

The Influence of Technology on the Elementary School Children's Aggressive Behavior in Bangkok, Thailand

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Abstract: *This study is about The Influence of Technology on Elementary School Children's Aggressive Behavior in Bangkok, Thailand. The purposes of this study were: 1) to examine technological factors which influence aggressive behavior in the elementary school children in Bangkok, Thailand, 2) to examine the personal factors of the respondents who were related to the elementary school children in Bangkok, Thailand, who influence the aggressive behavior of children in the elementary school. This study was quantitative research, and the researchers had studied from the sample group, which were the people who associated or had a close relationship with elementary school children in Bangkok, for the sample size for this project will be 385. The studying methods included a survey to collect the information, Descriptive Statistics, such as Reliability, Percentage, Arithmetic Mean, Standard Deviation, and Inferential Statistics, such as Multiple Regression Analysis and Simple Regression Analysis at a statistically significant confidence level of 0.05. According to the study result, it showed that technological factors impact elementary school children's aggressive behavior in Bangkok, Thailand.*

Keywords: Technological, Technology Acceptance Model (TAM), Aggressive behavior, Children's Aggressive Behavior, Elementary School

1. Introduction

Nowadays, technology has been an important part of human's daily life so much that people can create an educational innovation and the new knowledge from it. As a result, these outcomes affect the economy, societies, politics, cultures, and environments. Moreover, technology gives a faster access to wider knowledge, enabling people living around the world to communicate and exchange information. Therefore, it can be reasonably said that humans cannot live without technology. In the present days, technology is a fundamental element of life and a major factor to develop the world's society. When the society is aware of the importance of making technology a part of their life, people who are involved with kindergarten children whether parents, guardians, kindergarten teachers, early childhood care workers, including international and domestic academicians, try to make efforts on inventing educational processes that meet children's needs. As a consequence, children can live in a fast-progressive society. (Panida Charttayapha, 2016) stated that for primary-school-aged children, besides from their body and intelligent development, they also dwell on the processes of social and emotional development.

According to "Thai children's online gaming situation" problems, the research was conducted from September to October 2019, subjecting on a total 3,056 of students from grades 6-12; comparing high vocational students and technical vocational students from all regions of the country. It indicates that a certain situation exists in almost every household: 89.33% of the majority of the subject, or 2,730 people, have played online games. Furthermore, children who play online games play games almost every day around 3-5 hours or 64.66 percent whether it is on weekdays or the weekends. Also, If the children live in Bangkok, the

researcher found that 8.1% of them spend more than eight hours a day playing games, and a majority of them (71.22%) live at their home or the dormitory, while the others 17.55% spend time playing games at their school. Nowadays, the situation has changed: instead of going to game stores, children can play games on their smartphones anywhere and anytime. The game stores gradually transform into E-Sport sports federations that have bedrooms and bathrooms for players. However, the researcher stated that the factors that encourage children to play online games are mostly because of friends, others are an online information and the understanding that E-sport is also a type of sport (Teerarat Phantawee, 2019). These factors lead to the upcoming problems in which children are too addicted to technology, leading them to act aggressively. For instance, recent news reporting that a fourth-graded student, who studied at Sukhanaree school at Nakhonratchasima, shot his friend and severely injured him. It was reported that the boy had rather delinquent and aggressive behavior. He usually bullied his friends violently, and his parents had to apologize many times. Before the incident, the boy pulled out the gun and intimidated another boy named B (alias name), who did not go along well with him. He acted as he was going to shoot, but B ran out of the room, so A (alias name) instantly shot once. Suddenly, the other friend named C (alias name) came between their way, so he got shot under his right breast, and the bullet went through his left back, severely injuring him as mentioned previously. The boy A insisted that it was not an accident, but he had intended to shoot the other boy, but he missed, so he shot C who did not know anything. His parent believed that did not expect that the shooting would hurt his friend this severely and had to be rushed to the hospital to undergo the operation to save his life. Moreover, parents need to take care of their children's behavior, especially when playing violent games, as children might imitate the violence from the games. Therefore, WHO

(World Health Organization) has announced “Gaming Disorder” one of the psychiatric disorders caused by an addictive behavior similar to a drug addiction, which is an obstacle to children’s brain and behavioral development. After Thailand announced E-sport to be a type of sport, the number of children addicted to the games consulting with the Department of Mental Health has increased seven times. It shows that before announcing E-sport a type of sport, Thailand should be prepared and have a clearer measurement. For example, in foreign countries, there is the rule forcing children under 18 to register before playing games, forbid competitions in schools, and restrict phone using in schools. Another important cause of Gaming Disorder is a misunderstanding from parents, who think that children being with the technology in their sight is not that dangerous. Playing games until they become addicted to them will worsen their development also and affect their health (YongyuthWongpiromsan, 2019), which games are considered to be a fun and entertaining technology to the nowadays users that affect children’s behavior to change.

As stated in the previous information, the researchers were interested to study technological factors that influence aggressive behavior in elementary school children in Bangkok. Next, the researchers wanted to study the children in elementary school through observation from their related people. Lastly, the researchers wanted to use the information from the research to be a way of solving the aggressive behavior in elementary school children. As for parents, teachers, or people related to the children, they can use the information to plan and improve learning and teaching methods by adapting the technology to the fullest benefits and accord with the present world.

