3.4 % regularly, 8.0 % frequently, 20.0 % likely frequently, 52.9% occasionally, and 15.7 % never

4.4.2 Samples Seeing friends tidy teacher's table, they tell friends in group that the friends are flattering the teacher at .3 % regularly, 2.6% frequently, 8.0 % likely frequently, 29.4% occasionally, and 59.7% never

4.4.3 Samples favor arguing to win those conflict with their ideas at 4.3% regularly, 9.1% frequently, 18.6% likely frequently, 51.4% occasionally, and 16.6 % never

4.4.4 When friends caution samples' private matters, they are dissatisfied and tell them to mind their business at 3.1% regularly, 3.7% frequently, 17.1% likely frequently, 40.9% occasionally, and 35.1% never

4.4.5 Sometimes, when samples dissatisfy someone, they are sarcastic to remind them at 5.1% regularly, 13.1% frequently, 20.0 % likely frequently, 44.6% occasionally, and 17.1% never

4.4.6 Samples regularly explode in class at 5.4% regularly, 9.1% frequently, 15.4% likely frequently, 50.3% occasionally, and 19.3% never

4.4.7 Sometime, samples boast on their goodness, and ability to friends at 2.6% regularly, .6% frequently, 10.3 % likely frequently, 50.6% occasionally, and 36.0% never

4.4.8 When samples are forbidden to do something they usually react why the person can at 4.3% regularly, 9.7% frequently, 20.3% likely frequently, 44.6% occasionally, and 21.1% never.

4.4.9 Samples favor lying to elder if erring at 2.0% regularly, 4.6% frequently, 14.9% likely frequently, 64.6 % occasionally, and 14.0% never

4.4.10 If chided when erring, samples will shame them at 2.9% regularly, 5.4% frequently, 11.4% likely frequently, 36.9% occasionally, and 43.4% never.

4.4.11 Samples enjoy provoking friend for anger at 2.9% regularly, 6.9% frequently, 11.4 % likely frequently, 51.1% occasionally, and 27.7% never

4.4.12 If anyone breaks their belongings or provoking, samples react with impolite words at 5.7% regularly, 10.3% frequently, 24.3% likely frequently, 46.3% occasionally, and 13.4 % never

4.4.13 If samples do not know the stealer, they condemn the person at 9.7% regularly, 40.9% frequently, 19.4% likely frequently, 10.3% occasionally, and 9.7% never

4.4.14 Sometimes, samples challenge friends to compete with them at 2.6% regularly, 5.7% frequently, 20.9 % likely frequently, 41.4% occasionally, and 29.4 % never

4.4.15 If someone accuses and samples are innocent they will immediately react at 25.1% regularly, 18.6% frequently, 25.4% likely frequently, 21.4% occasionally, and 29.4% never

4.4.16 If samples have competitors in studying or other things, they usually say they cannot compete with samples at 3.1% regularly, 2.9% frequently, 7.4% likely frequently, 28.0% occasionally, and 58.6% never

4.4.17 If overtaken, samples are sarcastic that you dislike at 2.6% regularly, 5.1% frequently, 11.7 % likely frequently, 35.7 % occasionally, and 44.9 % never

4.4.18 If samples dislike some friends, they insult them at 1.7% regularly, 3.7% frequently, 13.4% likely frequently, 38.9% occasionally, and 42.3% never

4.4.19 Samples favor kidding the names of their friends' parents or name odd name to friends to shame them at 3.4% regularly, 8.6% frequently, 9.4% likely frequently, 39.7 % occasionally, and 8.9 % never

4.4.20 If shamed or revenged, samples immediately disclose their secrecy at 4.0% regularly, 3.7% frequently, 13.4% likely frequently, 36.0% occasionally, and 42.9% never

4.4.21 If samples are punished without erring, they immediately react with dissatisfaction or anger at 8.3% regularly, 12.4 % frequently, 18.3% likely frequently, 38.0 % occasionally, and 23.4% never

4.4.22 Samples ever threaten that trouble or dissatisfy them at 4.3% regularly, 6.9% frequently, 6.3% likely frequently, 25.4% occasionally, and 57.1 % never

4.4.23 If samples dissatisfy anyone, samples likely smash things at 5.4 % regularly, 7.4% frequently, 15.7% likely frequently, 39.7% occasionally, and 31.7% never

4.4.24 Samples talk to none when angry at 14.0% regularly, 14.9% frequently, 17.4% likely frequently, 36.3% occasionally, and 17.4% never

4.4.25 If someone is on samples' way, samples push them away at .9% regularly, 6.9% frequently, 8.0 % likely frequently, 29.1% occasionally, and 55.1% never

4.4.26 If insulted or belittled, samples immediately slap their faces or immediately reproach at 3.7% regularly, 3.4% frequently, 8.3% likely frequently, 30.0 % occasionally, and 54.6% never.

4.4.27 Samples use wood or knife to harm those making samples angry at 3.1% regularly, 3.7 % frequently, 5.7% likely frequently, 13.4% occasionally, and 74.0% never.

4.4.28 Samples kick & box or harm those making samples angry at 1.4% regularly, 6.9 % frequently, 11.7% likely frequently, 37.7% occasionally, and 42.3 % never.

4.4.29 Samples enjoy shaming friends at 4.3% regularly, 3.7% frequently, 7.1% likely frequently, 35.1% occasionally, and 49.7 % never.

4.4.30 Want to get or to see things of others; samples immediately do it at 2.0 % regularly, 3.4% frequently, 10.9 % likely frequently, 25.4% occasionally, and 58.3 % never.

4.4.31 Being ordered to have overloaded, samples subdue to do at 7.4% regularly, 8.6% frequently, 14.6% likely frequently, 44.9% occasionally, and 24.6% never.

4.4.32 When someone break their belongings, samples break theirs for revenge at 3.4 % regularly, 6.6% frequently, 90.0% likely frequently, 34.0 % occasionally, and 46.9% never.

4.4.33 Samples take things of other when they do not see at 1.4% regularly, 4.3% frequently, 5.4 % likely frequently, 21.4% occasionally, and 67.4% never.

4.4.34 Samples favor to block walkway by feet for those samples dislike at 4.9% regularly, 1.1% frequently, 6.0% likely frequently, 30.6% occasionally, and 57.4% never.

4.4.35 If being mocked, samples immediately throw things at the person at 4.9% regularly, 1.1% frequently, 6.0% likely frequently, 30.6% occasionally, and 57.4% never.

4.4.36 Samples favor fighting if challenged or provoked at 3.1% regularly, 4.0% frequently, 16.0 % likely frequently, 34.0% occasionally, and 42.6% never.

4.4.37 Self-punishment taken if doing bad or not reaching expectations at 5.1% regularly, 11.1% frequently, 15.7 % likely frequently, 36.9% occasionally, and 31.1 % never.

4.4.38 If thrown at, samples immediately break that object at 5.1% regularly, 6.9% frequently, 12.9% likely frequently, 33.4% occasionally, and 41.7% never.

4.4.39 Being unreasonably punished or reproached, samples always anger with others or objects at 4.6% regularly, 12.9% frequently, 14.6% likely frequently, 43.4% occasionally, and 24.6% never.

4.4.40 During reading or working if being distracted, samples switch on radio or make loud noise at 8.6% regularly, 10.0% frequently, 17.1% likely frequently, 32.9% occasionally, and 31.4% never.

4.4.41 Favor bullying those smaller than samples are when being dissatisfied at 3.1% regularly, 5.4% frequently, 4.3 % likely frequently, 22.6% occasionally, and 64.6 % never.

4.4.42 Enjoy suffering animals at 2.0% regularly, 2.6% frequently, 4.6% likely frequently, 18.9% occasionally, and 72.0% never.

4.4.43 Favor damaging things such as writing on tables, walls and in other places at 2.3% regularly, 5.4% frequently, 6.0% likely frequently, 40.3% occasionally, and 46.0 % never.

