International Journal of Psychological and Behavioural Research (IJPBR)
Volume.1, Issue.1 (June, 2021)

ISSN (P): 2790-9859 (E) 2790-9867
DOI: https://doi.org/10.37605/ijpbr.v1i1.3

Date of Submission: May 26th, 2021
Date of Publication: June, 2021

RELATIONSHIP BETWEEN PLAYINGVIOLENT VIDEO GAMES AND AGGRESSION AMONG YOUTH OF MARDAN, KPK

Ms. Marwa*& Ms. Sunila Raishad**

Abstract

This article aimed to study the relationship between playing violent video games and aggression among youth of Mardan. Participants (60 males and 60 females),age range from 15-29 years were approached through purposive sampling technique. Video Game Questionnaire by Anderson and Bushman (2000) was used to measure the use of violent video games. Aggression Questionnaire by Buss and Perry (1992) was used to measure the aggression. Data was collected computed through Statistical Package for Social Sciences (SPSS version 22). Pearson Product Moment Correlation was used to investigate the relationship between the variables under study. The results concluded no significant relationship of playing violent video games and aggression. Further gender differences were found using independent sample t-test. Results obtained concluded no significant gender differences on the variable aggression. With the help of this study Government could make rules and age based ratings to restrict violent content and help parents to supervise children's games' content.

Key Words: Violent video games, Aggression, Violence, Scale, adolescents, Youth

---

***Student, Department of Psychology, Women University Mardan, Email: marwa.riaz7@gmail.com

****Lecturer, Department of Psychology, Women University Mardan

Introduction

Playing violent video games and its relationship with the aggression has evolved into a well-known subject matter in the area of psychological research (Wiegman & Schie, 1998; Anderson & Bushman, 2001; Anderson, Shibuya, Ihori, Swing, Bushman, Sakamoto & Saleem, 2010; Ferguson, Miguel, Garza & Jerabeck, 2012; Greitemeyer, 2014; Yang, Huesmann, & Bushman, 2014) because playing video games is very popular among youth all around the world(Tuncer & Yalçin, 1999; Gentile, 2009; Ko ,Yen, Chen, Yeh, & Yen, 2009; Rehbein, Kleimann, Mediasci & Mößle, 2010; Tao, Wang, Zhang, Zhang, & Li, 2010; Haagsmsa, Pieterse, & Peters 2012). The children and adolescents time spending on playing video games has hiked regularly (Anderson, Gentile, &Buckley, 2007). Variations in these technologies brought probable transition in player's cognition, emotions, and behaviors (Kipnis, 1997). Most of the famous video games are violent which involves the individual in violence or homicide (Makashvili, et al,. 2014). Violence indicates severe types of aggression, such as bashing and homicide (Anderson & Bushman, 2001). As reported that video game is an interactive system based on the processing power of the computer (Jansz, 2004). The results are variable, quantitative and of variable value. The efforts of the players influence the result and the players feel connected to the result. Audience defines "violent media" such as TV shows, video games that contains graphical images of blood and pain (Anderson et al., 2010). Over 90% video games are teen rated or mature rated that contains violence. Inthese games violence is justified as enjoyable without negative consequences (Haninger & Thompson., 2004; Thompson, Tepichin& Haninge., 2006; Gentile.,2008). Authors have claimed that most of the video games contain violence, death and destruction (Loftus & Loftus, 1983; Dominick, 1884; Griffiths, 1999). In playing

violent video games player's character is against enemy character where the player uses all types of weapons i.e. bombs, tanks, guns, knives, machine guns, hammer, axes and also hands and legs to fight and kill the enemy. Most of the violent video games show blood shedding and come up with effective reality where the player feels that they are the character and feel the situation, environment and heat (Nasreen Jawed, 2018).

