

# **Correlation between In-Game Prosocial Behavior with Empathy in Adolescent Gamers**

A mini-thesis submitted to the graduate faculty in partial fulfillment of the  
requirements for the Undergraduate Degree in Psychology

Supervisor: Retno Pandan Arum K., M.Si., Psychologist



By:

Kenang Ardana

NIM: 12710017

STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

**PSYCHOLOGY STUDY PROGRAM  
FACULTY OF SOCIAL AND HUMANITY  
STATE ISLAMIC UNIVERSITY SUNAN KALIJAGA  
YOGYAKARTA**

**2018**





KEMENTERIAN AGAMA  
UNIVERSITAS ISLAM NEGERI SUNAN KALIJAGA  
FAKULTAS ILMU SOSIAL DAN HUMANIORA  
Jl. Marsda Adisucipto Telp. (0274) 585300 Fax. 519571  
YOGYAKARTA 55281 FM-UINSK-PBM-05-07/RO

**PENGESAHAN SKRIPSI**

Nomor : UIN.02/DSH/PP.00.9/645/2018

Skripsi/Tugas Akhir dengan judul : Correlation between In-Game Prosocial Behavior with Empathy in Adolescent Gamers

Yang dipersiapkan dan disusun oleh :

Nama : Kenang Ardana

NIM : 12710017

Telah dimunaqosyahkan pada: Rabu, tanggal: 11 April 2018  
dengan nilai 94.66/A-

Dan dinyatakan telah diterima oleh Fakultas Ilmu Sosial dan Humaniora UIN Sunan Kalijaga

**TIM MUNAQOSYAH :**

Ketua Sidang

Retno Pandani Arum K, M.Si  
NIP. 197508102011012001

Penguji I

Benny Herlena, M.Si  
NIP.19751124 200604 1 002

Penguji II

Very Julianto, M.Psi  
NIP. 19880717 201503 1 003

Yogyakarta,  
UIN Sunan Kalijaga  
Fakultas Ilmu Sosial dan Humaniora  
DEKAN  
Dr. Mochamad Sodik, S.Sos., M.Si.  
NIP. 196804161995031004

### Statement of Research Authenticity

The undersigned below:

Name : Kenang Ardana

NIM : 12710017

Study Program : Psychology

I hereby state in full that my mini-thesis entitled “Correlation between In-Game Prosocial Behavior with Empathy in Adolescent Gamers” and all its content was truly the work of my own and I did not do any plagiarism or did not do any quotation in ways that violate the prevailing ethic code in scientific community.

With this statement, I am bound to bear the risk or any sanctions imposed to me in accordance with applicable regulations, if in the future anyone found a breach or violation of scientific ethics, or anyone who have righteous claim against the authenticity of my work.

Yogyakarta, 2<sup>nd</sup> March 2018

My sincerely,



Kenang Ardana

NIM. 12710017

## Official Note

**The Chairman of the Faculty of Social and Humanity  
State Islamic University Sunan Kalijaga Yogyakarta**

In

Yogyakarta

*Assalamualaikum Wr. Wb.*

After guiding, supervising, and briefly correcting to the, I as the supervisor of this study hereby to state that this mini-thesis entitled “Correlation between In-Game Prosocial Behavior with Empathy in Adolescent Gamers” by:

Name : Kenang Ardana

NIM : 12710017

Study Program : Psychology

This mini-thesis is qualified to be submitted to Faculty of Social and Humanity as partial fulfillment of the requirements for the Undergraduate Degree in Psychology.

Thank you for your attention to this matter.

*Wassalamualaikum Wr. Wb.*

Yogyakarta, 2<sup>nd</sup> March 2018

Supervisor,



Retno Pandan Arum K., M.Si.

NIP. 197508102011012001



### **Motto**

“Life is just a game with mesmerizing graphic and maximum difficulty. Wheter you level up yourself or stay in the newbie zone.” – Anonymous.

“The healthy human mind doesn’t wake up in the morning thinking this is its last day on Earth. But, think that’s a luxury, not a curse. To know you’re close to the end is a kind of freedom.” – Price.

“The world fears the inevitable plummet into the abyss. Watch for that moment and when it comes, do not hesitate to leap. It is only when you fall that you learn whether you can fly.” – Flemmeth.

“We’re made up of thousands of parts with thousands of fuctions all working in tandem to keep us alive. Yet if only one part of our imperfect machine fails, life fails. It makes one realize how fragile, how flawed we are.” – Ingun Black-Briar.

“We are here in this world, by the creation of God to Live with others, to Learn every knowledge, to Love with our beloved ones, and to Leave a Legacy for the next generation.” – Mulaydi.

STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

## Preface

*Bismillahirrahmanirrahim*

*Assalamualaikum Warahmatullahi Wabarakatuh*

*Alhamdulillahirabbil 'alamin*, the highest gratitude only for Allah Subhanahu wa Ta'ala for the gift of blessing, love, opportunity, health, wealth, and mercy so that we as conductor of this study can complete this study as partial fulfillment of the requirements for the Undergraduate Degree in Psychology in State Islamic University Sunan Kalijaga Yogyakarta.

