

Personality Traits of Competitive and Cooperative Video Game Players

Ericson Bello
Bannawag Elementary School,
DepEd Cotabato Division, Philippines

Ma. Lezel Pataray, EdD
University of Southern Mindanao
Kabacan, Cotabato, Philippines

Abstract:- This study explores the video gaming styles and personality traits of Grade Six pupils in the municipality of Kabacan. The Competitive/Cooperative Strategy Scale (CCSS) was used to determine the game style of the respondents as to competitive or cooperative and the Big-Five Factor Personality Test was used to determine the personality traits of the 100 respondents. The result showed that the grade six pupils were competitive players and have neurotic personality. They are vulnerable to unpleasant emotions like anger, anxiety and depressions but tend to be intelligent, humorous and have realistic expectations. The result further reveals that competitive and cooperative video game players have the same dominating personality traits but competitive players have higher degree of neuroticism, extraversion, openness, conscientiousness, and agreeableness. Moreover, the personality traits of video game players do not influence their gaming style.

Keywords:- *Gaming Style, Competitive Players, Cooperative Players, Big Five Personality Test, Video Game Players.*

I. INTRODUCTION

Technology plays a vital role in the society today most especially to growing children. Technology can build or destroy a child. Together with the evolution of technology is the invention of video games.

The birth of different video games has such an impact to young children. There are many young people nowadays being addicted in playing video games. Several cases of bullying or violent incident were caused by playing video games.

According to Adachi and Willoughby (2011), competitive video games tend to be more violent than those that have cooperative gameplay. Consequently, studies show that nonviolent or cooperative video games resulted less aggression than other game genres but it cannot be concluded that violence within a game can be held responsible for players' uplifted levels of aggression.

Studies on the involvement of children to video games must be conducted because children are actively playing video games in diverse platforms. There are approximately 48% gamers in Philippines and 34% of them are elementary

pupils to high school students aging 10-20 years old, these young people could easily access the games (Spire Research and Consulting, 2018). The longer the kids play the video game, the higher the tendency that they may suffer to a sudden change of behavior that may turn out to be aggression.

With this problem on hand, the researcher was inclined to make a study about the personality traits of Grade Six pupils and how they are affected by their habit of playing video games. It also dug deep if their playing styles whether competitive or cooperative influenced how they behave. The researcher tried to understand the prevailing personality of the pupils in the elementary level. Understanding the personality traits of video game players will provide possible answer on what interventions are appropriate to apply specially to those kids who sometimes skip from their classes just to play video games. As of now, there is no study conducted with regards to personality traits of video game players in the municipality of Kabacan. A local study was conducted and surveyed the effect of computer gaming in the academic performance of high school students in Matalam High School (Tuyan, 2012). The study focused on high school, and not elementary, who were engaged in computer gaming and its influence only to their academic achievement. The present study differs in many ways because it examined the gaming styles of elementary pupils regardless of their preferred game genre. It looked into the differences of personality traits of those who play alone and with other people and at the same time to compare them. Moreover, the study will break the notion that video games have more negative effect than positive ones to the well-being of children.

Personality traits are vital predictors of the game behaviors of players. They have a strong influence on how people think, feel and behave in the real world. Thus, it is worth researching on the connections between personality traits and the gaming styles of the players.

The purpose of this study was to find out how pupils' video game styles affect their personality traits. Specifically, it aimed to: determine the video gaming styles of the respondents as to competitive or cooperative in terms of sex; determine the dominant personality traits of the respondents in terms of openness, conscientiousness, extraversion, agreeableness, and neuroticism; determine if there is significant difference in the personality traits of the

respondents with different gaming styles; and determine if there is significant relationship between the gaming style and personality traits.