2. Literature Review

2.1 Technological Theory

(KarehkaRemey, n.d.) stated that technology means the application of knowledge comprising of machinery manufacturing, evaluating, and knowledge transferring. The word “technology” is extensive, but we use technology on daily basis. Therefore, it can be explained that technology is the equipment or process which offers convenience to our life. We use technologies to expand our limits, making humans the most crucial part of any technological system. As consistent with (Napongza02, 2014), who said technology was what human develops, for it can help we work or solve problems, for instance, equipment, machine, material or even intangible matter like processes. Technology is an adaptation of scientific knowledge for practical purposes and makes the most use of it for humankind. One difference between technology and science is that technology depends on economic factors. It is a tradable product whilst scientific knowledge is a common property of mankind and can be shared without any restriction. In short, the existence of modern technologies bases on scientific knowledge. Moreover, characteristics of

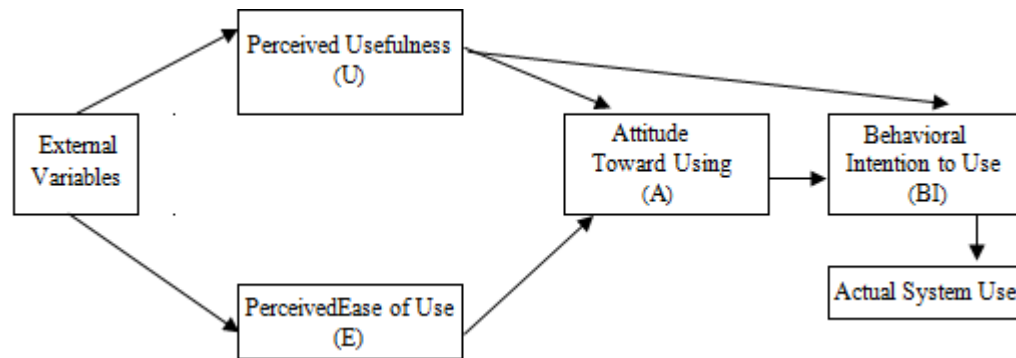
technology can be divided into three categories (Heinich, R., et al., 2001):

- 1) Technology in the Form of Process means the processes of using scientific processes and gathering associated knowledge for practical results and believing that these results are reliable for problems solving.
- 2) Technology in the Form of Product means material and equipment gained from the use of technological processes.
- 3) Technology in the Form of Process and Product is, for example, a computer system that consists of interacting processes between programs and biotechnologies.

(TrinPhoraksa, 2018) said that the format of media had influences on minors. In foreign countries, there is research on how the media affects many children’s behavior by focusing on particular things that often exist on a teen’s daily basis. For example, TV shows, movies, video games, YouTube, Snapchat, Instagram, and especially impolitely rap songs that are popular among adolescences. Therefore, it can be reasonably said that technology is important to life, society, and environment and is related to human’s daily routine which human always associate and make use of technology for their needs. Moreover, technology needs to be used appropriately by considering the effects on life, society, and the environment.

Technology Acceptance Model: TAM

(Davis F.D., 1989 referred to Singha Chaweek and SununtharVongiaturat, 2013) that Technology Acceptance Model: TAM is an extended theory developed from Theory of Reasoned Action: TRA (I. Ajzen and Fishbein, 1980), which involves understanding and predicting human behavior. TRA is one of the social psychological theories that is used to study human behavior the most. According to the theory, the explanation of the relationship between beliefs and attitudes toward behaviors is that changes in human behavior are caused by changes in their beliefs. People will show their behavior as they think it is a proper thing to do because they will always consider the reasons from their pre-existing information before making a decision. As a result, TRA is adapted to study the technology acceptance of the individual. In terms of TAM, it is used to study the relationship of perceived usefulness, perceived ease of use, and technology acceptance, which TAM is about understanding and predicting human behavior. The Technology Acceptance Model explains user’s technology acceptance based on the attitude of the users. The model offers a beneficial tool to predict and analyze technology usage, especially when people were deciding whether to bring in the technology. For the past 20 years, the researchers had used Technology Acceptance Model to explain the information technology of humans, and it is proven that Perceived Usefulness (PU), Perceived ease of USE (PEOU), are the factors leading to technology usage of each person.



Picture 1: Technology Acceptance Model (TAM)

Source: Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, p.319-340

External Variables are the influence of the external variables that create a perception of a person, such as belief, experience, knowledge, understanding, and social behavior. This affected to Perceived Usefulness (U) and Perceived Ease of Use (E).

Perceived Usefulness (U) is a level of the users who believe technology will help them increase their work efficiencies, such as reducing time and working process, reducing an operation budget, and increasing work speed and efficiency. If the benefits of the technology meet the users' needs, it will lead to technology acceptance and use afterward, which the researchers found that Perceived Usefulness highly influence technology acceptance of the users.

Perceived Ease of Use (E) is a level of the users who believe technology must be easy to use, which they can use without the efforts and learn to use technology without being a specialist. Perceiving that technology helps ease their work making technology become a facility. Formerly, manual working might be slow or obstructed, so after bringing technology in to use, it makes the work finished faster and more efficient, Perceived Ease of Use influences the attitude toward using.

Attitude Toward Using (A) is an attitude of the users toward technology. For example, feeling interested to use, like, or dislike that technology. Attitude Toward Using is influenced by Perceived Usefulness and Perceived Ease of Use, and it will lead to Behavioral Intention to the technology.

Behavioral Intention to Use (BI) is a level of the users who need and intend to use the technology. Behavioral Intention is influenced by Perceived Usefulness and Attitude Toward Using of the technology. However, some research found that Behavioral Intention is influenced by Perceived Ease of Use (Rigopoulos et al., 2008; Weng et al., 2018), which Behavioral Intention will directly affect Actual to Use.