4.4.44 Favor criticizing other samples dislike to friends at 3.7% regularly, 9.7% frequently, 12.9 % likely frequently, 44.7% occasionally, and 26.0% never

4.4.45 Enjoy showing or bullying friends in what they hate or fear at 7.1% regularly, 5.1% frequently, 14.6% likely frequently, 35.7 % occasionally, and 37.4% never.

Table 6: Opinions of games' consequences against learning achievement

Question: To what extent the computer games affect your learning achievement?

Descriptions	**Levels of opinions**				
	Most	**Much**	**Moderate**	**Little**	**Least**
Playing computer games shares making learning achievement poorer.	35 (10.0)	52 (14.9)	110 (31.4)	98 (28.0)	55 (15.7)
Playing computer games shares dumping your diligence.	38 (10.9)	64 (18.3)	99 (28.3)	87 (24.9)	62 (17.7)
Playing computer games shares reducing grades or learning achievement.	29 (8.3)	56 (16.0)	104 (29.7)	98 (28.0)	63 (18.0)
Playing computer games shares inability to be successful in learning and in working.	26 (7.4)	50 (14.3)	93 (26.6)	100 (28.6)	81 (23.1)
Playing computer games shares inability to be graduated as timeframe.	40 (11.4)	47 (13.4)	72 (20.6)	86 (24.6)	105 (30.0)
Playing computer games shares being stressful and dull.	35 (10.0)	38 (10.9)	89 (25.4)	87 (24.9)	101 (28.9)
Playing computer games shares defecting memory.	36 (10.3)	43 (12.3)	79 (22.6)	95 (27.1)	97 (27.7)

Table 6: Opinions of games' consequences against learning achievement (Cont.)

Question: To what extent the computer games affect your learning achievement?

Descriptions	Levels of opinions				
	Most	**Much**	**Moderate**	**Little**	**Least**
Playing computer games shares making insufficient rest.	18 (5.1)	55 (15.7)	97 (27.7)	100 (28.6)	80 (22.9)
Playing computer games shares reducing friends-friends' learning achievement poorer.	40 (11.4)	47 (13.4)	55 (15.7)	98 (28.0)	110 (31.4)
Playing computer games ever makes you absent from class.	40 (11.4)	56 (16.0)	61 (17.4)	72 (20.6)	121 (34.6)
Playing computer games distracts your studying.	27 (7.7)	38 (10.9)	97 (27.7)	93 (26.6)	95 (27.1)
Playing computer games makes you find no time for homework.	25 (7.1)	53 (15.1)	78 (22.3)	104 (29.7)	90 (25.7)
Playing computer games preoccupies you with games rather than studying.	36 (10.3)	46 (13.1)	70 (20.0)	95 (27.1)	103 (29.4)

4.5 Opinions of games' consequences against learning achievement

4.5.1 Samples playing computer games shared making learning achievement poorest at10.0 %, poor at 14.9%, moderate poor at31.4 %, little poor at 28.0% and least poor at 15.7%.

4.5.2 Samples playing computer games shares dumping your diligence to poorest at 10.9%, poor at 18.3%, moderate poor at 28.2%, little poor at 24.9% and least poor at 17.7%.

4.5.3 Samples playing computer games shares reducing grades or learning achievement to poorest at 8.3%, poor at 16.0%, moderate poor at 29.7%, little poor at 28.0% and least poor at 18.0%.

4.5.4 Samples playing computer games shares poorest inability to be successful in learning and in working at 7.4%, poor at 14.3%, moderate poor at 22.6%, little poor at 28.6% and least poor at 23.1%.

4.5.5 Samples playing computer games shares poorest inability to be graduated as timeframe at 11.4%, poor at 13.4%, moderate poor at 20.6%, little poor at 24.6% and least poor at 30.0%.

4.5.6 Samples playing computer games shares being worst stressful and dull at 10.0%, bad at10.9 %, moderately bad at 25.4%, little bad at 24.9% and least bad at 28.9%.

4.5.7 Samples Playing computer games shares defecting memory to poorest at 10.3%, poor at 12.3%, moderate poor at 22.6%, little poor at 27.1% and least poor at 27.7%.

4.5.8 Samples playing computer games shares making poorest insufficient rest at 5.1%, poor at 15.7%, moderate poor at 27.7%, little poor at 28.6% and least poor at 22.9%.

4.5.9 Samples playing computer games shares reducing friends-friends' learning achievement to poorest at 11.4%, poor at 13.4%, moderate poor at 15.7%, little poor at 28.0 % and least poor at 31.4%.

4.5.10 Samples playing computer games ever makes you most absent from class at 11.4 %, much at 16.0%, moderate at 17.4%, little absent at 20.6% and least absent at 34.6%.

4.5.11 Samples playing computer games worst distracts your studying at 7.7%, bad at 10.9%, moderately bad at 27.7%, little bad at 26.6% and least bad at 27.1%.

4.5.12 Samples playing computer games makes you find least time for homework at 7.1%, little at 15.1%, moderately little at 22.3%, much at 29.7 % and most at 25.7%.

4.5.13 Samples playing computer games preoccupies you most with games rather than studying at 10.3 %, much at 13.1%, moderate at 20.0%, little at 27.1% and least at 29.4%.

4.6 Test of hypothesis

Hypothesis was:

Hypothesis 1: Individual factor, family factor, social and environmental factor affected game addiction of juvenile.

ANOVA and MCA were used in the test of hypothesis and the independent variables were divided as follows:

The independent variables were factors of playing games in a week, beginning to play games at education level of, average monthly income of the mother, choice of playing games and playing games as hobby. And covariates/ control groups were age, parents/ father and mother, paying expenses to school.

The dependent variables were game addiction of juvenile.

Analyses by ANOVA and MCA were concluded as in following Tables 7 and 8

Table 7: ANOVA of game addiction among children and youth distributed by individual factors, family factors, and social and environmental factors

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Covariates (Combined)	20.247	2	10.124	18.928	.000*
Age	18.907	1	18.909	35.384	.000*
Ways of parents paying support money	1.341	1	1.341	2.507	.115
Main Effects	53.359	12	4.447	8.313	.000*
Existing level of education	1.459	2	.730	1.364	.257
Normally playing games/week	13.219	2	.6.609	12.357	.000*
Beginning playing games since in level of..	27.626	2	13.813	25.825	.000*
Average income of the mother	3.390	2	1.695	3.169	.044*
Choose playing games by…	3.696	2	1.848	3.455	.033*
Playing games as hobby	3.969	2	1.985	3.710	.026*
Explained	73.606	14	5.258	9.830	.000*
Residual	148.157	227	.535		
Total	221.764	291	.762		

*P<0.05

Table 8: MCA of game addiction among children and youth distributed by individual factors, family factors, and social and environmental factors

Variable & Category	N	Predicted Means		Eta	Deviation		Beta
		Unadjusted	Adjusted		Unadjusted	Adjusted	
Education level							
- M.1-M.2	84	1.71	2.12		-22	.18	
- M.3-M.4	92	1.80	1.92		-.13	-1.29E-02	
- M.5-M.6	116	2.20	1.81		.26	-.12	
				.249			.142
Factors of playing games/week							
- everyday	54	2.22	2.10		.29	.16	
- alternated	82	1.95	1.99		1.63E-02	5.42E-02	
- some days	156	1.83	1.85		-.11	-8.50E-02	
				.169			.112
First playing games							
- primary	132	2.23	2.27		.30	.33	
- junior secondary	127	1.63	1.62		-.31	-.32	
- senior secondary	33	1.91	1.83		-2.58E-02	-.11	
				.327			.356
Average income of mother							
- 1,000-7,000 Baht	109	1.75	1.80		-.18	-.13	
- 8,000-12,000 Baht	86	1.98	1.97		4.18E-02	3.37E-02	
- >12,000 Baht	97	2.10	2.05		.17	.12	
				.172			.121
Deciding playing games by..							
- favorite	166	2.60	2.05		.13	.12	
- content	71	1.94	1.85		8.73E-03	-8.50E-02	
- trend	55	1.55	1.69		-.39	-.24	
				.222			.164
Playing games as hobby							
- yes	101	2.14	2.12		.20	.19	
- no	181	1.83	1.84		-.10	-9.92E-02	
- others	10	1.70	1.82		-.23	-.12	
				.172			.158
Multiple R Square							.332
Multiple							.576

Analyses from 2 Tables and they showed that taking independent variables containing factors of playing games in a week, beginning to play games at education level of, average monthly income of the mother, choice of playing games and playing games as hobby and covariates/ control groups were age, parents/ father and mother, paying expenses to school to analyze their variations and multiple classification with the independent variables of individual factor, family factor, social and environmental factor affected game addiction of juvenile. It was found that all independent variables affected the dependent variable by statistical significance at 0.01 levels (Main Effects, Sig. = 0.000). Covariates also affected the independent variables (Covariates, Sig. = 0.000). In addition, all independent variables could explain the dependent variables by statistical significance at 0.01 levels (Explainers, Sig. = 0.000).

