PERCEPTIONS OF PRE-SERVICE TEACHERS', GUIDANCE COUNSELLORS'

AND SCHOOL ADMINISTRATORS' TOWARDS YOUTH WHO PARTICIPATE

IN VIDEO GAME PLAY

by

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Abstract

This study explores the perceptions and attitudes held towards youth who play video games by pre-service educators (n=61) enrolled in a teacher preparation program at a large Atlantic Canadian University. The need for potential interventions, via curriculum development amongst pre-service school personnel is also examined. To complete this work, surveys were distributed to undergraduate (i.e., Primary/Elementary or Intermediate/Secondary) and graduate students (i.e., Counselling Psychology or Educational Leadership) of the Faculty of Education. Findings indicate that while a majority of pre-service educators possess experience with gaming- albeit not necessarily within an educational context- they also hold moderately critical perceptions and attitudes towards youth video gaming. Variation between participants does exist. Further, this study finds there is currently little opportunity for pre-service educators to explore the topic of youth gaming as part of course-work in teacher preparation programming, but they view it as an important topic, which ought to be included in their pre-service education. Significant findings are discussed in relation to other scholarly research. In addition, implications for training and future research are discussed.

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Chapter 1: Introduction

School personnel spend significant time interacting with youth and have major impacts on their academic and personal lives. Teachers formulate impressions of students and these impressions can have impacts on how these teachers treat and interact with these students (Okonofua & Eberhardt, 2015; Paton, 2010). As well, such impressions influence the nature and extent of expectations that teachers hold for their students (Okonofua & Eberhardt, 2015). Thus, guarding against potential stereotypes and biases is critically important for teachers and school professionals.

Video game use is occupying an increasingly central role in day-to-day life, especially for youth (Kowert, Griffiths, & Oldmeadow, 2012). However, gaming, and the people who play video games have become highly stereotyped (Williams, 2005). According to Kowert et al. (2012), the current stereotype of an online gamer is mostly negative and largely based on traits such as popularity, attractiveness, idleness, and social competence. Online gamers are stereotypically viewed as unpopular, unattractive, idle, and socially incompetent, a characterization that seems to match common stereotypical portrayals in the media, television, and Internet (Kowert et al., 2012).

Since teachers and other education personnel spend a substantial amount of time interacting and engaging with their students, having a negative perception towards those students that play video games could have significant impact on their academic achievement as well as their sense of self. Hansen (2016) suggests that teachers' perceptions of their students affect how they interact, how they teach, and even how they rate the ability and behaviour of their students. Gaining a better understanding of the

potential stereotypes and biases that educators may hold toward youth who play video games would be beneficial in order to prevent these perceptions from forming and consequently, impacting students negatively.

Unfortunately, little research to date, has examined pre-service teachers', guidance counsellors', and school administrators' attitudes and potential biases towards youth that play video games despite the evidence suggesting that gamers are a highly stereotyped group (Kowert et al., 2012). The current research took a step in bridging this gap by examining Memorial University of NL pre-service school professionals' attitudes and potential biases towards youth that play video games in order to understand if such perceptions do in fact exist. In addition, the study explored the need for potential intervention (through curriculum development) among pre-service school personnel. The results contribute in developing an understanding of the perceptions and possible biases of pre-service school professionals when it comes to youth video game players. Furthermore, this research offers insight into the need for potential curriculum additions in education programs.

Definition of Key Terms

The key terms in this study were defined as follows:

Pre-service educator: A pre-service teacher, counsellor, and administrator, in this
   research context refers to individuals enrolled in a teacher preparation program
   (e.g., Bachelor of Education degree, Primary or Secondary) or a Master of

Education degree program (Counselling Psychology or Educational Leadership) at Memorial University of NL in the Faculty of Education.

  Note: Some individuals may have varying degrees of teaching experience given their graduate status (i.e. Master of Counselling Psychology or Educational Leadership)

Video Game: Any interactive game played using an electronic gaming device, computer, mobile device, television, or other display screen that includes the ability to control graphic images on the screen.

Youth: Children and adolescents between the ages of five and eighteen years.

Chapter 2: Literature Review

Introduction

There is limited research that addresses practicing educators' perceptions on youth video gaming, let alone the perceptions of pre-service educators who are about to enter the education system. The majority of research available on youth video gaming investigates the effects of video games on aggression or violence. In an educational context, the literature focuses on the debate surrounding implementation of video games in the classroom and teachers' perception of this. A limited amount of research focused on the stereotypes of gamers, with even less literature existing that concentrated on the perceptions and opinions of pre-service educators on youth video game players.

History of Video Games

Playing games is a basic instinct of the human species (Egenfeldt- Nielsen, Smith, & Tosca, 2008). Forms of play and games serve many different purposes. For example, gaming serves as a source of entertainment, competition, and even education (Egenfeldt et al., 2008). The origins of video gaming can be traced back as early as the 1950s, but it was not until the late 1970s and 1980s that it began to develop as a common leisure activity (Crawford, 2012). Over this time, video games have become one of the most used and dominant media cultures of the twenty-first century (Hjorth, 2011). Today video gaming is a major industry whose economic worth matches that of the film, music, and book publishing industries (Crawford, 2012).

For example, the United States' video game industry is growing each year, both financially and in geographical reach. In 2017, the industry generated a record $36 billion

in revenue, up 16 percent from $30.4 billion in 2016 (Entertainment Software Association: Annual Report, 2017). This growth is not isolated to the United States. A similar expansion of the gaming industry is happening in Canada. The total revenue amongst video game companies in Canada was estimated at $3.2 billion at the end of 2017 (Entertainment Software Association of Canada, 2017).

Millions of people, young and old, now play video games. However, video gaming seems to be especially prevalent among youth. Research has shown that 97% of boys and girls, ages 12-17, in the United States play video games (Adachi & Willoughby, 2017; Lenhart, Middaugh, Macgill, Evans & Vitak, 2008). This dramatic increase in gaming is due in part to access. Youth today have easy access to games on computers, game consoles, portable gaming devices, and cell phones. Individuals can play alone, with others online, or with friends, as part of a team, at school or at home, supervised or unsupervised (Kahne, Middaugh & Evans, 2009).

Game studies and research is still a young field and there is a level of consensus by those within the discipline that more exploration is needed on the subject (Egenfeldt et al., 2008). This is certainly the case when it comes to exploring the perceptions of pre-service educators surrounding youth video game use. The current study attempted to fill this gap and provide further insight on the topic.

Who Plays Video Games?

It is evident that video games are an extremely popular pastime among youth and adults across the globe. The American Entertainment Software Association (2018) reported that 64% of American households own a device that has the capacity to play

video games. The average American gamer is 34 years old and gamers who are aged 18 or older represent more than 70 percent of the video game-playing population (American Entertainment Software Association, 2018). The American Entertainment Software Association (2018) also reported that 60% of Americans play video games daily.

Similar results are seen here in Canada. The Entertainment Software Association of Canada (2017), which gathered data from 2467 adults (18-64), 270 teens (13-17) and 261 children (6-12), found that 37% of Canadians define themselves as "gamers" (p.18-19). The Entertainment Software Association of Canada noted that this statistic is actually misrepresented, and stated that 52% of Canadians are actually "gamers" as they reported having played a video game in the past 4 weeks (p.19). Gender wise, they found that 51% of players of video games are male and 49% are female and that the average age of a Canadian gamer is 36 years old (Entertainment Software Association of Canada, 2017).

Criticism and Changing Opinion

Video games have been a constant source of criticism and even alarm among parents, researchers, media, child advocacy groups, policy makers, and the public (Ferguson, 2015). The literature highlights that the potential harmful effects of gaming have been linked to society's concerns of increasing sedentary lifestyles, physical and mental health deterioration, addiction, gender socialization, poor academic performance, and aggressive behaviour (Salen, 2008). The degree to which video games are seen as a threat to physical and mental health of youth is a continuous debate (Ferguson, 2015). Much of this controversy focuses on the issue of violent and aggressive content that is found in certain video games, however, some worry about other impacts that video games

may have on mental health, addictions, and reduced social abilities (Ferguson, 2015). Others see gaming as merely a waste of time and an activity, which promotes violence and negatively impacts the intelligence of youth (Eck, 2010).

More recently, however, video gaming has become less controversial and the idea that gaming has the ability to generate positive impacts is now more readily accepted than it was in the recent past (Eck, 2010). Researchers are now starting to investigate and acknowledge possible positive effects of gaming, which will be discussed further below. However, despite society's increasingly liberated view of video game use, academic research hasn't kept pace. Much of the literature surrounding video games still tends to concentrate on the more negative aspects such as excessive play and addiction, the effects of playing aggressive games, and the medical and psychosocial consequences (Griffiths, 1991, 1993 1998, 1996, 2000; Griffiths, Davies & Chappell, 2003; Phillips, Rolls & Rouse, 1995). Consequently, although there has been a noted increase of use and acceptance of video games, negative perceptions and stereotypes still exist of video games and of people who play games themselves (Salen, 2008).

Existing Stereotypes

Kowert, Festl and Quandt (2014) describe video gaming as an activity that has become highly stereotyped. According to Williams (2005) and Williams, Yee, and Caplan, (2008), video gaming has come to be associated in contemporary culture with a "highly specific, caricatured, and also negative image" (Kowert, 2012; p. 471). This highly stereotyped image can be seen in many television shows and movies, news reports, and other forms of popular culture (Kowert, 2010).

Evidently, there are several presuppositions and stereotypes, which tend to define most gamers. These are the stereotypes most commonly promulgated in the press, whilst permeating public opinion. Similar themes can be found in academic literature and debate. These stereotypes include what Crawford (2012) points out as "largely, antisocial, aggressive, addicted male and white adolescents" (p.48). Williams et al. (2008) echoed this by stating, "game players are stereotypically male and young, pale from too much time spent indoors and socially inept…a new generation of isolated and lonely 'couch potatoes,' young male game players are far from aspirational figures" (p. 995). Kowert and Oldmeadow (2012) add to this stereotypical gamer profile by suggesting that gamers are perceived as incompetent and undesirable. Stereotyping this population appears to center on themes of popularity, attractiveness, dominance, and social competence (Kowert & Oldmeadow, 2012), and frequently produces the image of "socially inept, teenage boys, hypnotically engaged in their gaming worlds" (p.471).

Though stereotypes and negative perceptions exist about video games and gamers, there is a scarcity of systematic research on game players. Since there is a serious absence of "comprehensive demographic inquiries" (p. 141) regarding online gaming populations, it is difficult to confirm these stereotypical characteristics and this has led to rising concerns about the accuracy of these stereotypes (Kowert et al., 2014). On this note, Williams et al. (2008) notes that an extremely important question for scholarly researchers to investigate is whether the prevalent stereotypes of video game players are accurate. There are seeds of doubt as to whether the stereotypes of video game players are correct. Therefore, if educators also hold these inaccurate views, it has the potential to negatively impact their instruction, assessment and demeanor with students who play

video games. This potential for adverse effects on student learning demands a strong need for further research to be conducted.

Surprisingly, more recent literature focused on those who play video games suggests that players are not all isolated teenage males, as the "typical gamer" stereotype suggests. Studies conducted by Griffiths, Davies and Chappell (2004) and Yee (2006), conducted two self-reported survey projects of MMO (Massive Multiplayer Online game) players. It was found that the players are older than previously thought and likely more social than the persistent stereotype suggests (Williams et al., 2008). In their research, Griffiths et al. (2004) found that over 60% of players were older than 19 years of age. This research provides evidence that video game players include a significant adult profile and ultimately confronts the stereotypical image of a gamer. Griffiths et al. (2003) suggests that the "stereotype of the typical online player being a socially withdrawn adolescent male with limited sex role identity appears to be misplaced" (p.81).

This is also reflected in recent research conducted by the Entertainment Software Association of Canada (2017), which reported that the average age of a Canadian gamer is actually 36 years old. This demonstrates a stark contrast to the stereotype of the pale male adolescent, who plays video games in his parents' basement. It seems clear from the literature that adults today are playing more video games than previous adult generations (Williams, Yee & Caplan, 2008).

Of course, these findings do not change the fact that youth still constitutes a major group that plays video games. The research, however, suggests that the stereotype held up via media and popular culture is not necessarily an accurate one. Paik and Comstock

(1994) noted that children and youth continue to be a specific population of concern when it comes to video game play due to their at-risk status with media. However, the results of these research studies suggest that children and youth may not be the primary player base of some genres of video games (Williams et al., 2008).

The Perceived Effects of Video Games

Video games are multidimensional and may have the capability to have complex and diverse effects on players (Prot et al., 2012). Since there is conflicting research on video game players, it seems important within the framework of this study to present a discussion of the controversial effects of playing video games (Wilson et al., 2009).

Frequently, it is the negative effects of youth gaming that are conveyed to the public. These include videogame addiction (Griffiths & Hunt, 1995, 1998), increased aggressiveness (Griffiths, 1998), and various medical and psychosocial effects (Griffiths, 1996, 1998). Less frequently reported are the possible positive effects such as increased dexterity, hand eye coordination, social skills, reaction times and increased memory (Adachi & Willoughby, 2017; Kuhlman & Beitel, 1991; Orosy-Fildes & Allan, 1989). The effects, both positive and negative are discussed in more detail below. The following section is intended to provide a snapshot of the context in which many of the perceptions of pre-service educators could be informed. If the highly publicized negative effects of gaming are informing pre-service educators, they will likely have negative perceptions surrounding the use of video games.

Negative Effects of Video Games

Throughout the years, the potential adverse effects of video gaming, has received

substantial attention in both public debate and in research circles (Egenfeldt et al., 2008). The major criticism of video gaming is that it is often viewed as an anti-social and isolating activity (Crawford, 2012). Research by Walker (2009) and her colleagues based upon a survey of 813 college students received widespread media coverage when it suggested that the amount of time their respondents spent playing video games directly related to reduced quality of relationships with peers and parents. Padilla-Walker, Nelson, Carroll, and Jensen (2009) were not sure if this decrease in quality of relationships was the result of video games taking gamers away from 'normal' social interactions or whether video games attracted those who already had difficulty with interpersonal relationships. Padilla-Walker et al. (2009) viewed video gaming as an anti-social activity and their findings were even more negative for women who played video games, suggesting that those who spent a large amount of time playing video games often had "low self-esteem" (Padilla-Walker et al., 2009, p.104) Video games have long been scrutinized for their potential influence on possible violent or aggressive behaviours in youth. Such scrutiny is based on the public health concern that children, through playing violent video games learn or adopt violent or aggressive behaviour and tendencies (Ferguson et al., 2015).

   As previously mentioned, the perception of video gamers as aggressive or violent is a commonly held view. As well, video games are not only seen as potentially dangerous but users are considered deviants and possibly "addicts" (Crawford, 2012, p. 49). Concern with violent media arose from the mass media explosion of the mid 20th century (Bushman & Anderson, 2001), leading researchers to investigate the impact of violence in a variety of media forms, including video games (Tear & Nielsen, 2014). This

debate intensified in the 1990s and onwards as games became more realistic and detailed in their depiction of violence and aggression. A number of violent incidents have been linked especially in public debate and the media to fascination with violent games (Egenfeldt et al., 2008). In addition, with increased technology more sophisticated audio and visual graphics are producing more complex games, which have generated increased concern whether video games could negatively affect those who play them (Egenfeldt et al., 2008). .

A 2012 longitudinal study is among the best studies examining whether violent video games increase aggression (Willoughby, Adachi, & Good, 2012). The study included the participation of almost 1500 Canadian students who were followed from grade nine through twelve. After the study controlled for a number of possibly confounding variables, they found a small correlation (r = .07) between violent video games and later aggression across the four years. This result suggests that some predictive relationship may exist, but that it is quite small (Ferguson et al., 2015). Some researchers feel that they have proven clear signs of aggressive behaviour caused by video games, while others have not been able to replicate similar results (Egenfeldt et al., 2008).

Crawford (2012) labelled video gaming as a potentially divisive and addicting pursuit. There is research that examines the concern of video game "addiction", also referred to as pathological gaming (p. 50). Many researchers define the pathological use of video games in the same way as pathological gambling, focusing on damage to family, social, school, occupational, and psychological functioning (Prot, McDonald, Anderson & Gentile, 2012). Gentile (2009) gathered information about video game habits and

parental involvement in gaming to determine the percentage of youth who meet clinical criteria for pathological gaming. This research surveyed 1,178 US youth and found that roughly 8% of video game players who were sampled exhibited addictive patterns of play. In this research, Gentile (2009) found that pathological gamers spent twice as much time playing as non-pathological players and received poorer grades at school. It was also found that addictive gaming behaviour was linked with attention problems (Gentile, 2009).