Most social and developmental psychologists had defined aggression as a behavior that is aimed to torment individual who possess a motive to stay away from such harm. In other words, aggression is an act committed by one person to harm another (Baron & Richardson, 1994; Anderson et al., 2008).Historically some of the early researchers Sigmund Frued and Konard Lorenz suggested that aggression is inborn (Conger, Neppl, Kim, & Scaramella, 2003; Huesmann, Titus, Podolski & Eron, 2003) in contrast, stated by Albert Bandura. (1978), "*People are not born with preformed repertoires of aggressive behavior; they must learn them".* People learn aggression in same way they learn other social behavior that maybe through direct experiences or by observing. Aggression is an extrinsic act that one can see e.g. stabbing hitting cursing and shooting. Aggression is not a feeling that occurs, it's also not a thought in one's head rather it is an intention to hurt (Bushman & Huesmann 2010). Aggressive behaviors can be described as verbal or physical strike (Ferris & Grisso., 1996). Physical aggression is harming other by kicking, hitting, stabbing and shooting. Verbal aggression is harming someone with words such as cursing, yelling and calling names etc. Relational aggression is causing intentional harm to someone's social relationship and involvement in the group (Crick & Grotpeter, 1995). Aggression can be direct or indirect. The direct aggression refers to the presence of sufferer at the moment and indirect aggression refers to, when the sufferer is not present (Lagerspetz, Bjorkqvist & Peltonen, 1988; Bushman & Huesmann, 2010).According to

Bushman and Huesmann. (2010), active aggression is when the aggressor counter in a painful way and passive aggression is when the aggressor fails to counter in painful way. Direct and active aggression is very harmful and dangerous it can lead to serious injuries and also death (Bushman & Huesmann, 2010).

Literature suggests that positive relation has been concluded between the two variables, playing violent video games and adolescent aggression (Shao & Wang, 2019). A web literature analysis used different electronic database such as PUBMED meta-analysis concluded direct relationship of aggression and playing violent video games overtime (Prescotta, James, Sargent & Hull.,2018). Experimental study concluded that regardless of difference in sample i.e. age and country each sample yielded statistically reliable positive tie up between habitual playing game violence and aggression (Anderson et al., 2008). Aggressive behavior is shown when a participant starts playing violent video games for long time (Anderson et al., 2004). Three years longitudinal study by Gentile, Li, Khoo, Prot and Anderson. (2014) concluded habitual playing of violent video games escalate aggression. Literature based study by Anderson and Bushman (2001) came to an end that violent video game playing, even for a short period of time,rises aggression. Literatures have culminated that male gender shows more aggression in comparison with female gender as a result of violent video games play (Polman, Castro& Aken, 2008; Yang, Huesmann & Bushman, 2014; Reynisdóttir, 2016).

According to social learning theory aggression is usually outlined as behavior that ends up in personal injury and bodily destruction (Bendura, 1978). Individuals aren't born with an outsized array of aggressive responses at their birth. Rather, they need to learn in the same manner they acquire other complicated varieties of social behavior that is through direct experiences or by

observing the behavior of others. Practically learning is ensuing from direct experience may occur vicariously by observing the behavior and consequences of others (Anderson et al., 2010). The capability to learn by observation allows human to amass large, integrated patterns of behavior while not having to create them bit by bit, by tedious trial and error. Aggressive behavior is a rich symbolic model provided by the media. The emergence of television has significantly extended the array of models convenient for growing children. Today's children and adults have unbounded opportunities to learn about all the violence of television models in their homes. It teaches aggressive behavior styles and changes control on the characteristics of aggression shown on television, which tend to weaken people's self-control on aggressive behavior (Bendura 1978).

According to General Aggression Model, aggression of human being is strongly influenced by the knowledge structure and important knowledge structure perceptual schemata (treat puzzling events as hostility), expectation schemata (expect aggressive behavior from others) and behavioral scripts (believe that conflicts will be solved through aggression). These structures of knowledge are developed by experience and can affect perception (Allen, Anderson and Bushman, 2018). Based on this theory, the series of events that can eventually lead to overt aggression can be explained by two main types; Factors related to the current situation (situational factors) and Factors related to the person involved (person factors). According to the General Aggression Model (GAM), these situational and personal (personal) variables lead to social aggression through their influence on three basic processes i.e. *arousal,* may increase arousal or physical arousal; *affective states*, they can provoke hostility and external signs; and cognitions, they can induce hostile thoughts, or remind people of beliefs and attitudes about aggression.

