Title
Virtually Smoking: Exploring Player Perception of Tobacco Content in Video Games

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Publication Date
2016

Peer reviewed|Thesis/dissertation

Virtually Smoking:

Exploring Player Perception of Tobacco Content in Video Games

by

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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Nursing

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Funding Acknowledgement

This dissertation was supported by:

- The University of California, San Francisco Graduate Dean's Health Science Fellowship
- The Eugene Cota Robles Doctoral Fellowship
- Dissertation award from the Tobacco-Related Disease Research Program (TRDRP), grant #22DT-0003.

Acknowledgments

I would first like to thank the participants who gave freely of their time and stories. Without them this dissertation would never have been written. I knew almost nothing about video games before I started this and their patient explanations of things most obvious was greatly appreciated.

I would also like to thank my advisor, Dr. Ruth Malone. In 2008, when I sat in my first graduate class, I was not sure if I even belonged. Dr. Malone encouraged me and helped me believe in myself as a person and as a scholar. She opened doors for me that I did not know even existed. Ruth has mentored me for the last eight years, and for this I am honored and grateful. I would also like to thank my dissertation committee, Dr. Ruth Malone (chair), Dr. Kit Chesla and Dr. Roberta Rehm. Their gentle and careful guidance has seen me safely through one of the most challenging journeys of my life. I would like to thank my qualifying exam committee, Dr. Christine Kennedy (chair), Dr. Ruth Malone, Dr. Roberta Rehm and Dr. Susan Kools. Through your expertise and direction this project was shaped into what it is today. I would also like to thank Dr. Lisa Bero and Dr. Donna Odierna. I joined their reasearch group for ten weeks and stayed five years. They showed me what it was like to work on big grants and do challenging work while having fun. I am grateful for their compassion and their generosity of time and knowledge.

Without my writing group, this dissertation would not have materialized. Thank you Leslie Dubbin, Kate Horton and Quinn Grundy. Your comments, insights and editing helped me develop as a writer in so many ways. Also knowing that I had to produce something for the next meeting kept me working.

I owe heaps of thanks to my family. My daughter Anna, who is my reason, my daily amazement and for whom I try. Mommy's homework is finally done! (For now.) I thank my wonderful husband Dan, for his quiet support, his belief in me, and for the hours of Anna care allowing me to work. Thank you Becky and John, for all of it and for your love. Thank you to my family for being there: David, Rhonda, Chris, Andrea, Larry, Michelle, Jackson, Fiona, Tim, Liam, Cameron, Joel, Lin, Monica, Michael, Adam, Jennie, Val, Suzanne, Matt, Patrick, Francis, Erik and Ralph. You are my center.

And to the missing ones. My mother and father, Jim and Fran Forsyth and my sisters, Joan and Sara Forsyth. I miss you each day. I hope I have made you proud.

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The text of chapter two and chapter five of this dissertation are reprints of the material as they appear in *Nicotine and Tobacco Research* and *Tobacco Control*. The co-author listed in this publication directed and supervised the research that forms the basis for the dissertation/thesis. For these chapters I have maintained the format of the papers as they were accepted for publication.

Forsyth S.R & Malone R.E. (2015) Tobacco imagery in video games: ratings and gamer recall. Tobacco Control; [epub ahead of print]. doi:10.1136/ tobaccocontrol-2015-052286.

Forsyth, S. R., & Malone, R. E. (2015). Smoking in video games: A systematic review. *Nicotine and Tobacco Research,* published online July 25 2015, doi:10.1093/ntr/ntv160

Virtually Smoking: Exploring Player Perception of Tobacco Content in Video Games

Susan Forsyth

Abstract

Purpose: The purpose of this qualitative study was to explore the experience of play for adolescent and young adult video game players, perceptions of tobacco content in games, and to understand why game designers inserted tobacco content into the play experience.

Background: Viewing smoking in movies causes adolescents to start to smoke. Little research has been done examining whether tobacco content in video games may have similar effects. Teens play video games for an average of 1.4 hours a day, 83% of teens have a dedicated gaming console at home, and on any given day, 56% of teens play video games.

Methods: Four data collection strategies were used: interviews including in-person interviews with adolescents (n=20), online interviews with adults (n=41) in-person/video phone interviews with game designers (n=5), observation of gameplay (40 hours), watching movies made from gameplay (n=350 hours) and examining relevant artifacts, including: game ratings and commentary websites, game wikis, written material about video gaming and specific games. Data were collected and analyzed using an interpretive phenomenological approach.

Results: Game players valued playing because of the games' ability to transport them into worlds where they experienced freedom, power, stress relief and relaxation. Far from being isolating, games also served as places to gather, make community and create, hone and extend identity. The Entertainment Software Ratings Board (ESRB) did not rate games with tobacco content accurately. Only 8% (9/118) of the games examined had

received ESRB tobacco-related content descriptors, but 42% (50/118) contained such content. Participant recall of tobacco content increased when players were actively involved with the tobacco product. Players and designers implicitly understood that insertion of tobacco content allowed messages to be rapidly conveyed about characters, including tobacco-industry groomed tropes such as being cool, rebellious, world-weary, stressed, “badass”, masculine or feminine, tough and normal.

Conclusion: Tobacco content is present in games played by adolescents and imbued with meaning. Game companies are uniquely positioned to inculcate game-normative values among players, including continuing the normalization of smoking and its associated tropes.

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Chapter One

Introduction

Chris is sitting in a chair, alert and intensely focused, staring at the television screen, but he is not watching TV, he is playing a video game. It is after dinner, his mother is in the kitchen and his father sits chatting with me on the couch. Chris is holding a video game controller and, without looking, his fingers move rapidly, pushing buttons and moving toggle sticks. On the screen is Lara Croft, a strong, big-breasted woman wearing a tight shirt and shorts, holding two large pistols, one in each hand. Chris is piloting her through a series of rooms where enemies are lurking. He shoots enemy after enemy, shouting, "Yeah!" after each one. His body sways in relationship to the movement on screen. In a fire-fight, Chris's Lara is killed. His face falls, he slumps, leans back and with frustration yells, "It cheats, the game cheats, I know it does!" Chris's father calmly remarks, "It's just a game," and Chris shouts back, "No, it's not" as he restarts his play to try again.

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In the last 50 years there has been a fundamental shift in how US adolescents spend their leisure time. Since the 1970's, more and more experiences of play have been mediated electronically via video games. Children and adolescents now use technology to play games with themselves and others, to explore virtual worlds, exchange ideas and feelings and fill time (Turkle, 1997, 2012). For example, I was recently in a busy restaurant on a Sunday afternoon. At our table were several children, including my own, and, after eating, each child used a handheld device to play games while the adults were talking. Those that were too young to play watched video. As I looked around, most of

the other children in the room were also similarly engaged. While the impression was that each child was engaged in a solitary, possibly lonely pursuit, this study will indicate that another interpretation is possible: that these children may have been absorbed in richly textured worlds where they were competently coping with multiple interests.

Gaming electronically is now deeply embedded into the adolescent experience. With notable exceptions, the public health community has focused on the effects of video game violence and game addiction on players and the possibilities of using specially designed games as a way to encourage certain behaviors. Video games have both been vilified as the purveyors and precursors of a violent society and near-deified as new educational tools that will help us construct a more creative and flexible world (Bogost, 2011; McGonigal, 2011). In the following chapters, I explore how adolescent gaming experiences may translate into real life thoughts and behavior[1], paying particular attention to their perceptions of tobacco content in games.

Video gaming grew up side by side with the computer industry. In the late 1950's, William Higinbotham, having recently worked on the Manhattan Project designing timing switches, developed the first electronic game, *Tennis for Two* (Donovan & Garriott, 2010). The game was played on an oscilloscope with two players using knobs to bounce a "ball" back and forth. While a novelty and especially enjoyed by teenage players, the game was eventually dismantled for parts. In 1961, in a basement room of the Massachusetts Institute of Technology the members of the Tech Model Railroad Club

[1] The term "real life" is problematic, inferring that the experiences of game play occur in "unreal life." However, gamers do use the term to differentiate between their game personas and their embodied, breathing personas, often shortening the term to the acronym "irl" (in real life.) For example, a gamer might write, "irl I need to eat right now." For the purposes of this dissertation, I will use the term real life in this context.

built the computer game, *Spacewar!* out of broken and jury-rigged computer components. While widely available and influential, the team never marketed it, having created the game to add to scientific knowledge (Kent, 2010). However, by the early 1970s, several entrepreneurial engineers began to see the commercial value in video games and the modern video gaming industry was born (Donovan & Garriott, 2010; Kent, 2010). By 1982, the video arcade business had become the most popular entertainment medium in the country with revenues of $7.7 billion, far surpassing both pop music (at $4 billion in sales per year) and Hollywood films ($3 billion) (Rogers & Larsen, 1984). The 1980s and 90s saw the rise of home console playing with gaming giants such as Atari and Sega giving way to Sony's Playstation, Nintendo and Microsoft's Xbox in 2001 (Harris & Harris, 2014). Video game popularity has continued to grow. By 2014, the video game industry had an annual revenue in the United States of $ 22.4 billion (Entertainment Software Association, 2015), compared to a US/Canada combined movie box office of $10.4 billion, and 83% of teens had a dedicated gaming console in their homes (V. Rideout, 2015).

As technology has moved in to both the homes and pockets of consumers, adolescents and young adults spend increasing time using online electronic media, including video games. In 1999, on average, United States adolescents between 8 and 18 years old spent 3 hours and 52 minutes daily using screen-based media for non-school or job-related purposes, including television, computers, videos, movies and video games. Twenty-six minutes of that time was spent playing electronic games (Rideout, Foehr, & Roberts, 2010). By 2015, on average, adolescents between 13 and 18 spent 6 hours and 40 minutes daily recreationally using screen-based media, with an average of 1 hour 21

minutes of that time spent playing video games (Rideout, 2015). In 2015, on any given day, 56% of adolescents, 72% of boys and 38% of girls, play electronic games. On those days, about 2 hours and 25 minutes is spent gaming (Rideout, 2015).

This primary shift in how adolescents spend their leisure time and the possible health consequences that may result have driven the development of my dissertation project. I was interested in how the increases and changes in video game playing might impact the decision to start smoking. In this introduction, I briefly describe the relevance of previously done research on violence and video games, the relationship between seeing tobacco content on a movie screen and smoking with its implications for video games, theories on why video games may be a particularly compelling media form for presenting normalizing imagery, recent advances in adolescent neuro-cognitive development and why it matters for tobacco control. I will then describe my research questions, specific aims and outline the chapters in which I present my findings.

Violence in Video Games

Much of the previous health-related research around video games has focused on the effect of in-game violence on players, particularly adolescents. Video games may be intensely graphic, depicting sadistic, vicious and bloody scenes. Games may also be prosocial, promoting cooperation and teamwork (Saleem, Anderson, & Gentile, 2012). In 1992, Congressional hearings were held to investigate the level of graphic violence in games after two particularly explicit games were released, *Mortal Kombat* and *Night Trap*. In *Mortal Kombat*, parents were particularly concerned about "finishing moves," the final sequence of moves the player preformed to kill the opponent which included such things as pulling out the spine of the enemy, and *Night Trap* was criticized for its

sexist and graphic portrayal of women (Donovan & Garriott, 2010; Kent, 2010). To avoid regulation, the Entertainment Software Association formed the Entertainment Software Rating Board (ESRB), an industry created, non-profit agency charged with assigning age ratings and content descriptors to video games, much as the Motion Picture Association of America (MPAA) does for movies (Kent, 2010). However, this did little to abate the level of violence in games, as games with greater levels of violence were just given higher ratings. In 2010, Anderson et al. completed a meta-analysis of the effects of violent video games on aggression, empathy and prosocial behavior, using international data (Anderson, et al., 2010). The final sample included 381 effect-size estimates based on 130,296 participants. The researchers found that violent video game exposure was positively associated with and causally related to aggressive behavior, aggression cognition and aggressive affect. Violent video game exposure was also positively associated and causally related to desensitization, lack of empathy and lack of prosocial behavior.

Since 2010, other articles have been published in support of these findings. Saleem, Anderson and Gentile (2012) found that playing violent video games increased state hostility and decreased positive affect, but that playing prosocial video games had the opposite effect (Saleem, et al., 2012). Similarly, Rothmund, Gollwitzer and Klimmt (2011) investigated, using a randomized, experimental design, whether interacting with aggressive virtual characters changed trust and cooperation levels. The study found that trust and cooperation levels decreased after playing violent games, especially when the player assumed the role of the victim (Rothmund, Gollwitzer, & Klimmt, 2011). Another randomized controlled trial (RCT) found that playing video games that included violence

and aggression toward women within the game resulted in statistically significant increases in rape myth acceptance by the men, but not the women, who played the game (Beck, Boys, Rose, & Beck, 2012). A longitudinal study, which followed 1,492 adolescents from grades 9-12, found that sustained violent video game play was significantly related to steeper increases in adolescents' trajectory of aggressive behavior over time (Willoughby, Adachi, & Good, 2012). A cross-sectional survey study of 385 Italian students, aged 14-20, who were exposed to the violent game *Grand Theft Auto,* found that exposure predicted higher levels of moral disengagement as compared to those not exposed (Gabbiadini, Andrighetto, & Volpato, 2012). A 2014 systematic review of 94 studies also found that playing violent video games increased aggression and aggression-related outcomes while playing prosocial games had the opposite effects, concluding that the type of video game played causally affected social outcomes (Greitemeyer & Mügge, 2014). However, little research has been published on the possible health implications of player interaction with other types of content, such as tobacco (Forsyth & Malone, 2015a). This dissertation sought to explore the extent and type of tobacco content in video games and to examine gamer and game designer perceptions of tobacco imagery in games.

Tobacco and the Movies

Tobacco imagery in other media has been found to be a causative factor for smoking initiation among adolescents (Lovato, Watts, & Stead, 2011). Numerous studies in the United States, Europe and South America have concluded that exposure to tobacco imagery in movies is associated with children and adolescents becoming smokers, and that there is a dose-response relationship, with more exposure resulting in greater

likelihood of becoming a regular smoker (Carson, Rodriguez, & Audrain-McGovern, 2005; Dal Cin, Gibson, Zanna, Shumate, & Fong, 2007; Dal Cin, Stoolmiller, & Sargent, 2013; Dalton, et al., 2009; Gendall, Hoek, Edwards, & Glantz, 2016; Hunt, Henderson, Wight, & Sargent, 2011; Mejia, et al., 2015; Morgenstern, Sargent, Engels, Florek, & Hanewinkel, 2013; Morgenstern, Sargent, Engels, Scholte, et al., 2013; Brian A. Primack, Land, & Fine, 2008; B. A. Primack, et al., 2012; Sargent, Gibson, & Heatherton, 2009; Sargent, et al., 2007; Shmueli, Prochaska, & Glantz, 2010; Song, Ling, Neilands, & Glantz, 2007; Tanski, et al., 2009; Thompson & Gunther, 2007; Titus-Ernstoff, Dalton, Adachi-Mejia, Longacre, & Beach, 2008; Wellman, Sugarman, DiFranza, & Winickoff, 2006). In 2008, the National Cancer Institute, (NCI) in a thorough review of the scientific evidence, found that viewing tobacco imagery in movies causes adolescents to smoke, stating that: "The total weight of evidence from cross-sectional, longitudinal, and experimental studies indicates a causal relationship between exposure to depictions of smoking in movies and youth smoking initiation" (US National Cancer Institute, 2008). In 2012, the U.S. Surgeon General's report on smoking also concluded that exposure to smoking on screen caused adolescents to smoke: "The evidence is sufficient to conclude that there is a causal relationship between depictions of smoking in the movies and the initiation of smoking among young people" (U.S. Department of Health and Human Services, 2012).

Video game graphics have evolved and currently provide nearly movie-like detail, with rich backgrounds and potentially complex stories. However, unlike movies, video games also provide agency. Players are able to move within the game and through their actions, affect the arc and outcome of the game. In multiplayer games, players are able to

interact with other people via the gaming interface. Video games provide a space where players can be transported and feel like they are in the game world, experiencing "presence" (Green & Clark, 2013).

Theory of Presence and the General Learning Model

The theory of presence, or the sense and experience of being in one's physical environment, is grounded in communications research (Gibson, 1986). While it has primarily been used in marketing and advertising (Klein, 2003; Lui, Piccoli, & Ives, 2007), in military training (Stedmon & Stone, 2001), and to explore robotic- assistive and remote medicine (Challacombe & Wheatstone, 2010), it is an important concept for understanding why video games are so engaging are to players. The concept of presence has its roots in James Gibson's theory of ecological psychology and stresses the importance of studying the environment as well as the organism (Gibson, 1986). Gibson, focusing on perception, argued people and environments are inexorably linked, relating to and defining each other. Gibson claimed that people's perceptions of the environment in which they find themselves gives affordances[1] for their possibilities of action.

Jonathon Steuer (1992) extended this idea into the concept of presence as it applied to virtual spaces, calling it telepresence, which was later shortened by other theorists to simply "presence" (Lee, 2004). Steuer argued that when a person's perception is mediated by technology, the person is forced to perceive two separate environments at once: the actual environment and the environment presented through the media. Steuer defined the term presence to refer to the experience of the technologically mediated environment qualitatively taking precedence over the experience of being in the actual environment. Using this definition, presence refers to the sensation of "being there" that

a person may feel while in a technologically mediated environment, such as a video game. By feeling immersed and present within the game, the person is consequently able to perceive and act upon the affordances[2] made available to them by the virtual environment.

Lee (2004) further refined the concept of presence, defining it as "a psychological state in which virtual objects are experienced as actual objects in either sensory or non-sensory ways" (pg. 27). Most researchers agree that presence has three dimensions: physical presence (the feeling that a person is actually present in a remote or virtual environment), social presence (or feeling that a person is together with someone who does not really exist or is not really there) and self presence (the experience of a virtual self) (IJsselsteijn, de Ridder, Freeman, & Avons, 2000; Lee, 2004; Ribbens, Abeele, & Leuven, 2008).

The concept of presence focuses attention on the adolescent as an actor within virtual worlds, interacting with virtual spaces and their affordances, creating, receiving and engaging with virtual experiences. Presence imbues virtual spaces with meaning. The computer becomes invisible and the environment, its inhabitants and its affordances come to the forefront. This is important, because virtual spaces do not have an embodied, physical existence. A player cannot actually get on a bus or plane and go to the world created by a game. It all only physically exists in servers and computers as collections of

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[2] Affordances are usually thought of as all of the "action possibilities" latent in the environment, objectively measurable and independent of the individual's ability to recognize them, but always in relation to agents and therefore dependent on their capabilities (Gibson, 1977). For example, a video game that allows a character to virtually smoke would be providing that affordance, while in other games that possibility might not exist, resulting in a disaffordance.

microchips in hard drives. Presence shifts the locus of the definition of virtual reality from a particular set of hardware to the perceptions of the people co-creating the gaming environment. This shift allows the emotions, relationships, actions and feelings the game player and the game player's character experience to be attended to with the same level of concern as if they occurred in the real world. While these experiences occur in the virtual world, they may have real consequences, as these experiences are seen and felt as experientially real. (However, I am not trying to suggest that the player actually believes that she/he does not know the difference between the real world and virtual reality.)

The General Learning Model (GLM) also helps explain how these experiences in the virtual world get translated into possibly having real world consequences. While problematic in some areas, the GLM provides a useful model to help understand how behavior engaged in while playing video games links to real world behavior (Buckley & Anderson, 2006). Anderson and colleagues were originally interested in explaining why violent video games increased aggressive thoughts, feelings and behaviors, developing the General Aggression Model (GAM) by way of explanation (Anderson & Bushman, 2001; Anderson, et al., 2008; Anderson, et al., 2010). The GAM describes a continual interaction between the actor and the environment, combining elements from social cognitive theories, developmental theories, scripting theories, social learning theories, social-processing models, aggression theories and excitation transfer models, to explain how playing violent video games influences aggressive feelings in players.

The GLM is an expansion of the GAM and explains more generally how video games influence and teach behavior. The GLM has as its premise that people can learn complicated behaviors, attitudes, expectations, beliefs and perceptual schemata through

playing and engaging with video games. As they play and engage, the players are learning and rehearsing scripts, which are organized sets of knowledge that define situations and guide behavior. Once a script is learned, it can guide how various situations are perceived and interpreted and guide behavior. Greater familiarity with the script leads to more facility and automation of the behavior (Buckley & Anderson, 2006). When adolescents experience presence and develop scripts in virtual worlds, these experiences may have particular resonance because of where they are developmentally.

Adolescent Development

As young people move through adolescence and young adulthood, they engage with a multiplicity of complex factors, both being shaped and also shaping their environment. In order to study the effect of the interaction between adolescent and environment and how that interaction impacts development, a more contextually oriented theory is needed.

Urie Bronfenbrenner's ecological theory of development (Bronfenbrenner, 1977, 1979, 1986) places the adolescent in his/her world, and allows for context to be interpreted phenomenologically (Darling, 2007). In interpretive phenomenology (IP), a person cannot be separated from the world in which they find themselves, and person/context must be seen and interpreted as a unit (Benner, 1994). Ecological theory helps provide a framework for phenomenological methodology, allowing for different elements in that world to be examined and placed in context, while always keeping elements as parts of the whole. For example, in this dissertation, video game playing is not understood as a phenomenon in isolation, but rather as part of the world that makes

up the adolescent's social and perceptual universe, affording some possibilities, while constraining others.

Rather than looking at development in a linear manner or as a series of stages to be traversed, Bronfenbrenner proposed a dynamic, nested approach to examining adolescent development. His socio-cultural view of development consisted of five environmental systems, nested within each other, ranging from fine-grained inputs of direct interactions with social agents to broad-based inputs of the larger culture, taking into account the passage of time (Bronfenbrenner, 1977). Bronfenbrenner termed these environmental systems: the microsystem, the mesosystem, the exosystem, the macrosystem and the chronosystem.

The microsystem is the finest grade system. It is the interaction between the immediate environment, such as home or school, and the adolescent. At the center of the microsystem is the individual and his/her own unique biological factors like, age, sex, race, cognitive capacity and health status, as well as various social factors which help shape and constitute the person. The adolescent is an active actor in this system, helping to construct his or her own microsystems, and not a passive receiver within this environment. In an adolescent's life, there can be more than one microsystem. The connections between individual microsystems are termed the mesosystems. The exosystem refers to the more distal experiences in a social setting that an adolescent may not have individual control over but that may affect him or her nonetheless. For example, a parent's job loss can change a child's economic status, or for another example, the media-saturated environment that many children experience can be an important source of information as to what is perceived as normative behavior. The

macrosystem refers to the overarching institutional and ideological patterns of culture, such as the economic, educational, political and legal systems, of which the micro-, meso- and exosystems are all concrete examples. These are the big ideas, such as democracy, capitalism or Judeo-Christian ideology that inform the predominant culture in which the adolescent lives.

The chronosystem is the patterning of environmental events and transitions over time, as well as the socio-historical context in which the young person finds him or herself. While the first four systems nest within each other, with overlapping and permeable boundaries, each informing the other, the chronosystem is more linear, consistent with the passage of time. The chronosystem allows ecological theory to be dynamic, making room for process evolution, maturation, while at the same time situating each adolescent in the both local and broader socio-historical context that makes up their world. Together, these systems present a complex model, which takes into account the various socio-cultural influences on adolescent development, while preserving the agency of the adolescent and emerging adult as an actor over time (Bronfenbrenner, 1977, 1979, 1986) and where meaning is created by the adolescent as a product of all of their experiences (Darling, 2007). Bronfenbrenner suggested that is the process of repeated interactions and exchanges between the developing person and the various systems that leads to changes over time during the life course (Tudge, Mokrova, Hatfield, & Karnik, 2009). Ecological theory places people into their environments, with humans shaping and being shaped by the environments in which they find themselves (Blumer, 1986; J. Tudge, Gray, & Hogan, 2008). It is a porous theory, allowing for the

adolescent to be an actor as well as acted upon and for the various factors to act synergistically, taking account of change over time.