Similar research has been conducted in Singapore by Gentile, Chou, Liau, Sim, Li, Fung and Khoo (2011). This research consisted of a two-year longitudinal study on 3034 elementary and secondary school students. The researchers found that the prevalence of pathological gaming was similar to that of other countries (~9%) (Gentile et al., 2011). This research found that, increased time spent gaming, lower social competence, and greater impulsivity all acted as risk factors for becoming a pathological gamer (Gentile et al., 2011). In addition, this research study also found that mental health related outcomes such as depression, anxiety, social phobias as well as lower school performance seemed to act as outcomes of pathological gaming. Currently, due to the need for more research, video game addiction is not classified as a formal disorder in the Diagnostic and Statistical Manual of mental disorders (DSM). The American Psychiatric Association has suggested a new category for the DSM-V of addiction like behavioural disorders, but more research is needed in this area (Prot et al., 2012).

In addition to the above concerns, several studies have also discovered a significant negative relation between the amount of screen time (television and video game play) and school performance of children, adolescents, and college students (Prot,

et al., 2012). Gentil, Lynch, and Linder (2004) refer to this phenomenon as the displacement hypothesis, meaning that video games and other forms of media could potentially displace the time that an individual would otherwise be engaged in activities that would be beneficial academically such as reading, homework, or extra curricular activities. Therefore, youth who engage in copious amounts of screen media time have been associated with having poorer school performance (Gentile et al., 2004)

Positive Effects of, and Positive Perceptions Towards, Video Games

The potential impact of video games on youth behaviour also remains controversial. Scholars, politicians, teachers, and parents continue to debate whether violent video games are a public health risk or a harmless form of entertainment (Ferguson et al., 2015). The pervasiveness of video game play not only has sparked concern regarding their potential negative effects on youth but has also motivated researchers to investigate potential positive outcomes (Adachi & Willoughby, 2017). Some authors highlight the alleged positive aspects of video gaming, which as previously mentioned, can include increased dexterity and hand eye coordination, social skills, improved motor skills and reactions times (Kuhlman & Beitel, 1991; Orosy-Fildes & Allan, 1989). Researchers investigating the association between playing video games and positive outcomes also have focused on how such play promotes cognitive skills. For example, playing video games has also been associated with enhanced visual–spatial abilities, executive control, memory, and attention control (Adachi & Willoughby, 2017). A study by Prot et al., (2012) showed that video game play can improve a wide range of visual and special skills. Echoing this, correlational studies have found positive associations between gaming experience and performance in visual tasks, for example

target localization and faster visual reaction times (Kowert & Oldmeadow, 2012).

Today, millions of youth play online video games with people from different social groups, different cultures, and different backgrounds. Online video games offer a unique chance for intergroup cooperation, which may positively affect intergroup relations (Adachi & Willoughby, 2017). Increased technology and a heavier social media influence, "has vastly expanded video games' multi-player abilities by allowing players to connect with others in a shared gaming space beyond the boundaries of their geographical location" (Kowert & Oldmeadow, 2012, p.1872). In 2008, there were a reported 1.5 billion registered accounts of online gamers worldwide (TMachine.org, 2008; Kowert & Oldmeadow, 2013). As games become more social and more and more individuals are becoming connected, some suggest they can be an important venue to foster civic development (Kahne, Middaugh & Evans, 2009).

 A study by Kahne et al. (2009), which investigated civic duty and youth video game play, did not find that the stereotype of the anti-social gamer was reflected in their data. They found that youth who play video games frequently are just as civically and politically involved as those who play games irregularly. These findings conflict with a widely held perspective that youth who play video games are socially isolated and often antisocial.

Collwell and Payne (2000) in their study of over 200 London schoolchildren found no evidence to suggest that those who regularly played video games had fewer friends. Another study conducted by Fromme (2003) suggested that there was no evidence to support the assertion that playing video games reduces participation in sports. Contrary to stereotypes, Fromme (2003) suggested that his survey had produced some

evidence to suggest that daily use of video games was actually positively associated with increased levels of sport participation. Crawford's (2005) study of UK undergraduate students' video gaming and sport participation patterns found no evidence to suggest that playing video games had a negative impact on levels of sport participation. In fact, it was found that sports-themed video games might actually increase interest in, and knowledge of, some sports.

Though public debate and the media typically either frame video games as positive or negative, as further research is undertaken, the results are making it clear that the effects are varied and depend on the individual (Kahne et al., 2009). Despite the variance in their individual effects, video games are increasingly recognized, in many ways; academically, socially and culturally (Crawford, 2012). For example, video games are gradually being acknowledged as an extremely useful way of engaging and educating children, providing a source of identity, enhancing conversation and friendship networks and have also had a significant impact on other cultural forms such as films and books (Crawford, 2012). Despite these findings, as Crawford (2012) emphasizes, these positive aspects are not commonly associated as attributes with gamers in the media or in public opinion. Research, which places emphasis on the negative effects of playing video games, supports a deficit or problem-oriented model of youth development, and neglects the equally essential question of how engagement in video games might enhance positive outcomes for youth (Adachi & Willoughby, 2017).

Video Games in an Educational Context

Video games are increasingly becoming more commonly used teaching and learning tools in 21st century classrooms as video games have in many ways become an

essential part of the way youth play and learn. While an increasing number of people are using games to learn in informal environments, their acceptance in the classroom as an instructional activity has been mixed (Kenny & McDaniel, 2011). In recent years, the number of conferences, publications, grants, and government agencies demonstrating interest in the topic of video games within an educational context has grown (Ferdig, 2007). Despite this interest, there still exist many gaps within the literature, which need to be filled. One of these gaps is the perception held by pre-service educators on youth that play video games, an area that lacks insight. Discussing the context of video games within the field of education offers a clearer image of the context from which teacher perceptions and opinions would be drawn.

Those who advocate for the use of video games emphasize the remarkable educational potential of video games to enhance learning experiences as it relates to integrating thinking and social interaction (Kahne, Middaugh & Evans, 2009). One of the main arguments is that video games are appealing and motivating to students (Bourgonjon,Valcke, Soetaert, & Schellens, 2010). Researchers (Gee, 2003; Papert, 1980; Rieber, 1996; Watson, 2007) refer to video games as an innovative educational approach. Video games help facilitate learning in meaningful contexts, promote self-regulation and encourage inquiry-based and discovery learning (Gee, 2003). Video games have emerged as instructional forms that allow for experiential learning, team building and greater understanding of abstract concepts (Rice, 2007). When video games are well designed, according to Prot et al., (2012), they are "attention grabbing, set clear objectives, provide feedback and reinforcement, actively involve the player and offer adaptable levels of difficulty" (p 652). One could see how this holds potential to be beneficial from an

academic standpoint. Many educational games have been created which take advantage of these features and use them to teach specific knowledge such as reading skills, mathematics and biology (Prot et al., 2012). Video games can also be adapted to teach health related outcomes to youth about smoking, diabetes and cancer (Prot et al., 2012). There is a potential to use video games across a wide variety of subjects and curriculums to facilitate student learning.

Despite these compelling arguments for the incorporation of video game technology into schools, barriers to the implementation of such technology in the classroom certainly include factors such as the negative perceptions and prejudices held toward video games (Rice, 2007; Kati, 2008; Kim & Baylor, 2008). Kenny and McDaniel (2011) argue that very little has been done to convince teachers that making the effort to change their curriculum to integrate video games and other forms of technology is beneficial. In order for these forms of technology to reach their full potential, Kenny and McDaniel (2011) state that policy makers must realize the importance of professional development and training surrounding the use of video games in order to bring about positive changes and perceptions of video game use.

In order for the successful adoption of any new classroom intervention, teachers must believe that it is worth the effort. In their research, Kenny and McDaniel (2011) surveyed 58 undergraduate, pre-service educators at a large southeastern university in the United States. Kenny and McDaniel (2011) found that if a teacher sees little or no value in an intervention, or is unfamiliar with its use, then its chances for implementation decreases. This is significant, as a teacher's adoption of any instructional strategy is

directly correlated with his or her views, ideas, and expectations about what is possible, feasible, and useful (Kenny & McDaniel, 2011). If pre-service educators are unfamiliar with video games or hold adverse and outdated perceptions, according to this research, the probability of incorporating gaming in the classroom would decrease.

Canadian studies on the perception of educators and pre-service educators on the implementation of video games into classrooms are currently limited. However, a research study investigating the game playing habits of various college students conducted by Shaffer, Squire and Gee (2005) found that of those who they interviewed, pre-service educators indicated that they did not play video games as often as those enrolled in other majors. In addition to this, the researchers found that the attitudes of teachers towards video games was not neutral, but in fact, was actually negative (Kenny & McDaniel, 2011; Shaffer, Squire & Gee, 2005). The results of this study were anecdotal and only took place on one college campus, which raises questions about their generalizability (Kenny & McDaniel, 2011). If these results are true, that pre-service educators have less experience engaging with video games and have negative perceptions surrounding video game use, one could question whether their students who play video games would be negatively impacted.

In another study investigating pre-service educators' attitudes towards gaming, Squire and Giovanetto (2006) found similar results to Shaffer, Squire and Gee (2005). In a survey of 125 undergraduates, Squire and Giovanetto (2006) discovered that education students were less likely than students studying other majors to play and have positive attitudes towards games, in part due to the high proportion of women among education students. They also found that education majors enjoyed technology less and perceived

themselves as less competent with technology than peers in other majors (Hayes &

Ohrnberger, 2013).

Contrasting this research, Schrader, Zheng and Young (2006) conducted a study

that examined the video game perceptions of pre-service educators in the United States.

In this research, Schrader et al. (2006) informally surveyed 203 (60 male, 138 female, 5

no report) pre-service educators during the 2003-2004 academic year from different

universities with similar teacher preparation programs. Most participants (63.1 %) were

aged between 18-22, while 11.3% were aged between 26-30 years. It was discovered that

the majority of pre-service respondents, 76.4%, had played video games previously and

of those individuals, most reported playing weekly (83.3%). The majority of these

respondents played for less than one hour (45.8%), while nearly one fifth played for three

or more hours per week (19.2%) and 20.2% of respondents indicated that they had lost

track of time while playing. Interestingly, although participants reported significant

gaming frequency, 89.8% of individuals reported that they did not feel they were a part of

a gaming community. Schrader et al. (2006) found that more than half of the participants

(52.2%) felt that video games were important from a social standpoint. It seems from this

data that most of the pre-service educator participants who had been exposed to video

games acknowledged that video games could serve a social purpose. From an academic

standpoint, 71.4% of pre-service educators that were surveyed viewed games as useful to

establish a valuable learning context (Schrader et al., 2006). However, the majority of

participants rated video games as a motivational tool (83.4%) rather than an important

part of social life (51.3%). This is significant because the majority of participants see

video games as a tool to motivate and reward, not necessarily a tool that can be used to

achieve academic outcomes. Unfortunately, this research did not examine the perceptions of pre-service educators on youth that play video games, but instead focussed on the use of video gaming. However, this research is still insightful and relevant to the current research since the data does indicate that pre-service teachers are exposed to video games and are open to new applications of technology and do in fact consider games to have the potential to be a beneficial educational tool (Schrader et al., 2006).

Similar results were found in a study by Hsu and Chiou (2011), which surveyed 125 students enrolled in a "teacher preparation program for secondary schools" at a university in northern Taiwan. The study examined pre-service educators' perceptions of digital game supported learning. Hsu and Chiou (2011) discovered that 118 of the 125 participants surveyed (94.4%) perceived that video games can motivate players to engage in the situation. Approximately 58% of participants agreed that games could improve friendship while 97.6% felt that games could bring people a lot of joy. On the other hand, 78.4% of the participants believed that games interfered with their time and 66.4% of participants believed that games negatively influenced their academic performance (Hsu & Chiou 2011). The results of this study demonstrate that most pre-service teachers had experience with playing video games and believe video games to have potential to be a useful tool for students.

Kenny and McDaniel (2011), intrigued by the 2005 research by Shaffer, Squire, and Gee, replicated the study to see if pre-service teachers play video games less often than peers their age studying other majors. This study was conducted in two randomly selected technology integration courses for undergraduate pre-service teachers. The study took place at a large southeastern university in the United States. There were 58

participants, all but two who were in their late teens and early twenties, with 65% of the

sample being female and 35% being male. A preference survey was utilized to ask

participants to reveal their impressions and expectations about video games in general;

their playing habits, and their personal assessments as to the potential role games might

play in their future teaching strategies. As a group, they indicated that they did not play as

often as students with other majors, confirming what Shaffer et al. (2006) had previously

found. This seemed to have an effect on their opinions about the value of video games

(Kenny & McDaniel, 2011). The most frequently reported reason in the study for

participants not using video games seemed to confirm Fortugno and Zimmerman's

(2005) suggestion that educators did not entirely "understand or appreciate the potential

of games due to their unfamiliarity with them" (Kenny &McDaniel, 2011, p.210). The

results from this research are useful in determining potential changes in teacher

preparation and professional development programs (Kenny & McDaniel, 2011).

As a result of such limited research having been conducted in this area, a need

exists for future research to specifically address the perceptions that are held by

individuals within the education system regarding youth that play video games. Since the

attitudes and perceptions of educators impact their teaching and the students they teach,

this should have serious implications for teacher preparation programs. It may be

commonplace to presume that pre-service educators who are freshly entering the

education system would be more familiar with and even more receptive to using video

games in the classroom than older educators, who have less experience with video games

(Hayes & Ohrnberger, 2013). Kenny and McDaniel (2011) addressed this common

misconception about young educators, stating that it should not be assumed "that just

because up-and-coming teachers have been brought up in the digital age, they are automatically familiar with, disposed to using, and have positive ideas about how games can be integrated into their curriculum" (p. 200). In fact, Kenny and McDaniel (2011) found that there "exists a significant disconnect between teachers and their students regarding the value of gameplay, and whether one can efficiently and effectively learn from games" (p. 200).

Given that there are such differing perspectives and motivations for studying the use of video games as an educational tool, it is difficult to conclude what the research says about video games and education as a pedagogical tool. Consequently, there is a consensus amongst researchers that more research and study in this field is required. However, the underlying argument remains: youth play video games and if youth are engaging in video games, why not avail of their interest from the perspective of the delivery of education. This means addressing the topic of video games in teacher preparation programs and training opportunities not only for incorporating its use into the classroom but also as a means of addressing and shifting any negative bias, perception, or opinions of youth video game players educators may hold.

Perceptions Among Educators

Perceptions hampering acceptance of even the best educational games for classroom use include a lack of understanding concerning the differences between arcade-style games and more complex role-playing, graphically dense, and cognitively viable modern games (Rice, 2007). Many educators with little or no exposure to modern video games may see video gaming as cognitive games that require little or no thought, and simplistic in nature (Schrader, Zheng & Young, 2006). Further, a general perception

exists that many video games encourage violence and aggression. This may result in reluctance on the part of school personnel to incorporate the use of video games as an instructional tool that can be used in the classroom (Rice, 2007). To quell the negative perceptions of video game use, broader understanding of the power that the medium of video games offers for instructional purposes will need to be realized (Rice, 2007). All in all, lack of exposure and insufficient knowledge regarding video games may both lower the chances of video games being incorporated into classrooms as well as doing little to minimize existing stereotypes of youth gamers.

Opinions and perceptions do change over time, and as young teachers replace older ones, biases against video games may lessen as new educators enter the field (Rice, 2007). Nevertheless, several interesting research questions are open for studying the perceptions surrounding educational video games. The current study explored negative perceptions surrounding the use of video games. For the negative perceptions to diminish, broader understanding of the influence video games offer for instructional purposes will need to be realized (Rice, 2007). This again demonstrates the need for further research regarding education personnel and their perceptions of video games since this is an area that could allow for significant curriculum development moving forward for educators.

Training Pre-Services Educators

Training pre-service educators, according to Franklin and Annetta (2011) in the use of digital games for learning is a relatively new focus, which coincides with the increasing interest in video games as a way of engaging students in more "active, immersive, and meaningful learning" (as cited in Hayes & Ohrnberger, 2013, p.153). Preparing educators to incorporate new and existing technologies into their teaching is now becoming a priority in many teacher education programs (Gronseth et al., 2010;

Newby, 2010; Ottenbreit-Leftwich, Glazewski ;Williams, Foulger, & Wetzel, 2009,). This could include instructing educators, school counsellors or administrators to create video games for their students, using game development for therapeutic counselling or the use of student development for skill and content acquisition (Wolf & Perron, 2014).