Actual System Use means accepting technology and practically use it, which Attitude Toward Using technology is an important variable that affects Actual to Use.

2.2 Concepts about Aggressive Behavior

("Human behavior", n.d.) stated that Human behavior is a conduct that human acts or reacts when facing stimulus, or in certain situations. Those conducts might be observable and measurable, such as walking, speaking, writing, thinking, or heart beating. Moreover, the stimulus that arouses human behavior can be Internal Stimulus and External Stimulus. There are two types of the stimulus, which are:

- 1) Internal Stimulus, a stimulus caused by physical needs, such as hunger and thirst. This Internal Stimulus has the most influence in arousing the behavior in childhood and will depreciate when growing up.
- 2) External Stimulus, a stimulus caused by the social environment that can be perceived with The Five Senses, which are hearing, sight, smelling, taste, and touch. When being in a society, the External Stimulus will influence more in determining how a person reacts to other people. In this research, the External Stimulus is "Technology."

(ChakritRimpanich, et al., 2020) stated that Aggressive Behavior is a behavior that can cause harm to the bodies, properties, and feelings of surrounding people, and having an aggressive behavior can worsen or end your relationship with other people. When you enter the time of Aggressive Behavior, you will feel irritated, uneasy, impulsive, and difficult to control your own behavior. During this time, you may not be able to think or restrain your mind on what behavior is appropriate to others, which the aggressive behavior can be seen obviously or suppressed inside. In case of violent anger explosion sometimes, it is considered normal in some situations. However, if you notice that you often act aggressively or realize that it is not normal, you should see a psychiatrist to understand the cause of your aggressiveness and find a proper solution afterward.

The causes of the aggressive behavior and having bad temper are from many factors that affect your emotions and behavior, which are health, mental health, family, relationship with others, environment in work or school, social or personal factors, life experience and medical abnormalities. Some of the medical abnormalities can affect mental health and lead to the aggressive behavior, such as Autism, ADHD, Bipolar Disorder, Schizophrenia, Conduct Disorder, Intermittent Explosive Disorder, and PTSD.

2.2.1 Aggressive Behavior in Children

Aggressive behavior in children is caused by many factors, such as the low ability to coexist in society, abnormalities or hidden diseases, stress, or feeling physically and emotionally uncomfortable. Your children may imitate aggressive or violent behavior from what they see in their daily life, in order to attract attention from others, such as family members, advisory teachers, or classmates. They will be encouraged to show these behaviors more if parents unintentionally support the behaviors, by neglecting or rewarding when they have aggressive behaviors. Sometimes, children may explode their violent emotions due to being scared or paranoid. You may find that your children aggressive when they want to deal with problems or confusion by themselves, which accords with (Jar Walker, 2017) that the causes of the aggressive behaviors are caused by many factors as the following:

- 1) **Behaviors of their age** Children at age 2-5 do not have emotional development. They lack self-control and are self-centered, making them show aggressive behavior sometimes. For example, crying loudly when they do not get the toys, or beat people who approach their mother because they grudge. For these cases, parents need to teach them and calm their temper.
- 2) **Brain Disabilities** If a part of the brain that controls emotions is damaged, it causes a violently aggressive emotion. For example, children with Attention Deficit Hyperactivity Disorder cannot stay still. When they cannot get what they want, they will express their emotions violently, whether by vandalizing or hurting other people. Furthermore, it can be caused by physical imperfections, such as epilepsy, autism, intellectual disability, including drug addictions that can stimulate the brain, leading to violent behaviors.
- 3) **Mental Health** Mental health problems can happen from a young age until the adolescent period, as they will face stress and worry. Since they are still young, they lack maturity and express those emotions out with violent words or actions.
- 4) **Upbringing** Children who come from a family that always spoil them never have any self-discipline. When they come out to live in a society and have to follow the rules, they will feel against those rules and express it violently, thinking that they are forced to follow those rules, but actually, they are indulged for so many times until they get used to it.
- 5) **Environments** Children who play computer games, use smartphones or watch televisions for more than two hours a day will have Imitation Behavior and unwarily accumulate stress in their brain, behave aggressively. This also includes children who live in a violent environment. If their parents or siblings always hit and scold each other, they will remember those behaviors and imitate them.

Therefore, when the Internet Society has been booming developed in the last 10 years, resulting in "Children addicted to games." It is a term that describes children who have a desire to play games almost all the time until it affects many aspects of the development, whether it is a reduction in social interaction, irritability, or lack of concentration. In other words, they play games until they do not care about themselves and others. The main symptoms

of game addiction are similar to those of drug addicts, which are having to play more and more games, wanting or craving games all the time. When playing games, they cannot control their playing, which the game is another technology that causes children to be addicted. The causes of children addicted to games are from many factors, whether it is heredity, emotional background of children who always want something new, including the cause from childhood psychiatric disease known by many parents, which is ADHD. All of this cause the children's brain to change. In the early stages, when children start playing games, especially intense and fast-paced games, the brain releases a chemical of happiness, and the body reacts more by playing the game. When they play games later, the brain chooses to catch on to familiar triggers and reduce the response to the old triggers. It gives us the impression that children addicted to games do not enjoy anything except the games and will keep playing more. Consequently, it becomes a never-ending response cycle (Songphoom Benyakorn, 2020)

2.2.2 Theories About Aggressive Behavior

There are many theories that can explain aggressive behavior (TrinPhoraksa, 2018), which are the followings:

1. **Psychoanalytic Theory** of Sigmund Freud, also known as Psychodynamic (Siegel & Welsh, 2016: 81). It is a theory that explains aggressive behavior based on psychology. Freud explained that aggressive behavior was an instinct that had been attached to humans since birth. This aggression is classified in the same category as the sexual desire, which is the physical need of human beings that needs to be drained. Aggressive behavior is classified under the ID or raw intuition, which the ways of discharging it can be done, but must be within the accepted boundaries of the society, such as playing sports, exercising, etc. If aggression is released in a form that is unacceptable to society, such as hurting one's own body or others, it will ultimately result in a crime.