II. THEORETICAL FRAMEWORK

The Affect-Dependent Theory of Stimulus Arrangement by Freud’s psycho-sexual theory of personality gives importance on drive reduction and claims that behaviors that result in drive reduction are likely to be repeated and eventually become an integral part of personality (Tyson & Tyson, 1990). In this theory, Freud’s stages on psycho-sexual chiefly concerns on the ability of a person to effect drive reduction all through the stages (Engler, 2003). There are theories applicable to game exposure on selective basis, those that are based on wisdom that emotional regulation and drive reduction are so called the affect-dependent theory of stimulus process (Bryant & Davies, 2006). The primary principle of the theory is that individuals subjectively have exposure to media established on their emotions and drives during the time of choosing a game to play. Individuals strive in order to reduce and avoid the negative stimuli or outcomes and to increase the positive outcomes, this is the basic premise of the theory. The theory of affect dependent stimulus process involves four primary elements and they are: excitatory homeostasis, hedonic valence, intervention potential, and message behavioral affinity (Bryant & Davies, 2006). Excitatory homeostasis denotes the idea that people based their media selections on optimum levels of arousal. According to this principle, individuals who are extremely excited are more likely to choose video games that are soothing so that they may achieve a more homeostatic excitatory state, however individuals who are fed up may choose games that are higher in excitatory level to counteract their boredom and inaugurate excitatory homeostasis. Interference potential refers to the capability of an information to capture and hold a person’s attention. It has been postulated that highly engaging information can disrupt intellectual preparations related to emotions and therefore limit the perceived intensity of the emotions (Bryant & Davies, 2006). The message-behavioral affiliation refers to the likeness between the content of media being exposed to and the effect of it to the individual. It has been stated that information that have intense degree of resemblance to individual affect have a low chance of changing that affect than do information that are not the same on the effect of the individual. As such, individuals who are not in good mood will be likely opt to games which are more calming to the heart and pro-social in an attempt to decrease the effect of negative feelings that are being experienced by the players. The last element of the affect-dependent theory is the hedonic valence which

defines as the extent to which an information being positive or negative to the recipient. The affect-dependent theory of stimulus process held that those messages of hedonic value are opposite to that the present affect of a person will then reduce that kind of effect. In this manner, a depressed individual may opt to play video game that is happy and uplifting to alter his mood of depression. Video games, being high in hedonic valence, are immediate foundations to persons for mood regulation and pleasure (Bryant & Davies, 2006).

III. METHODOLOGY

The study was conducted in five (5) selected elementary schools of Kabacan, Cotabato namely: Aringay Elementary School, Bangilan Elementary School, Bannawag Elementary School, Datu Mantawil Elementary School, and Katiduan Central Elementary School. The respondents of the study were one hundred (100) Grade Six pupils or twenty-five percent (25%) of the total population from the selected elementary schools in Kabacan, Cotabato. Stratified random sampling by equal allocation was employed in determining the 100 respondents. Five (5) selected elementary school served as strata. Twenty (20) pupils per school who were competitive and cooperative video game players were drawn and served as respondents of the study.

The researcher used a survey questionnaire adapted from the study of Tang (1999) and Goldberg (1992) in obtaining the relevant information of the study. It composed of three parts: The first part focused on the socio-demographic characteristics of the respondents. The second part contained the Cooperative/Competitive Strategy Scale (CCSS). The CCSS contained a 19-item statement with five-point Likert scale and the respondents were asked to rate themselves that are in frequency scale type (Always, Often, Sometimes, Seldom and Never). There were eight (8) questions for Cooperation and eleven (11) questions for Competition. The Mean Score of the respondents determined their dominating attitude as to Competitive or Cooperative. The third part dealt on the Personality Trait. The Personality Trait Test contained a 50-item statement that corresponds to individual personality which includes Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The test items take the form of first-person statements which participants were to rate on a five-point Likert scale.