A recent national survey of 505 current teachers conducted by The Joan Ganz Cooney Center found that while about half of the respondents reported that they use educational games in the classroom, of those teachers only 12% reported learning about the educational use of digital games in their pre-service education (Hayes & Ohrnberger, 2013; Millstone, 2012). Hayes and Ohrnberger (2013) state that there is also little published research that has investigated the use of digital games within teacher education programs (Franklin & Annetta, 2011).

As previously discussed, research indicates that teachers are often resistant to new technologies with the reasons ranging from having lack of resources to insufficient training and exposure (Clausen, 2007; Ertmer, 2005; Hayes & Ohrnberger, 2013; Wall & Palak, 2009). Providing pre-service educators with exposure and opportunities should expand their awareness of the instructional merit of video games (Schrader, Zheng, Young, 2006) and mitigate any potential bias.

The Need for Research and the Current Study

To summarize, video games and their use are a fairly modern, yet important area of study. Much of the research, to date, has focused specifically on either video games themselves, such as content or systems, or the direct engagement of a player with a

specific piece of gaming technology and its effects (Crawford, 2012). It is clear that there is still much public debate by academics, the media, and the general populace concerning the positive and negative effects of gaming. These vast differences of opinion and lack of consensus certainly play a major role in the stereotypes and perceptions that individuals, including pre-service educators, exhibit towards video gamers. Despite compelling reasons for research on the perception of educators on youth gamers, little research actually exists. Though the level of research being conducted on video game integration into the classroom is slowly increasing, minimal research exists that addresses the specific perceptions, opinions, and stereotypes that pre-service educators or existing educators hold on youth that play video games.

Since such minimal research exists surrounding the perceptions and potential biases of pre-service education personnel towards youth that play video games, the current study begins to fill this gap. The results of the study have the potential to help understand and prevent possible perceptions or biases of pre-service school professionals when it comes to youth video game players. In addition, there is the opportunity to provide insight into potential curriculum additions within teacher education programs to help address these potential biases; this would shield students from being subject to avoidable stereotypes, which could impact their academic or personal lives. With this information presented, the methodology of the current study will be discussed in the following chapter.

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Chapter 3: Methodology

The current study utilized a survey method to explore pre-service teachers', pre-service counsellors/psychologists', and pre-service school administrators' perceptions on youth that play video games. This study was done at a large Atlantic Canadian university. Specifically, the research sought to understand what types of perceptions and stereotypes existed among this sample of pre-service educators. Secondly, the study was also designed to assess if the amount of time pre-service educators reported participating in video game play themselves would decrease stereotypes and biases toward student gamers.

A portion of the survey used in this research was created by Dr. Greg Harris and Dr. Nicholas Harris, and permission for the author to use this survey was granted by Dr. Greg Harris and Dr. Nicholas Harris. Additionally, a portion of the *Youth and Video Gaming Questionnaire* came from researchers Rachel Kowert, Mark D. Griffiths and Julian A. Oldmeadow. Permission was granted for the current researchers to utilize the adjective list that was used in the research study entitled "*Geek or Chic? Emerging Stereotypes of Online Gamers*". This chapter presents information on participants, sampling, research design and the approach used for data collection and analysis.

Participants

Participants in this research were enrolled in either a teacher preparation program (i.e., Primary/Elementary or Intermediate/Secondary) or a Master's of Education degree program (i.e., Counselling Psychology or Educational Leadership) offered through a

Faculty of Education at a large Atlantic Canadian university. Roughly 400 students were invited to participate in this study. Sixty-one students completed the survey.

Research Design and Data Analysis

The survey utilized for this research was administered electronically via an online survey platform, *Qualtrics*, to all students who chose to participate, enrolled in the Bachelor of Education degree programs and the Master's of Education degree programs in Counselling Psychology and Educational Leadership at a large Atlantic Canadian university. Students were first contacted via e-mail with an invitation to participate. Graduate and Undergraduate Offices in the Faculty of Education e-mailed all students registered in the Bachelor of Education degree programs and the Master's of Education degree programs mentioned above. The introduction e-mail briefly outlined the study and provided those interested in participating with an introduction to the research and a link to the informed consent form (see Appendix D).

Students had the option to disregard the e-mail invitation or stop reading the informed consent or survey at anytime. The informed consent form presented items such as confidentiality, and the purpose and rationale behind the research (see Appendix E). If participants had any questions or concerns, contact information for the researchers was provided. After reading through the informed consent form, participants could indicate their consent and then click forward to the survey. Participants were informed that participation in the survey was entirely voluntary, and they could withdraw from the study at any time. Additionally, participants were informed of the privacy and confidentiality of responses. Individuals who consented, clicked submit at the conclusion

of the survey to submit the survey data to the researchers. Ethics approval for this research was granted from the Interdisciplinary Committee on Ethics in Human Research (ICEHR) and the research was in compliance with Memorial University's ethics policy. As an added incentive to participate, students could enter their e-mail address in a draw for a chance to win one of five $50 gift cards.

Measures

The questionnaire package used in the current study consisted of a consent form, demographic information form, videogame participation questionnaire, and youth and video gaming questionnaire.

Demographic information form. Nine demographic questions were included in the survey; the first eight questions comprised of gender, age, ethnicity, marital status, current degree program, current degree concentration, previous degrees and teachable areas. The last question asked participants of their future employment plan.

Video game participation questionnaire. The video game participation questionnaire was developed by Dr. Greg Harris and Dr. Nicholas Harris (see Appendix A). It consisted of thirteen items: twelve multiple-choice responses and one short response question. This section was primarily designed to gain a better understanding of the participants' self-reported use and experiences with video games.

Youth and video gaming questions. The Youth and Video Gaming questionnaire contained three sections. First, a rating adjectives section (see Appendix B) where participants were given a list of 30 adjectives and were asked to rate each trait on how applicable they thought the trait was for youth video game players.

This set of items was scored using a seven-item Likert scale, ranging from one (not applicable at all) to seven (very applicable). This adjective list came from the research of Kowert, Griffiths and Oldmeadow (2012), who used this adjective list to examine the cultural portrayal and stereotypes of online gamers in their research study entitled "*Geek or Chic? Emerging Stereotypes of Online Gamers*". Kowert gave permission to the researchers to use this list in the current research study.

The adjectives, as Kowert et al. (2012) discuss in their research, were selected from three places. The first, were adjectives that were discussed in the academic literature that relate to the stereotyping of online gamers (Griffiths, Davies & Chappell, 2003; Kowert et al., 2012; Williams, 2005; Williams et al., 2008). In addition to this, traits were taken from two researchers, Katz and Braly's (1933) list of adjectives that were originally used to describe ethnic groups. This was done since stereotypes of online gamers "has not been empirically validated, the breadth of the categorization is unknown" (Kowert et al., 2012, p. 474). Lastly, the question "what is the stereotype for those who play online games?" was posted to a popular social media site (Facebook) and online gaming forums. This was done to ensure that applicable traits not mentioned in the academic research were incorporated (Kowert et al., 2012). A mix of the most frequently reported positive and negative adjectives from social media and gaming forums were included in the overall list. The adjectives were randomized and presented in the same order to all participants (Kowert et al., 2012). This list of randomized adjectives was presented in the current research (see Appendix B).

The next portion of the questionnaire was designed by Dr. Greg Harris and Dr. Nicholas Harris and involved participants ranking eighteen statements using a seven item

Likert scale, ranging from one (extremely unlikely) to seven (extremely likely). The final, nineteenth question of this portion of the questionnaire asked participants to assess their preparedness in addressing youth gaming in their career, using a seven item Likert scale ranging from one (not prepared at all) to seven (very prepared). The statements in this portion of the survey addressed items such as academic, social, mental health, aggression, violence, and socioeconomic status. Through this, participants were able to report their opinions and attitudes toward youth video gamers.

The final portion of this section of questions consisted of eight open-ended questions where participants were encouraged to type out their responses. This section asked questions on the perceived risks and benefits of youth gaming, the role of the school, and the impact of gaming on youth school experiences. In the interest of investigating whether youth gaming is being addressed in the curriculum, a series of open-ended questions asked participants if they experienced any training or course work on youth gaming.

The last question of the survey gave participants the opportunity to respond to what they would like to see in the way of training on the topic of youth gaming. Responses to this section ranged from a few words to a few sentences. The use of open-ended questions allowed participants more latitude to respond. The combination of open-ended and closed-ended questions was used in order to gather a better understanding of the perception that existed within this group of pre-service educators.

Data Analysis

Descriptive statistics and analysis was completed using the IBM Statistical

Package for the Social Sciences (SPSS). The data was transferred from the online survey

platform; *Qualtrics* into an SPSS data file where the data was analyzed using descriptive

statistics, percentages, frequency and mean and hierarchical regressions for close-ended

questions.

A general qualitative content analysis was completed for the eight open-ended

question of the survey (Creswell, 2014). The open-ended responses were transferred

verbatim into a Microsoft Word document, which was organized, by question and

participant number. Here, commonalities were examined to determine themes present in

the data. Preliminary notes were first made on each question, and this aided for

subsequent coding purposes (Creswell, 2014). Each response was color coded to allow

for easy organization. Once coding was done by hand the next step involved organizing

the codes into categories. Though this was a lengthy process, it allowed the researcher to

stay close to the data and to organize the data in a meaningful way. From here, themes

and patterns were presented to help highlight ideas and insights on the topic (Creswell,

2014).

Summary

This chapter presented the methodology that was used in this research study. It

presented the research design, the methods utilized to conduct data collection, participant

recruitment as well as data analysis. The following chapter will present the findings of

the current study.

Chapter 4: Results

A survey focused on examining pre-service educators' attitudes and perceptions toward youth video game players was administered electronically to 61 pre-service educators. This section will present the findings of the study.

The results include participant demographic information, descriptive statistics reporting the frequencies of responses for closed-ended questions, hierarchical regression, and a thematic analysis from open-ended questions. Results are presented and organized by research question.

Demographic Profile

Data collected from the first nine questions of the survey was utilized to provide a comparative demographic and background description of all the study participants. These questions pertain to gender, age, marital status, ethnicity, current degree, concentration areas, academic background and future employment plans (see Table 1).

The age of respondents was variable, with the majority (59.0%) falling between 21-30 years of age. The sample was 68.9% female (n=42), 19.7% male (n=12), 1.6% identified as agender *(n=1)* and 9.8% (n=6) did not respond. Almost the entire sample identified as Caucasian or white (n=47, 77.0%), while 1.6% (n=1) identified as African-Canadian/Black and 6.6% (n=4) identified as Aboriginal (First Nation or Inuit). Most participants reported being single at the time of survey completion (n=29, 47.5%), with the next largest group reporting being married or common-law (n=22, 36.1%).

Table 1

Demographic Characteristics of the Sample

Characteristics	Number	Percent of Sample
Age		
22 and under	10	16.4%
23-26	18	29.5%
27-30	8	13.1%
31-35	9	14.7%
36-40	4	6.6%
41 +	6	9.8%
Missing	6	9.8%
Gender		
Male	12	19.7%
Female	42	68.9%
Other	1	1.6%
Missing	6	9.8%
Ethnic Background		
Caucasian/White	47	77.0%
African-Canadian/Black	1	1.6%
Aboriginal (First Nation or Inuit)	4	6.6%
Other	3	4.9%
Missing	6	9.8%
Marital Status		
Single	29	47.5%
Married/Common-law	22	36.1%
Separated or divorced	4	6.6%
Missing	6	9.8%
Current Degree		
Bachelor of Education	33	54.1%
Masters of Education	22	36.1%
Missing	6	9.8%
Current Degree Concentration		
Intermediate Secondary	9	14.8%
Primary Elementary	16	26.2%
Music	1	1.6%
Counselling Psychology	23	37.7%
Leadership	2	3.3%
Missing	10	16.3%

Analysis

Closed-Ended Responses- Video Gaming Participation Questions

This section examined the closed-ended questions of the Video Gaming

Participation Questions. Participants were asked to reflect and report on their past and

current video game experiences. Descriptive statistics were used to present the self-

reported use, experiences, and views that pre-service educators had on youth video game

use.

How frequently did you play video games during the following periods in

your life? The first question investigated how frequently participants engaged in video

game play throughout different stages of their schooling: before first grade, elementary

school, junior high school and high school. The descriptive frequencies indicated that the

majority of participants, 58.2% (*n*=32) did not play video games before grade one. In

elementary school, most participants, 40% (*n*=22) reported playing video games weekly.

In junior high school, the majority of participants, 32.7% (n=18) reported playing video

games weekly while 23.6% (*n*=13) of participants reported never playing video games in

middle/junior high school. Lastly, in high school, the majority of participants, 32.7% (*n*=

18) reported playing video games weekly and 20.0% (*n*=11) reported never playing video

games in high school (see Table 2).

Table 2

Frequency of Video Game Play Throughout Different Stages of School.

	Daily	Weekly	Monthly	Once or twice per year	Never
Before 1ˢᵗ Grade	3.6% (2)	14.5% (8)	20.0% (11)	3.6% (2)	58.2% (32)
Elementary School	10.9% (6)	40.0% (22)	18.2% (10)	10.9% (6)	20.0% (11)
Middle/junior high school	23.6% (13)	32.7% (18)	12.7% (7)	7.3% (4)	23.6% (13)
High school	18.1% (10)	32.7% (18)	18.1% (10)	10.9% (6)	20.0% (11)

Note. Total *N*=61. Number in brackets indicates number of participants for each response

Do you own a video game console (e.g., X-box, Wii, Playstation, etc.) or handheld video game console (e.g., GameBoy, Nintendo DS, PsP)? The next question asked participants if they own a video game console or handheld video game console. Within the sample, the majority of participants 67.3% (*n*=37) indicated that they did own some sort of video game console or handheld console. While a smaller percentage, 32.7% (*n*=18) of participants stated that they did not own a video game console or handheld console (see Table 3).

Table 3

Video Gaming Participation

Do you own a video game console?	Frequency	Valid Percent
Yes	37	67.3%
No	18	32.7%
Total	55	100%

Note. Frequency indicates n, the number of participants. Total N= 61

Do you currently play video games? Next, participants were asked if they currently played video games. Descriptive frequencies indicated that the majority of surveyed participants, 58.2% (n=32) *do not* currently play video games. The remaining 41.8% (n=23) of the sample reported that they do currently play video games (see Table 4).

Table 4

Video Gaming Participation: Current Play

Do you currently play video games?	Frequency	Valid Percent
Yes	23	41.8%
No	32	58.2%
Total	55	100%

Note. Frequency indicates n, the number of participants. Total N= 61

How many hours per week (including weekends) do you spend playing video games (including console games, on computers, via Internet, websites, cell phone, handheld, etc.)? The subsequent question on the Video Gaming Participation set of questions was asked to gauge how many hours per week participants engaged in self-reported video game play. This question received 23 responses from participants, meaning 38 participants did not respond to this question. Valid percentages were recorded but do not reflect the entire sample. Descriptive frequencies indicated that the majority of participants, 43.5% (*n*=10) who responded to this question reported playing 4-7 hours of video games per week (see Table 5).

Table 5

Video Gaming Participation: Hours Per Week Spent Playing

How many hours per week (including weekends) do you spend playing video games?	Frequency	Valid Percent
Never	0	0%
3 hours or less	9	39.13%
4-7 hours	10	43.5%
8-11 hours	1	4.3%
12 hours or more	3	13.0%

Note. Frequency indicates n, the number of participants. Total N= 61

Please indicate whether the following statements apply to you when you play videogames. The next question asked participants to respond yes or no to a series of

statements that applied to their use of video games. These statements explored reasons for their use of videogames and time spent playing videogames (see Table 6).

Table 6

Video Gaming Participation: Statements

Question	Yes: this describes me	No: this does not describe me	Total
I play videogames to pass the time when I'm bored, have some free time…	81.8% (18)	18.2% (4)	100% (22)
I play videogames when I get together with my friends on a Friday night…	38.1% (8)	61.9% (13)	100% (21)
I play videogames because I enjoy playing them as a leisure pursuit…	60.9% (14)	39.1% (9)	100% (23)
I devote a lot of time to playing videogames…	9.1% (2)	90.9% (20)	100% (22)

Note. Total N=61. Number in brackets indicates the number of participants for each response

What types of video games do you play? Participants were then asked about the types of video games they play. Descriptive frequencies indicated that the majority of participants that responded to the question, 26.2% (*n*=16) engaged in role-playing type games (see Table 7).