In this study, a lot of people had contributed to help, support and provide advices to us, so that we can complete this study in great result. In this blessed opportunity, we would like to express our thanks and gratitude to those people who contributed from the beginning of this research until the completion of this research.

1. Dr. Mustadin Tagala, M.Si., as the Head of Psychology Study Program along with the staffs who support this mini-thesis to be arranged in English.
2. Mrs. Retno Pandan Arum K, , M.Si., Psychologist, as my supervisor in this mini-thesis who always support my ideas in this study conduction and gave me a lot of advices in every phase of this research conduction.
3. Mr. Benny Herlena, S.Psi., M.Si., and Mr. Very Julianto, M.Psi., as my mini-thesis examiner who gave me a lot of advices and critics in this research.
4. Mrs. Miftahun Ni'mah Suseno, S.Psi, M.A., Psychologist, as my Academic Counselor in Psychology Study Program who had supported and shared a lot of knowledge during my study period.
5. All staff and lecturers in Psychology Study Program who had share their knowledge and helped us in the understanding of psychology discipline.
6. My beloved father, Ir. Agus Susilo and my beloved mother, Nunik Nining Sukarni who had given me love and nurtured me in my entire life with care, prayer, and support.

7. My beloved Opa, Drs. Mulyadi, M.Sc., who always shares his wisdom and shows me the beauty of knowledge for our life. Also my beloved Oma, who inspired me to take part of this world and taught me how to treat people, manner, ethics, and helped me to understand the purpose of life itself.
8. My brother, Wildan Arya Ramadhan, who accompany me and annoy me every second in home and makes me learn how to become a big brother.
9. My beloved fiancée, Jiah Farisyah, thank you for your pray, love and patient in every step I take and accompany me in every moment. For always accompany me in my happiness and my hard time, thank you for your support and your presence for me.
10. Suhud, Joko, Dedi, Dida, Syukron, Taufik, Bangga, Faizin, Pampam, Maya, Balqish, Lita, Anggun, Ijul, Maulida and all my friends in psychology program in class of 2012, thank you for supporting me and our moment together. I did have a lot of fun with all of you.
11. My best buddies and travel buddies, Gilang, Aguend, Bagas, Hildan, and Danar, let's have some fun forever guys and keep travelling.
12. My gaming friends Risky, Arief, Zizo, Hilmy, Kuning, Aming, Ayok, Agus, Azka, Nuha, and others, thank you for ruining my free time and distract me from stress. Let's have fun more and more, guys.
13. My online friends JP, Mark, Crystal, Shawn, Heathon, and all Super Monkey Fly Squad members, thank you for let me join every match, mock me every lose, and praise me every victorious matches. Stop teabagging, guys. For real.
14. My cosplayer friends and plastic modelers who always give me a lot of ideas and thank you for make me your photographer in events, photoshoots and workshop.
15. All Jumpalitan Parkour member, thank you for the time of practices, flows, and exercises.



In this research, we realized that a lot of things happened and many difficulties we found, yet we kept going on and completed the research. We also realized that in this mini-thesis, we made mistakes and there were flaws. It cost a lot of struggle and effort, but, nothing is flawless. Those flaws and mistakes showed us that we need critics and advices to have the best result. We hope that with this study, we share the knowledge and we may learn together in this psychology discipline. May Allah bless us all and give us abundant rewards.

*Wassalamualaikum Warahmatullahi Wabarakatuh*

Yogyakarta, Mei 2018

Study Conductor

STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA

## Table of Contents

<b>Title Page</b> .....	i
<b>Legitimation Page</b> .....	ii
<b>Letter of Authenticity of Research</b> .....	iii
<b>Official Note</b> .....	iv
<b>Motto</b> .....	v
<b>Preface</b> .....	vi
<b>Table of Contents</b> .....	ix
<b>List of Tables</b> .....	xii
<b>List of Images</b> .....	xii
<b>List of Appendices</b> .....	xiii
<b>Abstract</b> .....	xv
<b>Chapter I – Introduction</b> .....	1
A. Study Background .....	1
B. Research Purpose .....	8
C. Research Advantage .....	9
D. Research Authenticity .....	9
<b>Chapter II – Theoretical Basis</b> .....	13
A. Empathy.....	13
1. Empathy Definition .....	13
2. Aspects of Empathy.....	14
3. Factors Affecting Empathy .....	17
B. In-Game Prosocial Behavior .....	20

1. Prosocial Behavior Definition .....	20
2. Online Game Definition .....	21
3. In-Game Prosocial Behavior Definition .....	21
4. Aspects of Prosocial Behavior .....	22
C. Correlation between In-Game Prosocial Behavior with Empathy .....	23
D. Hypothesis .....	30
<b>Chapter III – Research Method</b> .....	31
A. Variable Identification .....	31
1. Empathy .....	31
2. In-Game Prosocial Behavior .....	31
B. Variable Operational Definition .....	31
1. Empathy .....	31
2. In-Game Prosocial Behavior .....	31
C. Population and Sample .....	32
1. Population .....	32
2. Sample .....	33
D. Data Collecting Method .....	34
1. Empathy Questionnaire .....	34
2. In-Game Prosocial Behavior Questionnaire .....	35
E. Validity, Item Selection, and Reliability .....	36
F. Analysis Method .....	39