Considering details of each independent variable in Table 7, it was found that they affected independent variables (by Sig. order), i.e. frequency in playing games/ week, (Sig.=.000) beginning to play games at education level of (Sig. =.000), playing games as hobby (Sig.=.026), choice of playing games (Sig.=.033) and average monthly income of the mother (Sig.=.044) respectively. And when considering the independent variables affecting the dependent variables in Table 2, it was further found that:

Factor of playing games /week affected games addiction of children and youth or samples that those playing games everyday addicted games (.16) more than those alternately played (-5.42) and those played someday (-8.50). Variables of playing games/ week had relationship with games addiction of children and youth at 11.2% (Beta .112).

Factor of beginning first playing games affected games addiction of children and youth or samples who began playing since primary level who addicted games (.33) more than those began in junior secondary level (-.31) and those began playing since senior secondary level (-2.58). variables of beginning playing games had relationship with games addiction of children and youth at 35.6% (Beta .356).

Factor of average monthly income of mother affected games addiction of children and youth or samples with mother earning more than 12,000 Baht month addicted games (.12) more than those with mother earning at 8,000-12,000 Baht (-3.37) and those earning at 1,000-7,000 Baht (-.13) Factor of average monthly income

of mother had relationship with games addiction of children and youth at 12.1% (Beta .121).

Factors of choice in playing games affected games addiction of children and youth or samples with choice by favor addicted games (.12) more than those with content choice (-8.50) and those by trends choice (-.24). Factors of choice in playing games had relationship with games addiction of children and youth at 16.4% (Beta .164).

Factors of playing games as hobby affected games addiction of children and youth or samples with playing games as hobby addicted games (.19) more than those with other preferences (-.12) and those without playing as hobby (-9.92). Factors of playing games as hobby had relationship with games addiction of children and youth at 15.8% (Beta .158).

However, considering rate of relationship between the independent variables and the dependent variables, it was found that factors best affected games addiction among children and youth (by Beta order) were factors of beginning to play games (Beta=.356), choice of games (Beta = .164), playing games as hobby (Beta = .158), average monthly income of mother (Beta = .121) and playing games /week (Beta = .112), respectively.

In summary, factors of beginning to play games choice of games playing games as hobby, average monthly income of mother and frequency of playing games /week by 57.6% (Multiple R=.576) and all of them co-explained the dependent variables by 33.2% (Multiple R Square =.332) (see Tables & and 8).

The Hypothesis 1 was retained.

Hypothesis 2: MRA (multiple regression analysis) of factors related games addiction and other factors affecting learning achievement of children and youth.

MRA had been used in testing this hypothesis as in Table 9 below.

Table 9: MRA on factors of games addiction and other factors affecting learning achievement among children and youth

Variables	b	Stnd.Error	Stnd.Beta	t	Signif
Getting money to school	.438	.104	.217	4.218	.000*
Frequency of playing games /week	-.115	.052	-.117	-2.207	.028*
Feeling when not playing games	-.221	.079	-.154	-2.798	.005*
Average income of the father	.101	.32	0160	3.134	.002*
Games fees get from..	8.946E-02	.034	.136	2.667	.008*
Ever playing games for / years	-2.776E03	.002	-.080	-1.500	.135
Besides PC are slot games & game online	-.233	.117	-.102	-1.993	.047

*p < 0.05

Multiple R .336
R Square .134
Adjusted R Square .116
Standard Error 1.15

Analysis of Variance

	DF	Sum of Squares	mean Square
Regression	7	69.770	9.967
Residual	342	450.587	1.318

F = 7.565 Signif F =.000

From Table 9, it was found that taking the independent variables of Getting money school; Frequency of playing games /week; Feeling when not playing games; Average income of the father; Games fees get from..; Ever playing games for / years and Besides PC are slot games & game online co-analyzed with all dependent variables, i.e. learning achievement and found that all the independent variables affected or could explain the dependent variables by statistical significance at .00 (Sig. = .000).

Considering details of each independent variable, it was found that they affected the dependent variables (by Sig. order) Getting money school (Sig. =.000); Average income of the father (Sig. =.002); Feeling when not playing games (Sig. =.005); Frequency of playing games /week (Sig. =.028); and besides playing PC are

slot games & game online (Sig. =.047).

In summary, factors of games addiction, i.e. Feeling when not playing games negatively affected the GPA of children and youth. Other factors like, Getting money school positively affected the GPA of children and youth. Average income of the father positively affected the GPA of children and youth. Games fees positively affected the GPA of children and youth. Frequency of playing games /week negatively affected the GPA of children and youth. besides playing PC are slot games & game online negatively affected the GPA of children and youth.

All above factors also affected GPA of the previous semester by statistical significance. Meaning, all independent variables, i.e. getting money to school, average income of the father, frequency of playing games / week affected Feeling when not playing games and Besides PC are slot games & game online could co-explain the relationship at 33.6% (Multiple R .336) and all variables could co-explain dependent variable at 14.3% (R square.143)

The Hypothesis 2 was retained.

Hypothesis 3: Factors of games addiction affected aggressiveness of children and youth.

ANOVA and MCA were used in testing the hypothesis. The independent variables were divided for analyses as follows.

The independent variables were playing games/week; family condition, Hours of playing games since past till present; Besides PC are slot games & game online and Games fees.

The dependent variable was games addiction affecting aggressiveness of children and youth.

ANOVA and MCA to test the hypothesis 3 were founding Table 10 and 11 as below.

Table 10: ANOVA on games addiction over aggressiveness of children and youth

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Covariates (Combined)	1.683	2	.841	3.270	.040*
Age	.902	1	.902	3.576	.060
Father's occupation	.763	1	.763	2.964	.086
Main Effect	8.442	9	.938	3.645	.000*
Normally playing games/week	2.187	2	1.094	4.250	.015*
Family condition	1.852	2	.926	3.599	.029*
Hours of playing games since past till present	1.972	2	.986	3.832	.023*
Besides PC are slot games & game online	1.137	2	.569	2.210	.112
Games fees gained from	1.293	1	1.293	5.023	.026*
Explained	10.124	11	.257	3.577	.000*
Residual	65.105	253	.285		
Total	75.229	264			

*P<0.05

Table 11: MCA on games addiction over aggressiveness of children and youth

Variable & Category	N	Predicted Means		Eta	Deviation		Beta
		Unadjusted	Adjusted		Unadjusted	Adjusted	
Normally playing games/week							
- everyday	44	2.26	2.07		.23	3.53E-02	
- alternated	89	2.00	2.02		-3.95E-02	-1.49E-02	
- someday	132	1.99	2.03		-4.85E-02	-1.73E-03	
				.189			.032
Family condition							
- harmonizing	183	1.98	1.98		-5.97E-02	-5.27E-02	
- occasionally quarrelling	64	2.15	2.15		.11	.11	
- regularly quarrelling	18	2.25	2.17		.21	.13	
				.173			.148
Hours of playing games since past till present							
- 1-2 hours	115	2.00	2.02		-3.51E-02	-1.69E-02	
- 3-4 hours	100	1.95	1.96		-8.08E-02	-7.97E-02	
- >5 hours	50	2.28	2.23		.24	.20	

Table 11: MCA on games addiction over aggressiveness of children and youth (Cont.)

