

The Effects of Age, Gender and Violence Catharsis on Gaming and Mental Health

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III. Abstract

The aim of the current study was to explore the relationship between mental health, while factoring for age, gender and violence catharsis. A correlational design with a cross-sectional quantitative survey was utilised. The 40-question online survey consisted of demographic questions, questions regarding violence catharsis and the DASS-21. 85 participants completed the survey. The study found that low, mid and high-level gamers did not differ on total DASS score, however a moderate, positive correlation was found between levels of violence catharsis and total DASS score. Male and female participants differed significantly in levels of violence catharsis but between age groups no significant difference was found. Analyses found no significant interaction effect for either the role of age and hours gaming on mental health or the role of gender and hours spent gaming on mental health. These results could inform future research into gender specific treatments for problematic gaming.

Depression and other forms of mental illness are widespread and increasingly prevalent (Hidaka, 2012) with recent studies estimating that over 350 million people worldwide suffer from depression (Li, Theng & Foo, 2014). There are a number of possible explanations for this increase. Some researchers have suggested that the contrasting nature of modern lifestyles with those of previous generations has led to rising rates of depression (Hidaka, 2012). “Modern populations are increasingly overfed, malnourished, sedentary, sunlight-deficient, sleep-deprived, and socially-isolated” (Hidaka, 2012, p. 1). Do videogames have a role to play in these new lifestyle trends? Many of the highlighted issues are often seen as typical of the average gamer, whether this is a fair assessment or not (Griffiths, Davies & Chappell, 2003). In the U.S alone it is estimated that 155 million people play videogames and four out of five American households own a gaming console or a device for playing videogames (The ESA, 2015) and from 2011 to 2013 the average weekly time spent playing videogames increased from 5.1 hours to 6.3 hours (Lee, Sung, Lee & Lee, 2017). Is there a relationship between the increase in gaming worldwide and rising rates of depression? Numerous studies have attempted to connect videogame content to real world behaviour of gamers. Anderson and Ford (1986) found increased levels of aggression and anxiety in participants who had played violent video games. Similarly, the relationship between anxiety and gaming, particularly MMO (Massively Multiplayer Online) gaming has been the focus of a number of studies in recent years (Hooley & Cole, 2013) (Mehroof & Griffiths, 2010) (Wei, Chen, Huang, Bai, 2012). A study of 50 adults with internet addiction found that 15% had generalised anxiety disorder and 15% had social anxiety disorder (Bernadi & Pallanti, 2009) and a study of Norwegian adults found that the prevalence of anxiety increased with increased playing time. Stress reduction has often been highlighted as one reason for playing video games and numerous studies appear to support the cathartic nature of gaming (Snodgrass et al. 2014). A 2015 study by Peebles, Bonus and Riddle found that gaming can be used to manage negative emotions including stress and gamers

are often motivated by the desire to relax and destress in a virtual environment. This desire to escape real world problems, however, has been linked to problematic gaming, especially among highly stressed individuals (Snodgrass et al. 2014). The current study will attempt to examine the relationship between gaming and mental health, both through the time people spend gaming and the content of these games. The possible mediating effects of gender and age will also be examined.

1.1 Problematic Gaming

Videogames are rewarding to players as they activate dopaminergic neurotransmission in the brain, which plays an important role in pleasure and motivation (Mentzoni, 2011). Enjoyment, a sense of accomplishment, mood enhancement and friendship can all be considered possible benefits of gaming. However, despite these benefits gaming can come at a cost. Problematic gaming or gaming addiction bears a close resemblance to substance addiction (Mérelle et al, 2017). And while there is a disagreement concerning whether this can be considered a diagnosable mental illness, a number of behaviours considered symptomatic of substance-addiction have been observed in cases of problematic gaming. These include mood modification, tolerance levels and withdrawal symptoms (Mérelle et al, 2017). A 2015 study found a significant, direct relationship between videogame addiction and depression, however it offered a clear distinction between high engagement in games and gaming addiction, a distinction which has often been overlooked when attempting to assess the impact of gaming on mental health (Loton, Borkoles, Lubman, & Polman, 2015). The study found no direct link between video game engagement and poor mental health, except in the case of anxiety. However, the study did find that gaming was often used as a coping mechanism in gamers with maladaptive coping strategies, such as resignation and withdrawal, which have been linked to poorer mental health (Beranuy, Oberst, Carbonell & Chamarro, 2009).

With the increasing popularity of gaming worldwide has come an increasing focus on its potential harmful effects and indeed some studies suggest that gaming, in excess, bears similar characteristics to other, more established addictive conditions (King et al. 2013). The prevalence of the issue is highlighted by the inclusion of ‘internet gaming disorder’ in the Diagnostic and Statistical Manual of Mental Disorder (Loton, Borkoles, Lubman, & Polman, 2015) and indeed one study found that 12% of the 7,000 sampled gamers met the WHO criteria for addictive behaviour (Weinstein, 2010). However, research on the topic has often been contradictory. For example, one study found that frequency of gaming had no impact on the grade point average of college students while another study found that MMORPG (Massively Multiplayer Online Role Playing Game) players reported lower levels of anxiety in comparison to the general population. Conversely, other studies have found evidence of increased levels of depression, suicide ideation, substance abuse and sleep problems among gamers (Mentzoni, 2011). A similar study of undergraduate students with problematic internet use found that depression, keeping to oneself, and decreasing tension all led to an increase in problematic internet use (Hertzel-Riggin et al, as quoted in Wei, Chen, Huang & Bai 2012). Maladaptive coping methods have been highlighted as a possible mediating factor when attempting to measure the relationship between gaming and mental health (Loton, Borkoles, Lubman, & Polman, 2015). Gaming offers an easily accessible escape from real world issues and could therefore be viewed more as a symptom rather than a predictor of depression.

The social aspect of internet gaming could also be a contributing factor in problematic gaming. Popular MMOs such as *World of Warcraft* allow individuals to join “guilds” which allows players to communicate and work cooperatively to achieve common goals. Individuals who lack real-life interpersonal skills and relationships may find solace in the refuge of a virtual world. This virtual world simultaneously fulfils a basic human need of belonging while negating the need for real world interaction, which bears the risks of rejection or ridicule. It is

thus unsurprising that low social competence, low self-esteem and loneliness were all significant risk-factors in the development of pathological gaming (Cole & Hooley, 2013).

1.2 Violent Content

A large body of research exists with regards the link between violent behaviour and violent content in video games and the video game industry has come under intense scrutiny over the apparent link between violent content in video games and behavioural issues in children and adolescents. It has perhaps been the focal point of video game research, yet it remains a vexed issue with conflicting evidence abound.