The passage through adolescence and young adulthood, as it is often constituted in Western cultures, is a time of transition and change, where children begin move from dependency on their parents toward establishing their adult identities (Arnett, 2000; Christie & Viner, 2005). It can be an exciting time, where adolescents can try different ways of being and exploration of self. As adolescents emerge into young adulthood (ages 18-25), they may assume more independence, but many different life directions often remain possible, with little about the future decided for certain. Rather than using turning 18 years old as the bright line between adolescence and full adulthood, some researchers have proposed that this period constitutes its own developmental phase, terming it "emerging adulthood" (Arnett, 2000).

However, historically, in the United States, adolescents have become adults at 18, with the ability to vote, make independent decisions, marry, buy cigarettes and join the military. Only a few activities, such as being able to legally drink alcohol, have been withheld from them until they are 21. Yet, there is growing evidence that maturational processes of the brain continue well into the twenties (Lebel & Beaulieu, 2011; Padmanabhan, Geier, Ordaz, Teslovich, & Luna, 2011; Smetana, Campione-Barr, & Metzger, 2006; Steinberg, 2005) and that there is a fundamental reorganization of the brain that takes place during adolescence (Konrad, Firk, & Uhlhaas, 2013).

There is substantial evidence that adolescents are aware that some activities are dangerous and risky and can think logically about those dangers, but that they engage in these activities anyway (Steinberg, 2007). Programs that have focused on educating

adolescents about the dangers of risk-taking behavior have been found to be largely ineffective, despite the extensive resources that have been expended. Developmental and neuro-cognitive scientists have theorized that this is due to the differences between maturation processes of the intellectual ability and psychosocial ability, with intellectual ability maturing more quickly (Steinberg, 2008).

In a study of 935 people, ranging in age from 10-30 years old, researchers found that cognitive capacity rapidly increased from age 10 to about age 16, where it roughly reached its adult capacity. However, psychosocial maturity did not reach adult capacity until the mid-twenties (Steinberg, Cauffman, Woolard, Graham, & Banich, 2009). Other studies have found that early in adolescence, dopamine and oxytocin levels increase from their prepubescent levels. Dopamine plays a critical role in the brain's reward circuitry and increased levels may amplify the need for sensation seeking. At the same time, the increases in oxytocin, the bonding hormone, may lead to an increase in the salience of peer relationships (Steinberg, 2008). While there are increases in these hormones in adolescents, the frontal lobes of the brain, home to executive functions such as planning, working memory, and impulse control, are still in the process of maturing. The adolescent brain is highly plastic. Structurally, the maximum density of gray matter is reached first in the primary sensorimotor cortex, while the prefrontal cortex matures later (Konrad, et al., 2013; Mills, Goddings, Clasen, Giedd, & Blakemore, 2014). Pruning, the process of removing rarely used neural connections and making others more efficient, and myelination, the development of the fatty sheath wrapped around neurons that increases their transmittal speed, are also thought to continue until the mid-twenties (Johnson, Blum, & Giedd, 2009). Therefore, it is theorized that a temporal gap exists

between risk perception, the willingness to engage in risk-taking behavior and the ability to control the impulse to do so (Johnson, et al., 2009; Steinberg, 2008).

Hot and Cold Executive Function

These biological changes in brain function have lead to the theory of hot and cold executive function during adolescence. Historically, executive function has been examined using abstract developmental tasks that do not have motivational or affective components attached. Recently, research has suggested that executive function tasks can vary in salience to the adolescent, with motivationally significant and emotional tasks described as "hot" while abstract tasks without emotional or motivational significance are described as "cool." In a study of 102 children and adolescents between the ages of 8-15, the researchers found that improvements on cool tasks occurred earlier in age range than did improvements on hot tasks (Prencipe, et al., 2011). Hot tasks activate the less mature part of the brain, seeking reward, and/or sensation without full impulse control, while cool tasks activate the more developed cognitive areas of the brain. Steinberg (2008) theorized that when groups of adolescents are often together, hot executive function is at play, making it more likely that the adolescents will engage in risk-taking behavior. When adolescents are gathered together the socio-emotional network within the brain is activated, leading to riskier behavior. Later, when the adolescent is engaged in a less reactive situation, she/he would likely be able to explain logically and coherently why such behavior was reckless.

How this theory plays out in virtual worlds is an area to be explored. When virtual groups of adolescent avatars are together, they may engage in a variety of scenarios involving hot decision-making. However, the consequences of such decision-

making within the virtual world likely carry less immediate risk. Virtual fast driving, virtual sex and/or virtual substance use do not directly cause actual physical harm. No one has ever died in a virtual auto accident, gotten an STD from a virtual sexual encounter, or developed lung cancer from smoking virtual cigarettes. Yet, using the concept of presence it is possible to see how such behavior could create scripts and prime the adolescent to consider the behavior in the actual world.

This time, from the start of puberty to fully assuming adult responsibilities and roles is often a time of exploration of risk behaviors including making the decision to consider smoking. In addition to more traditional explorations of identity, such as sexual exploration, and development of personal, political and religious identities, young people can now develop digital identities, disembodied computer generated representatives of themselves, often used to navigate the internet and participate in video gaming, in a world often unmediated by adults (Bradley, 2006). Playing games can be quite powerful and children from early in their development often play games together and alone to practice and prepare themselves for real life, with video games offering an especially powerful medium for this (Gee, 2008).

Purpose and Specific Aims

The purpose of this qualitative study was to describe and understand (1) the experience of electronic game players and the factors that motivate them to play extensively, (2) the meaning of smoking imagery and smoking behavior within games and the gaming community for video game players and game designers, and (3) adolescents' perceptions of risk behavior modeled within games.

The specific aims of the project were:

1) Using semi-structured interviews with adolescents aged 13-21 and direct observations of playing behavior, describe and understand the experiences of electronic game players, factors that motivate extensive game play, and the meaning of smoking behavior and imagery within games.

2) Conduct interviews with game designers in order to understand how tobacco imagery functions within games, decisions made about when and where to include it, and motivations to include certain types of risk-taking imagery.

3) By creating a research avatar and using within-game interviewing and observation, describe the nature and content of gaming behavior, social interactions and risk-taking that is experienced by adolescents while they are playing virtual worlds using self-created avatars.

These concerns and aims are taken up in the subsequent chapters. Chapter two is a systematic review of what is currently known about the relationship between tobacco and video games. This chapter was originally published in the journal *Nicotine and Tobacco Research* in July 2015 (e-pub ahead of print) (Forsyth & Malone, 2015a). This chapter concludes that studying the relationship between tobacco content in video games and adolescent smoking is still in its nascence. While some articles found a relationship between video game playing and smoking, others found no link. This chapter also explores the few content studies that exist, demonstrating that little is known about how much or what types of tobacco content exists in video games played by adolescents.

Chapter three discusses methodology. There were few previous studies that examined tobacco content in video games and there was no road map on how to proceed. In this chapter I discuss the process of developing methodology, exploring limitations

and issues that I uncovered along the way as well as the methodologies used for data collection and analysis.

Chapter four explores findings for research goal one, and specific aims one and two. In this chapter I describe the experience of playing video games for 20 adolescents in Northern California. I examine each of the games that the participants played, the experience of play, how games were used as a space to practice, hone and extend identity, the rewards of gaming, and the experience of violence. I also use interviews with game designers to investigate how the experience of game play is crafted to elicit certain reactions from players.

Chapter five considers research goal two and specific aims two and three. In this paper, previously e-published ahead of print in *Tobacco Control* in September 2015 (Forsyth & Malone, 2015b), I specifically examined games played by participants to ascertain if they contained tobacco imagery and whether the ESRB had rated games containing tobacco content with a tobacco content label descriptor. I found that tobacco content was present in many games, particularly games rated as appropriate for ages 17+ and the the ESRB often failed to give the game the appropriate content descriptor.

In chapter six, I explore research goals two and three and specific aims one, two and three. I extend the research presented in chapter five, examining the relationship between the type of tobacco content in games and gamer recall of content. I also classify the intensity of tobacco content tobacco content contained in each video game mentioned by participants. Using tobacco industry created tropes, I look closely at how tobacco content is presented in games and why game designers choose to place tobacco content in a game. I also consider how players perceive the meaning of tobacco content that is

noticed.

In chapter seven, I synthesize findings across the previous chapters, identify implications for future research and policy development. I conclude that tobacco content is present in games, is placed there deliberately by designers to quickly convey various meanings to players, and players understand those meanings. Tobacco content is seen as harmless and not problematized by most players and designers, opening up avenues for tobacco control researchers to work with players and designers to deconstruct the normalization of tobacco in video games and craft policy solutions.

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Chapter Two

SMOKING IN VIDEO GAMES: A SYSTEMATIC REVIEW

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Word count (excluding abstracts, references, tables and figures): 5521

ABSTRACT

Introduction

Video games are played by a majority of adolescents, yet little is known about whether and how video games are associated with smoking behavior and attitudes. This systematic review examines research on the relationship between video games and smoking.

Methods

We searched MEDLINE, psycINFO and Web of Science through August 20, 2014. Twenty-four studies met inclusion criteria. Studies were synthesized qualitatively in four domains: the prevalence and incidence of smoking imagery in video games (n=6), video game playing and smoking behavior (n=11), video game addiction and tobacco addiction (n=5) and genre-specific game playing and smoking behavior (n=3).

Results

Tobacco content was present in a subset of video games. The literature is inconclusive as to whether exposure to video games as a single construct is associated with smoking behavior. Four of five studies found an association between video game addiction and smoking. For genre-specific game playing, studies suggest that the type of game played affected association with smoking behavior.

Conclusions

Research on how playing video games influences adolescents' perceptions of smoking and smoking behaviors is still in its nascence. Further research is needed to understand how adolescents respond to viewing and manipulating tobacco imagery, and whether

engaging in game smoking translates into changes in real-world attitudes or behavior. Smoking imagery in video games may contribute to normalizing adolescent smoking.

SMOKING IN VIDEO GAMES: A SYSTEMATIC REVIEW

INTRODUCTION

In the United States (US), 88% of youth aged 8-18 play video games at least occasionally. [1] The median time spent playing, including all types and genres of video gaming, is 13.2 hours weekly, with boys playing more frequently (16.4 hr/week, SD 14.1) than girls (9.2 hr/week, SD 10.2). [1 2] Types of video games range from electronic solitaire to city-building games such as the Sims games, open world action-adventure games such as Grand Theft Auto, first-person shooters, racing games, maze games and many others.

About 19.2% of US high school seniors are current smokers, [3] and research suggests that exposure to tobacco imagery affects smoking behaviors. [4] Viewing movies containing smoking imagery has been linked to youth smoking initiation, [5-10] providing the basis for a hypothesis that tobacco imagery from other media sources may likewise impact youth smoking. Both cross-sectional [5 9] and longitudinal studies [6 7] have suggested that there is a positive dose-response relationship between viewing smoking in movies and the susceptibility to and uptake of smoking, independent of other factors. In 2014, the Surgeon General determined that youth exposed to movie smoking were twice as likely to initiate smoking as those not so exposed. [10] While watching smoking in movies is an uncertain proxy for imagery encountered in video games, it suggests possible avenues of inquiry.

Children are especially susceptible to imagery in games. Children who played with branded items in games were more likely to select that brand when given a choice than those who had played with unbranded items, even when they could not recall the

brand. [11,12] Interacting with branded items in a game increased top-mind awareness, brand image and behavior intention of participants toward the brand ($p<.05$). [13] Playing video games and interacting with products and brands during the game created processing fluency, [14] allowing children to later express that brand as a preference. Research has demonstrated that the tobacco industry has been particularly successful appealing to adolescents and that adolescents exposed to tobacco imagery were more likely to become smokers. [15]

Engaging in virtual behaviors in video games may modify real-world behavior. A meta-analysis of the effects of violent video games on aggression, empathy and prosocial behavior [16] found that violent video game exposure was positively associated with and causally related to aggressive behavior, aggression cognition and aggressive affect and causally related to desensitization, lack of empathy and lack of prosocial behavior. Other work has supported these findings. [17-22] Tobacco imagery in video games is thus cause for concern regarding adolescent smoking, particularly given the tobacco industry's history of using movie product placement.[23] No previous reviews have examined the literature on smoking and video gaming. We systematically reviewed published research on the relationship between video games and smoking.

METHODS

Study selection criteria

We searched for original research articles that addressed the relationship between smoking and video gaming (our search followed PRISMA guidelines). Non-empirical articles, including essays, literature reviews, editorials, opinion pieces, and protocol or instrument development items were excluded, as were non-peer reviewed or non-English

language studies. Studies were included if they concerned the relationship between tobacco use and video games or reported on tobacco content found within video games. While smoking initiation is primarily an adolescent and young adult phenomenon,[3] we included studies that examined populations other than adolescents so as to fully describe the current state of the science. Articles were excluded if they examined the relationship between various media and smoking, but did not specifically include video games as a unit of analysis. We also excluded studies that investigated the relationship between electronic gambling and smoking, but did not include video gaming, and studies that focused solely on using educational games for smoking cessation.

Data sources and searches

MEDLINE, psycINFO and Web of Science databases were searched for articles published January 1, 1946 (beginning of coverage for MEDLINE) through August 20, 2014. Medical subject heading (MeSH) terms and free text were used in the searches. The principal search strategy was as follows:

> (("smoking"[MeSH Terms] OR "smoking"[All Fields]) OR ("tobacco"[MeSH Terms] OR "tobacco"[All Fields] OR "tobacco products"[MeSH Terms] OR ("tobacco"[All Fields] AND "products"[All Fields]) OR "tobacco products"[All Fields])) AND ((("electronics"[MeSH Terms] OR "electronics"[All Fields] OR "electronic"[All Fields]) AND games[All Fields]) OR ("video games"[MeSH Terms] OR ("video"[All Fields] AND "games"[All Fields]) OR "video games"[All Fields])).

Once relevant articles were identified, their reference lists were searched for additional studies.

Study selection

Both S.F and R.M developed search and inclusion criteria. S.F searched for and screened articles, reviewed abstracts, selected abstracts for full article review and assessed articles for inclusion. R.M advised on all phases of the review and synthesis.

Data collection and synthesis

Data were collected on these study characteristics: country of origin, date, study design, n, population sampled, sampling strategy, predictor variable/exposure, comparator, and outcome, using an author-generated data collection instrument (see appendix A). Each study was examined for strengths and possible biases. Because of the heterogeneity of the study designs, populations, predictor variable/exposure and a lack of standardized measurements, meta-analysis of the data retrieved was not appropriate

Initially studies were thematically grouped together for descriptive analysis based on the outcome studied: either prevalence and incidence of smoking imagery in video games or smoking status and behavior. Secondarily, studies that focused on smoking status and behavior were grouped together based on how each study defined the predictor variable/exposure. Domains were developed and modified inductively as studies were abstracted and added to the database. Synthesis was achieved by examining each domain based on outcome variables, summarizing the studies descriptively and analyzing results narratively.

RESULTS

Study characteristics

See Figure 1 for article inclusion flowchart. [24] Of 24 included studies, 63% (n=15) were cross-sectional surveys of game players, 8% (n=2) were experiments, 13%

(n=3) were cohort studies, and 25% (n=6) examined prevalence of tobacco content in video games (n does not add to 24 as one study contained both cross-sectional and cohort components and one was a cross-sectional study on recall of prevalence). All but two studies were published since 2000. See Table 1 for study characteristics. No study authors identified conflicts of interest relating to the video game industry or the tobacco industry, although 42% (10/24) of studies contained no conflict of interest statement.

After analysis, four domains emerged: the prevalence and incidence of smoking imagery in video games (studies that examined the prevalence and/or incidence of smoking content in games or participant recall of smoking imagery in games, n=6); video game play and smoking behavior (studies that examined video games as a single construct or together with other media and game play was compared to smoking status, n=11); video game addiction and tobacco addiction (studies that examined the subset of game players who are addicted gamers and compared it to their smoking behavior, n=5), and genre-specific game playing and smoking behavior (studies examining a subset of games or specific imagery within a game and comparing it to smoking behavior, n=3) (total ›24 as one study fell into two categories).

Prevalence and Incidence of Smoking Imagery in Gaming

Six studies [2,25-29] examined whether smoking imagery was present in video games. Four found that a portion of surveyed games featured smoking imagery.[2,26-28] Of the remaining two, one was a cross-sectional study of adolescent recall of smoking imagery in games [29] and the other a case study of a specific game. [25]

Three [26-28] studies took a sample of games and played each game for at least an hour, while recording content. The first of these [27] examined games rated "T" for teen,

meaning that the content was deemed appropriate for children over age 13 by the Entertainment Software Ratings Board (ESRB), a private ratings board for video games sold in the US.[30] Using a random sample drawn from all T rated games (n=81), researchers found that 12 (15%) portrayed substance use, with 5 (6.3%) games specifically portraying tobacco use. Of those portraying tobacco use, tobacco imagery was present on average 2.1% of the time (range 0.3-7.1%); the ESRB had only coded one of those games as portraying substance use. In a second article [26], expanding on the original sample, an additional 9 non-randomly selected T rated games specifically for the gaming consoles Microsoft Xbox and Nintendo GameCube were examined. Four depicted tobacco use, with tobacco imagery visible an average 2.8% of the time (range 1-6%). None of these games had received an ESRB content rating for tobacco/substance use.

The third study examined games rated "M" for mature, which are rated by ESRB as appropriate for those aged 17 and older. [28] Previous research suggests such restrictive age labeling may make these games even more attractive to all age groups. [31] For example, most versions of *Grand Theft Auto* are rated M, but the game has reportedly been played by 58% of all teenagers.[32] In this study, using a randomly selected sample (n=36) of M-rated games, 21 (58%) depicted substance use, with 8 (22%) games specifically depicting tobacco-related imagery. However, just one game (3%) had an ESRB content descriptor for substances. [28]

These studies are now dated. In addition, since each game was only played for an hour, limited content was captured. However, together they indicate that smoking

imagery is present in games rated appropriate for teens and in games likely to appeal to teens.

A more recent study examined ESRB ratings to examine whether the prevalence of tobacco content increased over time. [2] The sample constituted all games rated by the ESRB between September 1, 1994-July 1, 2011. In games rated "E10+", meaning appropriate for everyone over age ten, tobacco content ratings increased from 0.8% of games in 2005 to 12.6% in 2011. For games rated T, tobacco content ratings increased from 1.0% in 2005 to 5.7% in 2011, with the highest prevalence in 2009 at 15.6%. Less than 1% of games rated M or adult received a tobacco content descriptor from the ESRB. While this study appears to suggest that tobacco content is rising, only ESRB ratings were examined, not actual game content.

Barrientos-Gutierrez et al [25] conducted a case study of 2010's top-selling PC military video game, *Starcraft II, Wings of Liberty,* rated T*,* with one of the package rating descriptors "use of alcohol and tobacco." [33] Between play episodes, the game features cinematic shorts, which serve to provide cohesion to the game, advance the story and provide rewards.[25] Of 18 shorts, 13 included tobacco imagery, including red and white packs resembling Marlboro cigarette packaging. Three of thirteen characters within the game were always shown smoking, with no user control over the smoking display. Users playing this game are clearly exposed to smoking imagery. However, it is unknown whether this game is typical in including such imagery and whether this represents paid product placement.

In a random dialing telephone survey of 1000 adolescents, aged 12-24 from New South Wales, Australia, Perez et al [29] explored recall of tobacco imagery in video games.

Thirty-three percent of the male sample and 12.8% of females reported exposure to tobacco imagery in games. However, it was unclear how many of the sample actually played video games on a regular basis, as the extent of gaming was not reported.

Together, these studies all indicate that there is tobacco content within many of the video games that adolescents may play. However, they do not give a clear picture of how much tobacco content is found during game play, with ranges from 6% of teen games to 22% of mature games, based on game play, and from less than 1% to 15.7% based on ESRB tobacco content ratings. It is also unclear whether the tobacco content is active (allowing the player's avatar to smoke) or passive (tobacco use by non-playable characters), nor do the studies suggest how players perceive and interact with the tobacco content.

Smoking status and behavior

Video game playing and smoking behavior

Eleven studies examined the relationship between playing video games and smoking behavior.[34-43] [44] Results varied. However, these studies were beset by methodological problems, a lack of specificity and/or a lack of validated tools.

Four studies used video game playing as an independent variable, but collapsed it with other variables such as television or Internet use, making it impossible to tell how much of the effect on smoking behavior was attributable to video game playing alone.[34,41-43] In a cross-sectional survey of adolescent physical activity (n=11,957) [43] published in 2006 from 1994-1995 data, adolescents who self-identified as high TV/video game viewers without parental control over content smoked at higher rates than those reporting more physically active lifestyles or whose parents limited their TV viewing

(ARR range 0.61-0.82). A cross-sectional telephone survey of 4029 California adolescents aged 12-17 found that the number of weekday hours spent watching TV and playing video games was positively correlated with ever having smoked cigarettes (OR=1.08, p<.05) or being a current smoker (OR=1.11, p<.05), after controlling for socio-demographic and behavioral covariates. Conversely, the same researchers found that the number of hours spent watching TV or playing video games on *weekends* was negatively associated with ever having smoked (OR=.91, p<.001) or being a current smoker (OR=.89, p<.01). [34] Another self-reported anonymous survey of 4th-5th graders in Kentucky (n=4691) found that reporting three or more hours a day of television watching and/or video gaming was associated with increased substance use, but when cigarette use was examined separately, results were insignificant. [42] This may have been due to the small number of children who had actually tried smoking (n=320). Finally, one recent cross-sectional survey of Brazilian adolescents (n=1,628) collapsed video game playing and computer use into one variable. Respondents were asked whether they played video games or used the computer during leisure time and the results were dichotomized into yes and no, and then correlated with smoking status. [43] Results were insignificant (PR =1.22; 95% CI .81-1.86). By collapsing and dichotomizing the independent variable, the researchers were unable to determine possible dose-response effects, or to address possible differences between the effects of computer use and video game playing on smoking rates, making the results uninterpretable.

One cross-sectional study with a longitudinal component of Canadian adolescents (n=8215) used video game playing as an independent variable, but collapsed smoking with seven other risk behaviors ranging from cannabis use to wearing seatbelts as the

combined dependent variable. [38] While computer use was associated with a 50% increase in risk behaviors, video game playing was not associated with the multiple risk behavior construct. Because smoking was not considered independently, and some video games are played on computers, it is difficult to interpret these results.

Seven studies [5,35,37,39,40,44,45] used video game playing as one of the independent variables and smoking as one of the dependent variables, without including other types of screen-based media or other substances. While none of these studies focused exclusively on smoking and video game playing, they did consider the relationship between smoking and gaming independently, resulting in findings not confounded by category collapsing.