The responses on Personality Trait Test were analyzed using Microsoft Excel. In order to compute the answers, five equations were applied in every personality trait:

Extroversion	$= (20) + (Q1) - (Q6) + (Q11) - (Q16) + (Q21) - (Q26) + (Q31) - (Q36) + (Q41) - (Q46) = \text{SCORE}$
Agreeableness	$= (14) - (Q2) + (Q7) - (Q12) + (Q17) - (Q22) + (Q27) - (Q32) + (Q37) - (Q42) + (Q47) = \text{SCORE}$
Conscientiousness	$= (14) + (Q3) - (Q8) + (Q13) - (Q18) + (Q23) - (Q28) + (Q33) - (Q38) + (Q43) + (Q48) = \text{SCORE}$
Neuroticism	$= (38) - (Q4) + (Q9) - (Q14) + (Q19) - (Q24) - (Q29) - (Q34) - (Q39) - (Q44) - (Q49) = \text{SCORE}$
Openness	$= (8) + (Q5) - (Q10) + (Q15) - (Q20) + (Q25) - (Q30) + (Q35) + (Q40) + (Q45) + (Q50) = \text{SCORE}$

The study employed descriptive statistics such as means, frequency counts, percentages and standard deviation to describe the play styles and the personality traits of the respondents.

T-test was used to examine the personality differences of the video game players. Moreover, Chi-square was employed to test the relationship between video gaming style and personality traits of the respondents.

IV. RESULTS AND DISCUSSION

Table 1 presents the Video Gaming Style of the respondents as to Competitive or Cooperative. The Competitive/Cooperative Strategy Scale developed by Tang (1999) was used as instrument in finding out the competitive and cooperative behavior of the respondents. Using the mean score of the respondents the dominating behavior whether competitive or cooperative was analyzed. The result shows that 54 (54%) of the respondents were competitive and 46 (46%) were cooperative.

The findings reveal that most of the elementary grade pupils who are engaged in video gaming are competitive in nature. This is similar with the study of Gough (1987) that majority of video game players are highly competitive and described as being dominant and confident. The result conforms to the findings of Hart & Klimmt (2006) that people who are highly competitive tend to play in a competitive way especially if they are challenged to do so. Tang (1999) on the other hand had different findings. Using the same instrument, he compared the dominating game play style of American and Chinese college students and he found out that they have a dominating cooperative behavior. When it comes to younger audience, like high schools or elementary, it reveals a contrast result. McClure & Mears (1984) claimed that high school students have high regard to competition and it is the number one factor for playing. In this study, elementary pupils have the same result because for them it is the sense of playing - to compete. Nonetheless, high school and grade six pupils have almost at the same age group.

The result between competition and cooperation actually were not distant from each other but in close examination, it is noticeable that some competitive scales carried more weight than others. The *'The reward of success outweigh the costs'* competitive question stood out as the highest score for those with competitive behavior. It reveals that young video gamers are willing to take sacrifice in order to achieve sweet success. On the other hand, *'Success is only achieved by individual effort'* cooperative question has the highest score for those with cooperative behavior. The result suggests that although most the participants were competitive the gap of their score between the gaming styles was not so distant.

Moreover, it is interesting to note that out of 54 who have competitive behavior most of them were female, 31 (57.41%).

The high competitive spirit of female maybe the result of a prevailing personality. An individual who is competitively innate may end up playing competitive game as his preference for it gives him the opportunity to express that nature and this kind of process is called functional equivalency. This theory of assumption defines as a relationship of an object to situation or individual. Although a person is competitive but if the gameplay does not offer him as expression to his competitive behavior, it may not be meaningful to him. Just as a person who maybe competitive to other competitive sports but not to other events. A video game depends on the personality trait of the player as an expression of innate desire or external influence (Hartmann & Klimmt, 2006).

Those with cooperative behavior however were dominated by male with 32 (69.57). The dominating male participants are consistent with other video gaming study results (Zammito 2010; Borders, 2012; Allam, 2017). The dominating male in video gaming indicates that male gamers represent the majority of the industry of video games. This culture might be because it has long been more acceptable for males to play video games comparing to women in the past years and recently it has just begun to change in the culture of video gaming. In the past studies, is interesting to note that females had become more and more participative in the video gaming world. (Locker, 2012).

Table 1. Video Game Styles of Grade Six pupils in Kabacan, Cotabato SY 2019-2020.