Variable & Category	N	Predicted Means		Eta	Deviation		Beta
		Unadjusted	Adjusted		Unadjusted	Adjusted	
Besides PC are slot games & game online				.223			.187
- yes	162	2.08	2.09		4.93E-02	5.03E-02	
- no	97	1.96	1.97		-7.67E-02	-6.82E-02	
- others	6	1.94	1.78		-9.06E-02	-.26	
Games fees gained from				.116			.129
- self-saving	136	1.94	1.96		-9.40E-02	-7.10E-02	
- parents/relatives	129	2.13	2.11		9.91E-02	7.49E-02	
Multiple R Square				.181			.137
Multiple							.135 .367

Considering both Tables, it was found that the independent variables were playing games/week; family condition, Hours of playing games since past till present; Besides PC are slot games & game online and Games fees and covariates of ages of children and youth, occupation of the father to be analyzed by ANOVA and MCA with the dependent variables, i.e. games addiction affecting aggressiveness of children and youth. It was found that all independent variables affected the dependent variables by statistical significance at 0.01 levels (Main Effects, Sig. = 0.000) Covariates (Sig. = .040). Besides all independent variables could also explain the dependent variables by statistical significance at 0.01 levels (Explainers, Sig. = .000).

Considering details of each independent variable, it was found that the independent variables affected the dependent variables (by Sig. order), i.e. playing games/week (Sig.=.015), hours of playing games since past till present (sig.=.023), Games fees (Dig.=.026), family condition (Sig.=.029) respectively. Further considering the independent variables, it was found that:

Playing games/week affected the aggressiveness of children and youth or samples who played games everyday/week and had more aggressiveness (3.53) than

those playing by alternated days/week (-1.49) and those playing someday/week (-1.73). playing games/week affected the aggressiveness of children and youth at 3.2% (Beta=.032).

Family condition affected the aggressiveness of children and youth or samples who had family or home regularly quarreled and had more aggressiveness (.13) than those occasionally quarreled (.11) and those of well harmonized (-5.27). Family conditions affected the aggressiveness of children and youth at 14.8% (Beta=.148).

Hours of playing games since the past till present affected the aggressiveness of children and youth or samples who played games only 5 hours and above and had more aggressiveness (.20) than those playing 3-4 hours a day (.11) and those playing 1-2 hours a day(-1.69). Hours of playing games since the past till present affected the aggressiveness of children and youth at 18.7% (Beta=.187).

Game fees affected the aggressiveness of children and youth or samples who got game fees from parents and had more aggressiveness (7.49) than those saving their money (-7.10) Game fees affected the aggressiveness of children and youth at 13.7% (Beta=.137).

However, considering rate of relationship between the independent variable sand the dependent variables, it was found that the factor most aggressive (by Beta order) were Hours of playing games since the past till present (Beta=.187); Family condition (Beta=..148); Game fees (Beta=.137).; and Playing games/week(Beta=.032) respectively.

In summary, the independent variables containing Hours of playing games since the past till present; Family condition; Game fees; and Playing games/week were 36.7% (Multiple R = .367). They could co-explain the dependent variables at 13.5% (R square.135) (see Tables 10 and11)

The hypothesis 3 was retained.

CHAPTER 5
DISCUSSIONS

The Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai' were to study individual factors, family factors, and social and environment factors affected game-addiction among children and youth in secondary education level; to study factors of games-addiction affecting learning achievement of children and youth in secondary education level and to study influences of games-addiction affecting aggressiveness of children and youth in secondary education level.

It was found in the test of hypotheses that individual factors, family factors, and social and environment factors had relationship with the game-addiction among samples.

Individual factors, family factors, and social and environment factors had relationship with the game-addiction among children and youth were **frequency of playing games /week**. Those playing games regularly /week addicted games most (17.4%). those playing alternately or some days less addicted (10.9%). Samples playing games everyday for long time made them addicted to habit. Had any days been without playing, they would be irritated or stressful. This made them more addicted with games more than those playing alternately or some says. It was corresponded with Griffith and Hunt (1995:189) studying "Computer Games playing in adolescence." They found how 387 first hands played games in the United Kingdom and they played more than 30 hours a week.

In addition, it was found that **beginning to play game since in education level of** – given children and youth began playing games since primary addicted games most (45.4%) while those began playing games in secondary less addicted (43.4%). Rationally, those began playing since primary had long time of playing and made them more skillful, learning diversified techniques, and prolong addiction in games or preoccupied with games. These made them more addicted to games than those began playing in the secondary level. It was corresponded with the works of

Liebeman (1981:95) studying 'Television and Computer: Children's Pattern of Media Use and Academic Achievement' among 56 schools in California with K4, 5, 6, and 8. He compared nature of using computer, doing homework with computer, playing games with micro-computer, playing games in department stores and on service shops. He found that those using computer to do homework or playing around department stores addicted games most.

It was found with the **monthly income of the mother** that samples with mothers earning income more than 12,000 Baht addicted games most (30.3%) while samples with mother earning more than 8,000-12,000 Baht less addicted games (25.4%). Rationally, the first group received more money to school and consequently having more money to play games too. This led them to games addiction more than the latter group with mothers earning fewer amounts. It was corresponded with the works of Liebeman (1981:95) studying 'Television and Computer: Children's Pattern of Media Use and Academic Achievement' among 56 schools in California with K4, 5, 6, and 8. He compared nature of using computer, doing homework with computer, playing games with micro-computer, playing games in department stores and on service shops. He found that playing computer games had relationship with economic status and income.

It was found that **choice of playing games** from favorite made samples addicted games most (53.4%) While those chose from themes less addicted (27.7%). Rationally, choosing by favorite and at present there have been countless games to select such as adventures, fights, brain sharpening, car race, cannoning, action, and escape and so on. Therefore, these led samples had more choices and also more addicted than those choosing games by themes. It was corresponded with the works of Kulthida Dhamwipatch (1990: 90-110) studying 'Opinion of Parent over Behaviors Caused by Open to Receive VDO Games Media of Children. She found that children's behaviors were consequences of playing VDO computer games but not included with games selected for them to play.

It was found with **playing games as hobby** that samples admitted that playing games as hobby addicted most (34.6%) while those not as hobby or by other intention less addicted (65.2%). Rationally, those played as hobby spent most time enjoying playing games rather than learning, helping household works, and

preoccupying with games. These led them addict games more than those playing not as hobby or by other intention. It was corresponded with the works of Griffith and Hunt (1995:189) studying “Computer Games playing in adolescence.” They found how 387 first hands played games in the United Kingdom and they played more than 30 hours a week. Also, there was no significant difference between female and male but observations were the males favored regular playing games more and played the violent theme while the female favored enjoyment and entertainment as major choice pf playing games in the United Kingdom.

Further the control variables, i.e. age ad relationship with games addiction of the children and youth by statistical significance at 0.000 levels.

Factors affecting samples’ learning achievement were ever playing games for, feeling when not playing games, frequency of playing games/week, playing games with slot and online besides playing with PC, money got to go to school, average income of the father, and games fees. From the studies of physical doctors Sirichai Hongsa-nguansri and Panom Ketman, School of Mental Medicine, Ramadhibordi Hospital stated in ‘Game Addiction : The Crisis and Solution’ that game addicted youth were male because they favored computer and long-time used more than the females. They were more skillful in dimensional relation and coordination between eyes and hands than the females. Most games fit them males such as sports competition, adventure and fights. Enjoyment and satisfaction of winning tempted them to game addiction like narcotic addicts and pathological gamblers. These made them to win more and to level their satisfaction. So, they played more and spent more time. When being interfered, they irritated and had physical symptoms by stress needed to play more and more during stressful and played games to avoid encountering problems including were preoccupied with computer games till ignored their responsibilities of learning, doing homework but were willing to fast, to take rest, which affected their health. They were willing to skip other enjoying activities and differently behaved such as telling lies, stealing, aggression, truancy, home-flee, and gambling. These affected their learning achievement, working, health, family and social relation. They had uncontrollable game play and spent more time with it more than intended even attempted to reduce or to withdraw but they could not control themselves to stop even realized serious impact to themselves.