2. **Learning Theory** is a theoretical form explaining that the development of individual personalities comes from learning from close people, whether from family, school friends, colleagues and from contacting with different friends. Learning the behavior in which a person interacts directly with the subject will eventually result in the person being able to assimilate the behavior and create his own character. However, the interactions do not require direct communication or experience with the role model, but they can also be absorbed from observing unilateral behavior, such as a child involved in a beating or assault. The child will experience the assimilation of violent events and eventually cultivate the character of the child or being in a family with physical abuse, etc. The first criminologist to come up with a theory to explain how crime is learned is Gabriel Tarde, who introduced the Imitation Theory, explaining that humans learn concepts by associating with others, and this idea itself has resulted in a person's behavior. Tarde presented it in the form of the law of imitation and explained that a person mimics another person in proportion to his close contact with that person, which the imitations occur more or less depending on the number of interactions with others (PonchaiKhantee, Kritsanapong Phutrakul and Jomdet Treemek, 2015: 221)

3. **Differential Associations Theory** The author of the Different Association theory is Edwin Sutherland, who is regarded as one of the most prominent criminologists of the 20th century. He had explained that Criminal Behavior and Deviant Behavior were learned from close people (Krissarin Raksakaew and Nantiya Duangphummet, 2017: 157), which is consistent with the Imitation Theory, where learning comes from associating with others through communication or interaction. Most of which happened in a group of people who are very close to each other, or from admirable and powerful people such as celebrities, singers, head of the mafia gang, and gangsters (PornchaiKhantee, Kritsanapong Phutrakul, and Jomdet Treemek, 2015: 226)

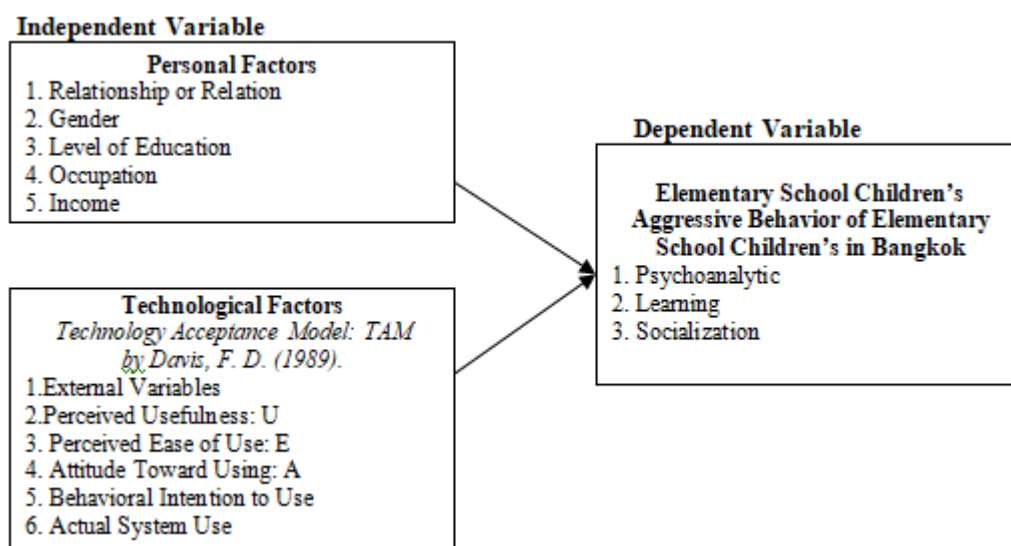
4. **Socialization Theory** is something that happens only in human society, and refining behavior will take place from childhood to adulthood. This is because human beings are social animals. There is coexistence and interaction with each other (Social Interaction). Therefore, socialization is a principle of practice that people must learn values, orders, and the rules of a particular group, so that members can live together and adapt themselves to society peacefully (wong). Without socialization, human beings lose the learning process, lose accepting values, and lose contact with others, resulting in being unable to live with others in society. The reasons are because they are different and have not learned the mainstream lifestyle. It may result in aggressive, violent, uncontrollable behavior as they have not been taught and do not know what is right or wrong, and what should or should not do.