The earliest such study was longitudinal (n=167) and focused on the relationship between adolescent blood pressure, health habits, stress and anger. In analysis of covariates, a correlation was found between smoking and hours per week spent playing video games ($r=.38$, $p<.0001$) for high school seniors only.[36] However, the sample was drawn from one US high school and the number of self-reported smokers was extremely low. In a repeated cross-sectional survey (1987, n=782; 1999, n=2196), Sweeting and West [40] found that video gaming and smoking were negatively correlated in both samples (OR=0.8, $p<.0000$), suggesting that video game playing was protective against smoking as it kept young people occupied. [40] Primack et al [39] also found no relationship between playing video games and being a current smoker or future smoking susceptibility. In this 2005 cross-sectional survey (n=1138) of students in a large suburban high school, students in the highest third of reported hours per week spent gaming did not smoke at greater rates than those in the lowest third. [39]

Desai et al[44] studied the relationship between video gaming and health correlates, including smoking, using a one-time survey administered to Connecticut adolescents aged 14-18 (n=4028). Among those reporting video gaming at least weekly, there was no correlation between smoking behavior and non-problematic gaming. However, smoking and problematic gaming were associated, a finding discussed in the next section. Problematic gamers were defined as those who reported having unsuccessfully tried to cut back on their gaming, growing tension only relieved by gaming and irresistible urges to play. [44]

Using smoking as a dichotomous variable and playing time as a continuous variable, Raiff et al [37] compared the extent to which smokers and nonsmokers played video games. The anonymous online convenience sample consisted of people over age 18. Smokers spent 8.12 hours (SD 7.31) each week playing, while non-smokers spent 5.21 hours playing (SD 5.85) ($p<.001$). However, of 1,239 people consented, only 499 met inclusion criteria and had their data analyzed. 25% of the included subjects were between 18 and 25 years old. The primary reason for exclusion (n=522) was incomplete surveys, defined as skipping at least five questions. Those who were excluded also differed in gender, age and smoking status from the population who met inclusion criteria. [37]

Leatherdale and Ahmed [35] surveyed a nationally representative sample of Canadian youth from grades 6 through 12 (n=51,922). 13.7% reported playing video games more than 2 hours daily (mean 2.1; SD=1.1). Boys (23%) were more likely to report playing more than 2 hours a day, compared to girls (3.4%). Video gaming was highest in 7th, 8th, and 9th grades (13-15 years old), decreasing in older grades. More

than 91% of the sample were never smokers; thus the sample had lower smoking rates than overall Canadian prevalence studies suggest. [46] Playing video games for more than 2 hours a day was positively associated with current smoking (OR=1.23; CI 95%: 1.10-1.37, p<.001). [35] This study's large sample size may have been able to detect differences that were less clear in smaller studies. However, age groups were not separately analyzed, likely masking the true association between smoking and game playing, as younger players are less likely to be smokers compared to older players.

Taken together, the results of the seven studies which considered video game playing separately from other media were inconclusive, with three studies finding an association between smoking and video game playing, three not finding an association and one finding a negative association. The cross-sectional design of these studies precludes causal inference, and none examined gaming content or type of game played as a variable or modifier. For example, playing an online word game for two hours may be qualitatively different from playing *Grand Theft Auto*, although these studies would have counted them similarly.

Game addiction and tobacco addiction

Five studies examined the relationship between video game addiction and smoking behavior.[44,45,47-49] Four were cross-sectional surveys, [44,45,47,49] three of which found an association between video game addiction and smoking. The final study was an experiment. [48]

An early study found that video game addiction was correlated with being a smoker (r=.39, p<.01). [45] In this convenience sample (n=129), Midwestern US college students filled out an anonymous questionnaire about various addictive behaviors.

Addiction was defined using Rozin and Stoess's [50] addiction scale, measuring craving, withdrawal, lack of control and tolerance on a 7-point scale (1= never, 7= always). However, the tool used to assess video game addiction was not validated, nor was it specifically designed to examine problematic video gaming.

Desai et al [44] found that among "problematic" gamers, there was a significant correlation between smoking and gaming. Nearly 11% of the sample reported playing video games more than 20 hours a week, but only 4.9% of the sample were considered problematic gamers (n=106). Problematic game players had over twice the risk for being regular smokers than those who did not report problematic gaming (OR=2.12; p= .007). However, the 3-item tool used to assess whether an adolescent was a problematic game player has never been validated (Personal communication with Desai, R.A, May 11, 2011).

Walther et al [47] modified the Video Game Dependency Scale (KFN-CSAS-II), which had been previously validated to assess the difference between video game dependency, risk for video game dependency and other types of gaming. The KFN-CSAS-II was originally adapted from the Internet Addiction Scale (ISS-20) and validated in a population of German 9th grade boys (n=7,761) (average age 15.3 years, SD=.69). [51] Walther et al surveyed German students aged 12-25 (n=2553) with 20.3% of participants reporting daily smoking, and found no correlation between video game addiction and smoking. However, using the modified KFN-CSAS-II, only 83 participants (3.3%) were identified as "at risk" gamers and 29 participants (1.1%), were identified as addicted gamers, so the small sample size limits conclusive interpretation. [47]

Ream et al [49] also used a validated instrument in their study of concurrent use of substances while playing video games. They surveyed a nationally representative sample of adults (n=2885) using an Internet online survey administered by Knowledge Networks, a survey firm that maintains a large panel of respondents chosen by random digit dialing [52]. Of the sample, 26% were smokers, somewhat higher than the current US national average of 18% for adults [53], with a mean age of 40.4 (SD= 15.7). Problem video game playing was positively correlated with tobacco problems (r=0.33, p=<.0001), defined as experiencing withdrawal, craving, tolerance and worrying over running out of tobacco. Problem video game playing was assessed using 5 items from an original 9-item Likert scale used to measure time playing, ability to control the amount of time playing and withdrawal symptoms. The more items endorsed, the more likely a player was to be a smoker. However, the original tool had been validated in a sample of 223 adolescents from Granada and Spain, not in an adult U.S. population, [54] so its reliability for use with this group is unclear.

The final study in this domain examined the relationship between gaming and smoking by comparing the functional magnetic resonance imaging (MRI) scans of 16 subjects with comorbid addictions of smoking and gaming with 16 controls. [48] Each group was shown multiple images of tobacco and gaming while undergoing MRIs. Compared to controls, the comorbid group's anterior cingulate and parahippocampus gyrus activated at significantly higher levels when shown the visual cues. It appears that gaming addiction and nicotine dependence may share similar mechanisms of cue-induced reactivity over the fronto-limbic network, particularly for the parahippocampus.

However, it is unclear whether sharing similar pathways has bearing on whether seeing tobacco imagery while gaming enhances nicotine craving.

Three of the four cross-sectional surveys found an association between heavy video game playing and smoking. However, all four studies were hampered by the lack of a validated tool or by their use of a tool which had been modified without revalidation. One problem with developing a validated tool with good applicability seems to be the question of whether heavy use of video games should be considered an addiction and how to define "heavy" use. [55] Despite considerable debate, video game addiction was not included in the Diagnostic and Statistical Manual (DSM-5) from the American Psychiatric Association, [56] although it was identified as an area needing further research. As more researchers become interested in this topic, tools may emerge that are both valid and applicable. [1,57-59] In addition, anxiety has been linked to both smoking and video game playing, suggesting that results of the five studies may also be confounded by the relationship between smoking, video games and anxiety disorders, with anxiety as a latent factor. [60,61] Further research examining these relationships may clarify this issue.

Genre specific video game playing and smoking

Three studies examined the relationship between playing genre-specific video games and smoking. [62-64] The earliest [63] investigated whether virtual game-like environments containing smoking cues created greater smoking urges among participants than environments without smoking cues. The convenience sample included 22 adult smokers (average age 37.3, SD=12.3) who had smoked an average of 19.1 years (SD=12.2). Subjects first navigated through a dynamic virtual environment without smoking cues, then navigated the same environment with embedded smoking cues. In the

control setting, the participant navigated through an apartment, down an urban street, past vendors and into a restaurant. In the smoking-cue run, tobacco images were added, including open cigarette packs in the apartment, vendors selling cigarettes on the street, smokers visible on the street, billboards advertising cigarettes and a smoking section and bar in the restaurant. Throughout play, subjects were asked to rate current smoking urges on a 100-point scale (0 = no urge, 100=strongest urge ever). Navigating through the game embedded with smoking cues increased subjects' smoking urges by15.1 points (SD=22.1) as compared to navigating the game without smoking cues ($p<.01$), suggesting that virtual environments with smoking cues may have increased the urge of smokers to smoke, as compared to environments without such cues.

A cross-sectional study of French Canadian adolescents (n=1209) (mean age 16.8) found that adolescents who played video games involving physical movement (exergames) such as dancing or sports simulation were less likely to smoke (AOR=0.5, CI 95% 0.3-0.8) than adolescents who did not engage in active games. [62] However, exergamers were also more likely to engage in non-active video games for more than 2 hours a day (AOR= 4.0, 95% CI 2.2-7.5) than those who did not exergame. Because of this confounding and the inability to infer causation, it is unclear whether exergaming itself is associated with decreased smoking or whether those who are more physically active simply smoke less.

The third study was longitudinal, examining the relationship between playing mature-rated, risk-glorifying games (MRRG) and behavioral deviance, including smoking. [64] In a random-digit dialing study (n=1350), with each participant contacted 4 times over approximately 4 years, participants were asked about amount and type of

game playing and ever-, past-month, and lifetime smoking. Participants were considered MRRG players if they played at least one of three popular violent risk-glorifying games and reported that their parents let them play MRRG games at least occasionally. After controlling for age, gender, race parental income, parental education, and parental warmth/responsiveness and demandingness, there was a highly significant main effect of MRRG game play for all measures of cigarette smoking: (a) ever-smoking, $F(1, 2457) = 150.24$, $p < .001$; (b) lifetime smoking, $F(1, 2377) = 156.34$, $p < .001$; and (c) smoking during past month, $F(1, 1936) = 87.32$, $p < .001$ over all three analyses between participants who played MRRG games and those who played non-MRRG games. There was also a highly significant interaction of MRRG game play and time for each measure of cigarette smoking: (a) ever having smoked, $F(3, 1854) = 9.20$, $p < .001$; (b) lifetime smoking, $F(3, 1807) = 22.35$, $p < .001$; and (c) smoking during past month, $F(3, 1766) = 14.74$, $p < .001$. The results suggest participants who frequently play MRRG games smoke at higher and more rapidly increasing rates as compared to others.

This study was the first to examine the relationship of playing games that are more likely to contain tobacco imagery (violent-risk glorifying games) to smoking prevalence and incidence among adolescents over time. However, results may be subject to recall bias. In addition, only three games were used to determine whether a participant plays a MRRG, resulting in possible misclassification bias.

Taken together, these studies suggest that considering the genre of the game as a variable may provide may provide a more nuanced picture of effects on smoking behavior than examining video games as a single construct.

CONCLUSIONS

This systematic review suggests that research on how playing video games influences perceptions of smoking and smoking behaviors is still in its nascence. Tobacco imagery is indeed present in at least a substantial subset of games played by adolescents, although it is unclear how much or how substantial the "dose" may be. For example, Solid Snake, the main protagonist in the very popular *Metal Gear* series of the video games, is a smoker and can be seen frequently smoking during game play.[65] In another video game, *Little Big Planet 3,* the tobacco imagery consists of a sticker found in game play featuring a smoking pipe. [66]Both have tobacco imagery, but the quantity and quality of the imagery are considerably different. Playing a video game, unlike watching a movie, is interactive and may unfold over 20 or more hours, with each player potentially exposed to different imagery depending on how he/she progresses through the game. One avenue for future research would be to focus on the amount and quality of tobacco imagery present in games in order to gain a baseline of possible exposure. However, as discussed below, how that imagery figures in the larger narrative of the game is also likely to be important.

For most of the studies that examined video game playing and smoking behavior, the relationship between smoking and video game playing was not the primary focus and the measures used were heterogeneous, resulting in no definitive conclusions. Because video game playing is rapidly becoming a primary form of entertainment for adolescents, [1,2] future research focusing on the relationship between video games and smoking uptake, while considering mediating factors such as exposure to tobacco imagery in games, length of time playing and type of games played will provide additional information about the association between game playing and smoking.

Studies comparing gaming addiction to smoking addiction are clearer, suggesting a relationship. However, the mechanism of this relationship is unclear and there are weaknesses in existing studies. There also is considerable debate over definitional issues, complicating how and what to measure and there is a need to consider possible confounding factors. These studies do not parse out whether it is the addiction to video games that makes players more likely to smoke, the tobacco imagery possibly present within the games, or a combination of the two.

The genre studies are beginning to examine video games as having multiple constructs affecting smoking behavior, suggesting that various types of games may have differential relationships with smoking behavior. This is a promising area of study but would benefit from including research on the amount and quality of tobacco content found within popular games in order to parse out the relationship between exposure and outcome.

Research suggests that developing a positive attitude toward smoking is one of the first steps toward eventually becoming a smoker; [64] thus, playing video games with smoking-positive imagery may change attitudes toward smoking or the potential strength of that effect. As video games graphics are increasingly movie-like, tobacco imagery is beginning to look less like white torpedo pixels and is becoming more convincing. For example, in the popular 2007 shooter *Bioshock*, the opening scenes include the protagonist realistically smoking a cigarette from the first-person perspective, with further tobacco imagery present throughout the game and its two sequels, including lifelike smoking of playable characters, and advertisements for fictional brands. [67]As video games move into 3D technology, the potential exists for players to be able to

realistically simulate smoking, immersed in virtual worlds.

Few of the studies were theory-driven; future work in this area would benefit from integrating a theoretical perspective more explicitly. For example, narrative transportation theory[68] would suggest that active engagement in smoking within the context of game play might have even greater influence on behavior than passively watching smoking behaviors in movies, opening promising possibilities for comparative analyses. According to this body of theory, individuals are "transported" into narrative worlds through cognitive, emotional, and image-based engagement. In turn, this "transportation" into the narrative serves to reduce the effects of counterargument, create connections with characters, and increase emotional involvement.

Further, Bandura's social cognitive theory argues that people learn by observing others and modeling behaviors that result in rewards. [69] Research has demonstrated that his theory can be extended to new media, [70-72] offering further context in which future investigations could be situated. For example, does the type of "narrative world" developed in a game influence the extent to which players are impacted by tobacco imagery?

This systematic review has several limitations. The search, article selection and data collection were carried out by one author. While three databases were systematically searched, there may be other relevant articles in other databases that were not included. In addition, while search terms were carefully selected and trialed, there may be studies that were not identified. Finally, we did not search for or include unpublished data.

However, this review demonstrates that little is known about how adolescents and

young adults engage with the narratives and imagery of video games, how they respond to viewing and manipulating game components, and whether their views about smoking in games translate into changes in the way they view or experience the prospect of actual smoking. [16,73] The results reported suggest that more research is needed to understand how much tobacco imagery is present in games that adolescents play and whether tobacco imagery in video games is serving as a normalizing mechanism for adolescent smoking. Researchers should also consider whether there are differences in player responses depending on the narrative constructions of games . Finally, research should explore whether tobacco industry product placement is a factor in video game tobacco imagery.

FUNDING

Susan Forsyth is funded by a dissertation award from the Tobacco-Related Disease Research Program (TRDRP), grant #22DT-0003. Ruth Malone's work on this project was supported by funding from the Mary Harms/Nursing Alumni Endowed Chair.

DECLARATION OF INTERESTS

The authors declare that they have no competing interests.

ACKNOWLEDGEMENTS

Thanks to Christine Kennedy, Roberta Rehm and Susan Kools for providing feedback on the first draft of this article.

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TABLE 1- List and characteristics of included studies by domain

Study (year of publication) [reference], Country	Design	N	Population	Sampling strategy	Independent variable/ Exposure	Outcomes measured
Prevalence and Incidence of Smoking Imagery in Gaming (n=6)						
Barrientos=Gutierrez et al.(2012) [25], n/a	Observational Case-study	1	PC video game	Case study of the most popular PC military game of 2010	Game play	Tobacco content in the game play and in the "cinematic shorts."
Barrientos-Gutierrez et al. (2012) [2], US, Canada, Mexico	Observational	20941	Video games	All games released between Sept 1 994 and July 1 2011 in the ESRB database.	Game rating	ESRB game rating for tobacco content.
Haninger & Thompson (2004) [27], n/a	Observational	81	Teen-rated video games released before April 1, 2001	Stratified random	Teen-rated video games and their ESRB ratings	Presence and duration of tobacco content
Haninger et al. (2004) [26], n/a	Observational	9	Teen rated games from 2001-2003 on the Xbox and Nintendo GameCube	Convenience	Teen-rated video games and their ESRB ratings	Presence and duration of tobacco content
Perez et al. (2012) [29], Australia	Cross-sectional telephone survey	1000	Adolescents (12-24) in New South Wales with a landline	Random digit dialing	Video game playing	Recall of viewing people smoking in video games
Thompson et al. (2006) [28], US	Observational	36	Mature-rated games available by April 1, 2004	Random selection	Mature-rated video games and their ESRB ratings	Presence and duration of tobacco content
Smoking status and behavior (n=18)						

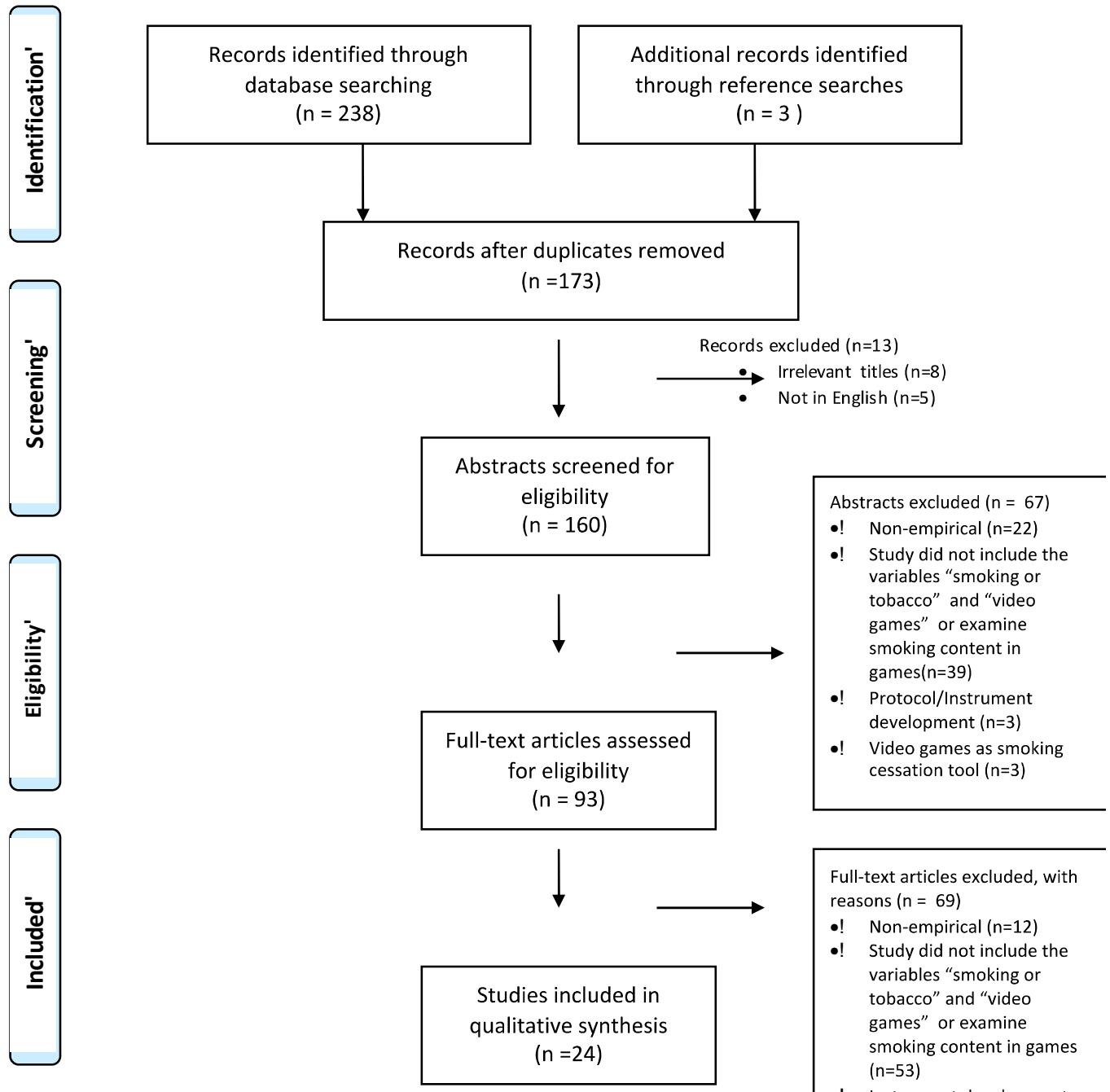
Video Game Playing and Smoking Behavior (n=11)						
Armstrong et al. (2010) [42] US	Cross-sectional self-administered survey	4691	4th and 5th graders from 31 Kentucky schools participating in the "Healthy Kentucky program."	All students for whom parental consent had been obtained.	Television watching/video game playing viewing hours	Ever having smoked a cigarette and whether the respondent thought smoking was bad for heath.
Barbosa-Filho et al. (2012)[41], Brazil	Cross-sectional self-administered survey	1628	Adolescents aged 11-17.9, living in Curitiba, Brazil	Stratified random sample	Use of computer/video games daily during leisure	Current smoking behavior indicated by having smoked a cigarette in the last month
Carson et al. (2011), [38], Canada	Cross-sectional self administered survey, and prospective cohort self-administered surveys	8215 (cross) 1424 (cohort)	Canadian youth, grades 6-10 (cross) and Ontario youth grades 9-10 (cohort)	Random cluster (cross) Non-representative sub-sample (cohort)	Video game playing hours per weekday/weekend	Frequency of smoking behavior.
Desai et al. (2010)[44], US*	Cross-sectional self-administered survey	4028	14-18 year old adolescents in Connecticut.	Representative	Hours per week spent playing video games	Frequency of lifetime smoking behavior (never, occasionally or regularly)
Groer et al. (1994) [36], US	Prospective cohort self-administered surveys	167	Students in a large suburban high school in the Southeast	Students who remained at the high school all four years 167/439)	Hours per week spent playing video games	Number of cigarettes smoked a day
Leatherdale & Ahmed (2011) [35], Canada	Cross-sectional self-administered survey	51922	Canadian residents in grades 6-12	Nationally representative sample	Playing video games less than/more than 2 hours/day	Smoking status (never, current, former)
Nelson & Gordon-Larsen (2006) [43], US	Cross-sectional self-	11974	US adolescent	Nationally representative sample	Sedentary behavior clusters including a	Smoking at least 5 cigarettes

	administered survey		s grades 7-12		"TV/video viewing/ video gaming" cluster	during the last 30 days
Primack et al. (2006) [39], US	Cross-sectional self-reported survey	1138	Students at large suburban high school	All students who responded to the smoking questions (1138/1525)	Video games (hours/day)	Smoking status and susceptibility to smoking
Raiff et al. (2012) [37], US	Cross-sectional online survey	499	Adults over 18	Convenience	Hours per week spent playing video games	Smoking status
Shi & Mao (2011) [34], US	Cross-sectional telephone survey	4029	California adolescents age 12-17 with a landline	Random digit dialing	Hours per day spent video gaming/watching TV (weekday and weekend)	Ever smoker and current smoker
Sweeting & West (2003) [40], Scotland	Repeat cross-sectional home interview and self-administered survey	782 (1987) 2196 (1999)	Adolescents located in the Central Clydesdale Conurbation	Representative	Playing computer games	Ever smoker
Game addiction and tobacco addiction (n=5)						
Desai et al. (2010)[44], US*	Cross-sectional self-administered survey	4028	14-18 year old adolescents in Connecticut.	Representative	Hours per week spent playing video games	Frequency of lifetime smoking behavior (never, occasionally or regularly)
Greenberg et al. (1999) [45], US	Cross-sectional self-administered survey	129	College students age 18-24 from urban Midwest college	Convenience	Level of addiction to video gaming	Level of smoking addiction
Ko et al. (2013) [48], Taiwan	Case-control	32	Smokers who also played video games more than 4 hours a day, controls (mean age 25.38, SD 3.36)	Convenience	Smoking and video game images	Brain reactivity to smoking images/video game images measured by fMRI

Ream et al. (2011) [49], US	Cross-sectional online survey	2885	Adults 18 and over who play an hour or more of video games a day (mean age 40.4, SD 15.7)	Subset of nationally representative sample maintained by Knowledge Networks	Problem video game playing	Tobacco use problems
Walther et al. (2012) [47], Germany	Cross-sectional self-reported survey	2553	German students age 12-25	Students from 15 randomly selected schools	Video game addiction/dependence	Current users of tobacco (at least once per week)
Genre specific video game playing and smoking (n=3)						
Bauman and Sayette, (2006) [63], US	Case-crossover	22	Adult smokers (mean age 37.7, SD 12.3)	Convenience	Virtual reality environments with/without smoking cues	Smoking urges
Hull et al, (2014) [64], US	Prospective cohort telephone survey	1350	US Adolescents with a residential phone	Random-digit dialing	Amount of time spent playing mature-rated, risk glorifying video games	Frequency of smoking behavior, friend smoking and smoking expectations
O'Loughlin et al. (2012) [62] Canada	Cross-sectional self-administered survey	1209	French speaking adolescents from Quebec, age 14-19	Stratified random sample	Participation in active video games (exergaming)	Current smoker (yes/no)

*** Study listed in two categories**

Figure 1: PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Chapter Three

Methods and Methodological Processes

The term qualitative research encompasses a wide variety of methods from multiple theoretical traditions, and it is difficult to find a single definition that encompasses this complexity. While both qualitative and quantitative research employ systematic methods in furtherance of knowledge creation and enhancement, there are important ontological, epistemological and methodological distinctions between qualitative and quantitative research. Ontologically, quantitative researchers start from a positivist framework that there is something "out there" to be apprehended. Epistemologically, positivist research usually starts with a division between the object of inquiry and the inquirer, with the inquirer assuming the role of unbiased scientist. Methodologically, quantitative researchers generally start out with a priori hypotheses that will either be supported or not supported by the collected empirical evidence and clearly defined methods designed to limit bias (Guyatt, Rennie, Meade, & Cook, 2008; Shadish, Cook, & Campbell, 2002).