Rationale

Young people spend most of their time in playing video games that also include video games of violent content (Tuncer & Yalçin, 1999; Gentile, 2009; Ko,Yen, Chen, Yeh, & Yen, 2009; Rehbein Psych, Kleimann, Mediasci & Mößle, 2010; Tao, Wang, Zhang, Zhang, & Li, 2010; Haagsma, Pieterse, & Peters 2012). Playing violent video games have negative outcomes i.e. the higher the exposure to violent video games the more chances to have aggression (Anderson & Dill, 2000). Suggested by Anderdon and Bushman (2001) aggression increases by playing violent video games and both variables are strongly related. Literature on the relation between these variables is hard to find in our cultural context as there is lack of reported literature on this topic. This study is carried out to find the relation between these two variables in the city of Mardan, KP. The study also aimed at finding differences in aggression between both male and female genders.

Objectives

The purpose of the current research was

1. To find the relationship between playing violent video games and aggression among youth of Mardan.
2. To find the gender differences on aggression.

Hypotheses

H1: There will be a significant positive relationship between playing violent video games and aggression.

H2: Aggression will be higher in males compared to females.

Methodology

The purpose of this study was to find the relationship between playing violent video games and aggression and find the gender differences in relation to these variables. A questionnaire based survey research design was used to collect data.

Operational Definitions

Violent Video Gaming

Violent video gaming depicts intentional attempts by individuals to inflict harm on others. An "individual" can be a nonhuman cartoon character, a real person, or anything in between. Thus, traditional Saturday-morning cartoons (e.g., "Mighty Mouse," "Road Runner") are filled with violence (Anderson & Bushman, 2001).

Aggression

According to Buss and Perry (1992), physical and verbal aggression represents the instrumental or motor component of behavior, anger embodies emotional component of behavior and finally, hostility represent the cognitive components of behavior.

Instruments

Video Games Questionnaire. The Video Games Questionnaire scale was developed by Anderson and Bushman (2000). This questionnaire is used for measuring the violent video games. The scale has two categories that include the violent content along with graphics rating under 7 point likert scale where *1 is no or little violent content and 7 is extremely violent content* and *1 for little or no bloody and gory where 7 for extremely bloody and gory* . The other category is how often rating includes 4 items where 1 is labeled rarely, 4 occasionally and 7 is often. There is also a question which has 6 categories education, sports, fantasy, fighting with hands/feet, fighting with weapons and skill. The respondent has to select their 5 favorite games. According to the games they have to report how often they have played it in 7^{th} 8^{th} grades, 9^{th} 10^{th} grades, 11^{th} 12^{th} grades and in recent months. Along with that they have to check all the 6 categories i.e. education, sports, fantasy, fighting with hands/feet, fighting with weapons and skill and select in which categories their games lie in. The higher score indicates

the violent content and how often the participant plays these games. Reliability of the scale was 0.88 (Anderson & Dill,2000). The permission for using the scale was taken from the authors.

Buss and Perry Aggression Questionnaire. Buss and Perry Aggression Questionnaire scale was developed by Buss and Perry (1992). This scale measures four factors of aggression i.e. verbal aggression, anger, hostility and physical aggression. The higher score indicates the higher propensity of aggression. The Buss and Perry aggression Questionnaire (Buss & Perry, 1992) is used for measurement of aggressive behavior. The scale contains 29 items. BPAQ is further divided in four factor i.e. anger, hostility, physical aggression and verbal aggression. Anger contains eight items, hostility contains eight items, physical aggression contains nine numbers of items and verbal aggression contains five numbers of items. The participant will have to rate their responses on the 5 point Likert scale (*from 1=extremely uncharacteristic of me to 5=extremely characteristic of me*).The higher score on the measurement scale will show higher level of aggression. The consistency and reliability of this scale is 0.78 (Samani, 2008). Permission of this scale was available online.