Table 7

Video Gaming Participation: Types of Video Games

Question	Frequency	Percent
Action/First person shooter games (e.g., Call of Duty, Doom, Halo, Grand Theft Auto, etc.)	8	13.1%
Role playing games (e.g., Final Fantasy, Dragon Worriers, etc.)	16	26.2%
Sports (e.g., FIFA, etc.)	3	4.9%
Simulation (e.g., Flight Gear, etc.)	3	4.9%
Other	13	21.3%

Note. Frequency indicates n, the number of participants. Total N= 61

How old were you the first time you played video games? Of the participants that responded to this age question, 13.1% (*n*=8) of participants indicated that they were 5 years or younger when they first played a video game. While 9.8% (n=6) were between the ages of 6-12 and 1.6% (*n*=1) indicated they were 43 years of age when they first played video games. This question had some missing data; 15 participants responded leaving 46 participants who did not respond (see Table 8).

Table 8

Video Gaming Participation: Age

How old were you the first time you played video games?	Frequency	Percent
5 and under	8	13.1%
6-12	6	9.8%
43	1	1.6%

Note. Frequency indicates n, the number of participants. Total N= 61

Youth and Video Gaming Questions

The first portion of the Youth and Video Gaming Questions asked participants to rate a list of thirty adjectives in terms of how applicable they believed each trait to be of youth video game players. Participants provided responses on a 7-point Likert type scale ranging from 1 (not at all applicable) to 7 (very applicable). The results of the scaled adjectives can be found in Table 9.

Table 9

Youth and Video Gaming Questionnaire: Adjective Descriptives

Adjective	N	Mean	Standard Deviation
Socially inept	51	3.63	1.341
Confident	51	4.00	1.000
Introverted	51	4.84	1.084
Reclusive	51	4.12	1.160
Outgoing	51	3.59	.963

Popular	51	3.78	.901
Mainstream	51	4.35	1.214
Loner	51	3.90	1.446
Isolated	51	3.98	1.463
Overweight	51	3.88	1.395
Pale	51	3.82	1.633
Unattractive	51	2.73	1.415
Young	51	3.88	1.796
Well- groomed	51	3.45	.923
Fashionable	51	3.39	1.097
Athletic	51	3.18	1.144
Obsessive	51	4.14	1.484
Conscientious	51	3.90	1.005
Dedicated	51	4.45	1.361
Intelligent	51	4.78	.901
Lazy	51	3.96	1.341
Happy	51	4.04	.894
Independent	51	3.90	1.025
Secure	51	3.75	.821
Ambitious	51	3.82	1.212
Fun-loving	51	4.25	1.324
Addict	51	4.12	1.409
Aggressive	51	3.67	1.424

Immature	51	3.71	1.641
Underachiever	51	3.33	1.337

Note. Total N=61.

The second section of the Youth and Video gaming questions asked participants to rate the following statements on a scale from 1 (extremely unlikely) to 7 (extremely likely). The results can be seen in Table 10.

Table 10

Youth and Video Gaming Questionnaire: Scaled Statements

Question	1	2	3	4	5	6	7	Total
Playing video games more than 10 hours per week will have negative effects on a student's motivation for school...	3.9% (2)	5.9% (3)	5.9% (3)	9.8% (5)	33.3% (17)	25.5% (13)	15.7% (8)	(51)
Playing video games more than 10 hours per week will have negative effects on a student's important relationships...	3.9% (2)	3.9% (2)	7.8% (4)	25.5% (13)	25.5% (13)	21.6% (11)	11.8% (6)	(51)
Students who play lots of video games will do worse in school compared to students who do not play any video games...	15.7% (8)	15.7% (8)	19.6% (10)	25.5% (13)	15.7% (8)	2.0% (1)	5.9% (3)	(51)
Students who play video games will be less likely to participate in extracurricular activities at school	7.8% (4)	13.7% (7)	7.8% (4)	21.6% (11)	11.8% (6)	25.5% (13)	11.8% (6)	(51)

compared to students who do not play video games...

Students who play video games will develop fewer social relationships with peers compared to students who do not play video games…	20% (10)	3.9% (2)	20% (10)	15.7% (8)	20% (10)	11.8% (6)	9.8% (5)	(51)
Students who play video games are more likely to be in trouble with teachers and principals compared to non-gaming students…	27.5% (14)	23.5% (12)	15.7% (8)	21.6% (11)	7.8% (4)	2.0% (1)	2.0% (1)	(51)
Students who play video games are more likely to have mental health problems compared to students who do not play video games…	18% (9)	28% (14)	16% (8)	24% (12)	12% (6)	0% (0)	2% (1)	(50)
Students who play video games will have poorer grades compared to students who do not play video games…	21.6% (11)	23.5% (12)	21.6% (11)	17.6% (9)	7.8% (4)	3.9% (2)	3.9% (2)	(51)
Students who play video games are more likely to be seriously disciplined (e.g., expulsion, suspension) compared to students who do not play video games…	31.4% (16)	35.3% (18)	17.6% (9)	13.7% (7)	2.0% (1)	0% (0)	0% (0)	(51)

Students who play video games are more likely to be

disconnected from day to day classroom activities compared to students who do not play video games…	20% (10)	9.8% (5)	15.7% (8)	21.6% (11)	23.5% (12)	2.0% (1)	7.8% (4)	(51)
Students who play video games are more likely to have not completed their homework compared to students who do not play video games…	12% (6)	6% (3)	12% (6)	26% (13)	22% (11)	12% (6)	10% (5)	(50)
Students who play video games are more likely to be referred to the school psychologist as compared to students who do not play video games…	31.4% (16)	25.5% (13)	17.6% (9)	13.7% (7)	7.8% (4)	2.0% (1)	2.0% (1)	(51)
Students who play video games are more likely to get into a physical fight at school compared to students who do not play video games...	33% (17)	11.8% (6)	23.5% (12)	23.5% (12)	7.8% (4)	0% (0)	0% (0)	(51)
Students who play video games are less likely to get involved in an after school program compared to students that do not play video games…	11.8% (6)	9.8% (5)	11.8% (6)	20% (10)	17.6% (9)	20% (10)	9.8% (5)	(51)
Students who play video games are more likely to have parents with lower paying jobs compared to students who do not play video games…	45.1% (23)	15.7% (8)	13.7% (7)	23.5% (12)	2.0% (1)	0% (0)	0% (0)	(51)

Statement								
Students who play video games are more likely to have to repeat a grade or course compared to students who do not play video games…	38% (19)	20% (10)	16% (8)	20% (10)	6% (3)	0% (0)	0% (0)	(50)
Students who play video games are more likely to have a formal mental health diagnosis than students who do not play video games…	31.4% (16)	21.6% (11)	17.6% (9)	17.6% (9)	9.8% (5)	2.0% (1)	0% (0)	(51)
Students who play video games are more likely to come from a home with a lower social economic status compared to students who do not play video games…	43.1% (22)	15.7% (8)	13.7% (7)	25.5% (13)	2.0% (1)	0% (0)	0% (0)	(51)

Note. Total *N*=61. Number in brackets indicates number of participants for each response. Statements were ranked on a scale from 1 (extremely unlikely) to 7 (extremely likely).

The final closed ended question of the survey asked participants how prepared they felt to address youth gaming in their career. Participants were asked to respond on a 7-point scale ranging from 1 (not prepared at all) to 7 (very prepared). Descriptive frequencies indicated that the majority of participants that responded to the question, 26% (*n*=13) rated themselves a 4 on the seven-point scale. This indicated that they felt moderately prepared to address youth gaming in their career. Next, 18% (*n*=9) of participants indicated that they felt very prepared to address youth gaming in their career. There were only 6% (n=3) of participants who ranked themselves as not prepared at all to address youth gaming in their career (see Table 11).

Table 11

Youth and Video Gaming Questionnaire: Preparedness in Addressing Youth Gaming in Careers

Question	1	2	3	4	5	6	7	Total
How prepared do you feel to address youth gaming in your career?	6% (3)	8% (4)	12% (6)	26% (13)	16% (8)	14% (7)	18% (9)	50

Note. Total *N*=61. Number in brackets indicates number of participants for each response

Hierarchical Regression

Three categories were formed from the adjective list used in the *Youth and Video Gaming Questions*. Kowert et al. (2002) divided the 30 adjectives into one of three categories: Sociality, Appearance and Psychology (see Appendix B). These categories were used in a hierarchical regression to predict the perception of the three categories (Sociality, Appearance and Psychology) on hours spent playing video games.

The three categories of adjectives reflect three different aspects of potential stereotypes. Social, appearance oriented and psychology related words were chosen to form each category. These adjectives were selected from a combination of scientific literature, social media and words relating to stereotypes of online gamers. Time spent playing video games was measured using the question "How many hours per week (including weekends) do you spend playing video games (including console games, on computers, via Internet, websites, cell phone, handheld, etc.)?

Sociality. When time spent playing video games was included in Block 1 of the regression it was shown to be a significant predictor of sociality. When socio-

demographic covariates were entered in Block 2, time spent playing video games

remained a significant predictor of sociality (see Table 12).

Table 12

*Prediction of Pre service Educators' Perception of Sociality of Youth Video Gamers
Based on Hours Spent Playing Video Games.*

	95% Confidence Intervals	
	Block 1	Block 2
Constant	2.427 [1.433, 3.421]	2.916 [.386, 5.445]
Sex		-.168 [-.870, .534]
Age		.002 [-.060, .064]
Ethnicity		-.094 [-.418, .229]
Marital Status		-.003 [-.828, .822]
Adjusted R²	.276	.136

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included
hours spent playing video games by pre service teachers

Appearance. When time spent playing video games was included in Block 1 of

the regression it was shown to be a significant predictor of appearance. When socio-

demographic covariates were entered in Block 2 time spent playing video games

remained a significant predictor of appearance (see Table 13).

Table 13

*Prediction of Pre Service Educators' Perception of Appearance of Youth Video Gamers
Based on Hours Spent Playing Video Games.*

	95% Confidence Intervals	
	Block 1	Block 2
Constant	3.346 [2.396, 4.296]	5.159 [2.968, 7.349]
Gender		- 4.59 [-1.067, .149]
Age		-.005 [-.058, .049]
Ethnicity		-.094 [-.374, .186]
Marital Status		-.292 [-1.007, .422]
Adjusted R²	.150	.167

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included
hours spent playing video games by pre service teachers.

Psychology. In Block 1, time spent playing video games was predictive of psychology. When socio-demographic covariates were entered in Block 2, time spent playing video games remained a significant predictor of psychology (see Table 14).

Table 14

Prediction of Pre Service Educators' Perception of Psychology of Youth Video Gamers Based on Hours Spent Playing Video Games.

	95% Confidence Intervals	
	Block 1	Block 2
Constant	3.318 [2.745, 3.891]	2.949 [1.661, 4.237]
Gender		.027 [-.331, .385]
Age		.022 [-.010, .054]
Ethnicity		-.129 [-.294, .035]
Marital Status		.055 [-.475, .365]
Adjusted R^2	.440	.478

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included hours spent playing video games by pre service teachers.

Next, a factor analysis was conducted to form categories from the nineteen-scaled questions from the *Youth and Video Gaming Questions.* The three categories that were formed were: academics, social, and mental health/behavioral (see Appendix C).

A hierarchical regression was then used to predict the hours spent playing video games on perceptions of the three categories listed above. The factor analysis loaded the scale variables across three categories. Once again, hours spent playing video games was derived from the *Video Gaming Participation Question* "How many hours per week (including weekends) do you spend playing video games (including console games, on computers, via Internet, websites, cell phone, handheld, etc…).

Academics. In Block 1, time spent playing video games was predictive of

academics. When socio-demographic covariates were entered in Block 2, time spent

playing video games did not remain a significant predictor of academics (see Table 15).

Table 15

*Prediction of Pre Service Educators' Perception of Academics of Youth Video Gamers
Based on Hours Spent Playing Video Games.*

| | 95% Confidence Intervals | |
	Block 1	Block 2
Constant	3.927 [2.575, 5.278]	2.751 [-584, 6.087]
Gender		.341 [-.585, 1.267]
Age		-.019 [-.101, .062]
Ethnicity		.122 [-.304, .549]
Marital Status		.444 [-.644, 1.531]
Adjusted R^2	.095	-.017

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included
hours spent playing video games by pre service teachers.

Social. In Block 1, time spent playing video games was predictive of social.

When socio-demographic covariates were entered in Block 2, time spent playing video

games did not remain a significant predictor of social (see Table 16).

Table 16

*Prediction of Pre Service Educators' Perception of Social of Youth Video Gamers Based
on Hours Spent Playing Video Games.*

| | 95% Confidence Intervals | |
	Block 1	Block 2
Constant	3.845 [2.365, 5.324]	.960 [-2.462, 4.382]
Gender		-.869 [-.080, 1.819]
Age		.029 [-.055, .113]
Ethnicity		.138 [-.300 .575]
Marital Status		-.050 [-1.166, 1.066]
Adjusted R^2	-.001	.012

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included
hours spent playing video games by pre service teachers.

Mental Health/ Behavioural. In Block 1, time spent playing video games was predictive of mental health/behavioural. When socio-demographic covariates were entered in Block 2, time spent playing video games did not remain a significant predictor of mental health and behavioural (see Table 17).

Table 17

Prediction of Pre Service Educators' Perception of Mental Health/ Behaviour of Youth Video Gamers Based on Hours Spent Playing Video Games.

	95% Confidence Intervals	
	Block 1	Block 2
Constant	2.246 [.884, 3.607]	.330 [-2.850, 3.510]
Gender		.756 [-.126, .1.639]
Age		-.016 [-.094, .062]
Ethnicity		.114 [-.293, .520]
Marital Status		.300 [-.737, .1.337]
Adjusted R^2	-.048	-053

Note: Block 1 covariates included sex, age, ethnicity and marital status. Block 2 included hours spent playing video games by pre service teachers.

Open Ended Analysis

This section examines the open-ended questions that were asked of survey participants (*n*=61). At the end of the survey, participants were asked to respond to eight open-ended questions regarding their perceptions surrounding youth video game use. Responses from this section were transcribed, coded and categorized for commonalities (Creswell, 2014).

Perceived risks of youth gaming. The first question of the open-ended analysis asked participants: "In your opinion, what are the main risks associated with youth gaming?" This question was answered by 78.7% (*n*=48) of the total sample. Five themes emerged from the data. Participants voiced academic risks, health and mental health

risks, social isolation, addiction, aggression and violence as the main risks associated with youth gaming. In many participant responses, it was noted that a combination of these factors would increase the risks associated with youth gaming.

Social isolation. Of the participants who responded to the question, 31.2% (*n*=15) of participants cited social isolation as a major concern of youth gaming. This included withdrawing from peer and friend groups, spending less time in social situations and missing out on social opportunities. For example, one participant stated that youth gamers are "spending too much time sitting in front of a screen and not enough time being active with friends". Pre-service educators identified social isolation as a major perceived risk of youth gaming.

Poor physical health and mental health. Reduced physical health and mental health concerns from excessive gaming were voiced by 23% (*n*=11) of the sample that responded to this question. Deteriorating health, weight gain, obesity, a sedentary and inactive lifestyle, and poor sleeping and eating patterns were mentioned as specific health risks. Using gaming as a coping mechanism, aggravating pre-existing disorders or mental health problems were also revealed as perceived mental health risks by pre-service educators. A participant stated that gaming could have a "…risk of obesity as gaming hours increase" and continued by saying that youth may use "gaming as a coping mechanism to avoid dealing with personal problems." Other participants identified other mental health concerns such as "aggravation of existing OCD or AD/HD behaviours" and health concerns such as a "lack of sleep which results in absenteeism and lack of interest in school" as perceived risks.

Aggressiveness and violence. Aggressive behaviour and violence were perceived to be a risk by 10.4% (*n*=5) of participants who responded. Words such as aggressive, violent, argumentative and rude were used to form this theme. One participant noted that, "The risks include children who become argumentative, hostile, rude, inappropriate. The students answer back teachers, have very little work ethic, and appear to not care about school or their work…" Another participant stated that youth gaming makes "…violence seem normal and socially acceptable…"

Academic risks. Academic risks, such as inability to pay attention, lower academic achievement, and lack of motivation was found to be a perceived risk by 5.0% (*n*=4) of participants who responded to the question. An example of this is referenced by one participant who stated that youth gamers have an "inability to attain in the classroom. Students find classroom activities boring".