5. **Social Control Theory** of Travis Hirschi's, also known as The Social Bond Theory. He had explained that people with

deviant or violent behaviors have a persistent desire to act, so social control is necessary. If it is not efficient enough, those people will commit a crime. The components of social control are:

- a) **Attachment** means a bond with an individual, or a beloved and respected institution, such as parents, siblings, schools, temples, etc.
- b) **Commitment** means binding themselves to correct social patterns, such as spending time to study and committing yourself to such things is a matter of investing in life.
- c) **Involvement** refers to involvement in specific activities that will lead to the success of the goals that have been set. This is a matter of time spending, determination and energy to carry out a particular activity. This will prevent them from being involved in wrongdoing or deviant behavior.
- d) **Belief** means acceptance of the rules of society, which are rules that are accepted by the general public, which are law and moral rules. If people have belief and respect in these rules regularly, they will not go to commit any crimes (Annop Chubamrung and Unisa Lerttomornsakul, 2012: 225)

Therefore, the researchers have applied the theories of aggressive behavior to study in this research, namely Psychoanalytic Theory, Learning Theory, and Socialization, which the researchers have applied concepts and theories to use as a study guideline and have set the following conceptual framework:



Picture 2: Conceptual Framework

3. Study method

In this research on The Influence of Technology on The Elementary School Children's Aggressive Behavior in Bangkok, Thailand, the researchers had studied by collecting the primary data, which the researchers collected by themselves. That is, a survey questionnaire was used to collect data from a sample of 385 people who were related to elementary school children. Next, the secondary data

collection is the data that the researchers did not collect but other people or other agencies already collected. For example, thesis, newspaper, journals, and media. However, in this research, the researchers were unable to determine the exact number of people who related to the children. Therefore, the researchers used the formula for determining the sample group with the infinite population size and set the reliability at 95% and the error in the estimation is not more

than 5% (Referred to Kalaya Vanich Bancha, 2002) as the following formula:

$$\text{Formula } n = \frac{z^2}{4e^2}$$

Where

n is to sample size of this project.

z^2 is standard normal value obtained from the standard distribute normal table, depending on the determined reliability, which is 95% (equal to 1.96)

$4e^2$ is the error in estimate the proportion of the population, which is not more than 5% (equal to 0.05)

$$\text{Substitute } n = \frac{(1.96)^2}{4(0.05)^2}$$

$$n = 384.16$$

Therefore, the sample used in this research was 385 people.

The researchers handed out the online survey questionnaire using a random sampling method, which divides into three parts:

Part 1: Demographic characteristic that is personal or general information of the respondents, consisting of gender, level of education, occupations, and income.

Part 2: Technological factors influencing the aggressive behavior of elementary school children, including External Variables, Perceived Usefulness, Perceived Ease of Use, Attitude Toward Using, Behavioral Intention, and Actual to Use.

Part 3: The aggressive behavior among children during elementary school age in Bangkok, Thailand, such as Psychoanalytic, Learning, and Socialization.

For Part 3, there are open-ended questions, such as the Likert Scale (Likert R., 1932: 5-53) and a Rating Scale to classify Interval Scale. The score was divided into 5 levels, and there is a criterion for discussion of research findings of the questionnaire characteristics that uses Interval Scale, by calculating Class Interval, in accordance with Range principle.

$$\text{Interval Scale} = \frac{\text{maximum score} - \text{minimum score}}{k}$$

$$= \frac{5-1}{5}$$

$$= 0.8$$

From the above criteria, the score can be summarized as follow:

Likert Scale	Mean	Range Interpretation
1	4.21 – 5.00	Strongly Agree
2	3.41 – 4.20	Somewhat agree
3	2.61 – 3.40	Neutral/ No Opinion
4	1.81 – 2.40	Somewhat Disagree
5	1.00 – 1.80	Strongly Disagree

4. Study Results and Discussion

The inspection result of research tools with Reliability is conducted using statistical tools to find the Reliability

through Cronbach's alpha coefficient. The Reliability rate is at 0.817, which is considered a satisfactory level. This number shows that the survey is reliable and can be used to study the actual subject groups using descriptive and inferential statistics, which is analyzed by the following methods.

4.1 The Analyzing Result by Using Descriptive Statistics

The analysis of general individual personal information found that most people are fathers, mothers, and females. Their educational level is a bachelor's degree and they work for the government or state enterprises. The monthly income is around 10,000-30,000 baht. According to the analyzation of technological factor, it found that all children in custody of Bangkok have experience with the technology and easy access to it. As a result, children have positive attitudes towards technology and learn to use it to help them do homework, such as finding information. Being able to access to technology easily makes children learn more and improve their perspectives towards the technology. If it is controlled, it can meet the needs of elementary school students. Moreover, most children in Bangkok actively use technology in their daily life up to seven times per week, to increase efficiency of doing homework and sometimes they use Youtube, which the respondents of the survey think that most children have problems with technology usage.

4.2 The Analyzing Result by Using Inferential Statistics

By considering personal factors of the respondents and technological factors that influence the aggressive behavior in each category, the statistical result is as follow:

1) Analyzing result with Multiple Regression Statistics to find out personal factors of the respondents that influence the elementary school children's aggressive behavior in Bangkok

H_0 : Personal factors of the respondents that influence the elementary school children's aggressive behavior in Bangkok.

H_1 : Personal factors of the respondents that do not influence the aggressive behavior in of elementary school students in Bangkok.