Qualitative researchers also share the goal of knowledge production with quantitative researchers, but often start from different assumptions. Ontologically, qualitative researchers may start out from a viewpoint that knowledge is situated and may be epistemologically shared between the participant and the researcher. Methodologically, qualitative researchers often start out with a list of questions, concerns, and ideas that they are curious about, rather than hypotheses, and then they systematically collect data in an iterative process to gain a greater understanding of phenomena (Denzin & Lincoln, 2000; Laverty, 2008). How this is done varies widely.

Denzin and Lincoln (2000) defined qualitative research as a situated activity that locates the researcher within the world that is to be studied. Research is conducted using interpretative, material practices in order to make the world visible and gain an in-depth understanding about the questions under study. Qualitative research practices may include field observations with extensive field notes, interviews, conversations, photographs, recordings, videos and memos, as well as archival data. Qualitative researchers usually study phenomena in their natural setting, trying to make sense of and interpret the phenomena and explore the meanings that people ascribe to those experiences in order to gain a deep understanding of what is going on (Denzin & Lincoln, 2000). Whereas quantitative researchers may make claims of "truth" based on their results, ostensibly transcending bias and politics, qualitative researchers who have taken on a post-modern perspective usually make no such claims, recognizing knowledge production as situated and the result of experience, culture and beliefs (Clarke, 2005). Because I was interested in how adolescents and young adults perceived tobacco imagery in video games, why game designers inserted tobacco imagery into games and the role that video games played in the lives of the participants, qualitative methods were best suited to these avenues of inquiry. More specifically, I used interpretive phenomenology (IP) guide data collection and analysis.

Interpretive Phenomenology

IP seeks to gain a deeper understanding of the nature of our everyday experiences (Van Manen, 1990). By examining both context and action within the world of the participant, phenomenologists gather information on the significant issues and events under question(Smith, Flowers, & Larkin, 2009; Van Manen, 1990). From this

perspective, the person is seen as dwelling in and inseparable from a human world of relationships, concerns and meanings (Dreyfus, 1991; Heidegger, 1962/1927). Phenomenologists study persons, events and practices in order to understand the world of the participants; their understandings, activities, and what is noticed and unnoticed (Benner, 1994). Using IP to analyze my data foregrounded the experience and meaning of playing electronic games in a participant's daily life. Attempting to gain an understanding, albeit situated, of the participant's perception and understanding of gaming as it is enmeshed with their real lives, illuminated how the gaming experience influences and flows over into life choices made in the real world.

IP owes much of its theoretical roots to the writings of Martin Heidegger. In his seminal book *Being and Time* (Heidegger, 1962/1927), Heidegger attempts to answer the ontological question, "what does it mean to be human?" (Leonard, 1989). Heidegger, writing in conversation with the concept of Cartesian dualism, states that the subject/object (i.e. internal/external world) way of understanding misses the point. He posits that there is no internal/external world, but rather only the world which humans inhabit. The world is both constitutive of and constituted by the self. Humans and the world they inhabit form a unitary concept, which Heidegger calls "being-in-the world." From this perspective, the world is a meaningful set of relationships, practices and language situated in both time and place (Benner, 1994; Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989).

In order to understand how radical Heidegger's ideas were, putting into question the entire continental philosophical project, it was necessary to be familiar with the trajectory of Western thought. Up until Heidegger, much of Western thought was

descended through the Greek philosopher Plato (429-347 C.B.E). Plato was primarily concerned with the epistemological origins of knowledge. He argued that reality is bifurcated; there is what is seen, and what really exists. When humans perceived something via their five senses they are seeing only the imperfect copy. According to Plato, there was another more real and perfect realm, invisible to the average human eye, where ideal and immutable forms exist. The closer a person came to being able to recognize the true forms from all the copies, the nearer that person was to having true knowledge (Kraut, 2012). For example, all dogs exhibit some form of "dogginess." Individual dogs are but imperfect examples of dogginess. In the non-visible realm of perfection, there exists the true form of *Dog*- the ultimate dog expressing pure, timeless and immutable dogginess. However, what is available to most people are the imperfect, corruptible copies, the proverbial mutts of dogginess, examples of, but not the actual thing.

While this example is somewhat tongue in cheek, the idea that "true reality" is not necessarily available to people based on mere perception set the stage for much of the future of Western philosophy. Using Platonic logic, it follows that while the true form may not always be recognized, concepts like justice, beauty and goodness do exist and are changeless, although humans may not have access to these forms. It also follows that truth can exist, a true truth, and an immutable truth, if one can only divine the true form of the truth. Plato, of course, felt that philosophers were in the best position to be able to discern these true essences, and should be placed in charge of many things, including knowledge production. Today, one might argue, positivist scientists fulfill that role by

attempting to divine the "true truth" by conducting by making hypotheses, conducting research and atomizing the evidence.

Over the next two thousand years, philosophers would refine, refute and transform Platonic thought, asking repeatedly, "how do we know what we know (Lemay & Pitts, 2005)?" Rene Descartes (1596-1650) continued in this tradition, questioning whether anything was knowable. Using the concept of radical doubt, Descartes first examined the idea of what could be known with absolute certitude. He was concerned that everything that was known about the world outside of his mind was based on sensory perception. He concluded that because perception was fallible and mutable, there was a possibility that what he discerned from his perception of reality was wrong. There was virtually nothing of which he could be sure. Ultimately the only thing Descartes was sure about was his ability to think-- that he was a thinking thing. From this insight, Descartes developed his famous axiom, "I think, therefore I am". He created an entire philosophical system, positing a mind-body dualism as its basis: the thinking mind, and the world outside of the thinking mind. Because Descartes did not think that our senses were a reliable way to get information about the world, he argued that the best way to understand the world was to break it up into its elemental parts and analyze those parts in scientific terms. In this way, the world could be factually and truthfully comprehended (Descartes, 1968; Hatfield, 2011).

Other philosophers followed Descartes, refuting, arguing and refining his ideas and continuing to ask the epistemological question, "How do we know what we know?" By asking the epistemological questions first, instead of the ontological ones, answers were necessarily located in individual human consciousness and divined by breaking

down phenomena into their elemental parts. However, in the middle nineteenth century, Edmund Husserl (1859-1938) began to contemplate that not all of human concerns should be considered in this fashion. While he believed that the scientific method offered much in the way of knowledge development, he also believed that it was insufficient to understand the complexity of human concerns. Husserl argued that human experience should be examined in situ and on its own terms, and as a whole experience, located within a context and a person's life (Husserl & Welton, 1999; J.A. Smith, P. Flowers, & M. Larkin, 2009). This approach became known as phenomenology. However, the goal of Husserl's phenomenological method was still to discern how the mind could determine the "essence" of an object; the set of immutable properties that undergird the subjective perception of each of the examples of that type of object. By continuing to ask "how do we know, what we know?," Husserl ultimately continued in the tradition of Cartesian dualism (Dreyfus, 1991).

Heidegger was Husserl's student. Breaking from Husserl, Heidegger's big idea was to discard two thousand years of Western philosophical tradition and argue that the mind/body dualism did not exist, contending instead that people simply *are;* we are beings-in-the-world, constituting and being constituted by the world in which we find ourselves (Heidegger, 1962/1927). By discarding this dualism, Heidegger was then able to ask the ontological questions concerning the meaning of *being* (Dreyfus, 1991; Heidegger, 1962/1927; Wrathall, 2005).

Heidegger argued that each person's possibilities are shaped by the world that they inhabit (Benner, 1994; Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989; Smith, et al., 2009; Van Manen, 1990). Heidegger called this a person's "thrownness,"

literally the world into which he/she is thrown into at birth. This world provided certain affordances and constraints, as well as implicit knowledge gained from growing up and engaging with one's surroundings. In addition, even in similar geographical areas and times, more than one "world" exists. For example, the world found on a corner in East Oakland may be very different from the world found on a corner in Alamo, even though both are in the East Bay and in 2016. The knowledge and skills necessary to successfully navigate each of those worlds would likely be different and not necessarily transferable. Worlds are not only geographic, but can also be constituted by interests and concerns. For example, the world constituted by those concerned with banking and finance may be different from those concerned with the theater world, each with different expectations, habits and beliefs. A person may co-inhabit several worlds, but must inhabit at least one (Dreyfus, 1991).

Heidegger also posits that there are three ways of being: ready-to-hand, unready-to-hand, and present-at-hand (Dreyfus, 1991; Heidegger, 1962/1927). Ready-to-hand is the practical pre-ontological way of being that we exist in most of the time. In this state, our world is almost invisible and in a state of normalcy, as we go about our day-to-day lives. This familiarity with the world is constitutive for humans. For example, if we need to talk to someone, we may pick up the telephone. The telephone is almost invisible, a tool used but not really noticed; the important issue is the person on the other end of the line. A person for whom a telephone is part of their thrownness will intuitively know what a telephone is for, without thinking about it. The telephone may be noticed, however, if it becomes unready-to-hand. If it is picked up and there is no dial tone, the telephone becomes apparent and noticeable because it is not performing as expected. It

intrudes and obstructs smooth functioning. Finally, if a person then contemplates, reflects on and studies the telephone and how strange it is that a device made of metal and plastic can carry a voice around the planet, the person is now in what Heidegger calls the present-at-hand mode. The telephone is an interesting example because of its changed nature over time. I still think of a telephone as something with a rotary dial and a cord, the phone of my childhood, although I have not had one like that in years. My twelve-year daughter has never seen a phone like that. For her, a telephone is something small that you carry around with you and use for a multitude of functions, including game playing, thus illustrating the differences in our temporal thrownness. Smart phones are part of her background, her "historicality." She would have to be taught how to use a rotary phone, part of my historicality, in the same way that I had to be taught how to use my smart phone, which seemed intuitive for her.

Heidegger is also concerned with the notion of indexicality, which is tied into the concepts of historicality and thrownness (Heidegger, 1962/1927). Indexing is what someone does when they are commenting on their position in the world- their constructed thrownness. It is different from reflexive thought, rather, it is more pre-reflexive, characterizing the person's relationship to where they are at that time. It is how the person places themselves within the context of their surroundings, the kind of involvement a person has with a situation (Taylor, 1985). Individuals all go through their daily lives indexing, checking on themselves in relationship to their world and their understanding of it. Paying attention to what people view and relate to as signposts and markers, both real and metaphorical, as a measure of how they index themselves will

illuminate how people position themselves within their world and what they consider important.

Heidegger examined why people do what they do and how they behave in their ready-to-hand mode of being. This gives IP its methodological focus on everyday activity and action. According to Heidegger, humans have concerns: they are beings for whom things have meaning and value. Heidegger suggests that people engage in activities "in order" to achieve or do something, to take a stand on themselves. These activities are done "for the sake of which," all in service for the ultimate for the sake of which, the primordial future, the future that never becomes the present (Dreyfus, 1991; Heidegger, 1962/1927). IP researchers are able to both situate and contextualize everyday action and give it meaning by asking the question, "in what kind of world does this action make sense to this person?"

Heidegger, by defining humans as beings who take a stand on themselves, and in doing so, need social roles and equipment for performing those roles, eliminated the issue that plagued previous Western philosophers, i.e. the problem of what is going on in other minds. Rather than isolated minds, this conceptual framework makes humans relational beings, needing social roles, the world and other humans to be human. Even a hermit who withdraws from all contact is withdrawing from something, or someone defined as a social deviant is a deviant from something. For Heidegger this something is "the one" (in German, Heidegger used the phrase "Das Mann"- literally "the man."). The one is the societal normalizing influence that all humans are a part of, even when they stand in opposition to "the one". It is the source of all intelligibility in the world. According to Heidegger (Heidegger, 1962/1927), we are all taken over by "the one". "The one" is an

existentiale of the human condition, a certain characteristic of humans that is revealed by an analysis of its existence, and it is constitutive of humans. Humans conform to norms all the time, even though they do not usually notice it. It is often an invisible phenomenon. For example, various cultures prescribe that their members stand at a certain distance from one another when gathered in a group, depending on the situation. Parents taught their children this, but they did so inexplicitly and without realizing it: it is just how things are done. People eat the way the one eats, people walk the way one walks, etc. "The one" permeates every culture and way of being (Dreyfus, 1991; Heidegger, 1962/1927; Wrathall, 2005).

Interpretive Phenomenology as an Analytical Methodology

These philosophical concerns, as conceptualized by Heidegger, help form the basis for IP data analysis. For Heidegger, the everyday activity of each person embodies their interpretation of who they are, albeit generally hidden and misunderstood (Packer & Addison, 1989). It is then the aim of the interpretive phenomenologist to try and make visible the invisible. According to Patricia Benner, the purpose of IP is to uncover commonalities and distinctions, not by objectifying but rather by entering the person's everyday world (Benner, 1994). Interpretation is part of the human project and while every participant brings his/her own historicality along with him or her, so does every researcher. In contrast to Husserl, interpretive phenomenologists do not believe that this existentiale can be suspended, or bracketed out (Laverty, 2008), and to think that it is possible is absurd. One enters the hermeneutic circle, knowing that the researcher will be interpreting the interpretations of the participant; however, through skillful questioning, close observation and careful listening, the researcher may be able to construct animating,

evocative descriptions of human activity, behaviors, intentions and experiences that may illuminate important aspects of the human condition (Packer & Addison, 1989; Van Manen, 1990).

One fundamental tool that the IP researcher uses is the elicitation of narratives from the participant, as a way of uncovering meaning and what matters to the participant. Narrative accounts allow participants to describe their everyday concerns and practical knowledge, thereby giving the researcher access to aspects of their life world. Narrative accounts are, at their most fundamental, the stories of what went on, bringing the details of what was important to and noticed by the participant (Benner, 1994). It is making visible the invisible, the daily practices, the taken for granted, the ready-to-hand and the norms and cultural expectations.

While a narrative is still a reflection of an experience and not the experience, it is likely the closest that a researcher will get to achieving a situated understanding of the participant's ready-to-hand mode. It is the ready-to-hand mode of being, by uncovering a participant's usual concerns, habits, traditions and practice, that makes people explicable as they are (Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989). A narrative, as told by the participant, makes apparent what matters to that particular person. As participants told me of their experiences with game playing, it provided me with a window with which to understand the meaning these experiences had for them (their for-the-sake-of which.)

Using IP methods, three narrative analytic strategies were employed to interpret the data gathered in this study: paradigm cases, thematic analysis and exemplars (Benner, 1994; Smith, Flowers & Larkin, 2009). Paradigm cases are strong illustrations of the

concern under study, often opening up meaning and providing a clearing leading to understanding. They are seen in their entirety, with the researcher moving from part to whole, checking that the interpretation flows from the data. Thematic analysis allows for within-case and cross-case examination of the data. Meaningful patterns, stances and concerns are considered, rather than words or phrases, with an understanding that lives are ambiguous, inconsistent and messy (P. Benner, 1994), again moving back and forth from part to whole. Exemplars were used to illustrate and convey the meaning of the various aspects of a paradigm case or thematic analysis. Together, these strategies were designed to provide the basis for entering practical worlds and understanding socially embedded knowledge (Benner, 1994). These strategies of interpretative phenomenology formed the basis of my data collection strategy and analytic technique.

Data Sources

Participants

For participants I interviewed in person, I recruited a convenience sample (n=20) of adolescents aged 13-21 using flyers and snowball sampling in a large Northern California metropolitan area. I had originally conceived of using *Craig's List* for recruitment purposes. After placing an online announcement, no potential participants made contact and my inbox received excessive spam and requests for money. I found that placing flyers at community colleges, state colleges and at teen hangouts such as bubble tea shops was effective. Participants also told their contacts about the study, resulting in several interviews through a snowball process.

I met each participant in a location that they selected. After consent, each participant completed a short demographic survey, including questions on age, race, ethnicity, school status, favorite video game devices, age at gaming initiation, average

hours per day spent gaming, current and previous favorite games. After the interview started, participants were asked to describe their family, school and friends. They were then asked about how they became video game players and to describe their favorite game(s) and how gaming impacted their lives. With no prompts given, I asked participants to recall any games that they remembered as containing tobacco imagery, to describe the tobacco imagery and how it fit into the narrative of the game and what they thought about it, to describe their own smoking history and what their thoughts were on regulating smoking in video games were.

For online interviews (n=41), I had originally conceived of developing a researcher avatar, entering a game, recruiting participants and interviewing them as their avatar. After various attempts at this, I discarded this idea. As I gained an understanding of the scope of games that participants were playing and the types of engagements they were having, I realized that limiting myself to one game and one genre would not allow me to fully explore the phenomena in which I was interested. Instead, I placed an announcement recruiting for participants on the website *Reddit* in the subReddit *Samplesize* (Reddit, 2015b). *Reddit* was selected because it was a large, online bulletin board service that allows content to be posted and to receive responses. It had more than 160 million regular users, with 60% of users under age 34, (Allen, 2015) and *Reddit* hosted large and vibrant video game discussion boards. These characteristics made it ideal for recruiting and interviewing participants. After participants confirmed they met inclusion criteria, they were given a series of questions to which they could respond about game play and tobacco content, similar to questions that were posed to participants interviewed in person. Each participant completed a short demographic section including

age, race/ethnicity, current location (either state or country), employment status, hours per day spent gaming, and age at which gaming was initiated. I then had participants respond to a series of questions about games they liked to play now and previously, what had stood out about their favorite games, if they could recall any games with tobacco imagery what they thought about that imagery, their personal smoking habits, and what they thought about the game ratings and the the agencies that applied the ratings to games. To insure confidentiality, participants answered questions using the secure website *Typeform* (Munoz & Okuniev, 2015). All online data were subsequently deleted, including emails and email addresses, once the responses were recorded in a spreadsheet and gift cards sent.

I also recruited, via networking, game designers (n=5) that had worked in the video game industry at least one year. Colleagues were asked if they knew anyone in the game design field. If yes, I asked the colleague to give the designer my email. When the designer contacted me, I arranged for a meeting either in person or via *Skype* to conduct the interview. One designer was a personal contact and the interview was arranged over email. Designers were asked about their history in the business, what had prompted them to enter the field and to describe their current roles, projects and process of game design, i.e.- what makes a good game. I asked to them to recall their favorite games and what they had particularly enjoyed about each game. I asked each whether they had had any experience with product placement, and if yes, to describe how various products were placed in games and to to recall any tobacco imagery in games, whether they had placed any tobacco imagery in games and to discuss why tobacco imagery might be used in a

game. Each designer was also asked to discuss their perceptions of the accuracy of the ESRB and their opinions on current and potential regulations of the industry.

For all participants, regardless of interview style, written consent and/or assent was obtained. For interviews conducted online, the consent form was presented and signed electronically. Parental consent was obtained for all participants under age 18. All participants were given a $20 gift card. The study was approved by UCSF's CHR (IRB #11-06485).

Other data sources

As interviewing progressed, it became clear that I needed to develop a working knowledge of the games in question so that I could place the participants' comments in context, discover the accuracy of their memory of tobacco content, and quantify the amount present, if any. Other video game content studies used trained game players to play the games in question for a specified time and record relevant content (Haninger, Ryan, & Thompson, 2004; Haninger & Thompson, 2004; Ivory, Williams, Martins, & Consalvo, 2009; Thompson, Tepichin, & Haninger, 2006). This was not a feasible methodology for this project for several reasons: the number and cost of the video games mentioned made it prohibitive, with some being relatively old and rare, and developing the gaming skills necessary to become proficient in the variety of games and game genres mentioned was not an efficient use of time. Perhaps most importantly, games often take 20 or more hours to play through, and even playing for a half an hour to an hour, as done by other researchers examining different types of content, might not have revealed the type and extent of the tobacco content present in the game. I discovered this iteratively with attempts to play a few games. I also attempted to gather this information directly

through observation of game play. While this observation was useful for understanding game culture, it was not productive for the question of determining amount and type of tobacco content. After directly observing 40 hours of game play with various players, either in person or via the website *Twitch* (a website where players broadcast their game playing in real time and respond to comments) and taking field notes, I found that I still did not have a good understanding the amount and the uses of the tobacco content in each game. Players often repeated the same game segment over and over, attempting to best that particular level, not allowing me to examine the arc of the game and whether tobacco content was present in other segments of the game.

I then turned to the internet. I started doing general *Google* searches with the names of the games and the terms, "smoking, cigarette, cigar, pipe," or "tobacco." Again, results were inconsistent. For example, the term "cigarette" and the game name would turn up hits about how players liked to smoke when playing a certain game, without reliable verification of whether tobacco content actually existed in the named game. In addition, many games have film counterparts and it was difficult to parse out tobacco content present in the video game versus tobacco content present in other media with the same title.

After much trial and error, I developed a search strategy which included examining the *Entertainment Software Ratings Board* (ESRB) website, *Common Sense Media's* website, the *Internet Movie Database* (IMDb) website, individual game wiki sites and *You Tube* game movies. The ESRB, according to its website, provided tobacco content descriptors for games that contain tobacco. *Common Sense Media* was an independent, non-profit organization which provided game ratings especially aimed at

parents to help them select appropriate media for their children. One of the ratings they assign was labeled "drinking, drugs and smoking," rating the game between 0 and 5 for intensity of use. A short description of the specific content in question was included (Common Sense Media, 2015a). IMDb, an Amazon subsidiary, provided a section where registered consumers could post video game reviews. One of the subsections was the Parents Guide, which included a place where users could comment on the alcohol, drugs and smoking content in the game. Game wikis were fan websites where game players gathered outside of the game, posted and collected game information, providing a place where the game world as experienced by players was described. In each game wiki's search engine, I placed the individual terms "cigarette, cigar, tobacco, pipe," and "smoking" and examined all results for relevance. To find *You Tube* videos, I initially placed the name of the game or game series into *You Tube's* search engine. However, there were often multiple *You Tube* movies about the same game. I selected the ones that had the terms "cut scenes" or "movie" in their titles, as these were more likely to cover the arc of game play. If there were multiple hits, I selected the one with the largest view count. Often I watched several game movies for each game to select the movie that covered the most content. While none of the above methods alone provided an adequate picture of the tobacco content in the games played by participants, by gathering data from these multiple sources, I was able to ascertain which games contained tobacco content.

Analytic procedures

Interviews were transcribed and coded using NVivo software(QSR International Pty Ltd, 2014). Data were coded using an inductive approach focused on analysis identifying narratives, themes, and strong exemplars as described by Benner (Patricia

Benner, 1994). As codes were developed, they were refined and discussed through discussion and data review with my dissertation advisor. Portions of raw data and emerging interpretive findings were also shared and discussed with a group of qualitative researchers to further refine the analysis. All games discussed by participants or noted as favorites in the demographic survey were catalogued, along with the number of participants favoriting each particular game, and whether the participant recalled tobacco content within the game.