While research has provided evidence for both sides of this argument, the mainstream media has perhaps been more partisan in its coverage. Inflammatory quotes from prominent politicians and selective reporting has demonised the games industry in the eyes of many. Hillary Clinton is on record as saying, “playing violent video games is to an adolescent’s violent behaviour what smoking tobacco is to lung cancer” and Senator Joseph Lieberman has referred to video games as “digital poison” (DeCamp & Ferguson, 2016). The unwavering belief of many influential figures in the inherent malignance of video games has perhaps skewed public opinion and maybe unfairly represented the games industry. The American Psychological Association (APA) produced its ‘*Resolution on Violent Video Games*’ in 2015 in which it suggests that the relationship between violent video game exposure and aggressive behaviour is well established, with much of the research in the area showing a direct link between acts of aggression and video game violence. In light of this the APA have “endorsed the development and implementation of rigorously tested interventions that educate young children, youth and families about the effects of violent video game use” (p. 21). The APA also called for the ESRB (Entertainment Software Rating Board) to redesign its rating system to account for differing types and levels of violence within video games.

However, a meta-analytic study of research on violent video games appears to contradict much of the mainstream rhetoric suggesting that exposure to violent content in videogames has a minimal impact on increased aggression, reduced prosocial behaviour and academic performance (Ferguson, 2015). It is hoped that the current study will accurately gauge the impact of video game violence on mental health and offer a more balanced assessment.

One of the more researched areas in gaming has been the link between video game violence and aggressive behaviour in youths and adolescents but once more no clear consensus has emerged (DeCamp & Ferguson, 2016). Aggregate crime data does not appear to support the theory that violent video games have any impact on youth violence. However, studies such as Adachi and Willoughby (2013) and Przybylski (2014) have suggested that excessive exposure to violent content in videogames (3+ hours) is linked to an increase in violent behaviour, although these observed increases were minimal. Playing violent videogames has been linked to symptoms of depression among pre-adolescents.

1.3 Stress, Anxiety and Depression

Stress can be defined as “a state of psychic and/or somatic disequilibrium that accompanies the perception that one might not be able to meet the demands of presents” (Snodgrass et al. 2014, p. 250). Stress can be accompanied by both physiological and psychological changes within the individual; these can include a feeling of pressure and growing anxiety and a heightened autonomic nervous system and hypothalamic-pituitary-adrenal axis, the combination of which can create a looping effect, further compounding the negative effects of stress (Snodgrass et al. 2014). Stress is a well-known risk factor in terms of addiction and its relationship with problematic gaming has received a lot of attention in recent years. Studies have shown that gaming and internet use are often used as methods to cope with stressful life events, to manage mood and as an escape from reality. Thus, gaming can be seen

as a coping strategy and a manifestation of stress. Snodgrass et al. (2014) suggest that gaming, specifically MMO gaming, can be a reliable method of mood modification, inducing either a calmer, more relaxed state due to its escapism or a 'high' or a 'buzz'. They draw parallels to the comparative uses and effects of nicotine on smokers. For example, the study highlights the impact of in-game 'positive stress' in providing a means of distracting from real world stressors. *World of Warcraft* players who exhibited higher levels of real world stress were consequently more likely to enjoy the "positive stress" elements of the game. These aspects redirect the players focus from the overwhelming stresses of the real world to the more manageable tasks in the game (Snodgrass et al. 2014). One study of the soothing effects of gaming theorized that immersive gaming can induce dissociative states in gamers, in which certain aspects of self and experience become detached from the consciousness of the individual. This state of dissociation distracts from the individual's offline life. Dissociation is a method often employed in many forms, either voluntarily or involuntarily, to cope with stress and immersive gaming can be employed as medium to bring about a dissociative state (Snodgrass, Lacy, Francois Dengah, Fagan & Most, 2010). Snodgrass et al. (2010) describe *World of Warcraft* as a "technology of absorption" due to its ability to induce dissociation in its players. They highlight both the positive and negative outcomes of using gaming as a method of stress relief. The immersion in a virtual reality allows players to reach deeply relaxed states, in some cases becoming unaware of events around them and losing track of time. In this sense immersive gaming can be compared to meditation or other methods used to lower stress levels and reach a state of relaxation (Snodgrass et al., 2010). As well as alleviating stress, however, the immersive qualities of *World of Warcraft* can equally impair stress management and even create more stress for gamers. The same qualities which make the game an easy method of destressing can also be addictive. Many players report finding it difficult to remove

themselves from the game and that its use as a means of escape seeks only to compound those issues they seek to escape (Snodgrass, Lacy, Francois Dengah, Fagan & Most, 2010).

Generalized anxiety disorder is a common and widespread mental affliction characterised by excessive and inappropriate worrying that is persistent and not restricted to particular circumstances. One European study suggested that between 1.7% and 3.75% of the population have suffered from the disorder in the past 12 months (Lader, 2015) and other estimates have suggested between 4% and 7% of people will suffer from GAD at some stage in their lifetime. Similar to stress, studies have offered evidence of a relationship between anxiety disorders and addictive behaviours as a method of escape and online gaming offers an environment with fewer anxiety inducing-aspects than the real world (Lader, 2015). Social anxiety has also been positively linked with online gaming with some researchers theorising that computer-mediated-communication provides comfort and anonymity and thus is preferred to face-to-face interactions (Prizant-Passal, Shechner & Aderka, 2016).

Per the DSM-V, depression is characterised by a depressed state or a loss of interest in life activities for at least two weeks and the presence of at least five of the following symptoms which inhibit important aspects of an individual's life such as occupation, education or social:

1. Depressed or irritable mood for most of the day
2. Diminished interest in most activities
3. Significant weight change (5%) or change in appetite
4. Change in sleep patterns
5. Change in activity levels
6. Fatigue or loss of energy
7. Guilt or worthlessness
8. Diminished concentration

9. Thoughts of death or suicide

The relationship between gaming and depression has borne a large body of research with conflicting findings. However, the theory that problematic gaming is symptom of depression is one that has gained traction (Loton, Borkoles, Lubman, & Polman, 2015) and further research examining the comorbidity of problematic gaming and depression suggests that while the two are linked, the relationship is unclear. One theory suggests that actual-ideal self-discrepancy may partly explain this relationship. Self-discrepancy theory maintains that there are three forms of the self, the actual self, the ideal self, and the ought self. The actual self refers to the representation of the individual that is believed to be the real self, the ideal self is the version self that an individual would ideally be and the ought self is the representation of self that is believed an individual should be. Discrepancy between the actual and ideal self is associated with issues such as depression while a discrepancy between the actual-ought selves is related to agitated-related emotions such as fear (Li, Liau & Khoo, 2011). One way of diminishing the negative effects of discrepancies between these selves is to consciously ignore the actual self or to distort perceptions of the actual self. This is another element of the “escapism” that features so prominently in literature surrounding gaming. Li, Liau and Khoo (2011) found that gamers with high actual-ideal self-discrepancy and higher levels of depression also tended to have higher levels of “escapism” which in turn mean they were more likely to engage in problematic gaming.