<b>Chapter IV – Research Implementation and Results .....</b>	<b>41</b>
A. Case Orientation .....	41
B. Research Preparation .....	42
C. Study Report.....	45
D. Results .....	46
1. Subject Description .....	46
2. Data Description.....	47
3. Assumption Test.....	51
a. Normality Test.....	51
b. Linearity Test .....	51
4. Hypothesis Test .....	52
E. General Discussion.....	53
<b>Chapter V – Conclusions .....</b>	<b>58</b>
A. Conclusion.....	58
B. Suggestion .....	58
<b>Bibliography .....</b>	<b>60</b>
<b>Web Pages.....</b>	<b>64</b>
<b>Appendices .....</b>	<b>65</b>

## List of Tables

Table 1. Empathy Questionnaire Blue Print .....	35
Table 2. In-Game Prosocial Behavior Questionnaire Blue Print.....	36
Table 3. Empathy Questionnaire Item Distribution.....	44
Table 4. In-Game Prosocial Behavior Questionnaire Item Distribution .....	45
Table 5. Subject Description .....	46
Table 6. Data Description .....	47
Table 7. Categorization Standard .....	48
Table 8. Categorization of Empathy Variable .....	49
Table 9. Categorization of In-Game Prosocial Behavior Variable.....	50
Table 10. Linearity Test Result .....	52
Table 11. Hypothesis Test Result.....	53

## List of Images

Image 1. Chart Image of Variable Dynamic Correlation .....	29
--	----



## List of Appendices

Appendix 1.	Questionnaire.....	65
Appendix 2.	Try Out Data.....	70
	In-Game Prosocial Behavior Questionnaire Try Out Data.....	70
	Empathy Questionnaire Try Out Data.....	74
Appendix 3.	Try Out Data Analysis.....	77
	In-Game Prosocial Behavior Questionnaire Reliability	
	Analysis Result.....	77
	Empathy Questionnaire Reliability Analysis Result .....	79
Appendix 4.	Research Data Input .....	81
	Subjects Identity .....	81
	Research Data .....	89
	In-Game Prosocial Behavior Questionnaire .....	89
	Empathy Questionnaire .....	98
Appendix 5.	Data Analysis.....	107
	Statistical Data Description .....	107
	Normality Test.....	109

Linearity Test..... 113

Variable Correlation Test ..... 114



## **Correlation between In-Game Prosocial Behavior with Empathy in Adolescent Gamers**

Kenang Ardana

Retno Pandan Arum K.

### **Abstract**

Past research in this research field provided abundant evidence that exposure to video games would increase negative social tendencies. In contrast, some studies found more positive effects of video game exposure. This study was conducted to find correlation between prosocial behavior occurred in the game play of online game with the empathy within the gamers themselves. The sample consisted of 147 online gamers who play MMORPG/Open World games in several game centers in Yogyakarta. The study showed that MMORPG/Open World games can become something that allows the gamers to socialize themselves and become more prosocial that would lead to empathy enhancement. Based on the statistic test, the result indicated that there was a positive correlation between in-game prosocial behavior with empathy in the adolescent gamers. The test itself was using *Pearson Product Moment* correlation analysis method. From the test we obtained  $r = 0.588$  and the significance value was  $p = 0.000$  ( $p < 0.05$ ). Therefore, the hypothesis was confirmed.

**Keywords:** *in-game prosocial behavior, empathy, online game, MMORPG.*

STATE ISLAMIC UNIVERSITY  
SUNAN KALIJAGA  
YOGYAKARTA



## **Chapter I**

### **Introduction**

#### **A. Study Background**

Humans are social being that cannot be separated from other beings; they also desire to communicate or interact with others. The communication that is done directly or indirectly is crucial to us to get information about our surrounding or even to fulfill our social needs in our community. Humans as social being are unable to live by themselves individually; they always try to stay connected with other people. Each individual does the interaction as a way to identify and stay close with the others they intend to be. The interaction process in direct or indirect interaction; by speaking to each other or using devices (such as phone, emails, etc.) would create a bond between individuals that keep them to stay connected. Therefore the interaction that has been build would be more comfortable and stay intact. Thibaut and Kelley (1959) defined interaction as an occasion that influencing each other when two individuals or more are together; they create a result with other people or communicate with other. That interaction implicates cognitive process and emotional process, so as one individual or group in the occasion sustain emotional alteration and gain information. Haryanto (2011) mentioned that social interaction process came from some factors, which are imitation, suggestion, sympathy, identification, and empathy.