For game content, each was examined using the above described methods. The following data points were collected: date of release, type of game, ESRB rating, whether it was a single or multiplayer game, number of participants recalling the game, number of participants recalling tobacco content in the game, the main goals of each game, what the player was required to do to move through the game, the extent and type of tobacco content found, if any, the sources of verification and participant comments on each game's tobacco content. Once information was catalogued about each game, games were examined for commonalities and differences. These were further refined into categories and themes to understand the the breadth of games played and the types of tobacco content found.

Because game titles were largely collected from the narrative of the participants, particular problems presented themselves when deciding if a game contained tobacco content. Many games are part of a series, such as *Grand Theft Aut*o (GTA) which has 12 main games, or *Pokemon*, which has at least 17 main games, not including other spin-offs. If a game was specifically mentioned I searched for that game. However, if a series of games was mentioned, for example, a participant stating that he/she liked the series, I

employed two different strategies. For the article, *Tobacco imagery in video games: ratings and gamer recall*, (chapter 5) I searched specifically for the most recent game in the series published before December 31, 2014 that was played on a console or full-size gaming computer. I did this so that there was a discrete number of games and individual games could be compared against their respective ESRB ratings.

However, when analyzing the data for chapter 6, exploring the way gamers perceive tobacco imagery, I employed slightly different strategies in order to extend the breadth of the sample and better understand the scope of the issue. In this sample, I considered all of the games mentioned, not only ones with ESRB ratings. This resulted in an additional three games containing verified tobacco content. For games that were mentioned in a series, I examined the entire series for smoking content. Because of the sheer volume of these data, after I found tobacco content in a least one game, I considered the game series as having tobacco content. By considering data in this manner, an additional three games were added to the total number of games containing tobacco content.

However, neither method is without its difficulties. For example, considering only the most recent game leaves out significant content in previous games. In GTA or the *Metal Gear Solid* series there is substantial tobacco content in almost all games published, and to consider only one game minimizes the extent of the content. To consider the game as part of a series allows other games to be included, even if the most recent game does not contain tobacco content, such as in the *Kirby* series of games, where a smoking whale makes an appearance in one of the earlier games, but not in the most recent. However, this method, while capturing more tobacco content, is less specific

as the tobacco content may only be in one game, and not integrated into the entire series. In future research further refinement of techniques to catalogue tobacco content would be beneficial.

Limitations

This study has multiple limitations. The in-person interview sample was a convenience sample of Northern California players and not representative of the adolescent playing community. Data collected online was a convenience sample of those who use the website *Redditt*. As I did not meet in-person any of the players recruited online, there is no way of verifying the demographic information obtained.

While every effort was made to be accurate in data collection and analysis, since each game was not played in its entirety there are likely games that contain tobacco content that were missed. In addition, many games have active "modding" communities. These are communities that modify the game content, often with game designer tacit approval, changing the original game imagery into something that the designer did not intend. It is possible that some of the content tagged as designer inserted tobacco content might have been actually inserted by the modding community and not present in the original game.

Another limitation is that the gaming experience within the same game title may be diverse from player to player. Games unfold in various ways depending on the choices and actions of players, possibly exposing them to dissimilar content, including tobacco content. Some games can be played in multiple modes, again changing the content. For example, in some *Call of Duty* games a player can choose to play in either campaign or multiplayer mode. If a person plays in campaign mode, he/she plays through the story

and is exposed to multiple tobacco impressions. If the player plays in multiplayer mode, the story arc is muted and the player sees no tobacco imagery (personal communication with an adult who played *Call of Duty* professionally when she was 15). This complicates analysis and the interpretation of results. For the purposes of this dissertation, I examined games in their campaign modes or story modes, but whether what I was seeing and analyzing always reflected the content that most participants engaged with is unclear.

I was also limited, as is every researcher whether acknowledged or not, by my situated perspective in the world (Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989). We are all born into an environment where our possibilities are structured by those choices that are available and possible for us. This informed my understanding of how I perceive and interact with the world. It was important to understand the biases that all researchers have, as they inform the questions asked, the answers they are able to hear, and the way they interpret the data (Patricia Benner, 1994). This affected the way that I perceived the project; when I was interpreting the data, I found myself looking to place culpability on industry and industry-created discourses. While I believe that I have tried to ground my findings in my data, I am aware that I am interpreting it from my own situated perspective and someone else, with the same data set, might develop an entirely different set of interpretations; both might, in their way, be equally true.

Rigor

Rigor in qualitative data is also grounded in the fittingness, auditability, credibility, trustworthiness and saturation of the data and subsequent analysis (Denzin & Lincoln, 2000; El Hussein, Jakubec, & Osuji, 2016; Rolfe, 2006). Fittingness, also called

transferability, demonstrates that the research has applicability to others in similar situations. Placing this research within the context of previous research on the effect of movie tobacco content on adolescents and examining other areas of video game research such as violence in video games demonstrates that the findings are consistent with other studies. Auditability, or creating an audit trail, was maintained by keeping records of various methods and searches, reporting on where the evidence of tobacco content in games was obtained, and staying close to the data when doing interpretation. In addition, raw data and preliminary findings were shared with other qualitative researchers for feedback. Credibility and trustworthiness were established similarly, by sharing data and preliminary findings with other researchers and by writing thick descriptions of the data, constantly checking back with the original interview data to insure that conclusions fit with the whole. Use of multiple data sources was employed to assure accuracy in the findings, especially when games were reported to have tobacco content. Finally, saturation was achieved by continuing to interview participants until no new information was obtained and multiple viewpoints and ideas had been expressed.

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Chapter Four

"It feels more real": An Interpretive Phenomenological Study of the Meaning of Video Games in Adolescent and Young Adult Lives

Adolescents and young adults spend increasing time using online electronic media, including video games. In 1999, on average, United States adolescents between 8 and 18 years old spent 3 hours and 52 minutes daily using screen-based media for non-school or job-related purposes, including; television, computers, videos, movies and video games. Twenty-six minutes of that time was spent playing electronic games (Rideout, Foehr, & Roberts, 2010). By 2015, on average, adolescents between 13 and 18 spent 6 hours and 40 minutes daily recreationally using screen-based media, with an average of 1 hour 21 minutes of that time spent playing video games (Rideout, 2015). On any given day, 56% of adolescents, 72% of boys and 38% of girls, play electronic games. On those days on which games are played, about 2 hours and 25 minutes is spent gaming (Rideout, 2015).

Given that a majority of adolescents play electronic games, understanding how young people experience electronic game play becomes important in order to consider what consequences such play may have for youth development. Heath behaviors formed in adolescence often continue to become lifelong behaviors (Sawyer, et al., 2012). Previous research has shown a relationship between media exposure to risk-taking behavior imagery, such as smoking or drinking, and subsequent uptake of that behavior (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Dalton, et al., 2009; Glantz, Iaccopucci, Titus, & Polansky, 2012; Hanewinkel, Isensee, Sargent, & Morgenstern, 2011; Lovato, Linn, Stead, & Best, 2003; Sargent, et al., 2005; Sargent, Wills,

Stoolmiller, Gibson, & Gibbons, 2006; Song, Ling, Neilands, & Glantz, 2007; Stoolmiller, et al., 2012; Thompson & Gunther, 2007; Titus-Ernstoff, Dalton, Adachi-Mejia, Longacre, & Beach, 2008), suggesting the power of media to shape normative behavior among adolescents.

Self-perception and identity are important factors in shaping the health choices of adolescents (Gardner, de Bruijn, & Lally, 2012; Hassandra, et al., 2011; Rise, Sheeran, & Hukkelberg, 2010), yet little is known about whether and how video game playing may affect these factors. Much of the previous work on gaming, health and adolescents has focused on whether playing violent video games increases aggressiveness, with little work on how playing electronic games impacts self-perceptions and subsequent health choices. In this article, we report findings from a qualitative study that aimed to describe: (1) the experiences of electronic game players and the factors that motivate them to play extensively, and (2) how gaming shapes adolescent behavior. We discuss the landscape of the games played by the participants and then, using data collected from interviews, we examine how adolescents perceive themselves in relationship to their game playing. We then discuss how game designers design games to appeal to some of the developmental needs of adolescents. We conclude by suggesting possible ways in which gaming shapes identity and why gaming should be considered in adolescent healthcare initiatives.

Background

Adolescence

Adolescence has been characterized as constituting a time of intensive identity development (Arnett, 2000; Erikson, 1968; Kroger, Martinussen, & Marcia, 2010;

Meeus, 2011; Steinberg & Morris, 2001). Typically, adolescents seek out new experiences, have strong emotions, develop a sense of self-worth, establish important relationships outside of the family (Konrad, Firk, & Uhlhaas, 2013) and engage in exploring various potential selves and ways of being. Recent studies of adolescent brain development demonstrate that the pre-frontal cortex and the limbic system, which are related to cognitive functioning and self-regulation, continue to develop well into the twenties (Lebel & Beaulieu, 2011; Padmanabhan, Geier, Ordaz, Teslovich, & Luna, 2011; Smetana, Campione-Barr, & Metzger, 2006). The subcortical limbic and the reward system mature earlier than the prefrontal cortex (Mills, Goddings, Clasen, Giedd, & Blakemore, 2014). This aspect of brain development gives adolescents the desire to engage in risk-taking behavior, especially within the company of like-minded friends, but not the capacity to fully reason out the long-term consequences of their behavior. The experiences in which an adolescent engages affect the development of the rapidly changing and developing teen brain (Tierney, Krizman, & Kraus, 2015). As young people move through adolescence and young adulthood, they are shaping and being shaped by their environments (Steinberg & Morris, 2001). Increasingly, these include a variety of immersive electronic environments.

Adolescent development and video games

Research on the effects of video games on adolescent development has primarily focused on violent game play and its relationship to aggression (Beck, Boys, Rose, & Beck, 2012; Gabbiadini, Andrighetto, & Volpato, 2012; Rothmund, Gollwitzer, & Klimmt, 2011; Saleem, Anderson, & Gentile, 2012; Willoughby, Adachi, & Good, 2012). A recent meta-analysis suggested that exposure to violent video games is causally linked

to increased aggressive behavior, aggressive affect and aggressive cognition (Anderson, et al., 2010). For example, exposure to the violent action game *Grand Theft Auto IV* was found to predict higher levels of moral disengagement (Gabbiadini, et al., 2012). In a meta-analysis of over 80,000 participants and 105 independent effect sizes, risk glorification, including smoking, drinking and dangerous driving, in various media formats was causally linked to increased risk-taking inclinations, with the effects stronger for active media such as video games than for passive media such as film (Fischer, Greitemeyer, Kastenmuller, Vogrincic, & Sauer, 2011).

However, research also indicates that, depending on the game played, video game play may have positive consequences as well: improvements in a range of visual-spatial skills, increased knowledge and skills when educational games are played, improved activity levels with exercise games, increased empathy and caring with prosocial games, and feelings of achievement, friendship and community (Greitemeyer & Mügge, 2014; Prot, McDonald, Anderson, & Gentile, 2012; Sublette & Mullan, 2012). Together this research indicates that games may have complex multi-faceted effects on adolescents.

Video games today

The most striking difference between electronic games and more traditional media such a television, movies or books, is that games are interactive. In television, movies and books, the user is a passive observer, with no ability to manipulate the storyline (Granic, Lobel, & Engels, 2014). In gaming, players act on elements presented to them, and the game responds based on the choices and actions of the player. There is incredible diversity in current games, and experience of video game play is evolving. The first video games widely played by adolescents appeared in the 1970s, with games such as Pong,

Space Invaders and Pac-Man, played both at home and in arcades (Donovan & Garriott, 2010; Kent, 2010). These games were simple both graphically and in terms of plot. As technology has advanced, so have video games, becoming graphically complex, often with intricate storylines, and are usually extremely expensive to produce. For example, *Grand Theft Auto V* reportedly cost $265 million to develop and market (Villapaz, 2013). However, games are also very profitable. In the United States in 2014, consumers spent $22.4 billion on video games and equipment (Entertainment Software Association, 2015) compared to $10.4 billion in movie box office receipts in both the US and Canada (Motion Picture Association of America Inc., 2015).

Video games today can be played on a variety of platforms, including consoles, handheld gaming devices, computers, smartphones and tablets. This allows gamers to carry a gaming device at all times and to choose never to be without the capacity to game. Game genres have also expanded to include many ways of interacting both with the game and with others who may also be playing. Players can play games where they experience being on a virtual battlefield, go into space, experience the past or a version of the future, or play in a fantasy world limited only by the affordances of the game and their imaginations. Many games have multiplayer modes, allowing players to play with friends either in the same room or physically far away, as well as with people they have never physically met, creating new ways for people to interact and be with others. Video games can also serve as social media, with some games hosting large, interactive virtual communities (Donovan & Garriott, 2010). These massively multiple online games (MMOG) are persistent online worlds in which play continues even when the individual player is logged off. In these worlds, players can engage in collaborative social

interactions by creating a personal avatar to interact with others in virtual space (Yee, 2006). For example, at the end of 2013, the MMOG *World of Warcraft* had 7.6 million active accounts and players daily partook in 900,000 player-versus-environment instances, 600,000 player-versus-player battles and 2.8 million trades in the game's auction House (Sarkar, 2014).

These diverse and complex worlds where many adolescents go each day should be investigated to learn how games figure in the self-conceptions and identities of developing youth. The purpose of this paper is two-fold: to describe the types of games that adolescents are playing and to explore whether and how these complex immersive video game environments impact self-perception and identity development.

Methods

Framework

Interpretive phenomenology (IP) was used as the methodology for this study. In this tradition, interpretation draws from Heidegger's conceptualization of 'being-in-the-world', which views people as being inseparable from the context of their lives (Dreyfus, 1991; Martin Heidegger, 1962). Researchers seek to gain a deeper understanding of the nature of everyday experiences by exploring both the content and the context of participants' actions (Van Manen, 1990). The focus is on exploring the meaning and significance of the issues and events under question (Smith, Flowers, & Larkin, 2009; Van Manen, 1990). Researchers using interpretive phenomenological approaches therefore study persons, events and practices in their own terms in order to understand the world of the participant, their activities and what they see as valuable and important to themselves and others (Benner, 1994).

IP owes much of its theoretical roots to the writings of Martin Heidegger. In his seminal book *Being and Time* (Heidegger, 1962/1927), Heidegger attempts to answer the ontological question, "what does it mean to be human?" (Leonard, 1989). Writing in conversation with the concept of Cartesian dualism, Heiddeger states that the subject/object (i.e. internal/external world) way of understanding misses the point. He posits that there is no internal/external world, but rather only the world which humans inhabit. The world is both constitutive of and constituted by the self and each person is embodied in the world. Humans and the world they inhabit form a unitary concept, which Heidegger calls "being-in-the world." From this perspective, the world is a meaningful set of relationships, practices and language specific to a certain time and place (Benner, 1994; Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989). Because of this, how we experience and interpret the world is situated both in time and place and in the practices and understanding of our world. Heidegger contends that each person's possibilities are shaped by the world that they inhabit (Benner, 1994; H.L. Dreyfus, 1991; Heidegger, 1962/1927; Leonard, 1989; Smith, et al., 2009; Van Manen, 1990). Heidegger calls this a person's "thrownness," literally the world into which he/she is thrown at birth. This world provides certain affordances and constraints, as well as implicit knowledge gained from growing up and engaging with one's surroundings. In addition, even in similar geographical areas and times, more than one "world" can exist.

Heidegger also posits that there are three ways of being-in-the-world: ready-to-hand, unready-to-hand, and present-at-hand (Dreyfus, 1991; Heidegger, 1962/1927). Ready-to-hand is the practical pre-ontological mode of being that we exist in most of the time. In this state, our world is almost invisible, in a state of normalcy, as we go about

our day-to-day lives. This familiarity with the world is constitutive for humans. When a person engages with an object that is ready-to-hand, that object recedes into the background, and the task becomes fluid. For example, if we need to talk to someone, we may pick up the telephone. The telephone is almost invisible, a tool used but not really noticed; the important issue is the person on the other end of the line. A person for whom a telephone is part of their thrownness will already know what a telephone is for, without thinking consciously about it. However, if the phone is picked up and there is no dial tone, the telephone becomes suddenly apparent and noticeable because it is not performing as expected. It intrudes upon and obstructs smooth functioning. Finally, if a person then contemplates, reflects on and studies the telephone and how strange it is that a device made of metal and plastic can carry a voice around the planet, the person is now in what Heidegger calls the present-at-hand mode.

For adolescents growing up in the United States, electronic games are part of their thrownness. They are digital natives, having grown up in a world where computers, video games cell phones and connectivity are thoroughly enmeshed with society. Different from any other time in human history, adolescents are now able to carry much of the world's written knowledge in their pockets, communicate instantly, keep people updated to all activities and game at any time. Key to understanding the health implications of this fundamental change is to ask teens to describe what seems obvious to them, their experience of playing electronic games.

Participant selection

Both adolescent and game designer participants were recruited. Adolescent participants were recruited from a large west coast metropolitan area via flyers placed on

publicly accessible message boards and snowball sampling. Participants were initially screened via telephone for eligibility. Inclusion criteria were: aged 13-21, able to speak and write English, and self-reported video game play for at least two hours a day on most days during the past year. Parental consent and participant assent was obtained for all participants under 18. Game designer participants were recruited via networking who had acquaintances who were in the video game industry. Inclusion criteria were: working in a paid game design position for at least one year and the ability to speak and write English.

Procedures

Once deemed eligible and having consented/assented, in-person, individual semi-structured interviews were conducted by the first author in locations selected by the participants, such as a library, coffee shop or home. Adolescent participants received a $20 gift card for their participation. Interviews lasted between 30 minutes to 1.5 hours and were audiotaped and transcribed verbatim. Adolescents were first given a demographic survey, asking age, race/ethnicity, stage in school, hours per day spent playing, age they started playing video games, favorite games over time and current favorite games. Adolescent participants were asked to describe real life experiences with school, friends and family, then describe their favorite video games, instances of game play that had stood out for them, and to reflect on what gaming meant to them personally. Game designers were also given the option of being interviewed via video conference. Game designers were asked about how they entered into the field, the types of work they did, instances of game design that had stood out for them and to reflect on the relationship between games, game designers and players. Data were coded using an

inductive approach focused on identifying narratives, themes, and strong exemplars as described by Benner (Benner, 1994). As codes were developed, they were refined and discussed through discussion and data review with the second author. Portions of raw data and emerging interpretive findings were also shared and discussed with a group of qualitative researchers to further refine the analysis. NVivo software was used to facilitate data management (QSR International Pty Ltd, 2014). Games were considered favorites of players if they listed them as such in the demographic survey, or if they discussed them during the interview and described game play. Once games were identified, information on game ratings, style of game play, genre, storyline, and goals of the game was obtained by searching the Entertainment Software Rating Board (ESRB) website, Common Sense Media website, game wikis, and other gaming sites such as Reddit, IGN.com, GameFAQ.com and IMDb.com. Games were placed into one of the following genres based on author observation and game information: massively multiple online role playing game (MMORPG), other role playing games (RPG), action/adventure, first person shooter, other shooter, fighting, sports, rhythm, driving, platformer, strategy, puzzle, simulation, and other (Elliott, Golub, Ream, & Dunlap, 2012). While games often had elements of several categories, games were only placed in the one that appeared to be the most representative of the game. In addition, the first author watched and coded approximately 350 hours of video game movies depicting game play and game story selected from the games that the participants stated that they played and were available on the video sharing website *You Tube*. Games were coded for type of game play, storyline, goals of game and the ways that the player interacted with other game features and/or other players. Finally, the first author watched the live play

of approximately 40 hours of gaming, either of participants playing in person or on the website *Twitch*, a gaming site where gamers broadcast live feeds of game play, along with their running commentary. Field notes were taken on the engagement the player had with the game. Study procedures were approved by the University of California, San Francisco Committee on Human Research (IRB NUMBER: 11-06485).

Findings

Adolescents presented a complex picture of the effects of video gaming on their lives. In this paper, we first will consider the landscape of the games that the participants liked to play, exploring game ratings, genres, opponents and perspectives. We then will examine the adolescent experience of being-in-the-game-world, examining several narrative themes. We will consider how games place the player into a world, i.e., the thrownness of each game experience. From within that game world, we will consider how players use gaming to practice, extend and hone identity, with lessons learned flowing into real life. We will then turn to player perceptions of the rewards of gaming: feelings of freedom, control, and empowerment. We will also examine how gaming provides players with stress relief, competence, relaxation and a respite from real life. We will then consider how players experience the violence found in games. Finally, we will contrast adolescents' perceptions of game play with those of game designers.

Participants

See table 1 for characteristics of individual adolescent study participants. See table 2 for characteristics of game designer participants.

The Landscape of Games Played by Adolescent Participants

Game ratings.

Participants discussed games representing all ESRB rating categories except the early childhood (EC) and adults only (AO) categories (See Table 3). (See also Appendix B for a list of all the games played, the participants who played them, game ratings, genre, goals of each game and how players are to overcome game obstacles.) Together, adolescent participants selected as their favorites 99 unique games or game franchises. Many games were listed as favorites by multiple participants, resulting in 201 total games mentioned. The most popular game was the *Super Mario* franchise, played by 50% of participants, followed by *Grand Theft Auto* and *Call of Duty,* each played by 45% of participants. Overall, the most popular games were those rated by the ESRB as "M" for mature, i.e. appropriate for players 17 years and older. Of the total games played by participants, 37% were rated M, despite the fact that mature-rated games make up 6% of the total games ever rated by the ESRB as of January 30, 2015 (Forsyth & Malone, 2015). In 2014, the ESRB rated 14% of the total games it rated that year as M (Entertainment Software Association, 2015). However, 40% of the best-selling video games in 2014 and 35% of the best-selling computer games were rated M (Entertainment Software Association, 2015). Every participant, regardless of age, mentioned they liked to play at least one M rated game. Games rated M contained imagery that included graphic killing sequences, and possibly the use of drugs, alcohol and smoking, or strong sexual suggestion (but not actual graphic intercourse). According to the ESRB, graphic sexual content requires an AO rating.

Genres.

The games participants discussed were varied in genre (See table 4). Most popular were the role-playing and action/adventure games, together representing 28.5% of the

total games discussed by participants. These games featured rich storylines, where the player takes on the role of a character within the game. Playing as the character, the player moves through and manipulates the story. A participant described the sensation as "play[ing] the movie." (Ryan, age 20) Of 58 games represented in these two genres, only one does not have the player's character kill or fight other characters as a method of resolving conflict and furthering the plot. In these games, the player is most often the hero. Completion of the game usually brings the player's character to the heroic state, having saved the world, the planet or civilization.

For participants, the most popular game franchise in the role-playing/action adventure genres was *Grand Theft Auto* (GTA). The GTA franchise is a series of 11 action-adventure games developed by Rockstar Games and distributed by Take-Two Interactive. The franchise has shipped over 220 million copies of the various games to retailers (Sledge, 2015) and is the 4th best-selling franchise of all time (Erbar, 2014). These games are set in fictionalized US cities that closely resemble the actual places. For example, GTA's Los Santos is based on Los Angeles and Liberty City is based on New York. Players play as criminals involved in the city's corrupt underworld. One of the features of GTA games is the player's ability to roam freely in the "open" world and interact with it, exploring detailed and complex environments created by game designers. For example, in all GTA games, the player can drive a car, perhaps freshly stolen, and listen to the radio, changing the stations to hear different genres of music, advertisements and DJs, while exploring neighborhoods, the surrounding city and countryside (Kushner, 2012).

The second most popular genres mentioned as favorites by participants were the 1st and 3rd person shooter games, representing 23.5% of the games discussed. In these games, players hunt down and kill adversaries using guns and other weapons as a central part of the storyline. Numbers of kills are often counted as a measure of game success. In this genre, the most popular games are the *Call of Duty* franchise, a series of 11 main games developed by Treyarch, Infinity Ward and Sledgehammer Games, and published and distributed by Activision. The franchise has sold over 175 million units (Liebel, 2015) and is the 9th best-selling video game franchise (Erbar, 2014). It is a first-person shooter military game, with the player taking the role of various heroic soldiers or US operatives. There are several story arcs, set in diverse time periods, such as World War II, the 1980's, contemporary and in the near future. Game play includes participating in missions that largely involve iterations of killing the enemy, destroying the enemy's equipment and finding intelligence. At the end of the games, if a player achieves the preferred outcome, the player will have successfully ended the conflict, foiled the enemy attack, and saved the world.