(www.bangkokhealth.com/children_htdoc/children_health_detail.asp?Number = 9406)

It was further found that average income of the father affected children learning achievement and it was corresponded with the studies of Prakaithip Niyomprasert (2005: Abstract) investigating "Factors of Socio-psychology and Excitement-sense Relating to Behavior of Game Online Playing among Junior Secondary Students in Bangkok. She found that net income of family and number of close friends had relationship with behavior of game online playing by statistical significance at 0.01 levels. Students with good GPA played game online more by statistical significance at 0.05 levels. And, factors of excitement-sense at moderate and strong levels had relationship with behavior of game online playing by statistical significance at 0.01 levels.

Related to frequency of playing games/week affecting children learning achievement, it was corresponded with the studies of University of Michigan surveying game play behavior among 1500 youth aged 10-19 years during academic years of 2002-2003. It was found that 534 students or 36%. Among them 80% was male and spent time with games for 58 minutes by average during Monday to Friday and spent 1 hour and 37 minutes played games during holidays. The girls played 44 minutes by average during Monday to Friday and spent 1 hour and 44 minutes during holidays. It was interested that youth group playing games affected reading books, homework and learning achievement. Those 36% playing games spent less time reading than those who did not by 30 % and spent time doing homework less than those who did not for 34%. Problems of less reading were commonly found among male students wile doing homework was commonly found among female students. (www.dvddiary.net/groovy/forums/index.php?act=Print&client=printer&f=15&t=2290)

So, results in Chapter 4 finding that factors of game addiction and other factors directly affected children learning achievement, either positively or negatively. This was corresponded with both the Thai and the international researches. For example, the studies of Sirichai Hongsa-nguansri et al (2005: Abstract) reporting game addicted youth in 2003 at 16.6% in the secondary level and it met the criteria of game addiction. Student with problems of game addiction admitted over-playing

games. Playing games significantly caused some problems including lowering level of learning achievement.

From ABAC Polls by Noppadon Kannika (2005:22-24) surveying factors affecting game-online addiction among the Thai youth in Bangkok and it premises, he found that 42.2% of youth admitted that game-online caused addiction. The survey conducted by the office of the National statistics and found that 13.3% of game-online players met problems with game-online playing related to lacks of family relation, aggressiveness, uninterested in learning, and ill-health and so on. They could be counted game addicts as well. Significantly, the male addicted with games more the female for 3-4 times.

It was further found results of researches conducted in Germany by Grusser et al (2005:117, 188-195) that behavior of playing computer games of the German youth during 11-14 years showed that 9.3% of samples met criteria of over playing computer games leading to learning distraction and emotion management by statistical significance.

It was found with factors affecting aggressiveness of youth that the normal frequency of playing games/week had relationship with aggressiveness of youth by statistical significance at 0.01. Daily playing game youth had stronger aggressiveness (.53) than those playing by some days or alternate days (-1.73; and -1.49) respectively. Youth playing games regularly /week usually chose violent games such as fights, adventure, car race, cannoning, action/escape and so on. This made them absorb violence from games during daily playing and continuously and turning them aggressive. It was corresponded with the study of Kulthida Dhamwipatch (1990: 90-110) studying ‘Opinion of Parent over Behaviors Caused by Open to Receive VDO Games Media of Children. She found those children’s behaviors 33.5% increased with aggressiveness caused by being exposed to computer games and the aggressive rate was raised to 2.27%. It was corresponded with the work of Petchchomphoo Dhepphiphit (1990:73-78) studying relationship between favoring comic Book, TV programs and computer game with aggressiveness of K12 students in Bangkok. It was found that computer game regular players tended to be more aggressive. Rationally, the positive and the negative comic books and TV programs with violent theme as aggressive model physically and verbally taught youth such behavior by memory and

directly learnt from the computer game of “Press to Kill” on account of press and kill adding more scores. Based on the concepts of reinforcement and youth themselves had curiosity, they imitated and hen passing one base they wanted to know about the next base. It was corresponded with the theory of social cognition and aggression that the human aggression came from learning just like other behavior. Human learned from imitation, observation and modeling especially the master model. The scholars of this group prioritized modeling more than any other kinds of learning. Johnson (1972) stated modeling from the master was important as follows (Nuansiri Powrohit, 1985:113-115).

1. Knowing new reaction from memorizing such model – individual learned methods the model used, which might be new one not knowing before and further, watching models and imitating was unlikely erring or simpler than other method and needed no practices.

2. Helping stop/ arouse behavior – learning from modeling paid 2 results, i.e. had the model behaved and got punishment, result was watchers would not follow. For example, if a girl saw her brother stole money from their mother and got whipped, the girl might not steal fearing the whip from the mother. Or, at the meantime, if there were anyone from the group modeling before, such as if a group protested on bus ticket rise by having Mr. A stepped forward and threw stones to the government security guards, his action might be model to arouse other protestors to similarly throw stones.

3. Helping the learnt behavior easier to express – observing the modeling on behavior learnt helped the person easier and faster to act. For example, Mr. A. acted looking at the sky during walking in a congested road in a city; result was pedestrians could not withhold to follow MR. A by looking at the sky and so on.

In addition, Bandura, Ross and Ross, (1961) and their methods of their famous experiment of learning and aggressiveness was they brought a child to a room full of toys to a corner and explained the child to have materials for painting. Later, they brought an adult into the same room in another corner. This adult would not paint but played big-balancing toys by boxing it got 10 minutes. The child could see the action all the time. Later, the child was brought to a new room with many toys and the

balancing toy like in the first room; it was found that the child played with the balancing toys violently similar to the model of the adult earlier seen.

Imitation had been investigated widely as found in Bendura et al. They pointed that example of aggressiveness enabled children to increase their aggressiveness by imitation or called 'imitative aggression'. Findings of this group confirmed that a good society needed a good model for the next generation to imitate. Findings were further found that children imitated the same gender. So, parents had to behave as good model for their children to imitate. Imitation needed no action but the observers might keep as memory and when repetitive action found and facilitated by environment, such behavior would be expressed. Had aggression been often found and surplus, the aggression might be easily acted (Noppamas Theerawekin, 1991:111-112).

Family condition was found that samples under regularly quarrelling condition (.21) behave aggressively more than those under sometime quarrelling condition and harmonizing family (.11; and -5.97), respectively. Rationally, youth with family regularly quarreled or broke led them to no warmness, no love, no understanding, and no instruction from parents and so on. Further, parents quarrelling regularly became violent to each other such as using force to beat, slap, kick, box and berate absorbed youth to aggressively behave since young. Also, lacks of instruction from parents to make them good citizen including witnessing violence from parent or family members regularly, made them familiar and absorb violence as well as favoring violent computer games sent them violent- sense and aggressive. It was corresponded with the concept of nurturing. Family being an important foundation institution of human had a significant duty to develop children to be good family members and societies. With such duty, the family was require to shape behavior and to cultivate them discipline, social norms, and responsibility, fostered love and warmness and security for them to enable them develop perfect emotion, mind, conduct, attitude, values and behavior. The family was counted strong influential for good deeds and their errors. How good a family could fulfill depended on fostering atmosphere of each family built by the family. Nurturing of parents by specific model might build a specific behavior to their children. Raising children was catheterized into 4 types, i.e. 1) affective support, 2) reasoning, 3) control and 4) mental and

physical punishment. This was corresponded with the study of Wasuthep Thongjerm (1997: Abstract) on motive of delinquency: a case of Ban Metta and the Central Observation and Protection Institution and found that most youth came from broken home and regularly quarrelling families.