Video Game Style		Frequency (n=100)	Percentage
Competitive	Male	23	23.0
	Female	31	31.0
	Total	54	54.0
Cooperative	Male	32	32.0
	Female	14	14.0
	Total	46	46.0

Personality Traits of Grade Six Video Game Players

Table 2 is the result of the Personality Test of the Grade Six pupils. The 50-item Personality Trait Test by Goldberg (1992) was used in determining the dominating personality of the respondents. The result reveals that there were 40 (40%) who have high scores in neuroticism, 37 (37%) in extraversion, 28 (28%) in openness and 3 (3%) in conscientiousness. It is noticeable that none of the respondents dominate an agreeableness personality trait.

Most of the respondents have dominating neuroticism personality and the least is conscientiousness. Neuroticism refers to the vulnerability to hostile emotions like rage, worry, depression, or vulnerability. It also refers to an individual's level of emotional constancy and impulse. The result then connotes that most elementary video game players has no or has not yet reached the emotional stability

in terms of video gaming and there are only some of them who have high scores in conscientiousness which refers to trait that has a inclination to show self-discipline, act devotedly, aim for accomplishment, has the ability to plan, organize and dependable. Zamitto (2010) found out that video gamers who prefer games with regards to action shooting, action fighting, strategy and adventure have high scores in Neuroticism. These were the type of games that the respondents answered when they were asked their game preference during the data gathering. These games offer impulsive, anxious actions that are to be taken in the game. However, the result is inconsistent with Bean and Groth-Marnat (2014) who found out that openness is the dominating personality of video gamers.

Table 2. Dominant personality traits of grade six pupils.

Type of video game	Frequency (n=100)	Percentage
Neuroticism	40	40.00
Extraversion	37	37.00
Openness	28	28.00
Conscientiousness	3	3.00
Total	108*	

*Total number exceeds 100, some respondents have 2 dominating personalities.

Agreeableness: frequency=0, percentage=0

Competitive and Cooperative Gaming Style and Personality Traits

After determining the gaming styles and personality traits of the respondents, the data laid down to analyze their relationship. Table 3 shows the relationship of competitive and cooperative behavior to each of the personality trait.

The result shows that neuroticism has a mean score of 20.89 for competitive and 20.24 in cooperative. Extraversion has a mean score of 20.61 for competitive and 19.52 for cooperative. These are the two highest mean scores among the personality traits. The least however is agreeableness with a mean score of 11.57 for competitive and 10.37 for cooperative.

When inspecting the result of t-test to investigate the personality differences, it is found out that competitive and cooperative players have the same personality traits since we fail to reject the null hypothesis. This implies that competitive and cooperative players share similar personalities. Looking at the ranking of the dominating personality traits for competitive and cooperative players, both type of players have highest scores in neuroticism, followed by extraversion, openness, conscientiousness and the least was agreeableness.

The dominating neuroticism and extraversion of competitive and cooperative players describe them to be active, friendly and have positive emotions but tend to be vulnerable to unpleasant emotions like anger, anxiety and depression. On the other hand, agreeableness has the lowest score for both competitive and cooperative. Low scores for agreeableness suggest that they are self-centered, hostile, cold and suspicious (Zhao and Seibert, 2006).

The high scores in neuroticism and extraversion and low scores in agreeableness of competitive and cooperative video game players are in agreement with Allam (2017) that action/adventures video game players have high scores in extraversion and neuroticism but have low scores in agreeableness. The result in his study showed that those with high scores in neuroticism and extraversion and low scores in agreeableness are more likely to be involved in action-packed games that comprise fast decision-making and multifaceted gameplay method. This is not a surprise because most of the respondents agreed with these kinds of games they often play. They all agreed that Mobile Legend (ML) and Rules of Survival (ROS), which are action/shooting/adventures games, were their favorite to play. The result however did not come to an agreement with the findings of Zamitto (2010) and Borders (2012) that video game players have high scores in openness trait. This result is somehow a contradiction of the results of Bean and Groth-Marnat (2014) where extraversion, neuroticism, conscientiousness and openness were statistically different. Age is somehow a factor since their respondents were 18 years old and above.