Across all game genres, nearly 80% of the games played feature violence: fighting, killing or hurting other characters within the game. Nearly 50% of the games included graphic bloodshed, with dismemberment, decapitation, torture, and/or blood spatters with sounds of pain when the player-controlled character attacked an adversary. (See table 5 and appendix B.)

Cooperative and competitive opponents, live and computer generated.

Among games played, the number and style of people playing with the participant varied widely. Games are either single player, multiplayer, massively multiplayer or a

combination of several. In single player games, the player plays only with the computer. These games may have richly textured worlds that give the illusion that they are populated by electronic people, but the player is playing with computer generated and controlled characters, known as non-playable characters (NPCs). Other games allow for both single and multiplayer play. Multiplayer modes come in various forms. For some, the player engages either co-operatively with one or more people to collectively reach a goal or antagonistically, to defeat one other. For example, in GTA V, the game may be played in single player mode, or the player can join up to thirty other players in the world playing either competitively or cooperatively. Some games only have a multiplayer mode, although the player is often able to choose the level of interactivity with other players. MMOGs are designed to be played with many other people and depend on the complexity of the community to create game play. In MMOGs, players develop an avatar to interact with others in the persistent game world, often forming associations to complete missions. These games, which usually have definable quests, often do not reach an ending as in single player or limited multiplayer games. For example, players in single player games complete the missions, defeat the obstacles and reach the end of the story. In MMOG's there may be missions, obstacles to overcome, but no definitive ending that most will eventually reach. *World of Warcraft* (WOW), played by five of the participants, is an example of this type of MMOG. In this subscription game, players may form guilds, working together to explore the world, complete quests, gather items and make their characters more powerful, but almost none will "finish" the game due to its complexity. In January 2014, Blizzard Entertainment, the makers of WOW, reported that within the game's lifetime 100 million people had created game accounts. Yet, in

February 2014, *Business Insider* reported that there had only been one player who had completed all WOW achievements and collected all the achievement points available in the game (Granshaw, 2014). The game play value comes from the cooperative, community structure of the game and the competitive goals, rather than from completion.

Perspective.

Video games are presented from various perspectives. Many of the games were in the first-person perspective, as if the player was watching with his/her own eyes. In these types of games, the player rarely saw his/her game body, sometimes only in cut scenes (movie-like segments between game play used to further the plot). In the first-person perspective, players would often only see the weapon they were carrying. Games were also frequently created using 3rd person perspective, where players could see the body of the character they were controlling, more like watching an interactive movie. In games shown from the 3rd person perspective, players often are able to customize their character to their liking. Other less frequent game perspectives included top down, i.e. looking down on the field of play or presenting a virtual version of a game board, as in *Tetris* or *Words with Friends*.

Being-In-The-Game-World

Gaming was an important part of participants' lives and was used to fill a variety of social and entertainment needs. As they described them, video games were immersive, performative environments, where participants entered, engaged with the virtual world and overcame obstacles to emerge victorious, or, alternatively, became frustrated and angry. Participants described powerful emotions emerging from game play and ascribed various meanings to the impact game play had on their lives. Participants spoke of the

game world as somewhere they would "go" to have fun, experience things they could not in the real world, relieve stress, engage in relationships, practice identity, gain skills and increase feelings of self-worth. Game playing created a space in which they could enter a state of engaged practical activity within the game and the real world would seem to drop away around them, leaving the game world to temporarily assert ascendancy, often eliciting strong emotion. One participant commented, when asked how he feels in the game world: "Feel good, like nothing really matters" (Tom, age 19). Games also elicited frustration. A 13-year-old gamer spent several hours playing *Grand Theft Auto V*, while I sat watching in the background, and tried over and over to complete a mission involving killing a motorcycle rider and ultimately failed. He became so frustrated with his inability to make the kill that he stopped playing, laid on the floor and cried, saying over and over he "hated the motorcycle rider" (Conner, age 13).

The thrownness of being-in-the-gaming-world.

Participants accepted video games created by the designers as reality for that world. The platform that supported play (computer, console, etc.) became a tool that allowed the player to access the game content but was otherwise transparent. The game content, created by game programmers to work within the platform, constructed the world in which the gamer played, but this content was rarely questioned or problematized by participants: it became mere background to the activities of the games.

For example, several of the participants discussed "grinding," which was the repetitive killing of monsters to increase skills and move up levels. Participants described doing this repetitive work without complaint or question, with one participant describing how she would have her character get virtually drunk prior to grinding to

decrease her in-game dexterity, and make practice more arduous so that she would gain greater skill (Ellen, age 21). Another player mentioned how, while she was allowed to choose her gender in a game, she could only virtually marry someone who had chosen the opposite gender. Her virtual husband from another game was playing a female character in the game *Mabinogi* and when asked why she did not marry him in that game, she responded, "No. If we could I'd probably do it. But no, we can't. And then he won't turn into a guy, so I said, 'Fine'" (Lisa, age 21). For players, the parameters of the virtual world were accepted as received. For Lisa, the gender rules of the game were the reality for that game and for Ellen repetitive game action was "just part of the game." When they entered the game world, they learned the skills and through trial and error understood the limits necessary to successfully interact with the environment and other characters, whether they were actual people or computer-generated. Just as in the real world, once the limits and rules were established, they became invisible to players, and were accepted as the reality for that particular game. Present was both the thrownness of having video games as part of the world of being an adolescent and the specific thrownness of each game and the world it created.

Only one participant questioned the specific limits and boundaries placed in games by the designers and the capabilities of the technology; the structural constraints of these virtual worlds were, if anything, even more taken-for-granted than those of the real world. This participant noted that he was limited in *Call of Duty: Modern Warfare* games to predesigned customizations for his character, "It's what the game designers want you to be," but then went on to discuss that it was not like role-playing games, where the customization was "limitless" (Ryan, age 20). While many MMOs do include a

feature that allows players to construct items and create character modifications, the game code still must supply the building blocks and game arena. Participants were aware that games were designed, as several expressed desires to become professional designers themselves, but once they entered the game world, this awareness receded.

Immersion within the game and feeling like the participant was "in the game" was an important element of playing. One participant, reflecting on his experience with the first-person-shooter *Far Cry*, a game set in a jungle where the player's character carries out missions to save himself and his companions, while hunting down and killing the hostile natives and drug lords, stated:

> During [final] exams I bought a game called *Far Cry*, and it was this game and it just like sucked me in and I played like 12 hours straight 'cause it was just so good… I just felt like I couldn't stop… I felt like I was like in the world (Tom, age 19)

Tom described complete engagement with the world of the game, his total involvement with the story, and experienced his role in the island conflict as vital. In the game space, he had important roles to fulfill and goals to meet and the immediacy of these superseded his need to study in the real world. His role as a college student moved to the background as he became his character during his time in the *Far Cry* world. Tom was "worlded" by the game.

Another participant, discussing his engagement with the game *Halo,* playable in both single player and multi-player mode, stated,

> When I play the game I feel like I'm part of the game itself, you know. Instead of a character in the game, it feels more like I'm part of the game trying to be able to

> advance more of the story line. So when the person in the game shoots someone, I feel like I shoot someone. And when a player in the game gets shot, it just feels like I get shot and as the game progresses it just makes me feel more part of the game itself rather than being in this world (Joel, age 18).

Joel described both a transformative and transportive gaming experience. He experienced himself as actually being in the game and the game temporarily became the world in which he resided. He too was worlded by the game. The boundaries between the real world and the game world dissolved and, while he was physically sitting in front of the screen, he was experientially coping with the world of *Halo.* Rather than finding this experience overwhelming, Joel was able to successfully navigate the multiple worlds he inhabited; the various game worlds and his world as a successful college freshman. Living in these multiple worlds, both real and virtual, and the ability to move in and out was something that the adolescent participants seemed to take for granted.

However, the transition between worlds was not always seamless. Laurie, age 20, described a situation where the 2nd grader she was babysitting would get so engrossed with playing, that he would wet his pants and she had to frequently ask him if he needed to use the bathroom, in attempts to pull him out of the game world to attend to his bodily needs. Video games presented such a compelling world that players would sometimes describe their deep involvement to the point of almost not being aware of the real world. One participant admitted that his girlfriend sometimes had a hard time getting his attention if he was playing:

> I can get kinda semi distracted. I guess I'm concentrating on it, yeah. Cause sometimes when my girlfriend's asking me questions I'm like, "Huh?" or like, "Wait, hold on. I'm trying to beat this boss" (Daniel, age 21).

This sense of "thereness" was something that nearly every participant described. While players were always already here in the real world, the thereness of the game had the ability to move players so that they inhabited both spaces at once, and were both here and there. When deep into a game, players described a sensation where the real world was muted and it was often with considerable effort that they returned to it, especially if it was required by someone or something else and not by choice. The game was not just pixels on a screen to the players, but a universe with its own rules, ways of being, and challenges extended and accepted. Players went into game worlds and returned with narratives that described their experiences and the ways that games meshed with their lives. Not only were the adolescent participants always skillfully coping with the real world but also they were absorbed in the game world, with its own set of concerns.

Gaming as a space to practice, extend and hone identity.

By having a virtual life in MMOGs and/or playing in single-person game worlds, participants were able to practice identities, learn and develop new social skills and take risks, such as experimenting with gender norms. Because of the ability to create a virtual self to match imagination, and not necessarily bodily reality (either their own, or the one imagined by the game designers), gaming served as a "practice world" for participants to develop skills, identities, attitudes and characteristics that could be transferred to real life.

Playing video games allowed participants to experiment with different possibilities and create multiple versions of themselves. Historically, identity locus has

been the person, but with video games, participants were able to develop parts of their identity in the game by manipulating and changing their virtual selves unrestrained by physicality. They identified differences and similarities between their actual selves and their game characters, often noting that their characters had what the participants felt was a superior personality, greater skills and a better body. Participants moved in and out of these various aspirational personas with fluidity, with their characters blending into and informing their actual lives. Participants experienced this ability to shift identity as liberating and identity extending.

Character creation, development and refinement appeared to be part of a highly personal experience. This seemed true for both players who played MMOGs and those who played single-player games. When describing their character's activities, participants most often spoke in the first person, indicating their intense personal involvement and the identification they had with their characters. John, who in real life was a 13-year-old boy attending Catholic School, described his character in the MMO *Star Wars, The Old Republic:*

> Well, I kind of look like a demon. Not like Darth Maul, because he's a Zabrak, but I'm a Sith pure blood. I have like this red face, with chin spikes. And then I have some jewelry. I have a master named Darth Varis, and I'm a – well, first, when you start the game, you're like training to become a Sith. And you're in the Sith Academy and then you have this like, rival dude. And he's like, trying to, and you're both competing to be Darth Varis's apprentice. So then, eventually, he like comes after you and you have to kill him, because you're a Sith and that's the kind of things you do.

John inhabited his Sith character, and did the things that he knew Siths did, like killing rivals and training as an apprentice. He was careful to draw distinctions between his character and others, pointing out his differences and what made him unique. John spoke easily and confidently about being a Sith, clearly having spent many hours engaged in learning to be his character so that his Sith identity was ready-to-hand and he could shrug on that identity easily upon game entry.

Another player discussed why he always picked silver for the color of his light saber when playing *Star Wars* games: "I still like to picture myself in games as a really good guy. I might not be like that in real life, but it's nice to be able to be that good in games" (Sam, age 18). For Sam, his *Star Wars* character represented something better than he perceived himself to be, his aspirational identity. Brian also carefully designed his character for the game *Fallout,* building up the intelligence and strength points. Brian's characters were idealized versions of himself through which he visualized and set goals:

> Then I got to the point where I started to think I'm like a character. I started going to the gym more so I could be strong like my character. I started to study and read and all this more and tinker with stuff so I could be smart like them (Brian, age 20).

Brian identified his game character as like him, but better, setting up a tension between the two, with his actual self striving to become more like his virtual self. He used his virtual self to practice qualities he hoped to cultivate in his real self. Meaning flowed between actual and virtual worlds, both informing and influencing each other, and participants practiced both virtues and vices.

Other participants discussed the character archetypes they preferred. Participants often played similar characters throughout the entirety of their gameplay, choosing to be the villain, the good guy, the magician, or the conflicted hero. Creating avatars allowed participants to practice certain ways of being without having to claim that identity as immediately their own. They could practice making ethical decisions that would be either acceptable or unacceptable in the real world, use judgment, practice being the hero and the antihero and feel how these things might feel, all in relative safety, since they were only "playing a game."

The game environment was a place to try out various personality traits, such as leadership, assertiveness and other social skills. Lisa, the leader of a 40-person guild within the MMOG *Mabinogi,* described what she perceived as the difference between her online avatar and her actual self:

> Definitely my character I think looks better than I do in real life. [Laughter] Well, no, it's kind of like I'm a different person, like I'm more confident [online] and stuff. Like people can look up to me more. Like I'm more of a leader than a follower. I'm more of someone that would do things and not just say I'm going to (Lisa, age 21).

Lisa's discussion of her avatar appeared to promote comparative reflection on the distinctions between the presented self of the game and that of "real life." By trying out leadership skills in a one off environment, she was able to experiment, winnow and hone possible skills that she might use later in the game world and in real life. One male participant, who stated he was extremely shy in high school and had no close friends, described his avatar's more aggressive personality:

> I'd say I'm [as his avatar] more outspoken, and more sarcastic. And I'd say I'm also a bit more - I'd say like chauvinistic. But mostly jokingly. Not really - I don't know. Basically, I'm a bit more rude, I guess. Yeah, slightly more. Compared to me, I am more silent and more polite, I guess (Victor, age 20).

The game again opened an aspirational space where the person-as-avatar could take risks and be more aggressive in social interaction. The avatar's world was one in which such jokes and "rudeness" were apparently tolerated if not encouraged. By contrast, Victor's real-life world was experienced as quieting, requiring a politeness that precluded the "rude" jokes the avatar self liked to make. Victor went on to discuss how he had used the social interaction skills he had practiced during game play to make friends once he entered college and expressed pleasure about his expanding real life social circle.

Gender Identity.

Most of the participants took great care in designing their characters, giving them both physical and emotional traits that were either similar to their own, aspirational or experimental. Several of the participants experimented with gender and age. Assuming a different gender identity in actual life is often fraught with danger and stigma, but because of the ability to create a persona separate from one's real-life self in electronic gaming, it is a much more available option in the virtual world. In one study of 119 online game players, 57% had engaged in gender swapping (Hussain & Griffiths, 2008). Notably, most popular video games present hyper-sexualized females, playing into common stereotypes of women (Downs & Smith, 2010; Fox, Bailenson, & Tricase, 2013). Maria, a 15-year old girl, expressed shock the first time she played *Grand Theft Auto* at the portrayal of women in the game, saying "there's a lot of girls half-naked."

However, rather than question the game, she said that she figured that the game "must be for adults or for guys, you know?" Another female participant explained why she chose to play as a male in MMOGs:

> In my case, I decided after I was 14, that being a girl online was really boring. Like, either people looked down on you, or you know, when other people were - you know, were playing, they would react differently. You know, most of the people online that are playing these kind of games are guys. So when they know that there's a girl online, suddenly you get all this special attention, and I didn't like that. So I think starting from when I was around 14, I made, like, a male persona on those games, and then I would introduce myself as a boy. I was, like, 16 or something like that. I would pretend I was 16. And it was really interesting, because I found that people online, when they think you're a guy, there seems to be more comradeship, camaraderie. Is that the word? They would treat you like a fellow brother, a player, like that, instead of, you know, a girl that you wanna date (Ellen, age 21).

In games that Ellen played, she perceived that there were multiple ways of being a boy: a fellow brother, a player, a comrade, but females were defined by the single relationship they could have with males: a dateable girl. Ellen was interested in playing the game on an equal footing and to do so, she chose the gender that was not othered, which then allowed her more freedom and flexibility. Playing the game as a male character permitted Ellen to engage in "normal" game play, rather than the niche play to which female characters were limited.

Another participant who intermittently changed her gender within the game said:

> Well, it was nice not getting hit on, ‘cause when you’re a girl the guys, you know, they want a girl, so if they find out you’re single they’ll hit on you. And when you’re a guy they’ll leave you alone and they actually have respect for you (Lisa, age 21).

Changing virtual gender, in this way, created a new social space where real-world girls could enjoy play but be insulated from socially uncomfortable or risky situations, and allowed them to experience respect as a peer with males. By altering gender-related tensions, the game allowed female participants to experience identities that were not available to them in the real world. Male participants, on the other hand, generally played as males. When asked if he had ever had a female avatar, Adam responded,

> Not a single one, 'cause in every game I like to connect with my character. I like to feel like I am them. That's why in games where I get to choose my gender, I never choose a girl 'cause I don't feel like I'm them. It just feels weird to not be me in the game (Adam, age 18).

Another male participant was concerned that if he chose a female avatar, she would scream when she died, and ruin “the whole first-person immersion thing” (Samuel, age 18). Both Samuel and Adam felt that selecting a female character would be a barrier to full involvement with the game because a female would do stereotypically female things like scream when faced with death or behave in a weaker fashion, even if the character was being controlled by them as males.

Only one male participant disclosed that he had played as a female character. Brian in the game *Street Fighter,* said he had selected that character because she was nimble and matched his style of play. He went on to say that when he played against his

co-workers and beat them they were surprised by his avatar choice and told him, "Wow, okay. I didn't know she could do that" (Brian, age 20). In this case, choosing a female allowed Brian to display his knowledge of the game to his co-workers and was unusual enough to elicit surprise from other players.

While females seemed to use the game arena for gender experimentation and to alter the social tensions of inequalities, male participants mostly did not, preferring more stereotypically masculine avatars. Being a male version of themselves helped them engage fully in the play experience and maintain fidelity whereas female participants often felt the need to change gender to decrease their visibility among the male players to become "one of the guys" and "get more respect" (Maria, age 15). Most participants' comments and gameplay reflected commonly held beliefs about mainstream gender norms, where success is related to how well a person is able to emulate stereotypic male behavior, demonstrating the fluidity in which hegemonic societal norms move through video games, each reinforcing the other.

The enmeshment of virtual and real life.

To characterize game worlds as purely practice worlds would not be adequate. While these worlds served as practice arenas for adolescent and young adult development, they also functioned as a certain kind of reality in their own right. While participants clearly did not physically go into the game-created worlds, their avatars did. These worlds really existed only on a computer server somewhere, but they were also places that people "went" via their avatars or characters to interact, make friends and play. Characterizing these purely as artificial or fictional practice worlds would obscure the vibrancy that youth experience while playing these worlds.

One participant described playing *Duke Nukem* with her younger brother, and afterwards, acting out the shooting scenes:

> I remember I played Duke Nukem with my youngest brother… Right after, we got little Nerf guns with no bullets in it, and we pretended to go around and shoot monsters we were seeing in the house because I was babysitting him, too. So we would run around. He came and he pointed the gun, and he went, "Bang," and I went, "Why'd you shoot me?" He said, "I saw a monster." And I thought it was a hilarious thing because it looked like he was shooting me… - because he's so small. It looked like he shot me (Laurie, age 20).

This type of play seems to mirror old cops-and-robbers types of play with the added elements of just having been in the immersive environment of a realistic, violent video game. Laurie and her younger brother moved modelled behavior from the video game to the real world, engaging in real world play. Another participant, after having played *Grand Theft Auto,* described how she perceived real world motorcycles differently after watching them used in the game in a theatrical and provocative manner,

> When we get outside and then you could just envision yourself like you would see a motorcycle pass by and I'd be like, "Look a motorcycle, a motorcycle." And I'd be like, "Oh man, I could do so much stuff with a motorcycle", not realizing that you'd have all these limitations. So you'd really be stuck in the real world, just wishing you could do all this stuff. And like my friend won't let me drive his car and then you'd be like, "Man, I wish I could have like a motorcycle" or like you just pull up and be like boom, boom, boom, boom [made shooting gestures with her fingers]. Just like in the game 'cause it was fun (Anna, age 18).

Anna was able to ride motorcycles in the game, making them maneuver in ways not possible in real life, but doing so created desires for possibilities that were not previously considered, and frustration with the constraints that real life imposed. In these participants' stories, imagery and activity in the games of *Grand Theft Auto* and *Duke Nukem* affected how they now perceived the actual world, where they enacted or fantasized about enacting game scenes.

Other participants talked about how playing games actively shaped their personality, identity development and desires. Several discussed how they found it difficult to make friends in the real world and how gaming assisted with their social skill development. MMOGs, representing 12.5% of the games discussed by participants, provided particularly seductive virtual worlds in which to practice. In these worlds, participants are able to craft avatars to represent their ideal selves, and create community via play in a world limited only by parameters of the game and the imagination of the players. The vivid experiences of these virtual worlds sometimes made the actual world pale in comparison, as one participant described:

> Definitely online you have more – any sort of emotion is – it feels more real. But online, you have a bit more freedom. There's more activities you can do. I mean, back in middle school, I couldn't drive. We couldn't – we didn't have money to go anywhere. We couldn't watch any movies or anything like that. So getting together in real life, even though it was thrilling, it was also kind of boring. Online, it gives you a lot more chances to, you know, have something to do, and then maybe later on when you get back together in real life, we actually have something to talk about (Ellen, age 21).

Ellen's rapid-fire changes in tenses reflect the ease with which she moves between virtual and 'real' worlds. Online gaming was experienced as allowing participants to fill gaps in their real-world lives—lack of money or other resources, limited autonomy, even lack of new topics to discuss with friends. For real life to be interesting, it required money, mobility, and entertainment, not assets easily available to Ellen, except in the game. In the game, these assets were at her disposal to engage with and manipulate, making Ellen wish real life could imitate her game world, rather than the game world reflecting her actual real life.

In many virtual worlds participants were able to be more assertive and develop skills that, after repeated practice in-game, they were able to transfer to the actual world, resulting in more satisfying social lives. One participant, reflecting on how gaming had impacted her life stated,

> I also have to say that games - I mean, back when I was younger I was really shy. So games, they gave me sort of, like, a portal to experimenting with the different types of personality, and I really do think that it helped me to become a more assertive person, you know, better at talking to others (Ellen, age 21).

Participants also discussed how their virtual gaming communities were highly significant to them. Lisa, describing her role as guild leader, commented,

> Well, make sure I'm active and interact with my guild-mates. Make sure that, you know, I'm there when they need me, like 'cause they need help sometimes doing quests and getting stuff, like items. So I help them with that, make sure I help (Lisa, age 21).

Having played various MMOGs since her middle teens, Lisa described a time in her life where the gaming community was more important to her then her real-life friends, stating,

> Well, it was during a time when I felt like my friends couldn't really understand how I felt. Like they couldn't just like, oh, they'll ask me like how I feel, but then they don't really understand. And then when I talk to my friends online it's like, 'cause they couldn't – they said they went through the same thing basically, so they said that they could relate. And it felt like, "Oh, okay, so I can relate to them more than my real life (friends)'cause they understand." 'Cause we went through the same things, 'cause mainly where we came from (Lisa, age 21).

In Lisa's game world she mattered, was needed and was understood. It was a place she could go as sanctuary, finding friends that helped her through adolescence, and gave her the opportunity to become a leader. Gaming, and all that it entailed, was a formative part of Lisa's identity development, shaping the way she related to the real world.

The ability to shape thoughts and behavior was further exemplified by the relationships that participants reported having had while gaming in virtual worlds. While not relationships where the partners shared physical space, they did involve genuine emotions and commitments. For example, Lisa described her online husband, whom she had known virtually for the past seven years and communicated with up to five hours a day, "Yeah, I've married a few guys. [in games] But there's only one of them I've been really close to… I would say he would be a candidate for real life if we could meet." Another participant described his virtual wedding and subsequent breakup with a woman who lived in New Zealand:

> And yeah, and my friends that we knew at that time all showed up [to the virtual wedding] and were like, "Congratulations." Pretty much like an actual real one. And but that lasted for about over a year until I guess she needed - she didn't want to play anymore, I guess, and she had other real life things going on for her, so she decided to leave the game. I was really pretty crushed when I - because I had known - because I guess that relationship was kind of pretty close to me, and I really enjoyed that time with her, and I was pretty hurt when she decided to leave for good. Like she even stopped blogging online, and I couldn't communicate with her anymore (Victor, age 20).