Since the past on daily playing computer games, it was found out that youth playing game 5 hours (.24) a day by average were aggressive that those playing 3-4 hours a day and 1-2 hours a day by average (-8.08; and -3.51) respectively. Rationally, those playing 5 hours a day made youth preoccupy with playing games and disregarding other activities. Youth playing games with long-time a day with diverse types of games especially violent ones turned them learning and absorbing violence and aggression from games regularly. This increased their aggressiveness. It was corresponded with Griffith and Hunt (1995:189) studying "Computer Games playing in adolescence." They found how 387 first hands played games in the United Kingdom and they played more than 30 hours a week. Also, there was no significant difference between female and male but observations were the males favored regular playing games more and played the violent theme than the female.

Money spent on playing games was found that youth getting from parents or relatives (.9.91) were more aggressive than those from saving (-9.40). Those getting from parent for playing had more to spend playing more computer games because some parents or relative were wealthier. So, thigh income parents turned youth get more money to go to school. It was corresponded Rabhibhon Maneephong (1990:78) studied Relationship between Factors of Playing Games and Learning Achievement of the Junior Secondary Students Year 1 in Bangkok. She found that playing VDO games contained factors supporting learning and factors causing to poorer studying. It was further found that Liebeman (1981: 95) studied Television and Computer: Children's Pattern of Media Use and Academic Achievement. It was conducted among 5 schools in California with K.4, 5, 6, and 8 to investigate nature of using computer, learning, and homework by computer, playing games through micro computer and playing games in department stores and game shops in general. He bound that computer games playing had relationship with economic condition and income of most societies.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

6.1 Research objectives

To study individual factors, family factors, and social and environment factors affected game-addiction among children and youth. To study factors of games-addiction affecting learning achievement of children and youth in secondary education level and to study influences of games-addiction affecting aggressiveness of children and youth in secondary education level.

6.2 Targeted population and samples

They were 350 students studying in the junior and senior secondary levels in the Bangkoknoi and the Bangkokyai. All would be investigated and there was no need in sampling. Questionnaire was an instrument in data collection. Statistical applications were percentage, mean, standard deviation, MRA, ANOVA and MCA.

6.3 Conclusions

6.3.1 The individual factors were found that samples were 14 years and male studying in junior secondary Year 2, getting daily pay of 60-80 Baht from parents. Game fees were saved by themselves. Normally, they sometimes played games in a week or by chance in Saturdays and Sundays with friends. They began playing games since they were in primary level. Regular hours to play games were 13.01-16.00 hrs. Their past learning achievements were moderate with GPA around 2.51-3.00. In the past they played 1-2 hours by average per day and played game since the past for less than 10 months. If no playing computer games, they felt indifferent.

6.3.2 The family factors were their parents well harmonized, co-stayed, and living with parents. Most fathers were general labors but most mother were traders. Average income of the father was around 15,000 Baht a month while the mother earned also around 15,000 Bath a month. When they played games most parents realized it.

6.3.3 The social and environmental factors were most favor to play games at home about action/escape, cannoning, simulation, strategic planning, fights and so on. In addition, samples played games more than 61 months by sometimes prior studying from computer and books before playing. Besides studying games from books they studied also from Internet. They not only play games in PC but also slot games and games online. Choice to play was by favorite and most parents never shared in buying. Samples never play games as a hobby.

6.3.4 The other various behaviors were found that it was likely often found that if someone accuses and you are innocent you will immediately react. Samples rejected orders of teacher or friend when they order to do unflavored things, likely favoring arguing to win that conflict with their ideas. When friends cautioned samples on private matters, they were dissatisfied and tell them to mind their business. Sometimes, when samples dissatisfied someone, they were sarcastic to remind them and regularly exploded in class. Sometime, samples boasted on your goodness, and ability to friends. When samples were forbidden to do something samples usually reacted why the person could and favoring lying to elder if erring. If chided when erring, samples would shame them and enjoying provoking friend for anger. If anyone broke samples' belongings or provoking, samples reacted with impolite words. If samples did not know the stealer, samples condemned the person. Sometimes, samples challenged friends to compete. If being punished without erring, samples immediately reacted with dissatisfaction or anger. If dissatisfying anyone, samples likely smash things and talked to none if angry. Being ordered to have overloaded, samples subdued to do and took things of other when they did not see. If thrown at, samples immediately broke that object. Being unreasonably punished or reproached, samples always angered with others or objects and favored damaging things such as writing on tables, walls and in other places, once in while favored criticizing other you dislike to friends. In addition, samples seeing friends tidy teacher's table, samples told friend in

group that the friends were flattering the teacher. If having competitors in studying or other things, samples usually said they could not compete with samples and if overtaken, samples were sarcastic on disliking. If hating some friends, samples insulted them. Samples favored kidding the names of the friends' parents or name odd name to friends to shame them. If being shamed or vengeance, samples immediately disclosed their secrecy. Samples ever threatened those troubled or dissatisfied them. If someone was on your way, samples pushed them away. If insulted or belittled, samples immediately slapped their faces or immediately reproached. Samples used wood or knife to harm those making samples angry, and kicked & boxed or harmed them. Samples enjoyed shaming friends and if wanting to get or to see things of others; samples immediately did it. When someone broke samples' belongings, samples broke theirs for revenge. Samples favored to block walkway by feet for those wimples disliked. If being mocked, samples immediately threw things at the person and favored fighting if challenged or provoked. Self-punishment was taken if doing bad or not reaching expectations. During reading or working if being distracted, samples switched on radio or make loud noise. Samples favored bullying those smaller than them when being dissatisfied. Samples enjoyed suffering animals and enjoyed showing or bullying friends in what they hate or fear, which rarely did.

6.3.5 Opinions on consequences of playing games against learning achievement, it was found that, most samples viewed playing computer games shared reducing friends-friends' learning achievement poorer. Playing computer games ever made samples absent from class and preoccupied samples with games rather than studying at very high level. Playing computer games shared inability to be successful in learning and in working for samples. Playing computer games shared inability for samples to be graduated as timeframe. Playing computer games shared being stressful and dull. Playing computer games shared defecting memory. Playing computer games shared making insufficient rest and found no time for homework at high level. In addition, Most believed that playing computer games shares making learning achievement poorer, dumping diligence, reduced grades or learning achievement and distracted studying at moderate level.

6.3.6 Test of Hypotheses found that:

- The personal data, i.e. individual factors, family factors, social and environmental factors affected games addiction of children and youth. Considering each independent variables, it was found that those affected independent variables (by Sig. order) were normal play games /week (Sig. =.000); Beginning playing game since education level of (Sig. = .000); playing games as a hobby (Sig. = .026); choice of games (Sig. =.033) and average income o f the mother (Sig. = .044) respectively.

- Factors of games addiction affected learning achievement were getting money to school, frequency of playing games/ week, average income of father, source of expenses and besides playing with PC, playing with slot machine and game online. Bring them to be co-analyzed with the dependent variables, i.e. learning achievement of children and youth and found that all independent variables affected or could explain dependent variables by statistical significance at .00 (Sig. = .000). Considering details of each independent variables, it was found that they affected the dependent variables (by Sig. order), i.e. getting money to school (Sig. = .000), average monthly income of father (Sig. = .002), feeling when not playing games (Sig. = .005), expenses on games (Sig. = .008), normal playing games/week (Sig. = .028) and playing games by slot and game online rather than PC (Sig. = .047).

- Factors of game addiction affecting the aggressiveness of children and youth were factors of playing games / week, family conditions, hours of playing game since the past till present, playing slot and game online beside PC, and money paid for playing, getting from affected the aggressiveness of children and youth. Considering details of each variables, it was found that the independent variables affected the dependent variables (by Sig. order), were normal play/week (Sig. = .015), average hours/day played since the past till present (Sig.023), money paid for games got from (Sig. = .026) and family conditions (Sig. = .029) respectively.