1.4 Gaming, Age and Gender

As previously stated, videogames offer a rewarding experience to players through the activation of the brain’s reward circuits. Interestingly, this activation seems more prominent in males than in females during gaming, which may offer some explanation as to why problematic video gaming occurs more often in men (Hoeft et al, 2008), however, relatively few studies have explored the clear overrepresentation of males being diagnosed with gaming addiction.

Despite the apparent of disparity between males and females in terms of video game addiction diagnosis some research has suggested that, in fact, it is females that are more susceptible to depressive symptoms related to gaming (Lee et al, 2017). One study of adolescents found that females were almost twice as likely as their male counterparts to exhibit depressive symptoms and suicidal behaviour. As well as this, they were also more likely to be subjected to bullying (Lee, Sung, Lee & Lee, 2017). A study by Wei, Chen, Huang and Bai (2012) found that females had a shorter history of online gaming compared to males and also had less weekly gaming hours. Despite this, females had more severe social phobic symptoms. This could be explained by a more generalised view of the addiction and gender relationship with previous studies indicating that females are more likely than males to use drugs as a method of self-medication for depression or as a means of coping with stressful life events (Tuchman et al. as quoted in Wei, Chen, Huang & Bai 2012).

Developmental level has been known to have an impact on problematic internet use and adolescents appear to be most at risk of engaging in problematic gaming due to an inability to self-regulate, increased risk taking and susceptibility to peer pressure. Adolescence has also been highlighted as a period of increased susceptibility to social anxiety, which typically emerges during early adolescence (Prizant-Passal, Shechner & Aderka, 2016).

1.5 Gaps in Existing Literature and the Current Study

The main focus of videogame research has been the link between violent content in videogames and aggressive real-world behaviour in players (Mentzoni, 2011) and while significant research has been conducted with regards video game addiction, there appears to be contradictory evidence with regards the relationship between mental health and violent content in games (Lee, Sung, Lee & Lee, 2017). Secondly, while the impact of videogame addiction

on mental health has been highlighted in previous studies (Bernadi & Pallanti, 2009), there does not appear to be a clear consensus on whether a direct relationship exists between the hours spent playing videogames and mental health (Lee, Sung, Lee & Lee, 2017). While addiction is intrinsically linked with negative outcomes, it is possible that gaming in itself can impact mental health, even without the presence of any addictive behaviours. For example, a 2017 study found a J-shaped relationship between gaming and depressive symptoms, with results indicating that 5+ hours of gaming per day was associated with higher rates of mental health issues. However, the lowest rates were found among those who played 1 hour or less a day, even in comparison to those who did not play at all (Lee, Sung, Lee & Lee, 2017). Considerably more research is necessary to assess the validity of these findings. The focus of this study is not on gaming addiction but rather the possible consequences gaming, even in low quantities. Much of the current research in the area of gaming and mental health has been centred on children and adolescents and as such a comparison of age groups could offer another lens through which to study the possible relationship between poor mental health and gaming. As noted by Prizant-Passal, Shechner and Aderka (2016), it remains unclear as to why developmental aspects play a role in internet-use and social anxiety; this is equally true of gaming.

The current study aims to provide more research to some of the underrepresented areas outlined above. As previously explained the current body of literature contains some sizable gaps with certain areas having a large body of work while others appear to be almost ignored or seen as secondary areas of research. Thus, the areas of focus of this study will be mainly on those topics with a relative lack of research. Firstly, concerning violent content in video games, it is hoped that this study will provide a clearer picture of the relationship, if any, between violence in video games and mental health issues such as depression, anxiety and stress. Secondly, the study will investigate the impact of hours spent gaming have on the mental health

of gamers. Lastly, the study will explore whether gender and age have any impact on the effect of gaming on mental health. Video gaming has long been considered a male oriented hobby with numerous studies indicating a higher proportion of male gamers as well as higher levels of gaming addiction among male gamers. However, as has been highlighted previously, there is conflicting evidence concerning the mediating role of gender in gaming addiction and negative outcomes. Some studies have found that girls with lower self-esteem had a higher desire for escapism but this was not the case in boys. This difference appeared to diminish with age. It also seems that the default position of the media and some researchers is to place an emphasis on the apparent impact of gaming on a range of mental health issues.

The study has six hypotheses:

Hypothesis One: There will be a significant relationship between hours spent gaming and total DASS score.

Hypothesis Two: There will be a significant relationship between levels of violence catharsis and total DASS score.

Hypothesis Three: There will be a significant difference between males and females in levels of violence catharsis.

Hypothesis Four: There will be a significant relationship between age and levels of violence catharsis.

Hypothesis Five: There will be a significant difference between age groups when assessing the impact of hours spent gaming on total DASS score.

Hypothesis Six: There will be a significant difference between genders when assessing the impact of hours spent gaming on total DASS score.

2. Methodology

Prior to any research being conducted, ethical approval was sought and provided from the ethics board at Dublin Business School.

2.1 Participants

A sample of 85 participants took part in the study. This sample was gathered using purposive sampling and snowball sampling. Various social media platforms were utilised in

gaining participants who would be considered 'gamers'. An online questionnaire was circulated to friends and family via Facebook and WhatsApp. As well as this, subscribers to the Reddit gaming community '/r/gaming' (found at [reddit.com/r/gaming](https://www.reddit.com/r/gaming)) were invited to participate, in an attempt to gain access to a sample of gamers of differing levels of engagement. The circulated questionnaire was both confidential and anonymous, and consent was required before participating in the study. Participants could withdraw from the study at any time during the completion of the questionnaire, however once the questionnaire was submitted participation in the survey could not be revoked due to the anonymous nature of the study. Participants were also required to be over the age of 18. A total of 26 females and 59 males took part in the study, ranging in age from 18-56.

2.2 Design

The current study utilised a correlational design with a cross-sectional quantitative survey to investigate relationships between variables and between group differences. The independent variables (IV) of the current study were age, hours spent playing video games, and gender. The dependent variables (DV) were depression, anxiety and stress, and violence catharsis relating to gaming. Correlational analysis was also carried out to investigate the relationship between gaming and mental health. The criterion variables (CV) were depression, anxiety and stress and the predictor variables (PV) were hours spent playing video games and violence catharsis.

2.3 Apparatus

The questionnaire was designed using Google Forms and the data was downloaded to excel and imported into SPSS 24 in order to carry out statistical analysis.

2.4 Materials

Research was carried out via a 40-question online survey. This survey consisted of four demographic questions concerning age, gender and gaming habits, 15 questions concerning violence catharsis and the shortened 21-question DASS scale. These sections were prefaced with an introductory section outlining the nature of the study and informing participants of their right to withdraw as well as assuring them of the anonymous nature of participation (Please see Appendix 1.).