Procedure

The current study was conducted on a sample of 120 (60 males and 60 females), with the age range of 15-29 years (National Youth Policy,2009)youth of Mardan including students, people having different jobs and professions and different skilled people in Mardan. The sample was approached through the purposive sampling technique. Due to pandemic (COVID-19), half of the data was collected in person and the rest was collected through online survey forms. Informed consent was takenfrom each participant. The participants were ensured

that the data obtained from them will only be used for research purpose. The survey method was used in administering the questionnaire which took about 20-25 minutes. The data obtained was analyzed through SPSS (Version 22).

Results

Objective of the current study was to examine the relationship of playing violent video games and aggression among youth of Mardan, Khyber Pakhtunkhwa with age range 15-29 years. Following are the results obtained after SPSS (Version 22) analysis.

Table 1.

Details of Sample Characteristics (N=120)

Sample characteristic	***Categories***	***f***	***%***
Gender	Male	60	50
	Female	60	50

Table 1 consist of sample 60 male participants (50%) and 60 female participants (50%)

Table 2.

Cronbach's Alpha Coefficient for Study Variables (N=120)

Scales	***No of items***	***a***
VGQ	30	.70
BPAQ	29	.72

Note.VGQ =Video Games Questionnaire; BPAQ=Buss and Perry Aggression Questionnaire.

Table 2 shows that both the questionnaires Video Games Questionnaire (Anderson & Dill, 2000) and Buss and Perry Aggression Questionnaire (Buss & Perry, 1992) are reliable and internally consistent.

Table 3.

Descriptive Statistics for Study Variables (N=120)

			Range		
Scales	*M*	*SD*	*Actual*	*Potential*	*Skewness*
VGQ	147.08	31.59	73.07-262.40	30-210	.462
BPAQ	78.05	9.69	52.50-104.50	29-145	.330

Note.VGQ =Video Games Questionnaire; BPAQ=Buss and Perry Aggression Questionnaire; M= Mean; SD= Standard Deviation.

Table 4.

Pearson Product Moment Correlation of Violent games and Aggression (N=120)

Variables	*1*	*2*
1.Violent Video Games	-	.04
2. Aggression		-

Correlation of violent video games and aggression is positive but not significant.

The gender differences in aggression were examined through independent sample t test. Results are shown in table 5

Table 5.

Gender differences in aggression (N=120)

	Male (n=60)		Female (n=60)				95% *CI*	
Variables	*M*	*SD*	*M*	*SD*	*t*	*p*	*LL*	*UL*
BPAQ	78.42	9.80	77.67	9.65	.67	.67	-2.76	4.26

Note; BPAQ= Buss and Perry Aggression Questionnaire; M= Mean; SD= Standard Deviation; CI= Confidence Interval; LL= Lower Limit; UL= Upper Limit, p = Level of Significance.

Table 5 shows that there is no significant difference on the basis of gender on aggression.

Discussion

The current study was aimed to find out the relationship of playing violent video games and aggression among youth of Mardan, Khyber Pakhtunkhwa. This study was also aimed to examine the gender differences on aggression. For the achievement of the above mentioned objectives the obtained data was examined through Statistical Package for social sciences version 22 (SPSS-22). Sample characteristics are shown in the table 1. Table 2 shows the details of instruments and both instruments are reliable and internally consistent. The descriptive statistics mean, standard deviation, actual and potential range and skewness are shown in table 3 the skewness value suggests the normal distribution of our data.