6.4 Recommendations from the study

From the Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai it was recommended that

6.4.1 The family institution especially the father and the mother or parents of children and youth should foster love, and bond in the family. This would create linkage between children and the family that parents could advice and hear their problems and their limitations of education, and their lifestyles so that they would have major consultant and some one listened to their troubles. In addition, the family could realize their behaviors and movements in order to prevent them from bias. Moreover, parents should supervised them closely especially with association with friends. Parents should discuss with children before buying games or computer for their home to clearly set rules of playing games in advance on playing timetables or had to complete errands first to deserve playing games. Aren't should have knowledge in playing games and their categories selecting useful games for children, discussed and intervened with knowledge for children and acceptable to them what games were good rather than supported them to play by what matters. It needed good understanding.

6.4.2 Education institutions especially the Ministry of Education adopting computer courses to be taught. It should be cultivation of consciousness for children and youth by cognition to the consequences happened from technology for children parents, teachers, personnel involved in societies. Self-immune should be built for them to realize what wais right and what was wrong.

6.4.3 Many government working units handling problems of game addicted children were split and not cooperated and no unit to take direct responsibility. Most measures dealt with ends and intangible to treat the causes. This affected respective measures of handling by the government related to economy and societies.

6.4.4 The Ministry of Social Human Security Development should set code of conduct among parishioners for real enforcement and acceptable for all parties related to set up ethics for those practitioners involved responsibility for societies such as no game shop located near schools and so on.

6.4.5 Department of Mental Health, Ministry of Public Health should rate or classified games online allowing psychologists, psychiatrists, and behaviorists shared classifying games.

6.4.6 The Ministry of ICT should code laws and clear measures in playing games online, which properly affected controls of nature and contents of the games, duration of games played each day, and shop controls for registration.

6.4.7 Police should patrol jurisdiction endlessly to control shops opened overtime and in-house checking to prevent immoral association within the shop and children to commit crimes.

6.5 Recommendation for further study

6.5.1 Other factors affecting game addiction among children and youth should be investigated.

6.5.2 Game addiction among university students should be investigated.

6.5.3 Game addiction affecting aggressiveness of the vocational students should be investigated.

6.5.4 Game addiction affecting learning achievement of secondary level students in rural areas should be investigated.

6.5.5 Prevention and remedy of game addiction among children and students should be investigated

BIBLIOGRAPHY

Arporn Piyavet. (1995). *Effects of electronics players on communication behavior of the public secondary school students: a case study of the schools in Mahanakorn area, Bangkok.* Master of Arts Thesis, Faculty of Journalism and Mass Communication, Thammasat University.

Chart Prachachuen. *Internet laws (Roo Pai Mod column).* Cited in www.matichon.co.th. March 3, 2005.

Kultida Thamwirat. (1995). *Parents' opinions towards the bahiviors resulting from exposure to video games of the children: a survey of the parents of the male students in the secondary schools in Bangkok.* Master Thesis, Faculty of Journalism and Mass Communication, Thammasat University.

Mark D. Griffiths and Nigel Hunt. (Auguest, 1995). Computer games playing in adolescence: prevalence and demographic indictors, *Journal of Community and Applies Social Psychology.* Plymouth, England.

Nuansiri Parohit. (1985). *Introduction to social psychology*. Department of Psychology, Faculty of Education, Ramkhamhaeng University.

Noppamat Teeravekin. (1991). *Social psychology*. Thammasat University Publishing.

Peera Jirasopon. (1997). *Principle and theory of communication* (2 ed.) Nontaburi: Sukhothai Thammathirat University.

Pitsamai Piboonsawat et al., (1985). *Contemporary social psychology*. Siam Sueksa Publishing, Humanity Textbooks Campaign, Chiangmai University.

Prasit Saichompoo. (1996). *Relationship between self-discipline and study performance of the primary school students in Mae-eye district, Chiangmai*. Master Thesis, Faculty of Graduate Studies, Chiangmai University.

Philip Palmgreen, Lawrence A. Werner and Karl E. Rosengreen. (1995). *Uses and GratificatiResearch: The Past Ten Years*. In Media Gratificatiors Research Current Perspectives. Bevery-Hills:sage.

Renu Jankui. (1995). *Relationship between study performance and moral behaviors of Matthayom 6 students*. Faculty of Graduate Studies, Chaingmai University.

www.chula.ac.th/research.

Rapeeporn Maneepong. *The relationship between game playing factors and their effects on study performance in Matthayom 1*. Master Thesis, Faculty of Education, Chulalongkorn University. 1989.

Research Group of the Medical Science Research Institute, Chulalongkorn University. The behavior of the game playing of the secondary students from the survey of both male and female students at Chulalongkorn University Demonstration School. *Thai Post Newspaper*. 2003.

Sanya Sanyawiwat. (1991). *Socialization theory, establishment, evaluation, and implementation*. Bangkok: Chaopraya Printing.

Sirichai Hongsanguensri & Panom Katemarn. *Game additction*. Cited in www.ramanental.com, Decenber 21, 2006.

Sompop Wachirapong. *An analysis of the children and the teenagers' behaviors in computer game playing.* Master Thesis, Department of Social Science and Humanity, Faculty of Graduate Studies, Mahidol University. 2005.

Somporn Suthatsanee. (1987). Cause-effect factors affecting students' behaviors in Bangkok. Doctoral Dissertation. Department of Psychology, Faculty of Education, Chulalongkorn University.

Suk Detchai, Jiraporn Meesomsup, & Nipon Summa. (1982). *Psychological Factors Contributing to Academic Achievement.* Chiangmai University.

Sucha Chan-em. (1986). *Teenage Psychology*. Bangkok: Thaiwatthanapanich.

Sutthiporn Nirapat. *The relationship between computer game playing and studyperformance and aggressive behavior of the high school students.* Master Thesis, Master of Science, Faculty of Graduate Studies, Chiangmai University. 2004.

Wiliam Strein. (1987). Effect of age and visual motor skill on preschool children' computer game performance : prevalence and demographic indicator, *Journal of Research and Development in education,* 20 (2).

Wipa Uttrachan. (1993). The seminar summary on "*the effects of the video games on children"* by the Information Communication for the Children. The Children Development Foundation and Faculty of Communication Arts, Chulalongkorn University.

Worapot Puangsuwan. (1998). *A study of computer game playing behavior of high school students in Bangkok.* Master Thesis, Thammasat University. (www.dvddiary.net/groovy/forums/index.php?act=Print&client=printer&f=15&t=2290)

www.bangkokhealth.com/children_htdoc/children_health_detail.asp?Number=9406

APPENDIX

Questionnaire

Title

A Study on Factors Affecting Game-addiction among Children and Youth in Bangkok: a case study in the zones of Bangkoknoi and Bangkokyai'

Instructions: complete the blanks or mark √ in the □ factual to you.

Part 1: Individual Factors

1. Age……..years

2. Gender □ Male □ Female

3. Existing education level

□ M .1 □ M .2 □M .3 □M .4 □M .5 □ M .6

4. How do parents pay for your going to school?

□ Daily □ Weekly □ Monthly

4.1 Daily amount……..Baht

4.2. Weekly amount……..Baht

4.3. Monthly amount……..Baht

5. Normally in a week you play games…….

□ Every day □ Alternatively □ Some day (once in 3-4 days)

□ Once in a while or by opportunity □ Others

6. Paying for computer games has been gained from…….

□ Self-collection □ From father and mother □ From siblings

□ From relatives □ From friends □ Others

7. Normally, you mostly play game during….

□ Weekday after school □ Saturdays and Sundays □ Semester holydays

□ Special holidays/ festive holidays □ Others

8. During playing computer games, you mostly play with…….

□ Alone □ Friend □ Siblings □ Parents □ Others

9. You begin playing game at education level of …

□ Primary □ Junior secondary □ Senior secondary □ Others

10.Period of playing games each day

□ 01.00-04.00 Hrs. □ 04.01-07.00 Hrs. □ 07.01-10.00 Hrs.

□ 10.01-13 .00 Hrs. □ 13.01-16.00 Hrs. □ 16.01-19.00 Hrs.