Table 1: Testing result of technological factors that influence the elementary school children's aggressive behavior in Bangkok by using **Multiple Regression Statistics**

Personal Factors	Aggressive Behavior (Psychoanalytic)				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	4.790	0.363		13.187	0.000
Relationship or relation	-0.236	0.073	-0.210	-3.245	0.001*
Gender	-0.142	0.109	-0.066	-1.308	0.192
Level of education	0.023	0.069	0.017	0.329	0.742
Occupation	-0.134	0.050	-0.173	-2.681	0.008*
Income	-0.153	0.069	-0.112	-2.224	0.027*

$R = 0.210^a$, $R \text{ Square} = 0.044$, $\text{Adjusted } R \text{ Square} = 0.032$, $\text{SEE} = 0.905$

(* 0.05 statistically significant confidence level)

From Table 1, personal factors of the respondents that influence the elementary school children's aggressive behavior in Bangkok by using Multiple Regression Statistics can be written in the following forecasting equation:

$$\hat{Y} = 4.790 - 0.236 (\text{The relationship between you and children in your care}) - 0.134 (\text{Occupations}) - 0.153 (\text{Monthly income})$$

In summary, the analysis of Multiple Regression to test the statistically significant confidence level towards the elementary school children's aggressive behavior in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of the aggressive behavior (R^2) is equal to 0.044, meaning that the relationship between you and children in your care, your occupation, and your monthly income mutually vary by 4.4 as a percentage. When considering the regression coefficient with a standardized score (β), the study found that the best personal factors of the respondents that influence the elementary school children's aggressive behavior in Bangkok are the relationship between you and children in your care ($\beta = 0.210$). The other subordinate factors are occupations ($\beta = 0.173$), and monthly income ($\beta = 0.112$) respectively. According to the testing result of the statistically significant confidence level, the Sig. is equal to 0.004, which is less than 0.05. It shows that H_1 is rejected and H_0 is accepted, meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

2) Analyzing results with Multiple Regression Statistics to find out technological factors that influence the aggressive behavior in the Psychoanalytic side of elementary school students in Bangkok

H_0 : Technological factors that influence the aggressive behavior in the Psychoanalytic side of elementary school students in Bangkok.

H_1 : Technological factors that do not influence the aggressive behavior in the Psychoanalytic side of elementary school students in Bangkok.

Table 2 Testing result of technological factors that influence the aggressive behavior in the Psychoanalytic side of elementary school students in Bangkok by using Multiple Regression Statistics

Technological Factors	Aggressive Behavior (Psychoanalytic)				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	4.649	0.577		8.059	0.000
External Variables	0.056	0.275	0.008	0.203	0.839
(Perceived Usefulness	-1.019	0.280	-0.150	-3.642	0.000*
Perceived Ease of Use	0.102	0.110	0.036	0.930	0.353
Attitude Toward Using	-0.987	0.201	-0.201	-4.909	0.000*
Behavioral Intention	1.020	0.081	0.505	12.638	0.000*
Actual to Use	-0.628	0.194	-0.130	-3.232	0.001*

$R = 0.658^a$, R Square = 0.433, Adjusted R Square = 0.424, SEE = 0.916

(* 0.05 statistically significant confidence level)

From Table 2, technological factors that influence the aggressive psychoanalytic behavior of elementary school students in Bangkok by using Multiple Regression can be written in the following forecasting equation:

$$\hat{Y} = 4.649 - 1.019 (\text{Perceived Usefulness}) - 0.987 (\text{Attitude Toward Using}) + 1.020 (\text{Behavioral Intention}) - 0.628 (\text{Actual to Use})$$

In summary, the analysis of Multiple Regression to test the statistically significant confidence level toward the aggressive psychoanalytic behavior of elementary school students in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of aggressive behavior (R^2) is equal to 0.433, showing that Perceived Usefulness, Attitude Toward Using, Behavioral Intention, and Actual to Use mutually vary by 43.2 as a percentage. When considering the regression coefficient with a standardized score (β), the study found that the best technological factor that influences the aggressive psychoanalytic behavior of elementary school students in Bangkok is Behavioral Intention ($\beta = 0.505$). The other subordinate factors are Attitude Toward Using ($\beta = 0.201$), Perceived Usefulness ($\beta = 0.150$), and Actual to Use ($\beta = 0.130$) respectively. According to the testing result of the statistically significant confidence level, the Sig. is equal to 0.000, which is less than 0.05. It shows that H_1 is rejected and H_0 is accepted, meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

3) Analyzing results with Multiple Regression Statistics to find out technological factors that influence Learning elementary school children's aggressive behavior in Bangkok

H_0 : Technological factors that influence Learning elementary school children's aggressive behavior in Bangkok.

H_1 : Technological factors that do not influence Learning elementary school children's aggressive behavior in Bangkok.

Table 3: Testing result of technological factors that influence Learning elementary school children's aggressive behavior in Bangkok by using Multiple Regression Statistics

Technological factors	Aggressive Behavior (Learning)				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	5.134	0.493		10.409	0.000
External Variables	-0.486	0.235	-0.090	-2.069	0.039*
Perceived Usefulness	-0.671	0.239	-0.124	-2.806	0.005*
Perceived Ease of Use	0.073	0.094	0.032	0.774	0.439
Attitude Toward Using	-0.483	0.172	-0.123	-2.811	0.005*
Behavioral Intention	0.689	0.069	0.427	9.990	0.000*
Actual to Use	-0.743	0.166	-0.193	-4.478	0.000*

$R = 0.592^a$, R Square = 0.351, Adjusted R Square = 0.341, SEE = 0.783

(* 0.05 statistically significant confidence level)

From Table 3, technological factors that influence the aggressive behavior in Learning of elementary school students in Bangkok by using Multiple Regression can be written in the following forecasting equation:

$$\hat{Y} = 5.134 - 0.486 (\text{External Variables}) - 0.671 (\text{Perceived Usefulness}) + 0.689 (\text{Behavioral Intention}) - 0.743 (\text{Actual to Use})$$