The Depression, Anxiety Stress Scale-21 Items (DASS-21) (Appendix 2): The DASS is a self-report questionnaire consisting of three scales designed to measure stress, anxiety and depression (Lovibond & Lovibond, 1995). The original scale consists of 42 questions, with 14 questions in each subscale. The shortened version contains only seven questions in each scale. The depression subscale measures dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Questions are answered on a four point Likert scale ranging from 0-3 (0= 'Did not apply to me at all', 1= 'Applied to me to some degree, or some of the time', 2= 'Applied to me to a considerable degree, or a good part of the time' and 3= 'applied to me very much, or most of the time'). Importantly, the depression, anxiety and stress subscales can be combined to provide an overall mental health score (Lovibond & Lovibond, 1995). The length of time which respondents would take to complete the study was an important factor when choosing the shortened scale. Longer studies lead to a range of issues including a lack of conscientiousness when answering questions and an increased likelihood to skip questions. The aim is to keep the participation time to a minimum while also gathering all necessary information. Research supports the validity of results in the shortened DASS and it is considered a useful and accurate method of assessment of the three-

pronged mental health issues it measures. A Cronbach's Alpha test of reliability found the three subscales to have strong internal consistency (Depression $\alpha=.85$, Anxiety=.82, Stress $\alpha=.86$). A Cronbach's Alpha test similarly found strong internal consistency for the overall DASS-21 scale ($\alpha=.93$). For the purposes of this study the shortened version was considered more apt due to the desire to keep the questionnaire short.

The violence catharsis items (Appendix 3.) were taken from the study Individual Differences in Motives, Preferences, and Pathology in Video Games: The Gaming Attitudes, Motives, and Experiences Scales (GAMES) by Hilgard, Englehart and Bartholow (2013). Items were answered using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This scale was used to assess participants' attitude towards violent games. Internal reliability for this scale using Cronbach's Alpha was $\alpha=.91$, which indicates a strong consistency.

The final section of the questionnaire is an additional information (Appendix 4.) section thanking participants for their responses and providing contact details for the Aware Support Line and the Samaritans should the survey have raised any issues.

3. Results

Using SPSS, a series of descriptive and inferential statistical tests were run to both provide insight into the dataset and to examine the hypothesis posed in the study.

3.1 Descriptive Statistics

The sample consisted of 85 participants, with males accounting for 69.4% of responses (N=59) and females making up 30.6% (N=26) of the sample. Among age groups, it was found that 30.6% of participants (N=26) were in the 18-24 age bracket, 50.6% of participants (N=43)

were in the 25-29 age bracket and 18.8% (N=16) were in the 30+ age bracket. In terms of hours spent gaming, low-level gamers (0-5 hours) made up the highest proportion of the sample with 42, 27 were mid-level gamers (6-10 hours), and 16 were high-level gamers (11+ hours). The measures of central tendency and dispersion were carried out for DASS total scores and violence catharsis, both among gender (See Table 1) age group (see Table 2). As can be seen below male participants scored higher on the DASS scale (M=33.63, SD=23.46) than females (M=30.46, SD=19.89). Within the subscales, males scored higher across all three measurements. The mean score for stress for both male and female participants fell within the normal range (0-14), depression scores saw males scoring in the mild range (10-13) and females scoring in the normal range (0-9). Anxiety scores, however, found both male and female participants falling with the mild range (8-9). Violence catharsis was also higher for male participants (M=27.93, SD=10.10) than it was for female participants (M=21.27, SD=7.84). The 25-29 age group scored the highest for both violence catharsis (M=25.92, SD=9.372) and DASS total.

Table 1: Gender, DASS scores and Violence Catharsis

Variable	Gender	N	Mean	Std. Deviation
DASS Total	Female	26	30.46	19.89
	Male	59	33.63	23.46
Stress	Female	26	13.92	8.05
	Male	59	14.1	9.64
Anxiety	Female	26	8.62	7.96
	Male	59	9.36	8.03
Depression	Female	26	7.92	6.63
	Male	59	10.17	8.63

Violence Catharsis	Female	26	21.27	7.84
	Male	59	27.93	10.10

Table 2: Age Group , DASS scores and Violence Catharsis

Variable	Age Group	N	Mean	Std. Deviation
DASS Total	18-24	26	28.62	19.08
	25-29	43	34.79	22.75
	30+	16	33.50	26.49
Stress	18-24	26	12.77	7.44
	25-29	43	14.65	9.71
	30+	16	14.50	10.34
Anxiety	18-24	26	7.08	6.33
	25-29	43	10.00	7.95
	30+	16	10.13	10.05
Depression	18-24	26	8.77	8.64
	25-29	43	10.14	7.70
	30+	16	8.88	8.64
Violence Catharsis	18-24	26	25.92	9.37
	25-29	43	26.05	10.43
	30+	16	25.44	9.94

3.2 Inferential Statistics

3.2.1 Hypothesis One examined whether there existed any relationship between hours spent playing video games and mental health. A Kruskal-Wallis one-way ANOVA was run due to the assumption of normality being violated. This showed that low, mid and high-level gamers did not differ significantly on the DASS ($X^2(2)=.04$, $p=.983$). Therefore the null was not rejected.

3.2.2 *Hypothesis two* examined the relationship between violence catharsis and mental health. A Spearman's rho correlation was run as the assumption of normality was violated. This was run to determine the relationship between mental health and violence catharsis relating to video games. There was a moderate, positive correlation between mental health and violence catharsis, which was statistically significant ($r_s(85)=.44$, $p<.001$). Therefore the null was rejected in favour of the alternate hypothesis.

3.2.3 *Hypothesis three* looked at demographic variances between male and female participants with relation to violence catharsis and mental health. A Man-Whitney U test was run instead of an independent samples t-test due to the assumption of normality being violated. This revealed that there was a statistically significant difference between violence catharsis in male participants (mean rank=47.96) and female participants (mean rank=31.75) ($z=-2.80$, $p=.005$), as per Figure 1. Therefore the null was rejected.