One of the factors that cause a social interaction is empathy. Goleman (2009) defined empathy as an essential skill for all social ability. Empathy is one of the most critical factors in a good social interaction. All individuals could apply empathy in any interaction by involving in other people's occasion whether it is in verbal, emotional, or behaving. Hurlock (1999) explained that empathy is an individual capability to understand feelings and emotional state in other person's, also to project himself in others position. Baron & Byrne (2005) explained that empathy is an ability to feel other individual's emotional state, to give sympathy, and try to solve the problem also uses other individual's perspective. Every individual could empathize towards other, because by empathizing towards other; we involve ourselves into other's condition. Empathy plays a significant role in emotional health, social life, and individual well-being. The ability to feel other's feeling and share emotional state correctly could make us act precisely in any social occasion (Cassels et al., 2010).

The lack of empathy in an individual can lead to some unpleasant behaviors, one of them is bullying. Bullying is a form of aggressive behavior in which someone intentionally and repeatedly causes another person injury or discomfort (from [apa.org/topics/bullying](http://apa.org/topics/bullying)). Bullying can take the form of physical contact, words, or more subtle actions. The bullied one typically has trouble defending him or herself and unable to do anything to the "cause" of bullying. In the adolescent state, each individual experiences changing on the body, mind,

role, emotion, and personal values that affect the individual self (Hurlock, 2009). In the unstable emotional condition and mental condition, teens are vulnerable to any adverse influences; bullying is one of them. There are some bullying cases involving teenagers in Indonesia, one of them occurred in Bogor. LA, 16 years old and three other friends were bullied by their seniors in high school. LA admitted to his parents that his seniors bullied him; he was forced to drink alcohol and taught to brawl with other students ([metro.tempo.co](http://metro.tempo.co), 15<sup>th</sup> September 2017). In Riau, bullying had a terrible impact on a high school student until she committed suicide by drowning herself in a river ([news.detik.com](http://news.detik.com), 31<sup>st</sup> July 2017). Bullying also happens in the virtual world, called cyberbullying. Cyberbullying defined as the use of electronic communication devices to threat or intimidate an individual or a group of individual (Willard, 2005). A study conducted by Permatasari (2012) showed that the individual who a bully in the social media by sending messages with many swears has a purpose of disgracing the victims. Therefore, teenagers have to be taught about empathy and respect, so that they will learn to interact better with others and have compassion towards others.

A person who has empathy tends to have willing for help other people. Batson (Taufik, 2012) explained that empathy is an experience to positioning ourselves in other's emotional state, pretend to have the experience and the emotion. Batson (Taufik, 2012) also mentioned that empathy force people to help which its purpose is to give the individual or group a better condition. Helping

behavior is classified in prosocial activity. Baron & Byrne (2005) defined prosocial behavior as an act to help that give people advantage without providing any personal gain for him by doing so. Prosocial behavior can occur in the real world or digital world. As an example for prosocial behavior in the digital world is an online game player who helps each other and be cooperative and online-based charity for natural disaster's victims or anyone needs help using social media.

Rapid technology advancement in this global era has provided us a lot of facilities and accesses to gain information and entertainment. The Internet is one of communication and information product that has been used by our communities. Communication using the internet nearly becomes one of the primary needs in Indonesia. The rapid advancement of information and communication technology caused the networking system more efficient ([www.aptika.kominfo.go.id](http://www.aptika.kominfo.go.id)). Internet usage in Indonesian daily life is increasing; it is shown by the data provided from Indonesian Internet Provider Association (APJII) that in 2016, there are 132.7 million internet users. This number is increasing about 51.8 percent from 2014 total users who were 88.1 million users.

The age range of most internet users is 35-44 years old. One of internet-based entertainment facility is an online game. The online game is the game that can be played by individual and the other individuals could join in the game without any geographic bound. APJII explained that in 2012 active online game

user reached 6 million users or about 10 percent of internet users and kept rising. Eva Muliawati, Managing Director in PT Megaxus Infotech, said that there are about 25 million online game users in Indonesia, 70 to 80 percent of them use Personal Computer (PC) as their platform (Harian Jogja, 29<sup>th</sup> January 2014). This amount was increasing in 2017; there are about 43.7 million online game users (Newzoo Survey). There are few types of online game, such as First Person Shooter (FPS), Real Time Strategy (RTS), Cross-Platform Online, Browser Game, and Massively Multiplayer Online Role-Playing Game (MMORPG). Online games emerged in Indonesia on 2001 with FPS and MMORPG genres.