The intimacy formed through the virtual marriage was clearly real—and its loss devastating-- even though the wedding occurred in-game and the two never actually met in real life, revealing the way these gaming worlds create new forms of closeness that participants like Victor yearned to extend and continue even when play ended. The emotions engaged were genuine.

Together, the participants painted a picture of video gaming as an integral and important part of their lives, absorbing both their time and energy and serving as not only entertainment, but as a place to find companionship, security and freedom.

The rewards of gaming: freedom, empowerment, control, feeling good, relaxation and stress relief.

The wide variety of games played by participants provided players with various levels of bounded agency, depending on the game. MMOGs, because of the number of players, usually allowed participants to interact and develop their own narratives through the game. Stories and relationships could be created between players, and while still

existing within the affordances of the game, allowed flexibility and creativity in patterns of game play and progression. Most games, regardless of genre, rewarded increasing skill and time spent in the game, allowing participant avatars to become more powerful and better able to move through the challenges presented. Open world games, such as GTA, allow the participants to freely roam the created world, with one participant describing it as a place "that has no limits" (Anna, age 18). Other, more linear games, such as the *Metal Gear Solid* series, provided a storyline for the participant to work through, making choices along the way, and depending on the choices, leading to several possible endings.

Participants discussed this sense of freedom, empowerment and control that game playing gave them. Participants were clear in differentiating between the real world and the game world, with the game world as being a place where "no one controls you" (Maria, age 15), you "can do anything that you want" (Tom, age 19), "you can control people" (Mark, age 16), and "there's a story to it, but you have your freedom" (Laurie, age 20), whereas in the real world there were constraints and rules to follow. Samuel, age 18, talked about how he enjoyed the agency that games afforded him,

> Like if you're playing a game like *Heavy Rain*, you do all sorts of things that you may not have want – it's – you really feel like you're controlling these peoples' lives and sometimes you feel like you are them, and sometimes you feel like you're playing God with them. Having that kind of power over someone is kind of interesting.

There are very few other spaces in adolescents' lives that allow them to control other peoples' lives to the extent allowed in video games. Samuel perceived that he had

ultimate control over the choices that his character made and he could make that character bend to his will. For Samuel, for whom high school had been a struggle and peer relations difficult, to have power and control over people was likely exhilarating.

Participants spoke of how the game world allowed them to do things that they could not in real life. The participants were engaged in school in their actual lives and, when asked to describe a usual day reported that they would get up, go to school, do homework, eat, engage with friends, parents and others and then go to bed, with it all to be repeated the next day. Participants described their real worlds as bounded by schedules, grades, parents and peers. Yet, when they entered the game world, these restrictions were lifted and their roles shifted from students to people of importance engaged in "big events that are exciting" (Adam, age 18). One 8th grader, when asked about what it felt like to play a role-playing game said:

> Well, in the avatar world, I have like, less restrictions as to what I would do. And I usually find myself playing the friendly hit-man game, player style. Inside of like the Elvish Scrolls games, because those are like, I would say, they feel very real to me… I don't do very many exciting things in the real world, but if I was doing things exciting in the real world, that would be more exciting, but the avatar world is supposed to be exciting, because it lets you do things that you normally couldn't or wouldn't do… So you're always like trying to stop something that's like really big happening and you're being a very important person (John, age 13).

For John, games provided a way that he could feel significant and necessary, thus building his self-confidence. By developing skills at being "a friendly hit man" John was able to gain a feeling of competency and mastery and gain control over a world not

normally granted to a 13-year-old boy. For John saving the world was exciting, but doing homework and feeding the dog was not.

Tom described how during game play, he felt "good." In this fluid ready-to-hand game state, participants reported feelings of relaxation and stress-relief and sought further game play to continue those feelings. Game play brought a sense of relaxation and calm coupled with feelings of competence and mastery for Joel:

> Oh, I've played this game called Halo… and when I play that game it takes out the aggression in me. It just takes out the stresses of schoolwork and stresses of family and stuff… Well, yeah. It gives you more confidence. It makes me feel like more than I am. It makes me feel more important. It makes me feel more relaxed than real life.

By creating feelings of empowerment, competence and control video games created a space where adolescents were able let go of their worries and fully engage with the game. For Joel, these feelings contrasted with how he felt in his real life, where he did not necessarily always feel competent and confident in his dealings with the real world, thus elevating the space created by video games to a place he felt he could be his best self. Adam, age 18, echoed this idea of the game world as a refuge from real life, describing the feeling:

> It's really just 'cause in my game life, I don't have to think about everything else. I only have to think about what's in the game. I can just forget everything else for the moment and then just live in the world that I'm playing, basically.

Adam identified the video game space as a place where he could live and have a game life. When he played video games, he reconstituted himself in that world and *was* there mentally and emotionally, even though he bodily stayed in the real world.

For participants, part of that well-being was a feeling of accomplishment and self-valorization. Being able to escape from real-world insecurities and complete a game, beat a level, best the foe, provided adolescents with a sense of achievement that made them feel good about themselves. This strong driver was often cited as one of the things that participants most enjoyed about game playing. One participant described what he felt as a young boy just learning to game:

> It took me over a month of trying over and over. But then when I finally got it, I was like, "Yes, I can't believe I got that far. Look at me." Like apparently, those kind of games are actually really hard, and being able to be someone who can actually beat a hard game made me feel like, "I guess I'm really good at this." I found something that I'm good at (Victor, age 20).

Another participant had a complicated narrative about how video games, by making her feel accomplished, opened the door to wanting that feeling in other aspects of her life. Maria, a high school student who lived with her parents in a modest apartment in a working class neighborhood, described how she felt after she completed her first video game:

> I remember the first game that I actually finished, *Super Mario* and when I rescued the princess, I was like okay, I did it, yes. So I actually completed something… But I did it and I felt accomplished, so I wanted to do more games like this. It'll affect what's in my lifestyle too (Maria, age 15).

She went on to describe how that feeling was so "awesome" she was motivated to complete her homework so that she would be allowed more games in hopes of achieving that feeling again.

A few of the participants discussed how this sense of accomplishment did not however, always translate well into their real lives. Joel, after describing how accomplished he felt when he completed a mission, wryly stated, "except it is not true, I am not in their shoes, I'm just a kid playing a video game." But then he qualified the statement again, saying, "But it makes me proud of myself. Oh, I accomplished something." Ellen, age 21, after describing how she had spent thousands of hours during her high school years developing her virtual skills in various MMOGs, said:

> So I mean, even if we learned how to do alchemy online, there's nothing you can do about it in real life. Or if you killed the greatest monster in the game, well, so what? I mean, you might be able to tell your friends in real life about it, you know, you might have an hour or two of discussion about how you did it, or you know, how cool it was. But afterwards, you know, you just – everybody just resumes to, you know, we're here, we're eating, we're doing homework.

The resumption of the everyday world of a teen or young adult seemed to mean losing that sense of being in a heroic narrative. While in the game world, the adolescent was experiencing both presence in the game world and fluidity, and feelings of power and freedom, usually with an identity crafted to be ideal, making the return to the real world that much more jarring and the real world that much more mundane.

The experience of violence.

In video games, many of the interactions players have with strangers are violent. There may be a group of well-defined allies that support and guide the player's avatar, including NPCs and/or other avatars in multiplayer games, but as the player moves through the game environment, they shoot/eliminate/defeat/kill just about anything else that moves. As games are assigned higher Entertainment and Software Rating Boards (ESRB) ratings, the guns become more realistic and elaborate. Often players have a choice of weapons in the arsenal and can change them at will.

Because of the valorization of weapons and their connection to the success of the game, one of the activities that many participants found particularly relaxing and fun was virtually shooting people, aliens and other identified as enemies. A 13-year old boy, describing what he liked about playing the sniper character in the M-rated game *Team Fortress 2*, stated: "If someone is in one spot for about five seconds, I can kill them...It's fun. You can't do it in real life-so you might as well in the game" (Patrick, age 13).

Participants reported that when they were stressed, they would enter the game world, kill game characters and feel better. Because killing was often one of the goals of the game, doing so effectively and efficiently created feelings of agency and success. Tom, age 18, described feeling of virtually killing as "cathartic:"

> Especially if you've had a hard day, someone's giving you a lot of grief. You're pissed off so you go shoot virtual people in the face for a while and you feel better instead of actually going and shooting real people in the face. That's not fun at all.

Joel, playing with a group of eight online friends unknown to him in real life, found that spending the evening shooting each other also allowed them to talk about other issues in their lives. This group, bonded over their ability to virtually kill one another, provided

support to Joel when his dog died by allowing Joel to shoot them as a way of showing their concern. Joel said, “I just felt bonded by their presence in a way.” Because the valorized and primary activity of the game was killing, doing so linked the players together and became another way to communicate feelings and emotions between themselves.

A few participants expressed some ambivalence over killing as an important and integral part of game play. One participant mentioned that when he first started playing *Call of Duty* games in high school that “it's kinda like distressing 'cause it's just like you go around and shoot people, you throw stuff, explosions, all that stuff” (Brian, age 20). However, he soon became “engaged” with the game and no longer felt any uneasiness. He began to take pride in his skill at killing:

> It gets to a point where you kinda get really competitive. You wanna keep your kill/death ratio at a good – I mean you want to be higher than your GPA, pretty much was the joke at the time. Like, "Oh, my KD was better than my GPA." It was real funny (Brian, age 20).

Another player, after stating that she was not really into games with violence, went on to describe a game in which the player rode around in a car and tried to kill the other characters: “I loved this game so much” (Laurie, age 20). In fact, 10 of the 17 games that Laurie enjoyed playing involved killing or seriously hurting the opponent, making it clear that even if Laurie did not like violence, it still was part of her gaming world. Perhaps this was because most of the popular video games have violence as the core mechanism of game play, leaving limited opportunity for other types of non-violent interaction. (See table 5).

Others differentiated between the types of killing found in games. For example, one participant did not like the violence in *Grand Theft Auto*, calling it "criminal," but enjoyed the killing in *Halo*, finding it "just for competition. Kind of like a sport, I guess" (George, age 18). While both are extremely violent games, in GTA, the killing is often random. For example, the player can run over people on the street, or shoot them at will (Gamer's Little Playground, 2013). However, in Halo, the players kill aliens that are actively attacking them and trying to destroy humanity (Gamer's Little Playground, 2014). George drew a distinction between the random killing in GTA and the more heroic killing in Halo, marking one as legitimate and the other as illegitimate.

The level of graphics and blood increased in games depending on the ESRB rating. Often, in games rated "E", meaning appropriate for all ages, the killing/elimination was comedic or at least not graphic, with the opponents fainting, disappearing in a puff, etc., but without blood. For example, in the E rated game *Little Big Planet,* the player plays as Sackboy, a puppet creature venturing through a fictional world populated by many enemies that frequently attack him. Sackboy can eliminate his enemies in various ways, including: either jumping on the unprotected Creature Brain, detonating them with explosives, hitting them repeatedly with the "Paintinator", or, in the case of the "Terrible Oni", pummeling it with fireballs (LittleBigPlanet Wiki Community, 2012). As games received higher ratings, the level of realism and blood increased, with games rated M often including violent death scenes and torture. For example, in *Grand Theft Auto V,* during a mission in which the player was to extract information from a character by torture, the player could use waterboarding, electric shock, beating with a wrench, or pulling teeth out with pliers to encourage the character

to talk. Other games showed graphic bleeding, body parts being ripped off and mass carnage. Players experienced this violence as part of the game play, fun and often necessary to engage fully with the game.

Video Game Designers on Video Game Design

Getting started.

The game designers interviewed represented a diversity of experience, yet each described their love of games, starting from when they were young, and spoke about how that childhood passion turned into a livelihood. While many of the adolescent participants spoke of wanting to become game designers someday because of their love of the games, the game designers looked backward and discussed how their childhood and adolescent playing had inspired their current vocations:

> I must've been eight or nine when I started playing like a handful of computer games here and there. And of course, I loved them, and I thought they were awesome. I'm like, "This is so cool" (Vincent).

Another designer said, "Man, I mean I've always loved games. Games were a huge part of my life growing up from very early age" (Kai). Once the designers entered the industry, there was a lot of fluidity, with designers moving from studio to studio seeking workspaces that allowed them the most creative freedom. Two designers that worked for large studios at the time of the interview reported that, while they enjoyed the level of creativity they currently had, they planned to change jobs soon to studios that were smaller and would offer even more creativity, with one designer commenting, "I don't know that I want to make other people's games forever, I'd love to take on something more creative" (Henry). Another designer was working on designing her own game,

after having designed casual games for large companies, so that she could make the kind of game she wanted. Another worked for a small independent studio in order to allow him to be more creative and design the type of he "would want to play" (Vincent). The fifth participant had worked for many years in the industry, designing for various companies, and finally worked with several colleagues in their own company where they would have creative control.

The opportunity to be creative, and love for the game were central elements of each designer's narrative. It was from this perspective that the game designers spoke of the art form of design and the desire to make beautiful, yet fun games. Designing for a hugely popular first-person shooter, one designer discussed how his role in a large team still allowed him the freedom to be creative:

> You know I need to coordinate with the lead designers just to make sure that all the story beats fall into place, but [in that] scene they give me a lot of freedom, …and I can write my own dialogue. And I can design a whole bunch of the spaces (Henry).

While Henry acknowledged that he was a member of larger team and had to conform his design to the overall arc of the story, he stressed being allowed creative freedom to design his own spaces in the game. Other designers spoke about how they were able to create beautiful water scenes, fun play spaces, games in which a player must consider a character's relative happiness, and games in which a player would be able to build a civilization from scratch. For designers, game design opened aspirational spaces where they could exercise creativity and artistry to make something that they cared about.

Designing the playing experience.

While players experienced video games as places of freedom, accomplishment and possibility, designers discussed how those feelings were consciously inserted into the gaming experience. Steven discussed the process of designing games to be fun and challenging, but not too challenging:

> A lot of times we would just ask people what they like doing more and you found that if you required too much mental work, it was too close to work so you had to back it off some. You had to make it so that there is kind of this pay off thing that you are trying to do psychologically trying to give somebody, feel good about yourself every about 20 minutes or so. You weren't trying to frustrate them. You were trying, when it comes down to it, it's just like any other kind of leisure time or activities you are trying to make people feel good about themselves, whether you know, climbing up a rock wall or matching candy in a grid, it kind of all results in the same type of, I guess dopamine release. That's what you're looking for (Steven).

According to Steven, games are designed to be challenging, yet to still periodically provide that sense of accomplishment critical to keeping players engaged and willing to continue to invest time in the game- in short, to keep the reward cycle going. This purposeful design was seemingly invisible to the adolescent participants, who when entering the game world, became immersed with the experience and accepting of the environment whole cloth.

Designers discussed how they designed games to function in certain ways to draw the player toward the story the designers wanted them to see. One designer recounted how he would create scenes that would require a certain number of kills and

once those kills were achieved, it would trigger events to: "just progress the whole events of the mission step by step all the way through" (Kai). It was important to designers to create experiences that would seem to allow the player to have freedom, but actually moved the player toward the desired outcome. Game designers also discussed how they designed games to provoke certain emotions and actions from players. One game designer discussed how he consciously created aspects of each game to elicit certain responses:

> There's a lot of different kinds of challenges, right? Sometimes it's a writing challenge, and sometimes it's a kind of a psychological challenge or how do you get players to be aware of certain things so that they get a certain emotion or so they achieve tension or whatever. And then, there's a lot of stuff making sure that they see the certain things that you think are important (Henry).

Henry went on to discuss how, when critical plot points are occurring in the game, the designers call attention to them by adding elements to bring the player to the preferred vantage point. He concedes that "you can't control everyone, but you can give them a nudge in the right direction." Henry commented that designers use appealing visuals and dialogue to pull the players' attention to the desired place. By doing this, players still experienced the game as limitless and free, but game designers were able to shape and move the play experience and storyline. A game designer, commenting about player agency, stated,

> You have an illusion of agency, and but you have to go, kind of follow a prescribed plot, and you have to kind of do these things. Otherwise, it becomes

> too complicated. The game designers can't create a game that you can just do anything, especially if they're trying to tell a story (Vincent).

Vincent stressed, however, that it was important for game players to *feel* that they were in control and had freedom of choice. Adolescents in this study reported that this was how they experienced most games. Designers worked to make limits and directions invisible to players, so that decisions that were necessary to progress the game would seem to be freely made by players, thus sustaining the illusion of player agency.

Designers also considered how and why they included experiences that were dangerous and/or unavailable in the real world to make games more fun and exciting. One designer stated:

> It's [the game] not a novel. It's an interactive experience. The player wants to be playing and doing something. Just take the behavior. A lot of it is fantasy fulfillment. I think I probably don't want to snowboard down the side of some crazy mountain in the Alps on my own. I'm not putting my own body at risk, but I would do it in a game and have a virtual experience of that. That's part of the allure. This is really dangerous, but I can totally do this without the risk. It actually removes the risk but gives you the experience (Henry).

Henry acknowledged that video games were designed spaces for players to enter into for fantasy fulfillment and to engage in risky behavior as their game selves. Many of the adolescent participants reported that that they experienced game play in this way; that they felt like they were truly in the game, experiencing emotions and events in first person. By creating these fantasy spaces, game designers opened up the experiences as

possibilities for the players. Adolescents often considered ways in which they could move their game playing worlds into their real world.

Game designers created the worlds in which players play. While in some games, players assisted with content development as part of play (example- *Minecraft*), a majority of games played by participants had them play in pre-determined environments (see appendix B). Many of the most popular games were designed to appeal to adolescent males by featuring heroic stories with strong male characters and beautiful women who often needed rescuing. One game designer, talking about the point of view that many mainstream games take, said:

> Sort of the narrative and the storytelling, the maturity of the storytelling is still – and this is a criticism lobbed at video games – it's just – it's male power fantasies and adolescent male power fantasies. I get to be the supervillain or the superhero, and I get to save the day, and I get to get the girl at the end, and all. And like that has been going for decades now, where we've had that kind of trope play out over and over and over again (Vincent).

This specific appeal to stereotypic male fantasies was apparent in the gender imbalance in this study and the gender imbalance of adolescent game players in general (Rideout, 2015). Game designers have historically predominantly been young men. In 2009, 70% of game designers were under the age of 34 (Jacobs & Moorman, 2012), and in 2013, men still made up 89% of designers (Burrows, 2013). The events and emotions that the designers crafted for the player to experience were often developed to assuage the insecurities of adolescent males worrying about fitting into social constructions of hegemonic masculinity. (For examples, see *Duke Nukem, Call of Duty, Starcraft, Halo,*

Gears of War) Western society often crafts the male ideal as a handsomely buff, tough man, with incredible bravery coupled with stoicism in the face of danger, able to wield weapons and save the girl (Courtenay, 2000). This construction was reflected in many games that adolescents played and in the ideals that players shared.

Commercial aspects of design.

Whether a designer worked for an independent or major studio, they were all very conscious of the business aspects of video game production and that game designing had the potential to be highly profitable. One independent designer, discussing the difference between independent games and games designed by large well-funded studios, stated:

> These AAA games, where AAA is defined usually as very, very high-quality graphics and kind of very cinematic experiences, there's like 250-people, 300-person teams that will work for two, maybe four years, depending on how mismanaged or how difficult the particular problem is, how difficult a game is, and they'll spend like $150 million doing these things (Vincent).

Vincent continued on to discuss how game companies will frequently come out with sequels, parlaying past successes into nearly guaranteed future successes. Vincent noted that if the game company was going to invest large amounts of money, they wanted to know that the product would sell. One designer, having recently worked on an iteration of a franchise military game, stated:

> It will be largest entertainment release of this year. We'll sell more than any movie, any book, any album. People love [name of game] in America. It's a huge game.

Video games have become both big business and fully integrated with youth culture with movie tie-ins, branded merchandise, product placement and their own vernacular.

Because of the wide appeal to youth and young adult audiences, for years advertisers have been aware of the potential power of games to market products (Hang, 2012; Hang & Auty, 2011; Jeong, Bohil, & Biocca, 2011; Lui, Piccoli, & Ives, 2007). One designer, currently designing her own independent game, discussed how she had previously worked making "advergames" for several years. These were games designed specifically for advertising a product as a way of increasing visibility and desire for the object. Discussing the psychology behind advergames using a specific game she had designed, Mary said:

> You would try to engage people with a product like by giving them pictures of themselves as pirates or something or something like that. It was fun but in their subconscious there is this idea that they now associate pirates and their fun with the product. So you're trying to get like inside – like behind, you know, the – you're trying to get inside of people's subconscious, I would. And make them associate the fun and whatever the game is about, with the product.

While advergames' sole purpose was to increase brand awareness and ultimately sales (Harris, Speers, Schwartz, & Brownell, 2012), Mary understood that the transfer mechanism of turning a gamer into a consumer was to create a positive, fun impression of the product that would linger, and flow over into a person's real life in a way that would not necessarily be consciously recalled, but that would arouse positive emotions when a player saw the item thus normalizing the presence of the item in the player's real world.

Designers also discussed product placement in games that did not have product sales as the main motivation. Demonstrating integration across industries, designers discussed how they sometimes were required to brand certain items with logos, using real world logos. Game companies would receive money for inserting brands into games. Most commonly discussed were various automobile brands and clothing brands. A designer working for a large gaming company remarked,

> [Name of game company] used to have a partnership with [name of clothing company], and the character in the game would have technical gloves, and they would be [name of clothing company] brand (Kai).

Product placement was not always a paid exchange, sometimes it could be quid pro quo. One game designer who designed for a major military-based game commented that the gun industry worked with the game industry to make sure that the firearms were accurate and up to date:

> And I think eventually the gun makers took notice, and they liked having their guns in our game, so we kinda just developed this relationship where they would show us the latest guns, and they'd be, hey, can you put this in a game. And we'd be pretty excited to put the latest and greatest guns in the game anyway (Henry).

Placing the most cutting edge guns into the game added to the game's authenticity and gave the gun industry product visibility. However, the designers drew a distinction between this practice and inserting blatant advertising into games where it would not fit the gestalt of the game. Maintaining games as an art form was an important theme with the designers. They had chosen their career because of their love of games and desires to make great games that were fun, yet they were also part of a multi-billion-dollar industry.

Creating games that they felt were artful and true to their vision of the game assisted them in navigating this world. When discussing product placement, designers stated that, while they had no problem with products that added to the authenticity of the game, they would not place products that would not belong in the setting because it would make the game inauthentic. Doing so would be a betrayal of the art form.

Because designers saw the creation of games as art, and design as artistic expression, each stated that it would be inappropriate for game content to be regulated. For designers, games fell into the same categories as painting, music or film. It was okay for the games to have a voluntary rating and a description of content, allowing the purchaser to understand what was being purchased, but mandatory limits were perceived to be an infringement on the artist's expression. One designer remarked:

> Content creators should have the right to create whatever they want in reason. I don't want to make snuff films or anything but within certain bounds nearly anything you want, and it should be up to the consumers who regulate the content. As an adult -you can go buy whatever you want. Nobody really cares (Kai).

According to Kai, it was the parent's responsibility to choose suitable games for their children with the assistance of the ESRB ratings, which are printed "right there on the box." By naming game design an art form and game designers artists, the game designers invoked deeply held western ideals of artistic freedom and personal choice to support the industry's right to create games without interference.