The overall mean score for two gaming style is worth comparing. The lesser score of cooperative players in the personality traits is obvious. The result suggests that cooperative players are less neurotic, less agreeable, less open to experiences, less conscientious and less extravert than competitive players. These individuals tend to be less reserved than competitive players. They may not dwell on significant events and may not be able to continue on the game with more ease (McCrae, Harwood and Kelly 2011). On the other hand, competitive players had higher overall scores in the personality test. They tend to be more agreeable with other players, open to different styles of play, more neurotic along and more reserved. These individuals maybe more emotionally reactive and become more easily anxious and upset than other respondents. A lot of factors may be related to the competitive players such as experience why they have higher neuroticism scores. The scores of competitive players propose that they appreciate arts, have deeper imagination, more curious and express in creative ways compared to their counterpart (Atkinson, Atkinson, Smith, Bem, 2000; McCrae, 2011).

Table 3. Different personality traits among grade six video game players.

Personality Trait	Play Style	Mean	(SD)	t-value	p
Neuroticism	Competitive	20.89	5.690	1.30	0.198 ^{ns}
	Cooperative	20.24			
Extraversion	Competitive	20.61	4.890	1.44	0.155 ^{ns}
	Cooperative	19.52			
Openness	Competitive	18.87	6.361	0.71	0.478 ^{ns}
	Cooperative	17.33			
Conscientiousness	Competitive	14.80	5.441	1.92	0.590 ^{ns}
	Cooperative	14.02			
Agreeableness	Competitive	11.57	4.540	0.86	0.390 ^{ns}
	Cooperative	10.37			

Legend: SD= Standard Deviation; *p*= p-value; ns= not significant

Table 4 shows the association of competitive and cooperative video gaming styles and personality traits. Chi-square result *p*-value =0.713, is not significant thus the null hypothesis that personality trait and video game player style are independent is not rejected. This implies that the personality trait of the pupil will not affect his/her gaming style whether to compete or cooperate with others.

With this fact on hand, it is also worthy to look into the point of view of Hartmann & Klimmt (2006) why a person chooses to play a certain type of game style. If an individual decides to play a video game, that person is dedicating an important time of endeavor. This is serious and meaningful to him. The decision in the engagement to a behavior is often related to situation affected by the present mood and persisting personality. An individual who is depressed will likely opt to play a game with unhappy environment

compared to others who are in happy disposition. This may also be the case in choosing a competitive or cooperative game play (Hartmann & Klimmt, 2006).

To understand it further, Hartmann and Klimmt (2006) cited functional equivalency in a more precise way. This demonstrates in a manner when a person who feels rage will likely to engage in a video game that is violent believing that in doing so might give him temporarily relief of that anger or any other expression to feel at ease. In other words, the video game played by a person is often the result of his expression that by doing so will offer him something back what he expects. Some individuals play video games to escape work related exhaustion and daily grinds and this is one of the major reasons why others play computer or video games (Reinecke, 2009).

Table 4. Relationship between video gaming style and personality traits among Grade Six pupils.

Personality Trait	Competitive	Cooperative	Chi-Square value	χ^2 p-value
Neuroticism	23	17	14.067	0.713 ^{ns}
Extraversion	22	15		
Openness	15	13		
Conscientiousness	2	1		
Total	62*	46*		

Note: Agreeableness = 0

* Total number exceeds 100, some respondents have 2 dominating personalities.

ns= not significant

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the highlights of the study, it is concluded that the grade six video game players are dominated by competitive gaming style and their dominating personality trait is neuroticism. Moreover, there is no difference in the personality traits among competitive and cooperative video game players. The personality traits of video game players do not influence their gaming style.

The following recommendations were formulated:

1. Video game players have neurotic personality, hence the parents must have close supervision to their children who are involved in video gaming.
2. Parents should have a good mechanism on how to regulate the video gaming exposure of their children.
3. Pupils when engaged in video games must play both competitive and cooperative style.
4. Video game players especially children must carefully select the game genre they play.

5. Future researches can be conducted to determine the positive and negative effects on social behavior of video gaming.

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