Addiction. Another theme that emerged from this question was addiction. Of the sample that responded to this question, 10.41% (*n*=5) of participant responses referenced addiction as a perceived risk. Participants noted items such as obsessive behaviour and dependence or addiction to playing video games as concerns. This was sometimes linked to a lack of parental supervision and monitoring as one participant stated that, "addiction, lack of adequate monitoring, aggression, lack of supervision" were interrelated perceived risks.

The role of school. The survey next asked participants: "In your opinion, what is the role of the school in helping youth address gaming problems?". Out of the total sample, 77.0% (*n*=47) provided a response to this question. Four themes were identified:

awareness and education, promoting programs and extracurricular activities, minimal or no role and implementing video game use into the curriculum.

Awareness and education. This was the most frequently reported theme with 36.1% (*n*=17) of the sample identifying it. Awareness and education was categorized by the school taking a proactive approach to making students and parents aware of the risks associated with youth gaming. Many participants also mentioned the need for providing support and education for teachers and school staff to help address youth gaming problems. One participant stated, "The role of the school is to advise students of the risks of video gaming and to be sources of information". Another participant indicated the importance of schools and teachers not only to promote positive behaviours but also to maintain an open dialogue with parents by "encouraging healthy habits, monitoring behaviours, [and] communication with home."

Promoting programs and extracurricular activities. This theme emerged as a need to promote school programs, groups, sports and events to allow students the opportunity to engage in other extracurricular activities as an alternative to gaming. Of those who responded to this question, 27.7% (*n*=13) identified promoting programs and extracurricular activities as a significant role of the school in helping youth address gaming problems. One participant explained that the role of the school is "to offer and encourage other options, to promote healthy behaviours" while another participant stated that simply exposing students to other options would "show students there are other ways to pass the time and have fun than playing video games." It is worth noting, however, that many participants had no issue with youth gaming when it was done responsibly and in

moderation. The concern of participants seemed to be when youth lacked a balance and were spending excessive amounts of their time gaming.

Minimal or no role. Interestingly, 14.9% (*n*=7) of participants believe that the school does not play a role, or it plays a very minimal role, in addressing youth gaming problems. The notion that schools are separate from youth video game problems, and that it is an issue that should be addressed at home were common categories that formed this theme. An example of this can be seen from one participant who stated, "most schools do not have a helpful role in addressing youth video gaming problems". Other participants explained that they did not see gaming as a problem for youth in the first place, while others believed the onus should be more on parents than schools "…without home support and youth willingness, the school can't have much of a role- it doesn't matter what we preach or teach if the message isn't learned or is undermined at home."

Implement into curriculum. This theme emerged from categories that included incorporating video games into classroom use for educational purposes, using games to motivate students at school, and using gaming as a reward. Instead of prohibiting video game use in schools, 10.6% (*n*=5) of participants stated that incorporating video games into academic curricula would be beneficial in addressing some youth video game issues. One participant reported "schools may want to consider incorporating gaming into curriculums for group work, peer interactions, and engaging media for teaching. This way you can see positive forms of gaming." Participants who reported this theme placed emphasis on the potential benefits of incorporating gaming into classroom activities and how they could be used as an effective learning tool.

Impact on school experiences. The following question of the survey asked participants: "In your opinion, how does youth gaming impact youth in terms of their school experiences (e.g., academic outcomes, extracurricular choices, peer socialization)?" Out of the total sample, 77.0% (*n*=47) responded to this question. Four themes were identified from the data, including academic impact, social impact, extracurricular impact and no impact. In addition to these four themes relating to school experience, time spent playing was also a significantly reported topic by participants and is therefore included in this section.

Academic impact. The majority of participants, 38.3% (*n*=18), stated that they believed youth gaming would have some impact on the academic outcomes of students. Lack of concentration and motivation, not completing homework or assignments, and poor grades were the most commonly coded categories for this theme. One participant stated "School work can be negatively impacted when the value and reward of it becomes much less evident next to the immediate or quicker rewards in games". Another participant worried about the distractions that video games can cause "it often negatively affects them [students] if it causes them to stay up late and not complete school work." On the contrary, some participants explicitly stated in their responses that they felt that youth video game play would not overly impact academics. One participant supported this claim that, "students can be gamers while still being good students, participate in activities and engage in a social life…"

Social impact. Of the participants who responded, 25.5% (*n*=12) claimed video games have an effect on youths' social interactions and social opportunities. This included categories such as withdrawing from social groups, having fewer friends, and

missing out on social opportunities. Contrary to the primarily negative responses, two participants stated that gaming could have positive effects on a student's social experience at school. One of these participants stated that gaming "helps students create social circles that are interested in the same specific interests". Other participants expressed some of the more adverse impacts that video game play could have on the social interactions of students. For example, one participant responded, "I think they will socialize face to face less…" Another participant worried that students who play a lot of video games are "missing out on concrete social interactions with peers."

   Extracurricular. The third theme that was raised by this question was the impact that video game play would have on youth engaging in other activities. Of the participants who responded, 17% (*n*=8) stated that youth gaming would impact a student's extracurricular involvement in some way. Reduced involvement or lack of interest in sports, clubs or other activities were concerns reflected in participants' answers to this question. For example one participant responded " it may however, hinder extracurricular choices, as gaming students may rather go home and play video games than join a team or club, for example." Gaming was perceived to be an activity that took away time from other activities that students could be engaging in.

   No impact. Of the sample that responded, 8.5% (*n*=4) of participants stated that they believed there was no impact between youth gaming and a student's school experience. This theme included having no effect on academic, social and extracurricular involvement. One participant stated that they felt there was "no significant impact in most cases" while another echoed the same sentiment by stating: "I don't think it has a

difference" referring to gaming and any negative impact it may have on a student's school experience.

Time spent playing. Many participants expressed concern about the amount of time youth spend playing video games. Out of those who responded, 25.5% (*n*=12) of participants felt that the amount of time that youth engage in video game play would negatively impact their social, academic and extracurricular activities. Participants who incorporated time spent playing into their answers included statements such as "it depends on the frequency of their gaming", or "it depends on how much time they are engaged in gaming". The general consensus was that moderate gaming was okay but if youth were playing excessively then it could impact school experiences negatively in a multitude of ways.

Benefits to youth gaming. The next question asked participants "In your opinion, what are the main benefits of youth gaming?" Out of the total sample, 77.0% (*n*=47) of participants answered this question and suggested a host of different benefits to youth gaming. Five themes were identified, including social benefits, academic and educational benefits, increased problem solving and motor skills, and stress relief.

Social benefits. The majority of participants who responded, 36.2% (*n*=17), stated that youth video game use can have many social benefits. Participants reported that youth video game use could allow connections to be made, develop social skills, aide self-confidence, make international connections and make friends with similar interests. One participant reinforced this by stating that, "It provides an outlet for many students and can help them connect to similar people".

Education and academic benefits. Of those who responded, 25.5% (*n*=12) of participants cited the educational opportunities and academic benefits gaming could have for youth. Participants spoke of increased brain stimulation, better working memory, developing divergent views, strengthening academic outcomes and becoming more familiar with technology. One participant claimed, "Some games can be educational and reinforce academic outcomes" while another stated that video games can be used for "teaching about history, social-political issues. Some games can be effective at teaching application of math concepts, physics and other areas of public curricula".

Problem solving and motor skills. Of those who responded, 21.3% (*n*=10) of participants noted that gaming could enhance problem solving skills and motor skills. This theme encompassed ideas from participants such as encouraging strategizing skills, the development of fine motor skills and increasing reaction time. A participant stated that a benefit of youth gaming is "eye hand coordination and puzzle solving skills".

Stress relief. Finally, a portion of the sample, 14.9% (*n*=7) suggested that gaming could reduce stress. Here, it was indicated that gaming could provide stress-relief and be a fun pass-time for youth. One participant indicated that video games "may help to distract distressing thoughts or help calm, depending on the game…" While another participant commented that video games are simply an option for youth to "pass the time".

Youth gaming and coursework. Next, participants were asked: "Has the topic of youth gaming ever been covered in any of your coursework to date? If so, please describe". Of the total sample, 75.4% (*n*=48) of participants responded to this question. A large majority of participants, 95.8% (*n*= 46) stated that the topic of youth gaming had not been addressed in coursework. One participant substantiated this by stating "I have

not experienced any curriculum that centers around youth gaming. I have completed a five year degree and just one Master's course in Counselling Education".

This left only 4.2% (*n*=2) of the sample that did report that the topic of youth gaming was covered in their coursework. The two participants who responded yes to this question indicated, "Yes just discussing possible effects" and "Yes, it was debated in 2 of my psychology courses". This indicates that an overwhelming amount of pre-service educators from this study did not have the topic of youth gaming covered in their coursework.

Youth gaming and training experiences. Participants were next asked the following question: "Has the topic of youth gaming ever come up while on a practicum or internship or other training related applied experience? If so, describe." Out of the total sample, 78.7% (*n*=48) of participants responded to this question. A majority of those who responded (72.9%, n=35) stated that they had no formal experience or training regarding youth video game use. This left 27.1% (n=13) of participants who indicated they had some form of experience with youth gaming on an internship or training experience. These experiences varied from internships to on the job experiences in schools or treatment centers. One participant shared: "the issue of students bringing handheld gaming consoles and their phones to school was brought up while I was completing my internship. These ended up becoming banned from being brought to school." Another participant spoke of the benefits of youth gaming they witnessed in a school "I've witnessed it on my internship, but in positive ways, it created peer relationships, students were asking inquiry based questions, they were very aware of technology in the classroom and its use." Though some participants experienced some

exposure to youth video gaming, the majority of participants reported having no experience with youth video gaming either through curriculum, internships, or work experiences.

Gaps in training. The final question of the survey asked participants, "What would you like to see in the way of training on the topic of youth gaming?" Out of the total sample, 72.1% (n=44) responded to this question. Three themes emerged from the data: the need for education surrounding youth video game use, incorporating video games into the school curriculum and unsure.

Education. The majority of participants, 61.4% (n=27) expressed that there is a need for education for teachers on the topic of youth video game use. Participants indicated that they would like to see the topic of youth gaming implemented into training programs, workshops and professional development. Participants indicated specifically that they wanted to be better educated on the risks and benefits of youth gaming, how to abolish stereotypes and mitigate bias, and addiction awareness, just to name a few. One participant stated that they would like to see "Workshops for teachers and parents on how to appropriately incorporate gaming into a child's life so that it is beneficial to them…" Another participant stated, "I would love to see the training NOT be focused on the negative aspects of gaming. Too many adults and teachers are very negative towards gaming…" Participants clearly indicated that a gap in youth gaming education exists and that there is a need for further training in this area not only for teachers but for parents and students as well.

Curriculum. Next, the theme of incorporating video games directly into the academic curriculum was established. Out of those who responded to this question, 22.7%

(*n*=10) of participants felt that there is a need for training on how to implement video game use into the curriculum and how it can be used more effectively for educational and academic purposes. Some suggestions from participants included: "I'd like to see gaming covered in school through art class, tech classes and even history classes (such as "how has leisure time changed over history?")". Another participant stated that making connections between what is on the screen and real life is important, "use games as a tool for passion [and] exploration, but then go the next step in the school system to making a person's interest into an occupation". One participant stated they wanted to see "a greater sense of integration of useful games to solidify teaching concepts". Participants in this category saw the value of incorporating gaming into the curriculum for academic purposes and asked for resources to move towards this direction.

Unsure. Being unsure was reported by 9.0% (*n*=4) of participants who responded to the question. These participants indicated that they felt unsure of what was needed in terms of training pertaining to youth gaming. Others stated that they were unsure or did not feel like they had enough knowledge on the subject to make any specific suggestions. For example, one participant stated "anything given my knowledge base".

Conclusion

This chapter presented the results of the analysis for both open-ended questions and closed ended questions, from a survey about pre-service educators' perceptions of youth video game players, at a large Atlantic Canadian university. Demographic variables and emergent themes were reported. Descriptive frequencies and hierarchical

regressions were conducted. The results and their implications will be discussed further
in the next chapter.

Chapter 5: Discussion

This chapter discusses the results that were presented in the previous chapter; included are the results of the analyses of both the closed and open-ended responses from the anonymous video game survey package. This section will link findings from this thesis with findings from other research and discuss their importance, implications, and potential future direction.

A limited amount of research exists which focuses on the stereotypes of gamers, and there exists even less exploration on the perceptions and opinions of pre-service educators on youth video game players. The current study expands the literature by highlighting pre-service educators' perceptions on youth video gamers. In addition, this research offers insight into the need for potential curriculum additions to education programs to help address potential biases.

Pre-Service Educators' Perceptions of Youth Video Game Players

The objective of this study was to investigate the perceptions of youth video gamers held by pre-service educators. The results presented in the previous chapter demonstrate that pre-service educators do possess both negative and positive perceptions around youth video game use. Ultimately emerging from the study was variance amongst those surveyed in their perceptions of youth video game use.

Perceptions. Video gaming has earned a negative reputation by way of media, word of mouth, and popular culture (Kowert & Oldmeadow, 2012). While the stereotypical gamer has been described and perceived as incompetent and undesirable (Kowert and Oldmeadow, 2012), Crawford (2012) even extended the negative

description to state that gamers are typically seen as antisocial, aggressive, and addicted male adolescents.

The aforementioned perceptions may represent a far end of the spectrum, but these black and white views were not reflected in this research in how participants perceived youth gamers. In fact, participants demonstrated a far greater appreciation and balance for and of video game users. For example, the most commonly associated adjectives, chosen by participants, were: "intelligent", "dedicated", "fun-loving", "reclusive", and "addict". This exemplifies the balanced view of video games and their use held by pre-service educators. Much like the results Kowert and Oldmeadow (2012) found in their research using the same adjective list, participants showed an awareness of the stereotypes that is in accordance with anecdotal characterizations portrayed by the popular media (Griffiths, 1998). However, more balance with a combination of positive and negative characteristics was with the current pre-service educator sample.

Risks and benefits of gaming. As a result of the constant criticisms of video games and the resulting reinforcement of negative perceptions against them, critics tend to also focus on the potential harm and danger they may cause (Ferguson, 2015). Despite the prevalent contemporary view that video games have many negative factors associated with them, participants in this research only moderately acknowledged the risks video gaming poses, such as academic risks. It could have been expected that the majority of participants of this survey - given they are pre-service educators- would hold more severe perceptions of potential academic concerns, but this was not reflected in the results. Therefore, this moderate acknowledgement of risk in conjunction with recognition of the

possible benefits once again demonstrates a more balanced view on the part of participants toward the potential effects of video game use on youth.

The debate between the positive and negative impact of video gaming amongst academics is mixed. There is no consensus. The majority of research regarding video game play and academic performance has been focused on the link between time spent playing video games and negative academic outcomes (Adachi et al., 2013). Participants in this research project specifically qualified academic risks as time management issues, reduced motivation at school, inability to retain information in the classroom, and lower academic achievement. Interestingly, the displacement hypothesis (Gentil, Lynch & Linder, 2004) was mentioned by most of those who raised academic concerns as a risk of youth video game play. The displacement hypothesis states that video games and other forms of media have the ability to potentially displace the time that an individual would otherwise be engaged in activities that would be beneficial academically (Gentil, Lynch & Linder, 2004). Potentially, displaced activities could be reading, completing homework, or participating in extracurricular activities. Therefore, it seems that youth who engage in copious amounts of screen media time have been associated with having poorer school performance, because they have less time to dedicate to academically beneficial activities. This was exposed as a significant perception of risk.

It was also determined that most of the surveyed participants in this research had some form of exposure to video games, and many were able to identify the positive potential that video games could have within an educational context in their responses. This coincides with results from Hsu and Chiou's (2011) study, which found that most pre-service educators had experience playing video games and believe video games to

have potential to be a useful tool for students (Hsu & Chiou, 2011). Participants generally expressed a moderate view of risks and benefits, which demonstrates openness to learning more about the benefits of youth gaming and consequently how to implement it into curriculum delivery methods.

Much has been written about the educational potential of video games and the incorporation of video games into the curriculum. Several studies highlight the advantages of game-based learning as a way of motivating students and increasing engagement (Blunt, 2007; Gee, 2007; Greenfield, 2010). Participants spoke to this in their responses, stating increased motivation and engagement as academic benefits to gaming. Numerous pre-service educators expressed that incorporating video games into the classroom could strengthen and reinforce academic outcomes.