Pearson Product Moment Correlation was computed for the analysis of correlation between playing violent video games and aggression (Table 4). The independent sample t test was run for examining gender differences in aggression (Table 5).To investigate the correlation between playing video games of violent content and aggression among youth of Mardan; Pearson Product Moment Correlation was used. In the study it was hypothesized that video games of violent

nature increases aggression but the result of the current study was not according to the hypothesis and previous studies, where the literature concluded positive relation between exposure to violent video games aggression (Anderson & Dill, 2000; Anderson et al., 2004; Anderson et al., 2008; Gentile et al., 2014; Anna et al,. 2018; Shao,Yunqiang & Wang,2019).The outcome of this present study are in contrast with the hypothesis and previous studies. The correlation analysis of the current study was in the positive direction but not significant. Thus, it shows no significant correlation of violent video games and aggression. Hence, first hypotheses is not supported *(H1= there will be positive relationship between playing violent video games and aggression)*. In the support of results the following literature was found where a research was conducted by Przybylski and Weinstein (2019) the objective of their research was that the violent video games engagement is not associated with aggression. The results of the research were that playing violent video gaming is not related to the aggressive behavior. Also Ferguson et al. (2008)conducted a study on videogames of violent content and aggression the outcomes of the study concluded that playing violent video games are not related to the aggression. In another research a reinvestigation of (Anderson et al., 2010)conducted by Hilgard, Engelhardt and Rouder(2017), suggested that playing violent games is not associated with aggression as much as they are shown in the previous researches. A study conducted on does playing video games of violent content increases aggression? The results concluded that playing violent video games do not increase the tendency of aggression (McCarthy, Coley, Wagner, Zengel, & Basham, 2015).

In the Table 5 the result of gender differences are shown. In the literature it was reported that male gender was found more aggressive as compared to female gender (Polman et al., 2008; Yang et al., 2014; Jona, 2016). For finding

the gender differences means of the both genders were measured and for this purpose independent sample t test was computed. The results in current study regarding gender were also in contradiction with the literature discussed. The results indicated no significant gender differences regarding the variable aggression. Hence, the second hypotheses of the research study *(H2= aggression will be higher in males compared to females)*is also not supported. In the support of this results the literature was found, a study conducted by Ferugson et al. (2008) on the level of aggression of male and female was found equal and concluded that there are no gender differences reported in this study of male and female.

Conclusion

The present research was conducted in the accessible areas in Mardan. The research findings concluded that there is no significant relationship found in playing violent video games and aggression did not supported our first hypothesis. For the gender differences no significance differences were found in the analysis hence did not support our second hypothesis as well.

Limitation and Suggestions

- The sample size was small
- The research was done on limited geographical area.
- Experimental studies should be conducted on such topic.

Ethical considerations

- The permission for using instrument was taken from the author
- The participants were asked to participate in the study voluntarily.
- Informed consent was taken from the participants.
- Participants were not subjected to harm.
- Information was kept confidential.

- Respect for the dignity of the research participants was prioritized.
- The participant privacy was protected.
- The confidentiality of the research data of the individual and organization was assured.

Implications

Findings can help parents to supervise content of the games. Government could create rules and own ratings for such content. Government could restrict this type of content. Age limit and age restriction could be specified by age-based ratings.

References

Anderson, C. A., and Bushman, B. J. (2001). *Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: a meta-analytic review of the scientific literature.* Psychol. Sci. 12, 353–359. doi: 10.1111/1467-9280.00366.

Anderson, C.A., Gentile, D.A., & Buckley, K. (2007). *Violent video game effects on children and adolescents*: Theory, research, and public policy. New York: Oxford University Press.

Anderson, C. A., Sakamoto, A., Gentile, D. A., Ihori, N., Shibuya, A., Yukawa, S., ... & Kobayashi, K. (2008). Longitudinal effects of violent video games on aggression in Japan and the United States. *Pediatrics*, *122*(5), e1067-e1072.

Anderson, C. A ,. Carnagey, N. L., Flangan,M., Benjamin, A. J., Eubanks, J., & Valntine, J. C. (2004). Violent Video Games: Specific Effects of Violent Video Games on Aggressive thoughts and behavior. In M. P.

Zanna (Ed.), *Advances in Experimental Psychology*, Vol.36 (p. 199-249). Elsevier Academic Press.

Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., ... & Saleem, M. (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.

Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *Journal of personality and social psychology*, *78*(4), 772.

Bandura, A. (1978). Social learning theory of aggression. *Journal of communication*, *28*(3), 12-29.

Baron, R. A., & Richardson, D. R. (1994). *Human Aggression.* New Yor; Plenum press.