The average of online game users in Indonesia in 2017 were teenagers and early adults, 56% of them were male and 44% are female (Newzoo Survey). Their playtime varies from after class, on weekends, or vacations. Some of them could manage their gaming time and their working time. For some people, playing online games are considered as time-wasting activity and become bad influences towards the players; for some people playing online games are wrong. Moreover, many studies indicate adverse effect from online games. From Anderson (2010), the research indicated that playing games that had violence (Video Game Violence) with high intensity would increase gamers' aggressive level. The other research indicated that VGV affected gamers' empathy level; therefore they showed less empathy and showed less social activity. The emergence of Internet Gaming Disorder with the symptoms included in DSM-V in 2014 became one of

the references used by the society to judge that playing online games would have severe effects even it was not currently identified as mental disorder. However, Internet Gaming Disorder was identified as a condition recommended for the further study ([www.psychiatry.org](http://www.psychiatry.org)). In the ICD-11 – which was released in 2016, the gaming disorder was included in addiction chapter and subdivided into ‘predominantly offline’ and ‘predominantly online’ (Saunders, 2017). PPDGJ-III as a guideline to diagnose mental disorders in Indonesia did not include the gaming disorder as an addictive behavior nor as a disorder.

Commonly, the society considered online game as bad influence. This assumption was based on some cases that involved gamers. Erlinda, Head of Socialization Division in Indonesian Commission on Child Protection (KPAI), mentioned that there were many cases that involved online game addiction (Republika, 25<sup>th</sup> April 2016). Two game centers in Yogyakarta were observed on 15<sup>th</sup> July 2017 to find some facts for the gamers, most of the gamers did not do any direct social interaction intensively. The lackness of direct social interaction among the gamers inflicted negative effect on their social skills. Four teenage gamers were interviewed about their social interaction in the cyber world and in the real world during the observation in a game center in Babarsari, Sleman. The result was sometimes they felt awkward when it comes to communicate to other people by talking directly and also rarely interact to others when they play games. They also said that it was so hard to be distracted from the game. But, they also said that they feel want to help someone that was in trouble in the gameplay. They developed willingness to help others who had difficulties in the game and they not



hesitate to help. Sometimes, what they felt in the game was attached to them in the real life, for example when they found someone who needs help; they would help him/her. They said that there was a feeling towards that person and they felt like were called to help the person.

On the other hand, some researchers commenced research about positive effects by playing online games. One of the studies was “Social Interactions in Massively Multiplayer Online Role-Playing Gamers” which was conducted by Helena Cole and Mark D. Griffiths. Griffiths (2007) mentioned that social interaction in MMORPG had a positive correlation with the interpersonal relationship in the real world, even one of the results indicated that gamers in the game were capable of interacting with others as well as in real life. Other study brought a result that players who had done prosocial activity in the game such as help each other, tend to be helpful in real life (Gentile, 2009). Violent video games which considered as lousy influence and affected the gamers to become more aggressive are actually could increase the gamers’ empathy level; this statement was proved by a study conducted by Edwoldsen in 2012. This study showed that when gamers become cooperative and tend to help each other; even in violent video games would increase gamers’ tendency to have prosocial behavior in real life, it also decreases gamers’ tendency to become aggressive to other gamers. The occurrence of those results is caused by social exchange; they win because they help each other and play it cooperatively. A study conducted by

Greitemeyer (2012) indicated that playing video games with prosocial contents is positively related to increases in different kinds of prosocial behavior. Therefore, by having prosocial behavior in the game, player's internal state (consisting cognitive and affective) would likely to increase, the players become more comfortable to interact towards other either in the virtual world or reality. Also their capability of empathy would increase aligned with their social ability by doing prosocial behavior. Some of the possible prosocial behavior that can be done in the gameplay are helping other character in need, donating some items or money to other character or guild, and cooperating in dungeons.

In this study, we would conduct a study about the correlation between the in-game prosocial behavior with the empathy in adolescent gamers. Based on the studies mentioned before, in-game prosocial behavior such as help other and become cooperative could increase gamers' tendency to have prosocial behavior in real life. Empathy, according to Batson (in Taufik, 2012) evokes an urge to help others. Based on prosocial behavior in the game, it allows any escalation of empathy in the gamers. This study aims to reveal any correlation between the in-game prosocial behavior with the empathy in adolescent gamers.

## **B. Research Purpose**

This study is conducted to reveal a specific correlation between in-game prosocial behavior and empathy in adolescent gamers.

### **C. Research Advantage**

1. Theoretically, this study is beneficial for psychological discipline, particularly in social psychology and cyberpsychology
2. Practically, this study is beneficial for gamers. Therefore they have positive benefits for playing games appropriately.

### **D. Research Authenticity**

Before we conducted the study, we searched and reviewed a few journals to prevent any plagiarism and we used the research journals as references to conduct the study. We reviewed a research journal by Gentile (2009) entitled “The Effects of Prosocial Video Games on Prosocial Behaviors: International Evidence from Correlational, Longitudinal, and Experimental Studies.” This study was purposed to find out about the effect from prosocial game to prosocial behavior in real world and other psychological traits. Other study conducted by Gentile (2011) that we reviewed was “The Multiple Dimensions of Video Game Effects.” This study was conducted to describe dimensions of video game effects. Other study that we reviewed as reference in this study was “Effect of Playing Violent Video Games Cooperatively or Competitively on Subsequent Cooperative Behavior” conducted by Edwoldsen (2012). The study was about to find out the effect of playing violent video games cooperatively in competitive mode to cooperative behavior. Other study by Cole (2007) entitled “Social Interactions in Massively Multiplayer Online Role-Playing Gamers” was about to unveil social interaction in MMORPG and its correlation with the gamers’ social skill. Based on proceeded

studies and research that we used as references, the authenticity of this study is provable from:

#### 1. Topic

Previous studies have a different topic from this study that has been proceeded, that is in-game prosocial behavior and empathy. This topic has done in other countries, but not in Indonesia. Some of the studies that have been done are: first, a study entitled “Effect of Playing Violent Video Games Cooperatively or Competitively on Subsequent Cooperative Behavior” by Edwoldsen and Cassie in 2012, which studied about how people become cooperative in a violent video game. The results show that play Violent Video Game cooperatively even in a competitive match minimize conflicts in the group and increase the tendency of helping each other in any circumstances. The second study, entitled with “The Effects of Prosocial Video Game on Prosocial Behaviors; International Evidence From Correlational, Longitudinal, and Experimental Studies” by Gentile et al. in 2009. The study examined people to play a prosocial video game to see what the effect of playing it to prosocial behavior is. In this study, the results show that prosocial activity in the game has a positive correlation with prosocial behavior in real life and students who often do prosocial activity in the game significantly tend to be more helpful than those who do not. The third study, entitled with “Emotion Regulation Moderates the Association between Empathy and Prosocial Behavior” by Patricia et al. in 2014. The results of

this study show that both affective and cognitive empathy associated with prosocial behavior and also with the emotion regulation can interact to predict different levels of self-reported prosocial behavior.

Meanwhile, in this study, the proposed topic is to reveal a correlation between in-game prosocial behavior with the empathy in adolescent gamers.

## 2. Subjects

The subjects in the first study, entitled with “Effect of Playing Violent Video Games Cooperatively or Competitively on Subsequent Cooperative Behavior” by Edwoldsen in 2012 were college students who were required by the IRB (Institutional Review Board) to have experience playing Halo. In the second study, entitled with “The Effects of Prosocial Video Game on Prosocial Behaviors; International Evidence From Correlational, Longitudinal, and Experimental Studies” the subjects were secondary school children, fifth graders, and college students. In the third study, entitled with “Emotion Regulation Moderates the Association between Empathy and Prosocial Behavior” the subjects were adults who were recruited through university participant databases and online advertisement.

Meanwhile, in this study, the participants are adolescent gamers who play online games in MMORPG, Open World, and Social Game genre.



### 3. Location

The locations of proceeded studies are abroad, but in this study the location is in Special District of Yogyakarta, Indonesia.





## **Chapter V**

### **Conclusions**

#### **A. Conclusion**

From the data analysis report, the result indicated that there is a significant positive correlation between in-game prosocial behavior with empathy in adolescent gamers. It means that the higher the score of in-game prosocial behavior, therefore the higher the score of empathy would be. In the otherwise the lower the score of in-game prosocial behavior, therefore the lower the score of empathy would be. Therefore, the hypothesis in this study is confirmed.

The effective contribution of in-game prosocial behavior toward empathy in adolescent gamers is about 34.5%. It means that in-game prosocial behavior may affect empathy level up to 34.5%, and the rest of it is affected by other factors and other variables. By using the analysis results, we concluded that in-game prosocial behavior inflicts the empathy within adolescent gamers. Therefore, the gamers who act prosocially in the game toward other would like to have their empathy capability enhanced.

#### **B. Suggestion**

There are few suggestions that we as study conductor would like to recommend that related to this study. The suggestions are:

### 1. For The Subjects

Based on statistical category among the gamers, it indicated that 35.37% was classified as medium category, 57.82% was classified as high category, and 6.80% was classified as very high category. In this point, we expect that the gamers are able to maintain and enhance their capability of empathy, so as they are involved in any social occasion they could be more aware toward other and able to show empathy. As for the gamers who have high score in the in-game prosocial behavior, we expect them to keep up the good work and be more social whether in the game or in real life.

### 2. For Future Research

For the future research that has the same context with this study, we expect the research explores deeper and in larger scale. Also we expect the future research would able to increase perspective about prosocial behavior in the gameplay and its contribution towards empathy also its correlation with the other factors that inflict any influence whether it is minor or major influence. Therefore, the case study becomes more expand and specified.