In summary, the analysis of Multiple Regression to test the statistically significant confidence level towards Learning elementary school children's aggressive behavior in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of aggressive behavior (R²) is equal to 0.351, showing that External Variables, Perceived Usefulness, Attitude Toward Using, Behavioral Intention, and Actual to Use mutually vary by 35.1 as a percentage. When considering the regression coefficient with a standardized score (β), the study found that the best technological factor influencing the Learning elementary school children's aggressive behavior in Bangkok is Behavioral Intention ($\beta = 0.427$). The other subordinate factors are Actual to Use ($\beta = 0.193$), and Perceived Usefulness ($\beta = 0.124$), Attitude Toward Using ($\beta = 0.123$), and External Variables ($\beta = 0.090$) respectively. According to the testing result of the statistically significant confidence level, the Sig. is equal to 0.000, which is less than 0.05. It shows that H₁ is rejected and H₀ is accepted, meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

4) Analyzing results with Multiple Regression Statistics to find out technological factors that influence the aggressive behavior in Socialization of elementary school students in Bangkok

H₀: Technological factors that influence the aggressive behavior in Socialization of elementary school students in Bangkok.

H₁: Technological factors that do not influence the aggressive behavior in Socialization of elementary school students in Bangkok.

Table 4: Testing result of technological factors that influence the aggressive behavior in Socialization of elementary school students in Bangkok by using Multiple Regression Statistics

Technological Factors	Aggressive Behavior (Socialization)			
	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(constant)	5.548	0.496		11.196
External Variables	-0.608	0.236	-0.118	0.010*
Perceived Usefulness	-0.261	0.240	-0.050	0.279
Perceived Ease of Use	0.035	0.094	0.016	0.709
Attitude Toward Using	-0.288	0.173	-0.077	0.097
Behavioral Intention	0.504	0.069	0.327	0.000*
Actual to Use	-1.063	0.167	-0.289	0.000*

R = 0.531^a, R Square = 0.282, Adjusted R Square = 0.271, SEE = 0.787

(* 0.05 statistically significant confidence level)

From Table 4, technological factors that influence the aggressive behavior in Socialization of elementary school students in Bangkok by using Multiple Regression can be written in the following forecasting equation:

$$\hat{Y} = 5.548 - 0.608 (\text{External Variables}) + 0.504 (\text{Behavioral Intention}) - 1.063 (\text{Actual to Use})$$

In summary, the analysis of Multiple Regression to test the statistically significant confidence level towards the aggressive behavior in Socialization of elementary school students in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of aggressive behavior (R²) is equal to 0.282, meaning that External Variables, Behavioral Intention, and Actual to Use mutually vary by 28.2 as a percentage. When considering the regression coefficient with a standardized score (β), the study found that the best technological factor influencing aggressive behavior in the Socialization of elementary school students in Bangkok is Behavioral Intention ($\beta = 0.327$). The other subordinate factors are Actual to Use ($\beta = 0.289$), and External Variables ($\beta = 0.118$) respectively. According to the testing result of the statistically significant confidence level, the Sig. is equal to 0.000, which is less than 0.05. It shows that H₁ is rejected and H₀ is accepted, meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

5) Analyzing results with Multiple Regression Statistics to find out technological factors that influence the aggressive behavior in Bangkok

H₀: Technological factors that influence the elementary school children's aggressive behavior in Bangkok.

H₁: Technological factors that do not influence the elementary school children's aggressive behavior in Bangkok.

Table 5: Testing result of technological factors in each category that influences the aggressive behavior in of elementary school students in Bangkok by using Multiple Regression Statistics

Technological Factors	Aggressive Behavior			
	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(constant)	5.110	0.438		11.654
External Variables	-0.346	0.209	-0.067	0.098
Perceived Usefulness	-0.650	0.213	-0.126	0.002*
Perceived Ease of Use	0.070	0.083	0.033	0.402
Attitude Toward Using	-0.586	0.153	-0.156	0.000*
Behavioral Intention	0.738	0.061	0.479	0.000*
Actual to Use	-0.811	0.148	-0.221	0.000*

R = 0.660^a, R Square = 0.436, Adjusted R Square = 0.427, SEE = 0.696

(* 0.05 statistically significant confidence level)

From Table 5, each technological factor that influences the elementary school children's aggressive behavior in Bangkok by using Multiple Regression Statistics can be written in the following forecasting equation:

$\hat{Y} = 5.110 - 0.650$ (Perceived Usefulness) -0.586 (Attitude Toward Using) $+ 0.738$ (Behavioral Intention) $- 0.811$ (Actual to Use)

In summary, the analysis of Multiple Regression to test the statistically significant confidence level towards the elementary school children's aggressive behavior in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of aggressive behavior (R^2) is equal to 0.436, meaning that Perceived Usefulness, Behavioral Intention, and Actual to Use mutually vary by 43.6 as a percentage. When considering the regression coefficient with a standardized score (β), the study found that the best technological factor that influences elementary school children's aggressive behavior in Bangkok is Behavioral Intention ($\beta = 0.479$). The other subordinate factors are Actual to Use ($\beta = 0.221$), and Perceived Usefulness ($\beta = 0.126$) respectively. According to the testing result of the statistically significant confidence level, the Sig. is equal to 0.000, which is less than 0.05. It shows that H_1 is rejected and H_0 , meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

6) Analyzing results with Simple Regression Statistics to find out technological factors that influence the elementary school children's aggressive behavior in Bangkok

H_0 : Technological factors that influence the elementary school children's aggressive behavior in Bangkok.

H_1 : Technological factors that do not influence the elementary school children's aggressive behavior in Bangkok.