Barren, A., Banscombe, R. (2011). *Social Psychology*, (13th ed.)

Bushman, B. J., & Huesmann, L. R. (2010). *Aggression. Handbook of Social Psychology*. doi:10.1002/9780470561119.socpsy002023

Buss, A. H. (1961). The psychology of aggression. New York: Wiley.

Conger, R. D., Neppl, T., Kim, K. J., & Scaramella, L. (2003). Angry and aggressive behavior across three generations: *A prospective, longitudinal study of parents and children. Journal of Abnormal Child Psychology*, 31, 143–160.

Crick, N. R. (1995). Relational aggression: The role of intent attributions, feelings of distress, and provocation type. *Development & Psychopathology*, 7, 313–322.

Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer provocations. *Child Development,* 73, 1134–1142.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social - psychological adjustment. *Child Development,* 66 , 710 – 722

Dominick, J. R. (1984). Videogames, television violence and aggression in teenagers. *Journal of Communication,* 34, 136–147.

Ferguson, C. J., San Miguel, C., Garza, A., & Jerabeck, J. M. (2012). A longitudinal test of video game violence influences on dating and aggression: A 3-year longitudinal study of adolescents. *Journal of psychiatric research*, *46*(2), 141-146.

Ferguson, C. J., Rueda, S. M., Cruz, A. M., Ferguson, D. E., Fritz, S., & Smith, S. M. (2008). Violent video games and aggression: Causal relationship or byproduct of family violence and intrinsic violence motivation?. *Criminal Justice and Behavior*, *35*(3), 311-332.

Ferris, C. F., & Grisso, T. (1996). *Understanding aggressive behavior in children. Annals of the New York Academy of Sciences,*Vol. 794 (pp. 426–794). New York: Annals of the New York Academy of Sciences

Gentile, D. A., Li, D., Khoo, A., Prot, S., & Anderson, C. A. (2014). Mediators and moderators of long-term effects of violent video games on aggressive behavior: Practice, thinking, and action. *JAMA pediatrics*, *168*(5), 450-457.

Gentile, D. (2009). Pathological Video-Game Use Among Youth Ages 8 To 18: *A National Study. Psychological Science*,20(5), 594-602.

Gentile, D. A. (2008). The rating systems for media products. *Handbook of children, media, and development*, 527-551.

Griffiths, M. (1999). *Violent video games and aggression*: *A review of the literature. Aggression and violent behavior*, 4(2), 203-212.

Government of Pakistan. (2009). *National Education Policy* 2009. Federal Ministry of Education.

Islamabad,Pakistan.Retrievedfromhttp://unesco.org.pk/education/teachereducation policy.html

Haagsma, M. C., Pieterse, M. E., & Peters, O. (2012).*The Prevalence of Problematic Video Gamers in the Netherlands. Cyberpsychology, Behavior, and Social Networking* , 15(3), 162-168.

Haninger, K., & Thompson, K. M. (2004). *Content and ratings of teen-rated video games*. Jama, 291(7), 856-865.

Huesmann, L. R., Moise-Titus, J., Podolski, C. L., & Eron, L. D. (2003). Longitudinal relations between children's exposure to TV violence and their aggressive and violent behavior in young adulthood: 1977–1992. *Developmental Psychology, Special Issue: Violent children*, 39, 201–221

Hadley, M. (2003). Relational, indirect, adaptive, or just mean: Recent work on aggression in adolescent girls—part I. *Studies in Gender & Sexuality*, *4*, 367–394

Hilgard, J., Engelhardt, C. R., & Rouder, J. N. (2017). Overstated evidence for short-term effects of violent games on affect and behavior: A reanalysis of Anderson et al.(2010).

Hilgard, J., Engelhardt, C. R., Rouder, J. N., Segert, I. L., & Bartholow, B. D. (2019). Null effects of game violence, game difficulty, and 2D: 4D digit ratio on aggressive behavior. *Psychological science*, *30*(4), 606-616.

Jawaid, N. *Aggressive Behavior and Exposure to Violent Video Games in Children*.