In addition to enhanced academic outcomes, social outcomes were also perceived to improve with increased video game use. For example, playing video games could allow youth to connect and make friends with similar and like-minded interests (Adachi & Willoughby, 2017). While participants expressed social benefits of gaming, interestingly, it was also viewed as a risk. Participants view youth video gaming from a balanced approach and can appreciate the benefits, but also, be aware of the risks of gaming. Granic et al. (2014) argue that to understand the impact of video games on youths' development, a more balanced perspective that considers the possible negative effects as well as the positive effects of playing video games is necessary. This seems to be reflected by the majority of participants in this research, who can see the positive benefits as well as the risks that video games could have on the social development of youth.

Youth Video Gaming and Teacher Preparation Programs

One of the major, and perhaps most significant, findings from this research was that pre-service educators reported that they received little to no formal training on youth gaming in their teacher preparation program. A vast majority of participants reported that the topic of youth gaming had not been adequately addressed in their coursework or in practical training experiences of their program, and therefore, should be included specifically, as a component of teacher preparation programs. This would not only lead to video games being incorporated into the classroom more often for educational delivery, but it would also serve as a means of addressing and shifting any negative bias, perception, or opinions of youth video game players which educators may hold. For these reasons, youth gaming should be a part of teacher education programs. This would help to reduce this deficit as perceived by participants of this study.

The absence of integrated specific training related to video games as a part of teacher preparation programs is noted and reflected in recent national surveys (Fishman, Riconscente, Snider, Tsai, & Plass, 2014; Takeuchi & Vaala, 2014). In one extensive national survey, it was found that only 12% of teachers reported learning about the educational use of digital games in their pre-service education (Hayes & Ohrnberger, 2013; Millstone, 2012). Another national survey examining 684 primary and elementary teachers from across the United States found that only eight percent of teachers reported having received pre-service training on digital game integration (Takeuchi & Vaala, 2014). Similarly, a survey of 1704 teachers (including 656 pre-service teachers) by Ruggiero (2013) found that three quarters of pre-service teachers were not taught about

video games in their teacher preparation training, but participants indicated they would readily participate if such training was offered.

This current lack of training regarding the topic of youth video gaming leaves pre-service educators professionally unprepared to be effective in educational settings by enthusiastically, embracing gaming, as an instructional method. Pre-service educators cannot be expected to possess the knowledge necessary to navigate the issues surrounding youth gaming, nor can it be presumed that pre-service educators hold a positive attitude toward video games. Kenny and McDaniel (2011) addressed the common misconception about young educators, stating that it should not be presupposed "that just because up-and-coming teachers have been brought up in the digital age, they are automatically familiar with, disposed to using, and have positive ideas about how games can be integrated into their curriculum" (p. 200). This was reflected in the current research. Although many pre-service educators within this sample indicated some familiarity with video games, they also expressed uncertainty and uneasiness when it came to youth video gaming within an educational context.

According to Hammond and Colleagues (2009), early training is a crucial period for educators' development of technological competence and skill (Shah & Foster, 2015). Some research indicates individuals possess a higher degree of apprehension of video games in the abstract, until they gain greater exposure to games (Ferguson & Colwell, 2017; Ivory & Kalyanaraman, 2009). If this is the case, more exposure to video games for pre-service educators, during training, is necessary to allow educators the opportunity to gain comfort with the concept of integrating video games into their teaching. Having opportunities in teacher preparation programs for pre-service educators

to be trained and exposed to the use of video games within an educational context would undoubtedly reduce concern and/or anxieties and, in turn, reduce negative perceptions around video games. This could lead to a higher degree of openness and acceptance of youth video gaming amongst educators and those working in the education sector.

Implementing into the curriculum. Video games have, in many ways, become an essential part of the way youth play and learn by way of formal and informal means and methods. Their prevalence of use in informal environments has outpaced their acceptance in the classroom as an instructional activity, with Kenny and McDaniel (2011) referring to it as "mixed" (p. 197). Kenny and McDaniel (2011) further argue, that little has been done to convince or instruct teachers that making the effort to change their curriculum to integrate video games and other forms of technology is beneficial. There is a need to empower teachers to integrate games into classrooms (Gresalfi, Barnes & Pettyjohn, 2011).

If pre-service educators are unfamiliar with video games or hold adverse and/or out-dated perceptions, the chances of incorporating gaming into the classroom would decrease, according to research conducted by Kenny and McDaniel (2011). Exposing pre-service teachers to video games in an educational setting does not necessarily mean that every single educator will incorporate video gaming in the curriculum. However, increasing pre-service teachers exposure to video games would open the possibility for usage in the classroom and help to reduce negative perceptions surrounding their use.

Despite the lack of training and exposure to youth video gaming that participants of this research study reported, this is not the norm for all teacher preparation programs. Teacher preparation in game based learning is a developing area of research

(Franklin & Annetta, 2011; Takeuchi & Vaala, 2014). More recently, preparing educators to incorporate new and existing technologies into their teaching is now becoming more of a priority in teacher education programs (Glazewski, & Newby, 2010; Gronseth et al., 2010; Ottenbreit-Leftwich, Williams, Foulger, & Wetzel, 2009).

Need for training. As Franklin and Annetta (2011) state, teacher education in game based learning is at its beginning stages, especially in teacher preparation programs. Training pre-service teachers to incorporate video games for the use of learning is a relatively new focus, reflecting the recent surge of interest in games as a means of engaging students in more active, immersive, and meaningful learning (Franklin & Anetta, 2011). However, the finding that many pre service educators wish to see more training in this area is encouraging and demonstrates a need for training methods for pre-service educators and subsequent development into the curriculum. Teachers, both pre-service and in-service, are interested in using games, but the lack of adequate opportunities to develop their competence in adding game-based learning to their expertise is reflected in the number of educators who are asking for enhanced training (Fishman et al., 2014; Takeuchi & Vaala, 2014). By adopting game-based learning as an instructional approach, teachers will be equipped to enhance academic learning experiences for students as well as mitigating potential bias.

This could be done, as participants have suggested, through formal course work, training or professional development and workshops which provide a balanced assessment of youth gaming. Many participants felt that this was a significant gap in their teacher-preparation programming and a topic that participants would have liked to see incorporated into their education program and pre-service teaching.

One might question, as to why focus on the perceptions of pre-service educators? The focus on pre-service teachers' perception on youth video gaming is important, as these are the individuals who will influence the future of teaching. Newer teachers often become agents of change in schools (Can & Cagiltay, 2006). It is therefore, important to understand the perception of prospective teachers in relation to video gaming (Can & Cagiltay, 2006). On a more practical note, given the prevalence of youth video gaming, any requisite training is an unavoidable issue for educators.

The lack of research conducted to specifically address the perceptions held by individuals within the education sector regarding youth video games demands supplemental research be conducted to better inform pre-service educators. Curriculum additions or alterations to education programs to incorporate the topic of youth gaming may aid in further decreasing negative attitudes or biases concerning youth video game players. In addition, researchers Takeuchi and Vaala (2014) urge policymakers to distribute funds to school districts to set up partnerships with universities and other teacher certification programs to provide technology and digital game training for the future educators (Takeuchi & Vaala, 2014).

Supporting pre-service teachers early on, such as, during their teacher preparation program is critical, since it has a strong influence on educators' future use of technology (Li, 2013; Schrader, Archambault, & Oh-Young, 2011). Research on educating teachers in video game use is still evolving, but researchers have recommended starting at the pre-service level (Hammond et al., 2009). Training received at this career stage has a potentially strong influence on teachers' attitudes and perceptions of using technology for the future (Hammond et al., 2009).

Limitations

This study generated a great deal of insight on perceptions surrounding youth video gamers, but there are various limitations of the current study. Firstly, the use of convenience sampling limits the generalizability of this study. Williams et al. (2012) indicate that while using this approach makes it easier to recruit participants, it also makes it less likely to recruit a representative sample. The 61 participants who participated in this research were all enrolled in an education preparation program or a Masters of Education degree program through the Faculty of Education at Memorial University of Newfoundland and Labrador, which cannot be considered a good representation of the entire pre-service educator population. In addition to this, the survey instrument itself was limited in the sense that it was designed for use with a specific population. Since the entire sample of participants were university students, it is unknown if the survey instrument would be as effective for use with the general population. Additionally, it is worth noting that 61 out of a possible 400 students who were invited to participate, completed the survey. This gives a 15.25% rate of return. Because of this lower rate of return, it is worth acknowledging this as a potential limitation of the study. Of those who did participate in the survey, 68.9% of the total sample was female. This further limits the generalizability of the study since the majority of participants were female.

Furthermore, it is worth considering that those participants who did volunteer to respond could bias the results as the survey used in this research was a self-reported survey (Williams et al., 2012) and those who chose to participate may have greater interest in youth video gaming and therefore, have been more inclined to partake.

An additional limitation is that the open-ended research questions were divided into themes and subthemes that were generated by the researcher. The participant responses reported in this survey were diverse and complex. It was common for participants to report multiple themes and ideas in their responses. Therefore, themes were given significant thought in order to be as objective as possible in the interpretation of the research findings. However, these themes and analysis were filtered and interpreted through the perspective of the researcher. It is worth noting that another researcher could have organized and interpreted the open-ended results differently.

The lack of previously published research available in the area of pre-service educators and their perceptions surrounding youth video game players presents another significant limitation to this current study. Finding trends in the research was difficult. It is evident from this current research that pre-service educators desire more education on this topic in order to prevent and mitigate potential biases. Ultimately, more research is needed in the area of perceptions of pre-service educators of youth video game players. There is a shortage of literature on this topic and therefore, little is known about the implications and effects that these perceptions may create. Research, which specifically examines the perceptions of pre-service educators, needs to be studied more in-depth.

An interesting follow up study for this topic could include qualitative interview data to provide a more in-depth look at the perceptions and opinions that pre-service educators have about youth video game players. In addition, as previously noted, the present study was carried out only in one province and within one university. Therefore, the findings cannot necessarily be generalized to other provinces or states where educators may be receiving different instructional programming. However, it could be

valuable for this study to be replicated in other geographical areas, or expanded upon to include many teacher preparation programs to explore where similar concerns may exist.

Implications and Recommendations

The results from this research demonstrate that many pre-service educators within Newfoundland and Labrador expressed some concerns about youth video gaming. Perhaps most importantly, results from this research show that pre-service educators demonstrate an interest in learning more about the topic of youth and video game use. It seems necessary and logical in light of many technological advances, that pre-service educators should be given the opportunity for education on youth video gaming and is a topic that should be incorporated into the education curriculum for teacher preparation programs.

In a national survey of 505 current teachers conducted by The Joan Ganz Cooney Center, half of the survey respondents reported using educational games in the classroom. Of those teachers, only 12% reported learning about the educational use of digital games in their pre-service education (Hayes & Ohrnberger, 2013; Millstone, 2012). Hayes and Ohrnberger (2013) echo this sentiment, stating that there is a severe shortage of published research that has investigated the use of video games within teacher preparation programs. Since this has not previously been a common focus in the research literature, it could prove insightful to conduct further research in this particular field of study. Further research into pre-service educators perceptions of youth video gaming could enhance the development of teacher preparation programing for education.

With respect to this point, a large number of pre-service educators within this survey speak to the need for more educational awareness of youth video game use.

Participants discussed the desire to see this topic implemented into training programs, workshops, and professional development for pre-service teachers as well as existing teachers within the education system. The risks and benefits of youth gaming, abolishing stereotypes, mitigating potential biases, and addiction awareness are topics participants desire to have addressed. To revisit what Kenny and McDaniel (2011) noted, it is not until policy makers realize the importance of professional development and training as an important use of funds, will positive changes in thinking and perceptions come about.

Promoting the dialogue of youth video gaming and incorporating this topic into teacher preparation programming curriculum, professional development and workshop opportunities for educational personnel seems warranted. The minimal research conducted on the topic supports this notion. Through their research Kenny and McDaniel (2011) discovered that teachers and their students held distinctly different views regarding the value of video games. This emphasizes the importance of undergraduate and teacher preparation programs to include additional courses in the theoretical underpinnings of game play, courses on how to evaluate and integrate game technologies, and more information on the types of learning that they can expect as a result of their students playing games in the classroom (Kenny & McDaniel, 2011). The current research calls for more information and formal training for pre-service educators. It is clear that pre service teachers are expressing an interest in having these opportunities to learn more about youth and gaming, and the inherent effects on learning and performance.

While generalizations cannot necessarily be made, educators, academics, and policy makers should carefully consider the importance of this topic. It would be

beneficial for those working with youth to undergo basic training or course work, which addresses youth gaming. This type of professional development should address common misconceptions, provide a basic understanding of youth gaming and how youth gaming can be incorporated into the curriculum as a learning tool. Administrators, educators, and other school personnel, may also be interested in creating training and informational workshops for youth, parents, and community stakeholders regarding youth video gaming. The creation of resources that could be used by a variety of individuals to help diminish potential biases, promote dialogue, and provide informative background on the topic of youth gaming would be valuable.

Further research related to pre-service educator perceptions on youth video game players is warranted. The current study focused on pre-service educator perceptions within Memorial University's Faculty of Education, but concerns relating to these perceptions and biases extend beyond this province and within different education institutions.

Conclusion

This thesis explored the attitudes and perceptions of pre-service educators on youth video game players, at a large Atlantic Canadian university. To respond to the research questions, 61 pre-service educators enrolled in a teacher preparation program or a Master of Education degree program through Memorial University of Newfoundland's Faculty of Education completed the survey. The analysis of open and closed-ended questions revealed prominent themes of pre-service educators towards youth gaming.

Major themes emerged, highlighting that pre-service educators do perceive some risks to be associated with youth gaming, including, social isolation, physical and mental

health, mild aggression as well as academic risks. Pre-service educators also perceive youth gaming to have the potential to have a negative impact on school experience such as academics, socialization, and extracurricular activities. Participants also reported a perceived potential for games to be beneficial for youth including social, academic, and enhanced problem solving skills. In addition, a major theme that also emerged from participants of this research was the minimal opportunity for youth gaming to be addressed via coursework. A significant number of participants recognized this as a gap in their training and indicated that education in different aspects of youth gaming, would better prepare them for instruction and implementing curriculum.

The results from this study indicate that pre-service educators are interested in expanding their knowledge and becoming more educated on youth gaming by way of formal course work and professional development opportunities. This information is important for education faculty and administration to understand the significance of introducing and implementing the topic of youth gaming into teacher preparation programs.

Finally, this thesis highlights the importance of conducting more research on pre-service and practicing educators perceptions of youth video gaming. More needs to be known about the value of gaming, and how it may be used as a worthwhile education strategy, perhaps even, for gaming to be considered as a legitimate educational pursuit.

References

Adachi, P. & Willoughby, T. (2017). The link between playing video games

and positive youth outcomes. *Child Development Perspectives*, 11, 202–206.

doi:10.1111/cdep.12232

Anand, V. (2007). A study of time management: The correlation between video game

usage and academic performance markers. *Cyberpsychology & Behavior: The

Impact of the Internet, Multimedia and Virtual Reality on Behavior and

Society, 10*, 552-559.

Baek, Y.K. (2008). What hinders teachers in using computer and video games in the

classroom? Exploring factors inhibiting the uptake of computer and video games.

*Cyberpsychology & Behavior: The Impact Of The Internet, Multimedia And

Virtual Reality On Behavior And Society, 11*, 665-671.

doi:10.1089/cpb.2008.0127

Bailey, K., West, R., & Anderson, C. A. (2011). The Influence of Video Games on

Social, Cognitive, and Affective Information Processing. *Oxford Handbooks

Online*. doi:10.1093/oxfordhb/9780195342161.013.0066

Bertozzi, E. & Lee, S. (2007). Not just fun and games: digital play, gender and

attitudes towards technology. *Women's Studies in Communication*, *30*,

179-203.

Bourgonjon, J., Valcke, M., Soetaert, R., & Schellens, T. (2010). Students' perceptions

about the use of video games in the classroom. *Computers & Education,54*(4),

1145-1156. doi:10.1016/j.compedu.2009.10.022

Brigham Young University. (2009, January 25). Video Games Linked To Poor

Relationships With Friends, Family. *ScienceDaily*. Retrieved from:

www.sciencedaily.com/releases/2009/01/090123075000.htm

Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public:

Scientific facts versus media misinformation. *American Psychologist*, 56(6–7),

477–489. http://dx.doi.org/10.1037/0003-066X.56.6-7.477.