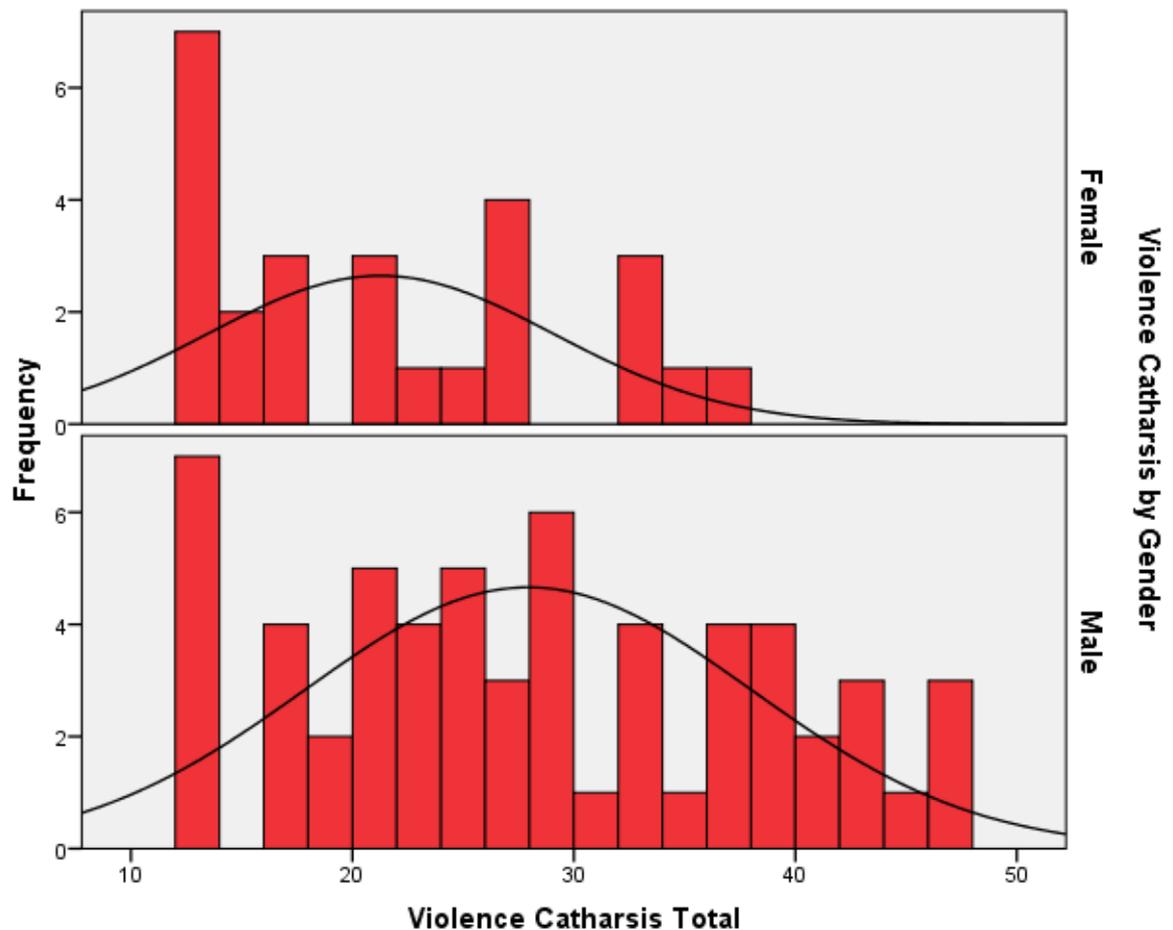


Figure 1. A comparison of levels of violence catharsis in male and female participants.

3.2.4 Hypothesis four looked at demographic variances between age groups with relation to violence catharsis. A Kruskal-Wallis one-way ANOVA was run due to the assumption of normality being violated. This showed that the age groups did not differ significantly in levels of violence catharsis ($X^2(2)=.11$, $p=.95$). Therefore the null could not be rejected.

3.3.5 Hypothesis five a two-way between groups ANOVA examined the role of age and hours gaming on mental health and found no significant interaction effect ($F(4,76)=1.67$, $p=.166$). No main effect was reported for either hours gaming ($F(2,76)=.74$, $p=.48$) or age group ($F(2,76)=1.09$, $p=.34$). Therefore the null was not rejected. However, a significance level of .68 for Levene's test of equality of error variances was found. While the assumption of

normality was broken, the decision was taken to proceed with the test as a two-way between subjects ANOVA was deemed robust enough to deal with this statistical violation.

3.3.6 *Hypothesis six* a two-way between groups ANOVA examined the role of gender and hours spent gaming on mental health and found no significant interaction effect ($F(2, 79)=.026, p=.97$). No main effect was reported for either gender ($F(2,79)=.37, p=.54$) and hours gaming per week ($F(2,76)=.04, p=.96$), Figure 2 illustrates this.. Therefore the null was not rejected. As with hypothesis five, the test was run despite the assumption of equality of variances being violated. Once again, the test was deemed robust enough to deal with this statistical violation.

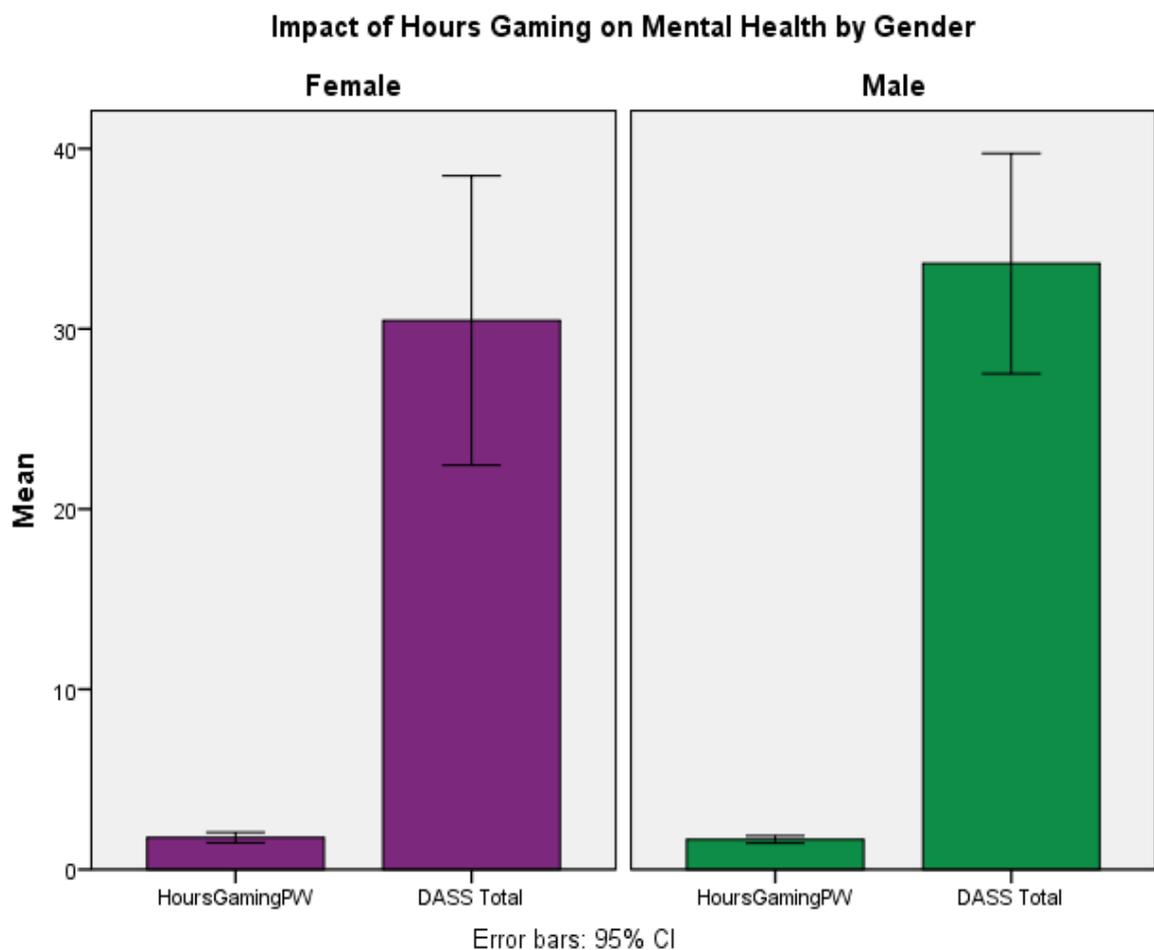


Figure 2. A comparison of means of male and female participants for the impact of hours spent gaming on total DASS score.