Jansz, J. (2005) "The emotional appeal of violent video games for adolsent males" *Communication theory* , 15 (3), pp.219-41

Ko, C., Yen, J., Chen, C., Yeh, Y., & Yen, C. (2009*). Predictive Values of Psychiatric Symptoms for Internet Addiction in Adolescents:* A 2-Year Prospective Study. Archives of Pediatrics and Adolescent Medicine, 163(10), 937-943.

Kipnis, D. (1997) Ghost, taxonomies, and social psychology. *American Psychologist,* 52, 205-211.

Loftus, G. A., & Loftus, E. F. (1983). Mind at play: *The psychology of video games*. New York: Basic Books.

Liu, J. (2004). *CONCEPT ANALYSIS: AGGRESSION. Issues in Mental Health Nursing, 25(7), 693–714.* doi:10.1080/01612840490486755

Lopez, V. A., & Emmer, E. T. (2002). *Influences of beliefs and values on male adolescents' decision to commit violent offenses. Psychology of Men & Masculinity, 3(1), 28–40.* doi:10.1037/1524-9220.3.1.28

Makashvili, M., Amirejibi, T., Chitiashvili, T., Duchidze, N., Georgashvili, M., Kaishauri, N.& Sergia, M. (2014). Violent video games cause

aggression in young females. *Journal of Law and Criminal Justice*, *2*(2), 151-160.

McCarthy, R. J., Coley, S. L., Wagner, M. F., Zengel, B., & Basham, A. (2016). Does playingvideo games with violent content temporarily increase aggressive inclinations? A pre-registered experimental study. *Journal of Experimental Social Psychology*, *67*, 13-19.

Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex difference in antisocial behavior*. Cambridge, UK: Cambridge University Press

Polman, H., de Castro, B. O., & van Aken, M. A. (2008). Experimental study of the differential effects of playing versus watching violent video games on children's aggressive behavior.

Aggressive Behavior: Official Journal of the International Society for Research on Aggression, 34(3), 256-264.

Prescott, A. T., Sargent, J. D., & Hull, J. G. (2018). Metaanalysis of the relationship between violent video game play and physical aggression over time. *Proceedings of the National Academy of Sciences*, *115*(40), 9882-9888

Przybylski, A. K., & Weinstein, N. (2019). Violent video game engagement is not associated with adolescents' aggressive behaviour: evidence from a registered report. *Royal Society open science*, *6*(2), 171474.

Reynisdóttir, A. J. (2016) *Video game play among adolescents: gender differences and effects on anger and physical aggression* (Doctoral dissertation).

Rehbein, F., Psych, G., Kleimann, M., Mediasci, G., & Mößle, T. (2010). *Prevalence and Risk Factors of Video Game Dependency in Adolescence*: Results of a German Nationwide Survey. Cyberpsychology, Behavior, and Social Networking, 13(3), 269277.

Shao, R., & Wang, Y. (2019). *The Relation of Violent Video Games to Adolescent Aggression: AnExamination of Moderated Mediation Effect. Frontiers in Psychology, 10*

Tao, R., Huang, X., Wang, J., Zhang, H., Zhang, Y., & Li, M. (2010).Proposed diagnostic criteria for internet addiction. Addiction, 105(3), 556-564.

Tuncer, A., & Yalçin, S. (1999). Multimedia and children in Turkey. *The Turkish Journal of Pediatrics*, 41, 27-34.

Thompson KM, Tepichin K, Haninger K. *Content and ratings of mature-rated videogames*. ArchPediat AdolescMed.2006;160(4):402-410.

Wiegman, O., and Schie, E. G. (1998*). Video game playing and its relations with aggressive and prosocial behaviour.* Brit. J. Soc. Psychol. 37, 367–378. doi: 10.1111/j.2044-8309.1998.tb01177.x

Yang, G. S., Huesmann, L. R., & Bushman, B. J. (2014). Effects of playing a violent video game as male versus female avatar on subsequent aggression in male and female players. *Aggressive behavior*, *40*(6), 537-541