Canada's Video Game Industry. (2017). *Final Report*.

Retrieved from: http://theesa.ca/wp-content/uploads/2017/11/ESAC-Video-

Games-in-Canada-Profile-2017_FINAL.pdf

Can, G., & Cagiltay, K. (2006). Turkish prospective teachers' perceptions regarding the

use of computer games with educational features. *Educational Technology &*

Society, 9(1), 308-321.

Clausen, J. (2007). Beginning teachers' technology use: First-year teacher development

and the institutional context's affects on new teachers' instructional technology

use with students. *Journal of Research on Technology in Education*, *39*(3), 245-

261.

Colwell, J., & Payne, J. (2000). Negative correlates of computer game play in

adolescents. *British Journal of Psychology,91*(3), 295-310.

doi:10.1348/000712600161844

Crawford, G. (2005). Digital gaming, sport and gender. *Leisure Studies,24*(3), 259-270.

doi:10.1080/0261436042000290317

Crawford, G. (2012). *Video gamers*. Milton Park: Routledge.

Creswell, J. W. (2014). *Educational research: Planning, conducting and evaluating*

quantitative and qualitative research. Harlow, Essex: Pearson.

Demarest. K. (2000). Video games – What are they good for? Retrieved from:

http://www.lessontutor.com/kd3.html.

Desai, R. A., Krishnan-Sarin, S., Cavallo, D., & Potenza, M. N. (2010). Video-Gaming

Among High School Students: Health Correlates, Gender Differences, and

Problematic Gaming. *Pediatrics,127*(2). doi:10.1542/peds.2009-2706d

Eck, R. V. (2010). *Gaming and cognition: theories and practice from the learning*

sciences. Hershey, PA: IGI Global (701 E. Chocolate Avenue, Hershey,

Pennsylvania, 17033, USA).

Egenfeldt-Nielsen, S., Smith, J. H., & Tosca, S. P. (2008). *Understanding video games:*

the essential introduction. New York: Routledge, Taylor & Francis Group.

Egenfeldt-Nielsen, S., Smith, J., & Tosca, S. (2013). *Understanding video games: The*

essential introduction (Second ed.). New York: Routledge, Taylor & Francis

Group.

Entertainment Software Association. (2007,October 10). Top 10 industry facts.

Retrieved from http://theesa.com/facts/top_10_facts.php

Entertainment Software Association of Canada (2017) Essential facts 2017. Retrieved

from:http://theesa.ca/wpcontent/uploads/2017/10/ESAC2017_Booklet_13_Digital

.pdf

Ertmer, P. (2005). Teacher pedagogical beliefs: the final frontier in our quest for

technology. *Educational Technology Research and Development*, *53*(4), 25.

Ferguson, C. J., & Colwell, J. (2017). Understanding why scholars hold different views

on the influences of video games on public health. *Journal of*

Communication,67(3), 305-327. doi:10.1111/jcom.12293

Fishman, B., Riconscente, M., Snider, R., Tsai, T., & Plass, J. (2014). *Empowering*

Educators: Supporting student progress in the classroom with digital games.

Ann Arbor: University of Michigan. Retrieved from:

gamesandlearning.umich.edu/agames

Fortugno, N. & Zimmerman, E. (2005). Learning to play to learn: lessons in educational

game design, *Gamasutra*, 20.

Franklin, T. & Annetta, L. (2011). Preface to special issue: digital games and simulations

in teacher preparation. *Journal of Technology and Teacher Education*, *19* (3),

239-242.

Gee, J.P., (2003). *What video games have to teach us about learning and literacy*

New York : Palgrave Macmillan.

Gentile, D., Choo, H., Liau, A., Sim, T., Li, D., Fung, D., & Khoo, A. (2011).

Pathological video game use among youths: A two-year longitudinal

study. *Pediatrics, 127*(2), 319-329.

Gentile, D. A., Lynch, P. J., Linder, J. R., & Walsh, D. A. (2004). The effects of violent

video game habits on adolescent hostility, aggressive behaviors, and school

performance. *Journal of Adolescence,27*(1), 5-22.

doi:10.1016/j.adolescence.2003.10.002

Gentile, D. (2009). Pathological video-game use among youth ages 8 to

18. *Psychological Science,20*(5), 594-602. doi:10.1111/j.1467-9280.2009.02340.x

Gentile, D. A. (2011). The multiple dimensions of video game effects. *Child

Development Perspectives,5*(2), 75-81. doi:10.1111/j.1750-8606.2011.00159.x

Gentile, D. A., & Walsh, D. A. (2002). A normative study of family media habits.

Journal of Applied Developmental Psychology,23(2), 157-178. doi:10.1016/s0193-3973(02)00102-8

Gibson, D., Halverson, W., & Riedel, E. (2007). Gamer teachers. *Games and Simulations in Online Learning, 8:*175-188. doi:10.4018/9781599043043.ch008

Granic, I., Lobel, A., & Engels, R. (2014). The benefits of playing video games. *The American Psychologist, 69*(1), 66-78.

Gresalfi, M.S., Barnes, J.L., & Pettyjohn, P. (2011). Why videogames are not teacher-proof: The central role of the teacher when using new technologies in the classroom. In G. Vincenti & J. Braman (Eds.), Multi-User Virtual Environments for the Classroom: Practical Approaches to Teaching in Virtual Worlds, 267-284.

Griffiths, M.D. (1993). Are computer games bad for children? *The Psychologist: Bulletin of the British Psychological Society, 6*:401–407.

Griffiths, M.D. (1996). Computer game playing in children and adolescents: A review of the literature. In: T. Gill., ed., *Electronic Children: How Children Are Responding To The Information Revolution* (pp. 41–58). London: National Children's Bureau.

Griffiths, M.D. (1997). Computer game playing in early adolescence. *Youth and Society, 29*: 223–237.

Griffiths, M.D. (2001). Excessive Internet use: implications for education. *Education and Health, 19:* 23–29.

Griffiths, M. D., Davies, M. N., & Chappell, D. (2003). Breaking the stereotype: the case of online gaming. *CyberPsychology & Behavior,6*(1), 81-91. doi:10.1089/109493103321167992

Griffiths, M.D., & Hunt, N. (1998). Computer game "addiction" in adolescence? A brief

    report. *Psychological Reports, 82*:475–480.

Griffiths, M.D., & Hunt, N. (1995). Computer game playing in adolescence: Prevalence

    and demographic indicators. *Journal of Community and Applied Social*

    *Psychology 5:*189–193.

Griffiths, M.D. (1997). Video games and children's behaviour. In Charlton, T. & David,

    K. (eds.), *Elusive Links: Television, Video Games, Cinema and Children's*

    *Behaviour (*pp. 66–93). Gloucester: GCED/Park Publishers.

Griffiths, M.D. (2000). Video game violence and aggression: Comments on 'Video game

    playing and its relations with aggressive and prosocial behaviour' by O. Weigman

    and E.G.M. van Schie. *British Journal of Social Psychology*, 39:147–149

Hammond, M., Fragkouli, E., Suandi, I., Crosson, S., Ingram, J., Johnston-Wilder. P.,

    Johnston-Wilder, S., Kingston, Y., Pope, M., & Wray, D. (2009). What happens

    as student teachers who made very good use of ICT during pre-service training

    enter their first year of teaching? *Teacher Development, 13*(2)*,* 93-106.

Hansen, K. (2016). The relationship between teacher perceptions of pupil

    attractiveness and academic ability. *British Educational Research Journal, 42*(3),

    376-398.

Harris Polls. (2013). Majority of Americans see connection between video games and

    violent behavior in teens. Retrieved from: https://theharrispoll.com/majority-of-

    americans-see-connection-between-video-games-and-violent-behavior-in-teens/

Hayes, E. & Ohrnberger, M. (2013). The gamer generation teaches school: The

    gaming practices and attitudes towards technology of pre-service

teachers. *Journal of Technology and Teacher Education, 21*(2), 154-177.

Hjorth, L. (2011). Mobile@game cultures: The place of urban mobile
gaming. *Convergence, 17*(4), 357-371.

Hsu, T.Y. & Chiou, G.F. (2011). Preservice teachers' awareness of digital game-
supported learning. In M. Koehler & P. Mishra (Eds.), *Proceedings of SITE 2011-
-Society for Information Technology & Teacher Education International
Conference* (pp. 2135-2141). Nashville, Tennessee, USA: Association for the
Advancement of Computing in Education (AACE).

Ivory, J., & Kalyanaraman, S. (2009). Video games make people violent – Well, maybe
not that game: Effects of content and person abstraction on perceptions of violent
video games' effects and support of censorship. *Communication Reports*, *22*(1),
1–12. http://dx.doi.org/10.1080/08934210902798536.

James, C. l., & Wright, V. h. (2011). Teacher gamers vs. teacher non-gamers. In
information resources Management association (Ed.), *Instructional design:
Concepts, methodologies, tools and applications* (pp. 1085-1103). Hershey, Pa:
Information Science Reference.

Kahne, J., Middaugh, E., & Evans, C. (2009). *The civic potential of video games*.
Cambridge, MA: MIT Press.

Kati, E. K. (2008). Preservice teachers' conceptions about computers: an ongoing search
for transformative appropriations of modern technologies. *Teachers and
Teaching*, (*14*)2, 157– 179.

Katz, D., & Braly, K. (1933). Racial stereotypes of one hundred college students. *Journal
of Abnormal and Social Psychology*, *28*, 280-290.

Kenny, R.F., & McDaniel, R. (2011). The role teachers' expectations and value

assessments of video games play in their adopting and integrating them into their classrooms. *British Journal of Educational Technology, 42*(2), 197-213.

Kim, C. & Baylor, A. L. (2008). A virtual change agent: Motivating pre-service teachers to integrate technology in their future classrooms. *Educational Technology & Society, 11*(2), 309–321.

Kowert, R., Festl, R., & Quandt, T. (2014). Unpopular, overweight, and socially inept: Reconsidering the stereotype of online gamers. *Cyberpsychology, Behavior, and Social Networking, 17*(3), 141–146. http://dx.doi.org/10.1089/cyber.2013.0118.

Kowert, R., Griffiths, M. D., & Oldmeadow, J. A. (2012). Geek or Chic? Emerging Stereotypes of Online Gamers. *Bulletin of Science, Technology & Society, 32*(6), 471-479. doi:10.1177/0270467612469078

Kowert R, Oldmeadow J. (2013). (A) social reputation: exploring the relationship between online video game involvement and social competence. *Computers in Human Behavior, (29),* 1872–1878.

Kowert, R., & Oldmeadow, J. (2012). The stereotype of online gamers: New characterization or recycled prototype? Paper presented at Nordic DiGRA, Tampere, Finland.

Kuhlman, J. S., & Beitel, P. A. (1991). Videogame experience: A possible explanation for differences in anticipation of coincidence. *Perceptual and Motor Skills,72*(2), 483-488. doi:10.2466/pms.1991.72.2.483

Lambert, J., Gong, Y. & Cuper, P. (2008). Technology, transfer and teaching: the impact of a single technology course on preservice teachers' computer attitudes and ability. *Journal of Technology and Teacher Education, 16*(4), 385- 410.

Lenhart, A., Kahne, J., Middaugh, E., MacGill, A., Evans, C., & Mitak, J. (2008). Teens,

video games and civics. *Pew Research Center: Internet & Technology*. Retrieved

from: http://www.pewinternet.org/2008/09/16/teens-video-games-and-civics/

Mifsud, C. L., Vella, R., & Camilleri, L. (2013). Attitudes towards and effects of the use

of video games in classroom learning with specific reference to literacy

attainment. *Research in Education, (90),* 32-52.

Millstone, J. (2012). *National survey and video case studies: Teacher attitudes about

digital games in the classroom.*

Okonofua J. A., Eberhardt J. L. (2015). Two strikes: Race and the disciplining of

young students. *Psychological Science, (26),* 617-624.

Orosy-Fildes, C., & Allan, R. W. (1989). Psychology of computer Use: XII. Videogame

play: Human reaction time to visual stimuli. *Perceptual and Motor Skills,69*(1),

243-247. doi:10.2466/pms.1989.69.1.243

Ottenbreit-Leftwich, A., Glazewski, K., & Newby, T. (2010). Preservice technology

integration course revision: a conceptual guide. *Journal of Technology and

Teacher Education*, *18*(1), 5-33.

Padilla-Walker, L. M., Nelson, L. J., Carroll, J. S., & Jensen, A. C. (2009). More Than a

Just a Game: Video Game and Internet Use During Emerging

Adulthood. *Journal of Youth and Adolescence,39*(2), 103-113.

Paik, H., & Comstock, G. (1994). The effects of television violence on antisocial

behavior: A meta-analysis. *Communication Research, 21*(4), 516-546.

Paton, G (2010, April 04). Children Failed by Teacher 'Stereotypes'. *The Telegraph*, p.1.

Phillips, C.A., Rolls, S., Rouse, A., et al. (1995). Home video game playing in

schoolchildren: A study of incidence and pattern of play. *Journal of Adolescence*

18:687–691.

Phillips, W.R. (1991). Video game therapy. *New England Journal of Medicine, (325),* 1056–1057.

Pozo, M. M., Gómez-Pablos, V. B., & Muñoz-Repiso, A. G. (2017). A quantitative approach to pre-service primary school teachers' attitudes towards collaborative learning with video games: Previous experience with video games can make the difference. *International Journal of Educational Technology in Higher Education,14*(1).

Prot, Mcdonald, Anderson, & Gentile. (2012). Video games: Good, bad, or other? *The Pediatric Clinics of North America, 59*(3), 647-658.

Rice, J. W. (2007). New media resistance: Barriers to implementation of computer video games in the classroom. *Journal of Educational Multimedia and Hypermedia, 16*(3), 249-261.

Rideout VJ, Foehr UG, Roberts DF. Generation M^2—media in the lives of 8- to 18- year olds. Menlo Park (CA): Kaiser Family Foundation; 2010.

Ruggiero, D. (2013). Video games in the classroom: The teacher point of view. Chania, Greece: Games for Learning Workshop of the Foundations of Digital Games Conference.

Salen, K. S. (2008). *The ecology of games: Connecting youth, games, and learning.* Cambridge, MA: MIT Press.

Schrader, P. G., Archambault, Leanna, M., & Oh-Young, Conrad. (2011). Training by gaming: Preparing teachers of today for tomorrow's learning environments. *Journal of Technology and Teacher Education, 19*(3), 261-286.

Schrader, P., Zheng, D. & Young, M. (2006). Teachers' perceptions of

video games: MMOGs and the future of preservice teacher education. *Innovate:*

Journal of Online Education, 2(3), 1-7.

Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2005). Video games and the

future of learning. *Phi Delta Kappan*, *87*(2), 105-111.

Shah, Mamta, & Foster, Aroutis. (2015). Developing and assessing teachers'

knowledge of game-based learning. *Journal of Technology and Teacher*

Education, 23(2), 241-267.

Sherer, M. (1994). The effect of computerized simulation games on the moral

development of youth in distress. *Computers in Human Services*, *11*(1–2), 81–95.

Squire, K. & Giovanetto, l. (2006). Preserving the "grammar of schools": an investigation

of new-media use patterns among pre-service teachers. Paper presented at the

American Educational research Conference.

Takeuchi, L. M., & Vaala, S. (2014). *Level up learning: A national survey on teaching*

with digital games. New York: The Joan Ganz Cooney Center at Sesame

Workshop.

Tear, M. J., & Nielsen, M. (2014). Video games and prosocial behavior: A study of the

effects of non-violent, violent and ultra-violent gameplay. *Computers in Human*

Behavior,41, 8-13. doi:10.1016/j.chb.2014.09.002

Van Looy, J., Quandt, T., Elson, M., Ivory, J. D., Mäyrä, F., & Consalvo, M. (2013).

Mapping the field of digital games research: Results of a large international

survey. Paper presented at the 63rd annual conference of the international

communication association, London, UK.

Walls, T., & Palak, D. (2009). Teachers' beliefs and technology practices: a mixed

methods approach. *Journal of Research on Technology in Education*, *41*(4), 417-441.

Williams D. (2005). *A brief social history of game play. In Vorderer P and Bryant J, eds. Playing Computer Games: Motives, Responses, and Consequences.* (pp. 197–212). Mahwah, NJ: Lawrence Erlbaum.