4. Discussion

The current study was a cross-sectional, correlational study examining whether age and hours spent gaming have an impact on mental health. The study also examined whether violence catharsis has any impact on mental health and whether gender differences exist in levels of violence catharsis. Finally, the study examined whether there were any significant differences between male and female participants and low, medium and high-level gamers in terms of mental health.

A Kruskal-Wallis one-way ANOVA showed that low, mid and high-level gamers did not differ significantly on total DASS score. This non-parametric test was run in place of the one-way ANOVA due to high levels of skewness and kurtosis. However, a Spearman's rho correlation found a moderate, positive correlation between mental health and violence catharsis. A Man-Whitney U test was run to determine if there existed demographic variances between males and females in terms of violence catharsis and it was found that there was a statistically significant difference. A Kruskal-Wallis one-way ANOVA was used to investigate whether levels of violence catharsis differed between age-groups and it was found that the age groups did not differ significantly. A Spearman's rho correlation was run to determine the relationship between total DASS score and violence catharsis. It was found that there was a moderate, positive correlation between the two, which was statistically significant. A two-way between groups ANOVA was run to examine the impact of age and gaming hours per week on total DASS score but found no significant interaction. Similarly, a two-way between groups ANOVA was run to investigate the role of gender and gaming hours per week on total DASS score and also found no significant interaction. The final two results, however, come with the caveat that the assumption of normality was broken and thus a tentative approach must be taken when interpreting these results. However, the two-way between groups ANOVA is a robust

statistical test and results should not be invalidated by the violation of the assumption of normality.

4.1 Gender Differences

Gender differences concerning the association between violent video games and aggression is an area which has been relatively under-researched (American Psychological Association, 2015). The results of the current study have offered some interesting findings. No differences were found between male and female participants with regards the impact of gaming hours per week on the total DASS score, however there was significant difference in levels of violence catharsis between males and females. In a study by Hoeft et al. (2008), significant differences in activation levels of the mesocorticolimbic reward system were witnessed in male and female participants. The suggestion by Hoeft et al (2008) that the activation of reward circuits in the brain is more prominent in male gamers than in females may, in part, be explained by the increased levels of violence catharsis. A greater sense of stress relief may be related to the increased activation of this reward system in males. The fact that there are significantly more male than female gamers also appears to support this hypothesis. The overall pattern of diagnosed incidences of gaming addiction, and of overall engagement in gaming, also seems to suggest that males do find video games more rewarding. While the current study found no significant differences between male and female gamers in terms of DASS score, previous research has suggested that females are in fact more likely than males to exhibit depressive symptoms as well as more severe social phobia problems (Lee et al, 2017). The apparent contradictory results in the current study are possibly explained by the lack of female participants in the current study with a high level of weekly gaming hours. The uneven distribution, however, is unsurprising given that research suggests that females play less than their male counterparts and also had a shorter history of online gaming (Wei, Chen, Huang and

Bai, 2012). Also of note is the focus of the current study on ‘healthy gaming’ and thus problematic gaming and its associated negative outcomes have not been examined.

4.2 Age Differences

The current study found that age groups did not differ significantly on either levels violence catharsis nor on the impact of hours gaming per week on total DASS scores. While research seems to suggest that developmental stage has a mediating effect on the role of gaming on mental health, the results of this study do not seem to support this theory, at least among adults. The current study consisted only of adult participants and thus the possible effects of gaming on children, adolescents and teens has not been explored. One of the main goals of this research was to explore under-researched areas and differences among adult age groups in terms of the impact of gaming was one such area. Much of the literature in the area focuses on adolescents and young adults with little of note regarding differences among adults of different ages. Adolescents appear to be more susceptible to negative consequences of excessive gaming due to an increased susceptibility to social anxiety and peer pressure, as well as an inability to self-regulate (Prizant-Passal, Shechner & Aderka, 2016). It would seem, from the results of the current study, that these issues become less impactful as the individual enters into adulthood.

4.3 Mental Health and Gaming

The results of the current study found that hours gaming per week did not impact mental health. No significant differences between low, medium and high-level gamers in terms of total DASS scores. These results contradict a number of studies and the American Psychological Association’s Resolution on Violent Video Games suggests that the link between violence in games and aggressive behaviour is one of the most studied and well-established (2015) stating “this link continues to be a reliable finding and shows good multi-method consistency across various representations of both violent video game exposure and aggressive behaviour” (p 5)

.However, the current study was focused on the relationship between mental health and ‘healthy’ or ‘normal’ gaming i.e. in the absence of any pathological behaviour. Research in the area is particularly focused in the issue of problematic gaming and there are comparatively few instances of studies examining gaming in a non-pathological sense. From this perspective, the non-significant results suggest that ‘healthy’ gaming does not impact mental health in the manner suggested in some research. In contrast to mainstream belief in the relationship between gaming and negative outcomes is a growing body of research which refutes these claims. Lee et al. (2017), for example, found that five hours or more of daily gaming was associated with negative outcomes, however those who played one hour a day had a lower risk of sadness, suicidal ideation and suicidal planning than those who did not play video games at all.

A moderate, significant relationship was found between hours spent gaming and violence catharsis, perhaps providing evidence for the relationship between stress and gaming. Gaming has been theorised to be a method of coping with stressful life events and the cathartic nature of violent games can offer a release of tension. Snodgrass et al. suggest that gaming can induce a calmer state or a “high” similar to that experienced by smokers. Gaming can be compared to meditation in terms of its ability to allow the individual to enter a more relaxed state and to refocus the mind away from real world stressors to those of a virtual world (Snodgrass et al., 2010).

4.4 Strengths

The brief and concise nature of the questionnaire, as well as its reliability, can perhaps be seen as one of the biggest strengths of the study. The questionnaire consisted of 40 questions consisting of four demographic questions concerning age, gender and gaming preferences, 15 questions regarding violence catharsis and the Depression, Anxiety, Stress Scale-21Items. The

brevity of the questionnaire ensured that all participants completed the survey in its entirety with no missing data. The estimated time of completion of the survey was under 10 minutes thus increasing the likelihood of participation. The DASS scale has been used in a multitude of studies and its reliability is well established, thus the data gathered from the scales can be regarded as an accurate and concise measure of depression, anxiety and stress. The total DASS score is also a reliable measure of overall mental health.

A notable strength of the current study is the topics covered in the current study are areas with a comparative lack of research in the context of the relationship between video games and mental health and real world behaviour. Gender differences in gaming and differences among adult age groups are two topics that have been somewhat neglected in psychological research. The current study has provided more research to the areas in question and the results have highlighted an important difference in male and female participants concerning levels of violence catharsis.