□ 19.01-22.00 Hrs. □ 22.01-24-59 Hrs.

11. Level of your past learning achievement is…

□ Poor □ Fair □ Medium □ Good □ Very good

12. Your GPA is

□ 1.00-1.50 □1.51-2.00 □ 2.01-2.50

□ 2.51-3.00 □ 3.01-3.50 □ 3.51-4.00

13. In the past till present you play…… hours a day

14. Playing games for ……. months since beginning till present

15. If a day you do not play game, you feel….

□ Indifferent □ Stressful □ Irritating □ Others

Part 2 Family factors

1. What is the status of your family (father and mother)?

□ Harmonizing □ Occasionally quarrelling □ Regularly quarrelling

□ Occasionally beating □ Regularly beating □ Others

2. How is your father and mother‘s marital status?

□ Co-stay □ Divorce □ Separated □ Either one deceased

□ Both deceased □ Others

3. Currently, whom do you stay with?

□ Father and mother □ Sibling □ Friend □ Alone □ Others

4. Your father’s occupation

□ No occupation/jobless □ Civil servant □ State enterprise employee □ Company employee

□ Private business □ Trader □ Common labor □ Farmer

□ Others

5. Your mother’s occupation

□ No occupation/jobless □ Civil servant □ State enterprise employee □ Company employee

□ Private business □ Trader □ Common labor □ Farmer

□ Others

6. Your father’s monthly average income (every income)

□ No income □ < 5,000 Baht □5,000-7,000 Baht □ 8,000-10,000 Baht

□ 9,000-12,000 Baht □ 12,000-15,000 Baht □ > 15,000 Baht □ Others

7. Your father’s monthly average income (every income)

□ No income □ < 5,000 Baht □ 5,000-7,000 Baht □ 8,000-10,000 Baht

□ 9,000-12,000 Baht □ 12,000-15,000 Baht □ > 15,000 Baht □ Others

8. Do tour father and mother know when you play games?

□ Yes □ No □ Others

Part 3 Social and Environmental Factors

1. Where do you mostly play computer games at?

□Home □ Shop □Friend's home □Department store □Others

2. What computer theme do you normally favor best? (ordering: 1= best; 5 = least)

□Action /escape □Cannoning □Simulation

□Sports □Strategic planning □Racing

□Adventuring □Fighting □Brain sharpening

□Role playing □Others

3. You have played games for……..months.

4. You have studied computer games from book manual before playing

□ Every time □ Occasionally □ Never □ Other

5. Besides studying computer games from book manual; you studied from Internet….

□ Yes □ No □ Others

6. Besides playing computer games from PC, you play with slot games and games online….

□ Yes □ No □ Others

7. Deciding on most computer games; you consider them from….

□ Theme favorite □Content or technique □ Recommended by friend or siblings

□ By trends and peer group □Approval from parents □Other

8. Most computer games played are co-examined by parents in buying

□ Every time □ Occasionally □ Never □ Other

9. You play computer games as a hobby or not…

□ Yes □ No □ Others

Part 4 Factors of Various Behaviors

Question: How often you have behaved following conducts?

Descriptions	Levels of Opinions				
	Regularly	Frequently	Likely frequen	Occasionally	Never
1. Rejecting orders of teacher or friend when they order to do unflavored thing.					
2. Seeing friends tidy teacher's table, you tell friend in group that the friends are flattering the teacher.					
3. Favoring arguing to win those conflicts with their ideas.					
4. When friends caution your private matters, you are dissatisfied and tell them to mind their business.					
5. Sometimes, when you dissatisfy someone, you are sarcastic to remind them					
6. You regularly explode in class.					
7. Sometime, you boast on your goodness, and ability to friends.					
8. When you are forbidden to do something you usually react why the person can.					
9. Favor lying to elder if erring					
10. If chided when erring, you will shame them					
11. Enjoying provoking friend for anger.					
12. If anyone breaks your belongings or provoking, you react with impolite words.					
13. If you do not know the stealer, you condemn the person.					
14. Sometimes, you challenge friends to compete with you.					
15. If someone accuses and you are innocent you will immediately react.					
16. If you have competitors in studying or other things, you usually say they cannot compete with you.					
17. If overtaken, you are sarcastic that you dislike.					
18. If you dislike some friends, you insult them.					
19. You favor kidding the names of your friends' parents or name odd name to friends to shame them.					
20. If you are shamed or vengeance, you immediately disclose their secrecy.					

Descriptions	Levels of Opinions				
	Regularly	Frequently	Likely frequen	Occasionally	Never
21. If you are punished without erring, you immediately react with dissatisfaction or anger.					
22. Ever threatening those trouble or dissatisfy you.					
23. If you dissatisfy anyone, you likely smash things					
24. You talk to none when you are angry.					
25. If someone is on your way, you push them away.					
26. If insulted or belittled, you immediately slap their faces or immediately reproach.					
27. Using wood or knife to harm those making you angry.					
28. Kick & box or harm those making you angry					
29. Enjoy shaming friends.					
30. Want to get or to see things of others; you immediately do it.					
31. Being ordered to have overloaded, you subdue to do.					
32. When someone break you belongings, you break theirs for revenge					
33. You take things of other when they do not see.					
34. Favor to block walkway by feet for those you dislike.					
35. If being mocked , samples immediately throw things at the person					
36. Favor fighting if challenged or provoked.					
37. Self-punishment taken if doing bad or not reaching expectations.					
38. If thrown at, you immediately break that object.					
39. Being unreasonably punished or reproached, you always anger with others or objects.					
40. During reading or working if being distracted, you switch on radio or make loud noise.					
41.Favor bullying those smaller than you are when being dissatisfied.					
42. Enjoy suffering animals					
43. Favor damaging things such as writing on tables, walls and in other places.					
44. Favor criticizing other you dislike to friends					
45. Enjoy showing or bullying friends in what they hate or fear.					

Table 5: Opinions of games' consequences against learning achievement

Question: To what extent the computer games affect your learning achievement?

Descriptions	Levels of opinions				
	Most	Much	Moderate	Little	Least
1. Playing computer games shares making learning achievement poorer.					
2. Playing computer games shares dumping your diligence.					
3. Playing computer games shares reducing grades or learning achievement.					
4. Playing computer games shares inability to be successful in learning and in working.					
5. Playing computer games shares inability to be graduated as timeframe.					
6. Playing computer games shares being stressful and dull.					
7. Playing computer games shares defecting memory.					
8. Playing computer games shares making insufficient rest.					
9. Playing computer games shares reducing friends-friends' learning achievement poorer.					
10. Playing computer games ever makes you absent from class.					
11. Playing computer games distracts your studying.					
12. Playing computer games makes you find no time for homework.					
13. Playing computer games preoccupies you with games rather than studying.					

Additional Suggestions (if any)

.....

.....

.....

.....

.....

.....

Thanks for kind cooperation

The degree of Master of
Arts (addictionlogy)
Faculty of graduate study
Mahidol University

July 2007

Dear Sirs:

My name is MR.TREERAT YOCHANUNG the student of addictionlogy in the faculty of graduation study had studied in “FACTOR AFFECTED GAME ADDICTION FOR JUVENILE IN BANGKOK: CASE STUDY IN BANGKOK NOI AND BANGKOK YAI DISTRICT”

In this case I would like you to fill the questionnaire with your knowledge, experience and understanding. This information will be useful to my thesis and this information that I had would not be reveal.

Faithfully yours
MR.TREERAT YOCHANUNG

BIOGRAPHY

NAME	Mr. Treerat Yochanung
DATE OF BIRTH	October 11, 1981
PLACE OF BIRTH	Cholburi Province, Thailand
EDUCATION	Mahidol University, 2004 B.Sc. (Sports) Mahidol University, 2008 M.A. (Addiction Sciences)
RESEARCH GRANT	This thesis / dissertation is partially supported by Graduate Studies of Mahidol University Alumni Association
RESIDENCE	2234/805 M.1. Tambol Sattahip, Amphoe Sattahip, Cholburi Province Thailand