Table 6 Testing result of technological factors that influence the elementary school children's aggressive behavior in Bangkok by using Simple Regression Statistics

Technological Factors	Aggressive Behavior				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	2.361	0.549		4.298	0.000
Technological factors	0.957	0.392	0.124	2.444	0.015*

$R = 0.124^a$, R Square = 0.015, Adjusted R Square = 0.013, SEE = 0.914

(* 0.05 statistically significant confidence level)

From Table 6, technological factors that influence the elementary school children's aggressive behavior in Bangkok by using Simple Regression Statistics can be written in the following forecasting equation:

$$\hat{Y} = 2.361 + 0.957 \text{ (Technology Acceptance Model: TAM)}$$

In summary, the analysis of Simple Regression to test the statistically significant confidence level towards the elementary school children's aggressive behavior in Bangkok has a 0.05 statistically significant confidence level. To elaborate, the coefficient of aggressive behavior (R^2) is equal to 0.015, meaning that technological factors mutually vary by 15 as a percentage. According to the testing result of the statistically significant confidence level, the Sig. is equal

to 0.015, which is less than 0.05. It shows that H_1 is rejected and H_0 , meaning that personal factors of the respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

5. Study Result Conclusion

According to the study, most of the survey respondents are fathers, mothers, and females. Their educational level is a bachelor's degree, and they work for the government or state enterprises. Their monthly income ranges from 10,000-30,00 baht. The personal factors of the respondents that are related to your relationship and your children, occupations, and monthly income, all influence the elementary school children's aggressive behavior in Bangkok as each family differs in careers and monthly income. Nonetheless, the most important thing is spending time with your children. Thus, parents should allocate the time and control the technology using the most, while technological factors influence the elementary school children's aggressive behavior in Bangkok. Moreover, when considering each technological factor, it can be seen that Behavioral Intention, Actual to Use, Attitude Toward Using, and Perceived Usefulness respondents influence the aggressive behavior of elementary school students. According to the study, most of the survey respondents are fathers, mothers, and females. Their educational level is a bachelor's degree, and they work for the government or state enterprises. Their monthly income ranges from 10,000-30,00 baht. The personal factors of the respondents that are related to your relationship and your children, occupations, and monthly income, all influence the elementary school children's aggressive behavior in Bangkok as each family differs in occupations and the monthly income. Nonetheless, the most important thing is spending time with your children. Thus, parents should allocate the time and control the technology usage the most, while technological factors influence the elementary school children's aggressive behavior in Bangkok. Moreover, when considering each technological factor, it can be seen that Behavioral Intention, Actual to Use, Attitude Toward Using, and Perceived Usefulness respondents influence the elementary school children's aggressive behavior in Bangkok at the rate of 0.05 statistically significant confidence level.

The analyzing result can be concluded that the number of overall technological factors that influence the elementary school children's aggressive behavior in Bangkok is only 15 as a percentage. However, when considering the specific category of the technological factors, the study found that those factors are 43.6 percent contributing to the elementary school children's aggressive behavior in Bangkok. It is necessary to analyze the effects of technological factors along with aggressive behavior because these two factors connect to each other. For examples, Behavioral Intention, Actual to Use, Perceived Usefulness, Psychoanalysis, Learning, and Socialization.

In Summary, children's behavior in using technology will show whether they gain its advantages or disadvantages. The increasing technology usage is caused by the needs to use it during elementary school, in which technology plays an

important role in children's daily life. If they do not use it, they will act greatly aggressively, which parents or close guardians will need to control and deal with the problem in peaceful means. For instance, taking children to outdoor activities; playing sports, or going to the playground, which accords with the journal of (Nobuko I., et. al., 2011), She had studied how video games affect children's aggressive behavior and their social relationship. A study case of elementary school students shows that they normally play games, but when they are controlled by their parents and forbidden to play violent games, they will want to play more until they show aggressive behavior. This also accords with the other journal by (MarylineFinsi,2018). She had studied the impact of technology and social media on children. The study found that both social media and technology affect children positively and negatively. However, increasing the efficiency of using the technological resource to the fullest benefits and creating the least effects are necessary for children, to strengthen their development instead of ruining their wellbeing. This goes along with the journal conducted by (Rustem M., et. al., 2018). He studied the drawbacks of using technology toward children's health and improvement. The study found that children's behavior in using technology should be restricted. Parents ought to be aware of controlling technology usage in children, including not letting them use the technology alone because spending time on the technology together can improve children's creativity and problem-solving skills. Furthermore, children should be allowed to do other activities to develop themselves at their ages, and this accords with the journal of (PanidaCharttayapha, 2016), She studied technology and early childhood children in the 21st century. The study found that preparing early childhood children for the technology is a duty of their parents, guardians, and teachers, to guide them to live happily in a digital age and can smartly use the technology. Thus, understanding its nature, advantages, and disadvantages helps to immunize and protect children and leading them to think and question the surrounding environment. This can create an appropriate behavior in using the technology to be beneficial in their life, family, and society in the future. It also accords with the journal conducted by (PreeyaSuripon, et al., 2018). They studied technological usage and Attention Deficit Hyperactivity Disorder among the boys at an early elementary school level. The study found that technological factors are associated with the disorder.

Therefore, the researchers sincerely hope that the study result will be beneficial to parents and guardians who have an intimate relationship with the children in elementary school. By being aware of the impact of the technology, they can instruct their children and develop learning and teaching methods to be the most effective by using the technology and cause the least effects to children.

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