4.5 Limitations

There are some limitations of the current study which must be considered when interpreting the findings of the research. The sample size consisted of 85 participants and perhaps additional research is necessary to confirm the results with a larger population sample. Of the 85 participants, 59 were male and only 26 were female. Similarly, the distribution among age groups was uneven. 26 participants were in the 18-24 age group, 43 were in the 25-29 group, and 16 were in the 30+ age group. These distributions, while not entirely detrimental to the outcomes of the current study, are not ideal.

The use of a self-report questionnaire means the study is vulnerable to dishonest answers. While the anonymity afforded to participants may deter individuals from not giving honest answers, the accuracy of the data cannot be completely assured.

4.6 Future Research and Implications

It is clear that further research is necessary in the area of gaming and mental health. The lack of consensus concerning the relationship between gaming and mental pathologies such as depression, anxiety and social phobia would indicate that there is much more to be done in the area, particularly when assessing gender and age differences. Future research could further explore the possible reasons for the apparent gender differences with regards violence catharsis and the increased susceptibility of female gamers to depression and social phobia. Furthermore, the relationship between violence catharsis and gaming is an area which could provide a clearer picture of the stress-gaming relationship. Perhaps a longitudinal study investigating levels of stress during periods of gaming and without gaming could offer some explanation as to how gaming and stress are related.

Considering recent events, the topics covered in this study are of even greater importance as the subject of video game violence is once again placed under the media spotlight. The White House official YouTube channel has released a montage of violent content in games as fresh calls have been made to regulate and restrict video game violence. U.S president Donald Trump has held a series of meetings concerning the possible relationship between school shootings and violence in video games. An official White House statement seems to further highlight the myopic approach taken towards what is a sensitive and complicated issue:

“The President acknowledged some studies have indicated there is a correlation between video game violence and real violence. The conversation centred on whether violent video games, including games that graphically simulate killing, desensitize our community to violence.” (Whitehouse.gov, 2018)

While it is certainly true that there have been studies linking violent content in games to real world violence, the failure to acknowledge further research is disheartening. The current

study offers fresh evidence that the link between gaming and mental health and violent behaviour is not as certain as had previously been assumed. There is a growing body of evidence to suggest that the relationship between violent behaviour and exposure to violent content in video games is negligent and similarly the relationship between mental health and gaming appears to be unclear at best. The current study supports prior research indicating that mental wellbeing and gaming are not necessarily incompatible. Research on problematic gaming has perhaps muddied the waters and an underlying assumption that problematic gaming outcomes hold true for all gamers, regardless of the nature of their gaming, seems to be in vogue. The gender differences found in the study in relation to violence catharsis may be useful in the formation of gender specific treatment for problematic gaming. If, as previous research has also suggested, male and female gamers engage in gaming (and subsequently problematic gaming) for different reasons then it stands to reason that different approaches may be necessary in treatment.

4.7 Conclusion

In conclusion, the results of the current study found that low, mid and high-level gamers did not differ significantly on total DASS score, however a moderate, positive correlation was found between total DASS score and levels of violence catharsis. In terms of gender differences, no significant differences were found between male and female participants when assessing the impact of hours spent playing video games on total DASS score, however, a significant difference was found between male and female participants in levels of violence catharsis, with males found to have higher levels. With regards age groups, no significant differences were found, either in terms of violence catharsis or the impact of hours spent playing video games on total DASS score. Thus, while the research suggests that gender differences do exist in terms of violence catharsis and gaming, further research is necessary to discover the nature of these differences and their possible implication for gender specific

treatment of problematic gaming. Furthermore, the lack of any significant difference in terms of total DASS score between low, mid and high-level gamers suggests that a rethink may be necessary concerning the mainstream approach to video games and their impact on mental health. Lastly, the moderate, significant relationship between levels of violence catharsis may provide greater insight into the use of gaming as stress relief, although further research is necessary to clarify this.

5. References

Adachi, P. C., & Willoughby, T. (2013). Demolishing the competition: the longitudinal link between competitive video games, competitive gambling, and aggression. *Journal of Youth and Adolescence*, 42(7), 1090–1104. doi:10.1007/s10964-013-9952-2.

American Psychological Association. (2015). Resolution on Violent Video Games. Retrieved from: <http://www.apa.org/about/policy/violent-video-games.aspx>

Anderson, C., & Ford, C. (1986). Affect of the Game Player: Short-Term Effects of Highly and Mildly Aggressive Video Games. *Personality and Social Psychology Bulletin*, 12(4), 390-402. <http://dx.doi.org/10.1177/0146167286124002>

Beranuy, M., Oberst, U., Carbonell, X., & Chamarro, A. (2009). Problematic Internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence. *Computers in Human Behavior*, 25(5), 1182-1187. <http://dx.doi.org/10.1016/j.chb.2009.03.001>

Bernardi, S., & Pallanti, S. (2009). Internet addiction: a descriptive clinical study focusing on comorbidities and dissociative symptoms. *Comprehensive Psychiatry*, 50(6), 510-516. <http://dx.doi.org/10.1016/j.comppsy.2008.11.011>

Cole, S., & Hooley, J. (2013). Clinical and Personality Correlates of MMO Gaming. *Social Science Computer Review*, 31(4), 424-436. <http://dx.doi.org/10.1177/0894439312475280>

DeCamp, W. & Ferguson (2017), C.J. *Journal of Youth and Adolescence* (2017) 46: 388. <https://doi.org/10.1007/s10964-016-0561-8>

Essential Facts About the Computer and Video Game Industry. (2015). *www.theesa.com*. Retrieved 21 October 2017, from <http://www.theesa.com/wp-content/uploads/2015/04/ESA-Essential-Facts-2015.pdf>

Ferguson, C. (2015). Do Angry Birds Make for Angry Children? A Meta-Analysis of Video Game Influences on Children's and Adolescents' Aggression, Mental Health, Prosocial Behavior, and Academic Performance. *Perspectives On Psychological Science*, 10(5), 646-666. <http://dx.doi.org/10.1177/1745691615592234>

Griffiths, M., Davies, M., & Chappell, D. (2003). Breaking the Stereotype: The Case of Online Gaming. *Cyberpsychology & Behavior*, 6(1), 81-91.

<http://dx.doi.org/10.1089/109493103321167992>

Hidaka, B. (2012). Depression as a disease of modernity: Explanations for increasing prevalence. *Journal of Affective Disorders*, 140(3), pp.205-214.

Hoedt, F., Watson, C., Kesler, S., Bettinger, K., & Reiss, A. (2008). Gender differences in the mesocorticolimbic system during computer game-play. *Journal of Psychiatric Research*, 42(4), 253-258. <http://dx.doi.org/10.1016/j.jpsychires.2007.11.010>

King, D. L., Haagsma, M. C., Delfabbro, P. H., Gradisar, M., & Griffiths, M. D. (2013). Toward a consensus definition of pathological video-gaming: a systematic review of psychometric assessment tools. *Clinical Psychology Review*, 33(3), 331–342.