## Bibliography

- Ali, M., & Asrori, M. (2012). *Psikologi remaja perkembangan peserta didik*. Jakarta: PT. Bumi Aksara.
- Anderson, C. A., et al. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: A meta-analytic review. *Psychological Bulletin*, 136(2), 151-173.
- Azwar, S. (2010). *Penyusunan skala psikologi*. Yogyakarta: Pustaka Belajar.
- Azwar, S. (2011). *Reliabilitas & validitas*. Yogyakarta: Pustaka Belajar.
- Baron, R. A., & Byrne D. (2005). *Psikologi sosial jilid 2* (Edisi ke-10). Jakarta: Erlangga.
- Bringham, J. C. (1991). *Social psychology* (2<sup>nd</sup> Ed.). New York
- Cassels, T. G., Chan, S., & Chung, W. (2010). The role of culture in affective empathy: Cultural and bicultural differences. *Journal of Cognition and Culture*, 10(3), 309-326.
- Chaplin, J. P. (2005). *Kamus lengkap psikologi*. Jakarta: PT. Raja Grafindo Persada.
- Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *Cyberpsychology & Behavior Journal*, 10, 575-583.
- Creswell, J. W. (2013). *Research design: Pendekatan kualitatif, kuantitatif dan mixed*. Yogyakarta: Pustaka Pelajar.
- Davis, E. B., Sestir, M. A., & Bartholow, B. D. (2005). Correlates and consequences of exposure to video game violence: hostile personality, empathy, and aggressive behavior. *Journal of Personality and Social Psychology*, 31, 1573-1586.
- Decety, J., & Jackson P. L. (2004). The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, 3(2), 71-100.
- Domahidi, E., Festl, R., & Quandt, T. (2014). To dwell among gamers: investigating the relationship between social online game use and gaming-related friendship. *Cyberpsychology Journal*, 35, 107-115.

- Edwoldsen, D. R., Eno, C. A., et al. (2012). Effect of playing violent video games cooperatively or competitively on subsequent cooperative behavior. *Cyberpsychology, Behavior and Social Networking Journal*, Vol. 15, 277-280.
- Eisenberg, N. (2002). *Empathy and its development*. New York: Cambridge University Press.
- Essau, C. A. (2008). *Adolescent addiction: epidemiology, assessment and treatment*. New York: Elsevier Inc.
- Fauziah, N. (2014). Empati, persahabatan, dan kecerdasan adversitas pada mahasiswa yang sedang skripsi. *13*(1), 78-92.
- Ferguson, C. J., Miguel, C. S., et al. (2011). A longitudinal test of video game violence influences on dating and aggression: a 3-year longitudinal study of adolescents. *Journal of Psychiatric*, 30, 1-6.
- Gentile, D. A. (2009). The effects of prosocial video games on prosocial behaviors: International evidence from correlational, longitudinal, and experimental studies. *35*(6), 752-763.
- Gentile, D. A. (2011). The multiple dimensions of video game effects. *5*(2), 75-81.
- Goleman, D. (2009). *Emotional intelligence (terjemahan)*. Jakarta: PT. Gramedia Pustaka Utama.
- Greitemeyer, T., & Osswald, S. (2010). Playing prosocial video games increases empathy and decreases schadenfreude. *Emotion*, 10(6), 796-802.
- Greitemeyer, T., & Osswald, S. (2010). Effects of prosocial video games on prosocial behavior. *Journal of Personality and Social Psychology*, 98(2), 211-221.
- Greitemeyer, T., Agthe, M., Turner, R., & Gschwendtner, C. (2012). Acting prosocially reduces retaliation: Effects of prosocial video games on aggressive behavior. *European Journal of Social Psychology*, 42(2), 235-242.
- Greitemeyer, T., Traut-Mattausch, E., & Osswald, S. (2012). How to ameliorate negative effects of violent video games on cooperation: Play it cooperatively in a team. *Computers in Human Behavior*, 28(4), 1465-1470.
- Griffiths, M. D., Kuss, D. J., & King, D. L. (2012). Video game addiction: Past, present, and future. *Psychiatry Journal*, 8, 308-318.

- Happ, C., Melzer, A., & Steffgen, G. (2013). Superman vs. BAD Man? the effects of empathy and game character in violent video games. *Journal of Cyberpsychology, Behavior and Social Networking*, 10, 1-5.
- Hoffman, M. L. (2000). *Empathy and moral development "implications for caring and justice"*. London: Cambridge University Press.
- Hurlock, E. (2009). *Perkembangan Anak Jilid 2*. Jakarta: Erlangga.
- Hurlock, E. (1999). *Psikologi perkembangan: suatu pendekatan sepanjang rentang kehidupan edisi ke-5*. Jakarta: Erlangga.
- Lamm, C., Batson, C. D., & Decety, J. (2007). The neural substrate of human empathy: effects of perspective-taking and cognitive appraisal. *Journal of cognitive neuroscience*, 19 (1), 42-58
- Lockwood, P. L., Seara-Cardoso, A., & Viding E. (2014). *Psychology and Language Science*, Vol. 9 (5), 1-6.
- Mussen, P. H., Conger, J. J., & Kagan J. (1989). *Child development and personality (fifth edition)*. New York: Harper and Row Publisher.
- Myers, D. G. (2012). *Psikologi sosial jilid 2 edisi ke-10*. Translator: Aliya Tusyani. Jakarta: Salemba Humanika.
- Nashori, F. (2008). *Psikologi sosial islami*. Bandung: PT. Refika Aditama.
- Pratiwi, M. M. S., & Asih, G. Y. (2010). Perilaku prososial ditinjau dari empati dan kematangan emosi. *Jurnal Psikologi Universitas Muria Kudus*, 1(1), 33-42.
- Purnomo, A. (2014). Hubungan antara kecanduan gadget (mobile phone) dengan empati pada mahasiswa. *Skripsi*. Universitas Islam Negeri Sunan Kalijaga Yogyakarta.
- Saleem, M., Anderson, C. A., & Gentile, D. A. (2012). Effects of prosocial, neutral, and violent video games on college students' affect. *Aggressive Behavior*, 38, 263-271.
- Saunders, J. B. (2017). *Substance use and addictive disorders in DSM-5 and ICD 10 and the draft ICD 11*. Netherlands: Wolters Kluwer Health, Inc.
- Sumarsono, S. (2004). *Metode riset sumber daya manusia*. Yogyakarta: Graha Ilmu.
- Suseno, M. N. (2012). *Statistika: teori dan aplikasi untuk penelitian ilmu sosial dan humaniora*. Yogyakarta: Ash-Shaff.