Williams, M.K., Foulger, T.S. & Wetzel, K. (2009). Preparing preservice teachers for 21st century classrooms: transforming attitudes and behaviors about innovative technology. *Journal of Technology and Teacher Education*, *17*(3), 393-418.

Williams, D., Yee, N., & Caplan, S. E. (2008). Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication,13*(4), 993-1018. doi:10.1111/j.1083-6101.2008.00428.x

Winnerling, T., & Kerschbaumer, F. (Eds.). (2014). *Early modernity and video games*. Newcastle Upon Tyne: Cambridge Scholars Publishing.

Willoughby, T., Adachi, P., & Good, M. (2012). A longitudinal study of the association between violent video game play and aggression among adolescents. *Developmental Psychology,48* (4), 1044-57.

Wolf, M. J., & Perron, B. (2014). *The Routledge companion to video game studies*. New York, NY: Routledge, Taylor & Francis Group.

Wright, K. (2001). Winning brain waves: Can custom-made video games help kids with attention deficit disorder? *Discover*, 22. Retrieved from: http://www.discover.com/mar_01/featworks.html

Yee, N. (2006). The demographics, motivations and derived experiences of users of massively-multiuser online graphical environments. *Presence: Teleoperators and Virtual Environments*, (*15), 309–329.*

Survey Instrument

Please indicate your response by selecting the statement you agree with. If you do not feel comfortable completing any of the below questions, please feel free to leave that question blank. Also, demographic questions should be skipped if anyone is concerned that they may be identifiable by their responses.

Demographic Questionnaire

1. Gender:
   - ○ Male
   - ○ Female
   - ○ Other

   Please specify: _____

2. Age: _____

3. What is your ethnic background
   - ○ Caucasian/White
   - ○ African-Canadian/Black
   - ○ Hispanic/Latino
   - ○ Asian
   - ○ Aboriginal (First Nation or Inuit)
   - ○ Middle Eastern
   - ○ East Indian
   - ○ Other

   Please specify: _____

4. Marital Status:
   - ○ Single
   - ○ Married/Common-law
   - ○ Separated or divorced
   - ○ Widowed

5. What is your current degree (e.g., Bachelor of Education, Master of Education)

   Please specify: _____

6. What is your current degree concentration (e.g., Intermediate/Secondary, Counselling Psychology)

Please specify: _____

7. What are your previous degrees? (please list all)

8. If you are a teacher, or plan to be a teacher, what are your teachable subject areas? (please list all)

9. Currently, what is your future employment plan?
- ○ Teacher
- ○ Guidance Counsellor
- ○ Educational Psychologist
- ○ School Administrator (e.g., Principal)
- ○ Other

Please specify: _____

Video Gaming Participation Questionnaire

For the following questions:
Video games are defined as "*any interactive game played using an electronic gaming device, computer, mobile device, television, or other display screen that includes the ability to control graphic images on the screen.*" **Youth** are defined as children and adolescents between the ages of 5 and 18 years.

1. How frequently did you play video games during the following periods in your life?
A) Before 1st grade
- ○ Daily
- ○ Weekly
- ○ Monthly
- ○ Once or twice per year
- ○ Never

B) Elementary school
- ○ Daily
- ○ Weekly
- ○ Monthly

    ○ Once or twice per year

    ○ Never

C) Middle/junior high school

    ○ Daily

    ○ Weekly

    ○ Monthly

    ○ Once or twice per year

    ○ Never

D) High school

    ○ Daily

    ○ Weekly

    ○ Monthly

    ○ Once or twice per year

    ○ Never

2. Do you own a video game console (e.g., X-box, Wii, Playstation, etc.) or handheld video game console (e.g., GameBoy, Nintendo DS, PsP)?
    ○ Yes

    ○ No

3. Do you currently play video games?
    ○ Yes

    ○ No

Logic: If participant responds no to question 3 skip to Youth and Video Gaming Questionnaire

4. How many hours per week (including weekends) do you spend playing video games (including console games, on computers, via Internet, websites, cell phone, handheld, etc.)?
    ○ Never

    ○ 3 hours or less

    ○ 4-7 hours

    ○ 8-11 hours

    ○ 12 hours or more

5. Please indicate whether the following statements apply to you when you play

videogames.

A) I play videogames to pass the time when I'm bored, have some free time, or I am
waiting for something else to happen.
○ Yes: this describes me

○ No: this does not describe me

B) I play videogames when I get together with my friends on a Friday night, or online
with my many people. Playing video games is another social activity for me.
○ Yes: this describes me

○ No: this does not describe me

C) I play videogames because I enjoy playing them as a leisure pursuit; if I get together
with people to play, we focus on the game and are persistent in mastering the game.
○ Yes: this describes me

○ No: this does not describe me

D) I devote a lot of time to playing videogames. I engage in one or more of the following
activities: playing games competitively, modifying game content or code, and/or creating
walkthroughs and guides for other players. I am recognized by others as knowledgeable
about games and as a skilled player.
○ Yes: this describes me

○ No: this does not describe me

6. What types of video games do you play? Please specify all that apply:
○ Action/First person shooter games (e.g., Call of Duty, Doom, Halo, Grand Theft

Auto, etc.)

○ Role playing games (e.g., Final Fantasy, Dragon Worriers, etc.)

○ Sports (e.g., FIFA, etc.)

○ Simulation (e.g., Flight Gear, etc.)

○ Other

○ Please specify: _____

○

7. How old were you the first time you played video games?

Please specify: _____

Youth and Video Gaming Questionnaire

Please rate each of the following adjectives in terms of how applicable you believe the trait to be of *youth video game players*. Rate each trait on a scale from 1 **(not at all applicable)** to 7 **(very applicable)**.

- Socially inept
- Confident
- Introverted
- Reclusive
- Outgoing
- Popular
- Mainstream
- Loner
- Isolated
- Overweight
- Pale
- Unattractive
- Young
- Well-groomed
- Fashionable
- Athletic
- Obsessive
- Conscientious
- Dedicated
- Intelligent
- Lazy
- Happy
- Independent
- Secure
- Ambitious
- Fun-loving
- Addict
- Aggressive
- Immature
- Underachiever

Please rate the following statements on a scale from 1 (**extremely unlikely**) to 7 (**extremely likely**)

1. Playing video games more than 10 hours per week will have negative effects on a student's motivation for school...

2. Playing video games more than 10 hours per week will have negative effects on a student's important relationships...

3. Students who play lots of video games will do worse in school compared to students who do not play any video games...

4. Students who play video games will be less likely to participate in extracurricular activities at school compared to students who do not play video games...

5. Students who play video games will develop fewer social relationships with peers compared to students who do not play video games…

6. Students who play video games are more likely to be in trouble with teachers and principals compared to non-gaming students…

7. Students who play video games are more likely to have mental health problems compared to students who do not play video games…

8. Students who play video games will have poorer grades compared to students who do not play video games…

9. Students who play video games are more likely to be seriously disciplined (e.g., expulsion, suspension) compared to students who do not play video games…

10. Students who play video games are more likely to be disconnected from day to day classroom activities compared to students who do not play video games…

11. Students who play video games are more likely to have not completed their homework compared to students who do not play video games…

12. Students who play video games are more likely to be referred to the school psychologist as compared to students who do not play video games…

13. Students who play video games are more likely to get into a physical fight at school compared to students who do not play video games...

14. Students who play video games are less likely to get involved in an after school program compared to students that do not play video games…

15. Students who play video games are more likely to have parents with lower paying jobs compared to students who do not play video games…

16. Students who play video games are more likely to have to repeat a grade or course compared to students who do not play video games…

17. Students who play video games are more likely to have a formal mental health diagnosis than students who do not play video games…

18. Students who play video games are more likely to come from a home with a lower social economic status compared to students who do not play video games…

19. How prepared do you feel to address youth gaming in your career (7 point scale ranging from 1 (**not prepared at all**) to 7 (**very prepared**)

For the following questions, please type out your responses in the space provided after each question.

1. In your opinion, what are the main risks associated with youth gaming?

2. In your opinion, what is the role of the school in helping youth address gaming problems?

3. In your opinion, how does youth gaming impact youth in terms of their school experiences (e.g., academic outcomes, extracurricular choices, peer socialization)?

4. In your opinion, what are the main benefits of youth gaming?

5. In your opinion, how can schools use gaming to help youth?

6. Has the topic of youth gaming ever been covered in any of your coursework to date? If so, please describe ____.

7. Has the topic of youth gaming ever come up while on a practicum or internship or other training related applied experience? If so, describe ___...

8. What would you like to see in the way of training on the topic of youth gaming?

Thank you for taking the time to complete this study. Please click the below button to submit your responses.

Adjective Categories

Sociality
- Socially inept
- Confident
- Introverted
- Reclusive
- Outgoing
- Popular
- Mainstream
- Loner
- Isolate

Appearance
- Overweight
- Pale
- Unattractive
- Young
- Well-groomed
- Fashionable
- Athletic

Psychology
- Obsessive
- Conscientious
- Dedicated
- Intelligent
- Lazy
- Happy
- Independent
- Secure
- Ambitious
- Fun-loving
- Addict
- Aggressive
- Immature
- Underachiever

Words in blue: adjectives suggested by the scientific literature
Words in red: adjectives suggested by the prompting question "what is the stereotype for those who play online games?" (As assessed via Reddit)
Words in black: Words taken from Katz & Braly (1933) that were thought to be adjectives relating to the stereotype of online gamers.

Scaled Questions Categories

Academics
1. Playing video games more than 10 hours per week will have negative effects on a student's motivation for school...
3. Students who play lots of video games will do worse in school compared to students who do not play any video games...
6. Students who play video games are more likely to be in trouble with teachers and principals compared to non-gaming students…
8. Students who play video games will have poorer grades compared to students who do not play video games…
10. Students who play video games are more likely to be disconnected from day to day classroom activities compared to students who do not play video games…
11. Students who play video games are more likely to have not completed their homework compared to students who do not play video games…
16. Students who play video games are more likely to have to repeat a grade or course compared to students who do not play video games…

Social
2. Playing video games more than 10 hours per week will have negative effects on a student's important relationships...
4. Students who play video games will be less likely to participate in extracurricular activities at school compared to students who do not play video games...
5. Students who play video games will develop fewer social relationships with peers compared to students who do not play video games…
14. Students who play video games are less likely to get involved in an after school program compared to students that do not play video games…
15. Students who play video games are more likely to have parents with lower paying

jobs compared to students who do not play video games…

18. Students who play video games are more likely to come from a home with a lower social economic status compared to students who do not play video games…

Mental Health/ Behavioral

7. Students who play video games are more likely to have mental health problems compared to students who do not play video games…

9. Students who play video games are more likely to be seriously disciplined (e.g., expulsion, suspension) compared to students who do not play video games…

12. Students who play video games are more likely to be referred to the school psychologist as compared to students who do not play video games…

13. Students who play video games are more likely to get into a physical fight at school compared to students who do not play video games...

17. Students who play video games are more likely to have a formal mental health diagnosis than students who do not play video games…

APPENDIX D

Introduction E-mail

Thank you for taking the time to open this email. We would like to invite you to take part in a research study focused on understanding pre-service teachers', pre-service counsellors/psychologists', and pre-service school administrators' perceptions of youth that play video games. The project is being conducted by myself, Dr. Nicholas Harris (Assistant Professor at Memorial University) and Dr. Greg Harris (Professor at Memorial University).

The overall purpose of this survey is to understand pre-service school professionals' perceptions of youth that play video games. In order to participate, you must be a student enrolled in either a teacher preparation program (e.g., Bachelor of Education degree) or a Master's of Education degree program (Counselling Psychology or Educational Leadership) at Memorial University in the Faculty of Education.

There will be no identifying information on the questionnaire and all of your responses on the questionnaire will be completely confidential. Participation is completely voluntary and is not a requirement of Memorial University or the Faculty of Education. Professors will not be aware of who participated or did not participate in the study. The questionnaire will take approximately 10-15 minutes to complete.

Click on the link below if you are interested in learning more about this project and potentially participating. You can also enter your e-mail address in a draw for a chance to win one of five $50 gift cards as a token of appreciation for your time by emailing me at the below noted e-mail address.

Please click on the below link to read more about the study and to see the survey:

LINK

Sincerely,

Nicholas Harris nharris@mun.ca

Greg Harris gharris@mun.ca

Informed Consent Form

Title: Pre-service teachers', guidance counsellors' and school administrators' perceptions of youth video game players

Researcher(s):
Dr. Nicholas Harris, Faculty of Science, Psychology Department, Memorial University
Dr. Greg Harris, Faculty of Education, Memorial University

You are invited to take part in a research project entitled "Pre-service teachers', guidance counsellors' and school administrators' perceptions of towards youth video game players"

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. It also describes your right to withdraw from the study at any time, up until the point when you submit your survey to the researchers. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researchers, Nicholas Harris (nharris@mun.ca or (709) 864-7676) or Greg Harris (gharris@mun.ca or (709) 864-6925), if you have any questions about the study or would like more information not included here before you consent.

It is entirely up to you to decide whether to take part in this research. If you choose not to take part in this research, or if you decide to withdraw from the research once it has started, there will be no negative consequences for you, now or in the future.

Introduction:
We are professors at Memorial University. We are doing a research study focused on understanding pre-service teachers', pre-service counsellors/psychologists', and pre-service school administrators' perceptions of youth that play video games. As part of this project, we are asking you to complete a short survey on your views of youth that play video games.

Purpose of study:
The purpose of this study is to understand pre-service school professionals' views on youth that play video games. The results will help to understand the views of pre-service school professionals when it comes to youth video game players and may also offer insight into potential curriculum additions in our education programs.

What you will do in this study:
Participation in this study will consist of reading the informed consent form and completing a brief survey.

Length of time:
It is anticipated that this study will take minimal time, most likely 10-15 minutes.

Withdrawal from the study:
There are no consequences to withdrawing from the study. You are free to withdraw from the study at anytime, up until the point when you submit your survey responses to the researchers. As there is no identifying information collected on the survey, once you submit the survey to us, it is not possible to identify your survey so it is not possible to remove it from the study. Should you close the browser at any time during the study without submitting your survey, any responses will be lost and not included in the study.

Possible benefits:
Once the research from this study is compiled, we will share the report with all interested participants. If you would like to receive these results, please e-mail the researchers. Another possible benefit is any potential changes to curriculum in the education programs and the possibility of a workshop being offered based on the study findings.

Possible risks:
We have not identified any risks associated with this project.

Confidentiality vs. Anonymity:
There is a difference between confidentiality and anonymity: Confidentiality is ensuring that identities of participants are accessible only to those authorized to have access. Anonymity is a result of not disclosing participant's identifying characteristics (such as name or description of physical appearance).

Confidentiality:
Confidentiality will be ensured at all times. Only the researchers will have access to any and all data. As well, the researchers will have no way of knowing who, or who did not, complete a survey. No identifying information is requested through the survey.

Anonymity:
No identifying information will be included on the survey and all information presented or published from the results will be in aggregate form.

Storage of Data:
All data will be stored on a password-protected computer located in the primary investigator's office on Memorial University campus. The primary investigator will be the only person with access to the data. Data will be kept for a minimum of five years as required by Memorial University policy on Integrity of Scholarly Research. Following this five-year period all data will be fully deleted. The on-line survey, Qualtrics, hosting this survey stores all data on a server in Toronto, Ontario and thus is not subject to the US Patriot act.

Reporting of Results:
The data collected will be compiled into a report and may be presented and published

through peer reviewed forums. These outputs will be a summary of the information obtained and will not include identifying features.

Sharing of Results with Participants:
Once the report is complete, it will be shared electronically with all participants who request a copy.

Questions:
You are welcome to ask questions at any time during your participation in this research. If you would like more information about this study, please contact either Dr. Nicholas Harris or Dr. Greg Harris.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research (such as the way you have been treated or your rights as a participant), you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at (709) 864-2861.

Consent:
Your submitting the survey to the researchers means that:
- You have read the information about the research.
- You have been able to ask questions about this study, if so desired.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you will be doing.
- You understand that you are free to withdraw from the study at any time, up until you submit the survey to the researchers, and that doing so will not affect you now or in the future.

If you submit the survey to the researchers, you do not give up your legal rights and do not release the researchers from their professional responsibilities.
By submitting the survey to the researchers, and thus consenting to participate in this study:
- I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions, if so desired, and any questions have been answered.
- I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation at any time up until I have submitted my survey.

A copy of this Informed Consent Form can be printed for my records.

Please click below to proceed to the survey:

LINK to survey (next button)