Lader, M. (2015). Generalized Anxiety Disorder. *Encyclopedia of Psychopharmacology*, 699-702. http://dx.doi.org/10.1007/978-3-642-36172-2_317

Lee, H., Sung, J., Lee, J., & Lee, J. (2017). Differences by Sex in Association of Mental Health With Video Gaming or Other Nonacademic Computer Use Among US Adolescents. *Preventing Chronic Disease*, 14. <http://dx.doi.org/10.5888/pcd14.170151>

Li, J., Theng, Y., & Foo, S. (2014). Game-Based Digital Interventions for Depression Therapy: A Systematic Review and Meta-Analysis. *Cyberpsychology, Behavior, And Social Networking*, 17(8), 519-527. <http://dx.doi.org/10.1089/cyber.2013.0481>

Loton, D., Borkoles, E., Lubman, D., & Polman, R. (2015). Video Game Addiction, Engagement and Symptoms of Stress, Depression and Anxiety: The Mediating Role of Coping. *International Journal of Mental Health And Addiction*, 14(4), 565-578.

<http://dx.doi.org/10.1007/s11469-015-9578-6>

- Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. Ed.) Sydney: Psychology Foundation. ISBN 7334-1423-0.
- Mentzoni, R. A., Brunborg, G. S., Molde, H., Myrseth, H., Skouverøe, K. J. M., Hetland, J., & Pallesen, S. (2011). Problematic video game use: estimated prevalence and associations with mental and physical health. *Cyberpsychology, Behavior and Social Networking*, 14(10), 591–596
- Mérelle, S. & Kleiboer, Annet & Schotanus, Miriam & L. M. Cluitmans, Theresia & M. Waardenburg, Cornelia & Kramer, Danielle & Mheen, Dike & van Rooij, Antonius. (2017). Which health-related problems are associated with problematic video-gaming or social media use in adolescents? A large-scale cross-sectional study. *Clinical Neuropsychiatry*. 14. 11-19.
- Prizant-Passal, S., Shechner, T., & Aderka, I. (2016). Social anxiety and internet use – A meta-analysis: What do we know? What are we missing?. *Computers in Human Behavior*, 62, 221-229. <http://dx.doi.org/10.1016/j.chb.2016.04.003>
- Przybylski, A. K. (2014). Electronic gaming and psychosocial adjustment. *Pediatrics*, 134(3), e716–e722. doi:10.1542/peds.2013-4021.
- Readout of President Donald J. Trump's Meeting with Video Game Industry Leaders*. (2018). *The White House*. Retrieved 14 March 2018, from <https://www.whitehouse.gov/briefings-statements/readout-president-donald-j-trumps-meeting-video-game-industry-leaders/>
- Snodgrass, J., Lacy, M., Dengah, H., Eisenhauer, S., Batchelder, G., & Cookson, R. (2014). A vacation from your mind: Problematic online gaming is a stress response. *Computers In Human Behavior*, 38, 248-260. <http://dx.doi.org/10.1016/j.chb.2014.06.004>

Snodgrass, J., Lacy, M., Francois Dengah, H., Fagan, J., & Most, D. (2010). Magical Flight and Monstrous Stress: Technologies of Absorption and Mental Wellness in

Azeroth. *Culture, Medicine, and Psychiatry*, 35(1), 26-62.

<http://dx.doi.org/10.1007/s11013-010-9197-4>

Weinstein, A. (2010). Computer and Video Game Addiction—A Comparison between Game

Users and Non-Game Users. *The American Journal of Drug and Alcohol Abuse*, 36(5),

268-276. <http://dx.doi.org/10.3109/00952990.2010.491879>

6. Appendices

Appendix 1.

Information Sheet for Participants

My name is Andrew Brady and I am conducting research in the Department of Psychology that explores the relationship between gaming and mental health. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact

Andrew Brady at [REDACTED]. My supervisor can be contacted [REDACTED]

Thank you for taking the time to complete this survey.

Appendix 2.

The Depression, Anxiety Stress Scale-21 Items (DASS-21)

DASS21 Name:

Date:

Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree or a good part of time

3 Applied to me very much or most of the time

1 (s) I found it hard to wind down 0 1 2 3

2 (a) I was aware of dryness of my mouth 0 1 2 3

3 (d) I couldn't seem to experience any positive feeling at all 0 1 2 3

4 (a) I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion) 0 1 2 3

5 (d) I found it difficult to work up the initiative to do things 0 1 2 3

6 (s) I tended to over-react to situations 0 1 2 3

7 (a) I experienced trembling (e.g. in the hands) 0 1 2 3

8 (s) I felt that I was using a lot of nervous energy 0 1 2 3

9 (a) I was worried about situations in which I might panic and make a fool of myself 0 1 2 3

10 (d) I felt that I had nothing to look forward to 0 1 2 3

11 (s) I found myself getting agitated 0 1 2 3

12 (s) I found it difficult to relax 0 1 2 3

13 (d) I felt down-hearted and blue 0 1 2 3

14 (s) I was intolerant of anything that kept me from getting on with what I was doing 0 1 2 3

15 (a) I felt I was close to panic 0 1 2 3

16 (d) I was unable to become enthusiastic about anything 0 1 2 3

17 (d) I felt I wasn't worth much as a person 0 1 2 3

18 (s) I felt that I was rather touchy 0 1 2 3

19 (a) I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat) 0 1 2 3

20 (a) I felt scared without any good reason 0 1 2 3

21 (d) I felt that life was meaningless 0 1 2 3

Appendix 3.

Violence Catharsis

13. I play violent games to act out my anger without really hurting anyone.
14. I play violent games when I'm angry or upset to avoid arguing with people I know.
15. Violent games allow me to release negative energy.
16. Being violent in a game helps me "get it out of my system."
17. Playing violent video games helps me be less violent in real life.
18. I express my anger in violent video games so I don't act angry in real life.
19. Video game violence makes me feel better when I'm frustrated.

VIOLENT REWARD

20. Killing things in the game makes me feel powerful.
21. Sometimes I'll hack up or shoot enemy corpses, just for fun.
22. I like violence in my video games - the more violent the better.
23. Video game violence is exciting and rewarding.
24. Shooting someone in the head in a game is deeply satisfying.
25. It feels good to shoot or slice parts off of enemies. (e.g., shooting a head off, or cutting an arm off.)

Additional Information

Thank you for your answers. Your response has been recorded.

If you feel that answering this survey has raised some issues for you, please consider contacting some of the support services listed below, or speak to a friend, family member or professional.

Aware:

The Aware Support Line 1890 303 302

Available Monday – Sunday, 10am to 10pm.

Email for support at: supportmail@aware.ie

Samaritans

Call on: 116 123

Available 24hrs a day, 365 days a year. Free to call.