- Shin, D., & Ahn, D. (2013). Associations between game use and cognitive empathy: a cross-generational study. *Journal of Cyberpsychology, Behavior, and Social Networking*. 16, 599-603.
- Taufik. (2012). *Empati: Pendekatan psikologi sosial*. Jakarta: Raja Grafindo.
- Thibaut, J.W. & Kelley, H.H. (1959). *The social psychology of groups*. New York: Wiley.
- Untari, P. (2014). Hubungan antara empati dengan sikap pemaaf pada remaja putri yang mengalami kekerasan dalam berpacaran. 2(2), 279-289.
- Wallace, P. (1999). *The psychology of the internet*. United Kingdom: Cambridge University Press.
- Wiemer-Hastings, P., et al. (2005). Addiction to the internet and online gaming. *Cyberpsychology*, 8, 110-113.
- Yee, N. (2006). Motivations for play in online games. 9(9), 772-775.

## Web Pages

- Aini, Nabila Q. (2014). *Konsep Empati*. Accessed from [bilaaairbiru.blogspot.com/2014/01/konsep-empati.html?m=1](http://bilaaairbiru.blogspot.com/2014/01/konsep-empati.html?m=1) accessed in 16<sup>th</sup> May 2015.
- Anonymous. (2012). *Berapa Jumlah Pemain Game Online di Indonesia? Ini Datanya*. Accessed from [www.ligagame.com/index.php/home/1-latest/5228-berapa-jumlah-pemain-game-online-di-indonesia-ini-datanya](http://www.ligagame.com/index.php/home/1-latest/5228-berapa-jumlah-pemain-game-online-di-indonesia-ini-datanya) accessed in 16<sup>th</sup> May 2015.
- Anonymous. (2011). *Ragam Definisi Kecanduan*. Accessed from [www.psikologizone.com/ragam-definisi-kecanduan/065111715](http://www.psikologizone.com/ragam-definisi-kecanduan/065111715) accessed in 16<sup>th</sup> May 2015.
- Haryanto. (2011). *Pengertian Interaksi Sosial*. Accessed from <http://belajarpsikologi.com/pengertian-interaksi-sosial/> accessed in 16<sup>th</sup> May 2015.
- Herawati, Maya. (2014). *Pemain Game Online di Indonesia Capai 25 Juta Orang*. Accessed from [www.solopos.com/2014/01/29/pemain-game-online-di-indonesia-capai-25-juta-orang-485839](http://www.solopos.com/2014/01/29/pemain-game-online-di-indonesia-capai-25-juta-orang-485839) accessed in 16<sup>th</sup> May 2015.
- Ilham. (2016). *KPAI Catat Kasus Pencurian oleh Anak Akibat Game Online*. Accessed from <http://nasional.republika.co.id/berita/nasional/umum/16/04/25/o66q96361-kpai-catat-kasus-pencurian-oleh-anak-akibat-game-online> accessed in 16<sup>th</sup> April 2018.
- Thyrer, R. J. J. (2008). *Addiction and Massively Multiplayer Online Role-Playing Games (MMORPGs): An In Depth Study of Key Aspects*. Accessed from [www.gamecareerguide.com/thesis/090312\\_thesis](http://www.gamecareerguide.com/thesis/090312_thesis) accessed in 21<sup>th</sup> May 2015.
- [www.apa.org/topics/bullying](http://www.apa.org/topics/bullying) accessed in 23<sup>rd</sup> November 2017.
- [www.co-psychiatry.com](http://www.co-psychiatry.com) accessed in 20<sup>th</sup> April 2018.
- [www.aptika.kominfo.go.id](http://www.aptika.kominfo.go.id) accessed in 16<sup>th</sup> May 2015.
- [www.newzoo.com/insights/infographics/the-indonesian-gamer-2017](http://www.newzoo.com/insights/infographics/the-indonesian-gamer-2017) accessed in 16<sup>th</sup> April 2018.
- [www.psychiatry.org](http://www.psychiatry.org) accessed in 20<sup>th</sup> April 2018.