Conclusion

The worlds of electronic gaming constituted complex social arenas in which young people gathered to play, made meaning and socialized. Such play was important

part of life for adolescent participants, creating situations where they practiced skills, tested out ideas and created, developed and manipulated identity in an environment of relative safety. The boundaries between the virtual and the real were fluid and often collapsed as adolescents moved easily between them. For many of the adolescent participants, when they entered the game world, they experienced themselves as truly within the game and when they moved out of the game, they exited as they would real space, taking with them memories, emotions and the sense of having been in a place. Multiple studies have indicated that players respond to images in video games in terms of dopamine release, as if they were really experiencing the game in real life (Elliott, et al., 2012; Kätsyri, Hari, Ravaja, & Nummenmaa, 2013; Kühn, et al., 2011; Padmanabhan, et al., 2011). Moreover, adolescent participants often indicated that their actual world seemed impoverished compared to the opportunities and excitement available to them in the virtual worlds.

Adolescents experienced game worlds without suspicion, as places where they went to feel good about themselves, feel powerful and feel like they mattered. Games were places where adolescents went to demonstrate mastery, to cope with stress and to know that they were all right. They did great things, saved worlds, were strong and powerful, made difficult decisions, and usually were extremely good looking. Adolescents also experienced games as boundary transcending. They could transcend gender, ethics, bodies, personality and the mundaneness of everyday life. Adolescents found they could face harrowing things and scary events, survive and even thrive.

While players inhabited game worlds, it would be false to consider these worlds separate from the real world. All games were always already grounded in the real world,

created by humans, using available technology, skills and imagination. Games reflected, amplified, challenged, distorted, extended, and/or reified what already existed in real life. Possibilities for game worlds were rooted in the imaginations of the designers and limits were created by the technology available and the design possibilities not considered and/or invisible. So while game worlds may seem to have offered a radically free experience for the adolescent players, this was illusory. These worlds were constrained. Their experiences were engineered so that players were challenged, possibly frustrated, but with enough success to keep them engaged and coming back. Multi-player experiences offered more complicated play, adding in competition, cooperation and the unpredictability inherent in playing with characters controlled by other people rather than the computer, pushing boundaries. Yet ultimately, although these game worlds were created from, reflected, and interacted with the actual world they were only able to provide the illusion of radical agency. Limits existed, as acknowledged by game designers, but the adolescent participants were unable to see them. The world created by the designers was the received view, almost a view from nowhere, accepted as the reality for that game.

Because many game players accept the dimensions of the created world as real while they are playing, game companies are uniquely positioned to inculcate game-normative values among players. Video games present a "supernormal" world where everything seems enhanced and larger than life. Studies have indicated that both animals and people, when given the choice, prefer supernormal stimuli to actual stimuli (Barrett, 2010). For the players, the real world paled in comparison. Fleming, Lee and Dworkin, in their work on masculinities, considered how media encourage consumers to buy into

these aspirational identities, but most people found it very difficult to measure up, thus opening possibilities for marketing and behavior changes (Fleming, Lee, & Dworkin, 2014). The research presented in this paper was consistent with this. Players inhabited their characters, but often felt that their character was better than they were in real life. Players learned from, manipulated and strove to be like their game characters. In this way, video games were in a position to reinforce or modify existing stereotypes. By reifying certain ways of being, adolescents held as ideals the values inherent in the game.

The influence of gaming on adolescent development constitutes an area for future research. Since part of the work of adolescence is identity development and risk-taking, it is important to consider how these processes have been affected by some of that work taking place in virtual worlds. This study suggests that a portion of adolescent identity work is happening via gaming and that is taking place largely in environments that use violence as a main problem solving method, glorify extreme risk taking and where gender roles are often hegemonically circumscribed. Yet at the same time, games provide adolescents with a place to try new identities and ways of being, practice social skills and extend and expand their thinking. Adolescents frequently play games at home with adults nearby, providing a sense of legitimacy to the activity. In a 2008 study, 90% of parents stated that they sometimes or always knew what games their children were playing, but 62% of the parents expressed that they thought that video games had no influence on their children, either positively or negatively (Lenhart, et al., 2008). One player remarked, “Videogames expand your horizons. You’ll see things you won’t see in real life. I think that’ll make you more creative. You can imagine new frontiers (Ryan, age 20). Video games have become an increasingly important part of adolescent lives.

Adolescents are keen observers of their environment and they often emulate that which they admire. Deeper understanding is needed of how young people who play electronic games experience the media, and how these experiences may impact their lives and health outside of the game environment.

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Table 1. Demographics of Individual Adolescent Study Participants

	Name*	Age	Gender	Race/Ethnicity	Hours per day spent gaming	Age that participant started gaming
1.	George	18	Male	Hispanic	4.5	4
2.	Ellen	21	Female	Asian	5	5.5
3.	Victor	20	Male	Hispanic	4	6
4.	Laurie	20	Female	Caucasian	4	2
5.	David	18	Male	Hispanic	4	8
6.	Lisa	21	Female	Asian	5	11
7.	Anna	18	Female	African American/ Caucasian	4	5
8.	Daniel	21	Male	African American	4	2
9.	John	13	Male	Caucasian	2	7
10.	Jack	15	Male	Caucasian	2	9
11.	Mark	16	Male	Hispanic	3	4
12.	Joel	18	Male	Asian	5	5
13.	Samuel	18	Male	Caucasian	5	11
14.	Adam	18	Male	Asian	6	2
15.	Maria	15	Female	Hispanic	3	12
16.	Brian	20	Male	Asian	4	8
17.	Tom	19	Male	Asian	2	8
18.	Ryan	20	Male	Caucasian	2	5
19.	Connor	13	Male	Caucasian	4	8
20.	Patrick	13	Male	Caucasian	3	7
	Totals	**Average age: 17.7 (SD2.7)**	**Female-5 Male-15**	**Asian- 7 Hispanic- 4 Caucasian- 7 AA-1 Multiracial-1**	**Average hours: 3.8 (SD 1.2)**	**Average age: 6.5 (SD 2.9)**

*All pseudonyms

Table 2. Demographics of Game Designer Participants (n=5)

Gender (n)	Male (4) Female (1)
Race/Ethnicity (n)	Caucasian (3) Asian (2)
Game design experience (n)	Independent studio (1) Major studio (2) Independent/advergames (1) Multiple independent studios/co-owner small studio (1)
Years worked as designer mean(SD)	8.8 years (9.2) Range 2-25 years

Table 3: Games played by ESRB rating

ESRB game rating	Unique Games (n=99) % (n)	Played by participants (n=201) %(n)
Mature	35.3% (35)	37.3% (75)
Teen	22.0% (22)	20.9% (42)
Everyone 10+	7.1% (7)	6.0% (12)
Everyone	21.2% (21)	24.4% (49)
Not rated	14.1% (14)	11.4% (23)

Table 4: Games discussed by participants by genre

Genre	Definition	Games (number of participants who discussed the game)	Total Favorites % (n)
Massively multiple online role-playing game (MMORPG)	Players develop a character and interact with other players cooperatively and competitively in a shared, persistent online world	Elsword (2) Flyff (1) Grand Chase (2) Guild Wars 2 (1) Mabinogi (1) Maple Story (2) Never Winter (1) RIFT (1) Runescape (6) Star Wars (3) World of Warcraft (5)	12.5% (25)
Other role-playing games (RPG)	Games that are rich in narrative in which the player takes on the role of a character, develops skills and manages the character to achieve the objectives.	AdventureQuest (1) Dark Souls (1) Dead Island (1) Dragon Age (1) Dragon Quest (2) Elder Scrolls (4) Fallout 3 (4) Final Fantasy (4) Golden Sun: Dark Dawn (1) Kingdom Hearts (2) Legend of Dragoon (1) Mass Effect 3 (2) Persona 4 (1) Pokemon (8)	16.5% (34)
Action/Adventure	Games oriented toward combat and exploration, usually in 3rd person perspective	Assassin's Creed II (1) The Godfather (1) Grand Theft Auto (9) Heavy Rain (1) Legend of Zelda (4) Metal Gear Solid 4 (2) Phoenix Wright: Ace Attorney (1) Red Dead Redemption (1) Resident Evil 6 (1) Uncharted 2 (1) The Wolf Among Us (2)	12% (24)
1st person shooter	Kill or be killed games from the player's point of view	Battle field: Bad company 2 (1) Bioshock (1) Borderlands (2) Call of Duty: Modern Warfare (9) Counter-Strike (2) Destiny (2)	17.5% (35)

		Devil May Cry (1) Doom 2 (1) Duke Nukem Forever (3) Far Cry III (1) Half life (2) Left 4 Dead (2) Medal of Honor (1) Metroid Prime (1) Operation Flashpoint (1) Postal 2 (1) Red Steel (1) Team Fortess 2 (2)	
Other shooter	Shooting games from a 3rd person perspective	Gears of War 3 (2) Halo: The master chief collection (6) Infamous (1) James Bond 007: Bloodstone (1) Star Fox 64(1) Toho Project (1)	6% (12)
Fighting	Games that involve fighting in close proximity to other fighters. Often in done in rounds.	Battle Arena Toshinden 3 (1) Dead or Alive (1) Defense of the Ancients (1) Injustice: The gods among us (2) League of Legends (2) Mortal Kombat (1) Street Fighter 3 (2) Super Smash Bros. Brawl (5)	7.5% (15)
Sports	Simulations of team sports games	Duck Hunt (1) Madden NFL (3) NBA Live (1)	2.5% (5)
Rhythm	Music and dance games	Dance-dance revolution (2)	1% (2)
Driving	Racing games	Mario Kart (3)	1.5% (3)
Platformer	Games that are side-scrolling, requiring the player to move and jump the character over obstacles	Banjo Kazooie (1) Bugs Bunny: Lost in Time (1) Captain Claw (1) Donkey Kong (2) Happy Wheels (1) Kirby (2) Sonic (3) Spyro: Year of the dragon (1) Super Mario (10)	11% (22)

Strategy	Strategic combat oriented games and strategic simulation	Civilization (1) Clash of Clans (2) Fire Emblem (1) Warcraft 3 (1)	2.5% (5)
Puzzle	Games that require logic, deductive reasoning and matching	Little Big Planet 3 (1) Professor Layton (1) Tetris (1) Words with Friends (1)	2% (4)
Simulation	Games that mimic life, allowing the player to construct a world and/or interact with it in a life like manner	Dwarf Fortress (1) Goat Simulator (1) Minecraft (4) Neopets (1) Nintendogs (1) Second Life (2) Sims (3)	6.5% (13)
Other	Games that do not fall into one of the above categories	Eastern Mind: The lost souls of the Tong Tou (1) Orly's Draw Story (1)	1% (2)
Total			100% (201)

Table 5: Game content

Game characteristic	Unique Games (n=99)	Played by participants (n=201)
Includes fighting, killing and/or hurting characters either graphically or comically	79.7% (79)	79.0% (158)
Includes graphic violence, including dismemberment, decapitation and/ or blood	45.4% (45)	47.0% (94)

Chapter Five

TOBACCO IMAGERY IN VIDEO GAMES: RATINGS AND GAMER RECALL

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Key words: video games, adolescence, tobacco use, smoking, ratings

Word count (excluding abstracts, references, tables and figures): 2158

ABSTRACT

Objective

To assess whether tobacco content found in video games was appropriately labeled for tobacco–related content by the Entertainment and Software Ratings Board (ESRB).

Methods

Sixty-five gamer participants (self-identified age range 13-50) were interviewed in-person (n=25) or online (n=40) and asked a) to list favorite games and b) to name games that they could recall containing tobacco content. The ESRB database was searched for all games mentioned to ascertain whether they had been assigned tobacco-related content descriptors. Games were independently assessed for tobacco content by examining user-created game wiki sites and watching YouTube videos of gameplay. Games with tobacco-related ESRB content descriptors and/or with tobacco imagery verified by researchers were considered to contain tobacco content. Games identified by participants as including tobacco but lacking verifiable tobacco content were treated as not containing tobacco content.

Results

Participants recalled playing 140 unique games, of which 118 were listed in the ESRB database. Participants explicitly recalled tobacco content in 31% (37/118) of the games, of which 94% (35/37) included independently verified tobacco content. Only 8% (9/118) of the games had received ESRB tobacco-related content descriptors, but researchers verified that 42% (50/118) contained such content. 42% (49/118) of games were rated "M" for mature (content deemed appropriate for ages 17+). Of these, 76% (37/49)

contained verified tobacco content; however, only 4% (2/49) received ESRB tobacco-related content descriptors.

Conclusion

Gamers are exposed to tobacco imagery in many video games. The ESRB is not a reliable source for determining whether video games contain tobacco imagery.

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TOBACCO IMAGERY IN VIDEO GAMES: RATINGS AND GAMER RECALL

Considerable research has linked movie smoking imagery to youth smoking initiation (1-6). This evidence provides the basis for a hypothesis that watching tobacco imagery from other media sources may likewise impact youth smoking uptake. Video games provide an immersive environment where adolescents can practice ways of being that later may be transferred to actual behavior (7). Tobacco imagery in video games played by adolescents and young adults may therefore be cause for concern.

The Entertainment Software Ratings Board (ESRB) is a United States-based non-profit self-regulatory body sponsored by the gaming industry that provides voluntary age-appropriate ratings for video games, similar to movie ratings. Video game ratings are established by a confidential three-person body that, according the ESRB's website, has no financial ties to the gaming industry.(8) Game manufacturers submit information to the ESRB that includes all "pertinent content" relevant to the game rating. In addition, manufacturers submit a DVD with visual examples of the gaming content that may have bearing on the rating. From this, the committee establishes a rating for the game. The game is also assigned content descriptors that are supposed to indicate the content which may have triggered a particular rating and/or may be areas of concern. (9)Committee members examine this material to determine a rating; they are not required to play the game. After the game is released to the public, ESRB staff may play the game to assure that the rating was accurate. According to the ESRB, 84% of parents are aware of the ESRB rating system and 69% regularly check a game's rating before making a purchase. (10)

There are no legal prohibitions to selling games rated "M" for mature or "AO" for adults only to children under 17, although individual stores often prohibit such sales. The ESRB states that not all content may be disclosed in the content descriptors and that content descriptors may vary depending on the category rating (8). Tobacco use or "reference" are among the content descriptors the ESRB assigns.(9)

A previous study found that the ESRB had given a tobacco-related label to 2.9% of the total games in its database, with the highest proportion (9.0%) in the E10+ (everyone 10 and over) category (11). Other research suggests that tobacco content is present in games rated appropriate for teens (13+ years) and "mature" players (over 17+ years) but not labeled as such by the ESRB (12, 13). A case study of the teen rated game *Starcraft-Wings of Liberty* found that tobacco imagery was present throughout gameplay. (14) We explored whether games that were identified as favorites by gamers were recalled as containing tobacco content and whether those games were appropriately labeled by the ESRB.

METHODS

To identify tobacco content labeled by the ESRB in video games, we searched all games released between September 1, 1994 and January 30, 2015 that were listed in the ESRB online database, using the content filter "substances" by recommended age. We then searched all substance-labeled games in the ESRB database for the content descriptors "tobacco use" and/or "tobacco reference." If a game had either tobacco use or tobacco reference listed among its content descriptors, it was coded as having tobacco content.

To determine what games gamers were actually playing and whether they were encountering tobacco imagery in them, we employed three recruitment strategies. We recruited a convenience sample of adolescents aged 13-21 using flyers and snowball sampling in a large Northern California metropolitan area, advertised for participants over age 18 on the website *Reddit* in the subReddit *Samplesize* (15) and, recruited, via networking, game designers that had worked in the video game industry at least one year (IRB #11-06485). Written consent and/or assent was obtained for each participant. All participants were given a $20 gift card for participation. For interviews conducted in-person or online, each participant was asked a) to list favorite games and b) to name games that they could recall containing tobacco content. Interviews were transcribed and coded for game names and topics using NVivo software.(16) All games listed or discussed by participants were catalogued, including whether they recalled smoking content. These were compared with the games' posted ESRB rating and ESRB content descriptors. When a participant recalled the name of a series of games rather than an individual game, the most recent game published for console or PC play prior to December 31, 2014 was used for analysis.

Because tobacco content is often not consistently catalogued, additional methods were used to determine whether a game might contain tobacco content not recalled by a participant and/or to determine whether a participant had erroneously recalled tobacco content in a game. *Common Sense Media* is a website that also rates games according to their appropriateness for children and considers tobacco content as part of these ratings. (17) Each identified game name was placed into this website and we recorded whether tobacco content had been identified as an issue in the review of the game. Additionally,

each individual game wiki site was searched with the terms “cigar, cigarette, tobacco” and “smoking.” All results were examined to ascertain whether they related to actual tobacco content present in the video game under question. Finally, the video sharing website *YouTube.com* was searched using the individual title of each game, followed by the terms “game movie” and/or “cut scenes.” Videos that appeared to include both the arc of game play and the short cinematics (cut scenes) that tie game play sequences together and move the plot line were selected for viewing. At least one hour of each game movie was watched and each instance of tobacco content recorded. Visible smoking equipment (cigarettes, cigarette packs, cigars, pipes, tobacco, ashtrays with butts in them), characters mentioning smoking or tobacco, and/or characters smoking a pipe, cigar, e-cigarette or cigarette were considered an instance of tobacco content A game was considered to have tobacco content if such content could be verified using the ESRB, Common Sense Media, the individual game wiki site, and/or had an instance of tobacco content in YouTube game play videos. Games identified by participants as including tobacco but with unverifiable tobacco content were treated as not containing tobacco content.

RESULTS

The tobacco content in video games as labeled by the ESRB is reported in Table 1.

Game rating by the ESRB	N	ESRB content descriptor for tobacco use/reference
Early childhood	289	0 (0.0%)
Everyone	26355	255 (0.97%)
Everyone 10+	2800	244 (8.7%)
Teen (13+)	7298	445 (6.1%)
Mature (17+)	2239	19 (0.08%)
Adults only	43	0 (0.0%)
Total	39024	963 (2.5%)

Table 1: Tobacco content in video games by ESRB rating

Twenty adolescent participants were recruited for in-person interviews with a mean age of 17.7 (SD 2.7). These participants played a mean of 3.8 hours a day (SD 1.7) and reported that they had started playing video games at a mean age of 6.4 years (SD 3.0). All adolescent participants reported that they had played games rated Mature by the ESRB. Additionally, forty participants were recruited online, with a mean stated age of 23.9 (SD 5.4), reporting that they played a mean of 2.8 hours a day (SD 1.3) and that they had started gaming at a mean age of 7.2 years (SD 4.1). Five game designers were recruited with a mean of 8.8 years (SD 9.2) in the industry. Participants collectively identified 140 unique games as favorites. Of 140 identified games, we found 118 in the ESRB database. Participants explicitly recalled tobacco content in 31% (37/118) of the games; 94% (35/37) was independently verified as such. Through verification methods, we found an additional 15 games with tobacco content that the participants had not specifically recalled as having tobacco imagery, but had mentioned as being a favorite game. Four of these games had ESRB tobacco-related content descriptors.

Only 8% (9/118) of the games had received ESRB tobacco-related content descriptors, but researchers verified that 42% (50/118) contained tobacco content (Table 2). Of the 35 games in which participants recalled seeing verified tobacco imagery, only 14% (5/35) had a tobacco content descriptor. A list of games with verified tobacco

content, verification methods and numbers of participants mentioning the game and/or recalling seeing tobacco content in the game is found in appendix 1[C].

All games identified by participants by ESRB rating (n)	Games with ESRB tobacco content descriptors, %(n)	Games with verified tobacco content, %(n)	Games with verified tobacco content also identified by participants, %(n)
Everyone (30)	3% (1)	6% (2)	0%(0)
Everyone 10+ (9)	22% (2)	22% (2)	11% (1)
Teen (30)	13% (4)	30% (9)	13% (4)
Mature (49)	4% (2)	75% (37)	61% (30)
Total (118)	7.6% (9)	42% (50)	30% (35)

Table 2: Comparison of ESRB tobacco content labels, verified tobacco content and participant recall in video games

DISCUSSION

Video games are a ubiquitous and important part of adolescent life in the United States. Among youth, 8-18, 88% play video games at least occasionally (18). The median amount of time playing is 13.2 hours week, with boys playing more frequently (16.4 hr/week, SD 14.1) than girls (9.2 hr/week, SD 10.2) (18). (11). The presence of tobacco imagery in such games exposes players to products and behaviors within an immersive, performative environment, with unknown effects on real-world smoking behavior.

This study suggests that the ESRB's content descriptors cannot be regarded as a reliable source for assessing games for tobacco imagery, especially in the Mature category. For example, 14 participants identified the video franchise *Metal Gear Solid* as containing tobacco content. Common Sense Media (19), the *Metal Gear* wiki site(20, 21) and a nearly 9 hour game movie (22) verified extensive smoking throughout the most recent game, yet the ESRB gave that game no tobacco content descriptor. Henry Gilbert,

a writer for the website *Games Radar*, said about the main character in the *Metal Gear Solid* games:

> The most famous smoker in gaming history, Solid has been lighting up for decades with little care of the consequences. Whether it's on a battlefield, escaping Outer Heaven, or sneaking around Shadow Moses, he usually keeps a pack handy no matter what his superiors say…. In gameplay, the cigs lend him steady aim, allow him to see infrared lasers and restore his psyche, while at the same time decreasing his health bar and - in MGS4 - possibly giving away his position with the scent. (23)

Of the games in the sample rated Mature, 75% contained verified tobacco content, yet the ESRB only gave 4% a tobacco content descriptor. Since these games are deemed to be age appropriate for those over 17, the ESRB may not view them as high priority for labeling tobacco content. However, if this is the practice, it is applied inconsistently, as the ESRB has given 19 other M-rated games tobacco-related content descriptors, including two games identified as including tobacco by both the ESRB and study participants, *The Wolf Among Us* and *Bioshock Infinite.* (24) Of the games rated for teens, the ESRB gave 13% a tobacco-related content descriptor, however, 30% of the games were found to have verified tobacco content. While both the ESRB and the gamers each identified four teen-rated games as having tobacco content, only one of those games were in common.

The guidelines for implementation the Article 13 of the WHO Framework Convention on Tobacco Control state that that media should, "Implement a ratings or classification system that takes into account the depiction of tobacco products, use or

images in rating or classifying entertainment media products (for example, requiring adult ratings which restrict access of minors) and that ensures that entertainment media aimed at children (including cartoons) do not depict tobacco products, use or imagery." (25) Our research indicates that this is not being done consistently by the ESRB. Barrientos-Gutierrez et al suggest that that there should be a complete ban on advertising, promotion and sponsorship of tobacco products, either directly or indirectly, and this ban should extend to all new media, including video games. (26)

This study has several important limitations. Obviously, the limited sample does not allow generalization to all gamers. In addition, this study did not attempt to quantify the amount of tobacco imagery in each game, so it is unclear whether the tobacco imagery only occurred in a brief game scene or was more consistently present throughout game play. Whether tobacco in these games was portrayed in a socially desirable or undesirable way was not explored. Finally, as games may be played in a variety of ways, it is possible that tobacco imagery may be present during one participant's play but not in another, depending on how the game unfolds. In addition, it is likely that not all games with tobacco content were identified, given the length and variations of many games, and the lack of consistent reporting. It is also unknown whether the ESRB consistently labels for tobacco content on games it rates as mature.

However, despite its limitations, this study demonstrates that tobacco imagery is present in games, is recalled consciously by players, and that most of the ESRB game ratings do not reflect this tobacco content. Video games rated M were played by all of the participants including the participants 17 and younger, indicating likely exposure to unidentified tobacco content. Research suggests that age restrictions may actually make

the games more attractive to youth (27). For example *Grand Theft Auto* ™ (GTA) has been played by 56% of all 8-18 year olds, despite its M rating (28). Because many adolescents do play M rated games, the ESRB should apply more rigorous procedures to ensure accurate content descriptors. There are no legal prohibitions against selling these games to minors, making the adequate coding of their content even more important. This study suggests that adolescent video game players may be exposed to significantly more tobacco imagery than previously thought.

What this paper adds

-Exposure to smoking imagery in movies has been positively linked to adolescent smoking initiation, providing the basis for the hypothesis that smoking imagery from other media sources may be similarly implicated.

-Nearly 90% of adolescents play video games, yet there is little research whether smoking content is present in the games, whether gamers recall smoking imagery, and whether this content, if present, is labeled with tobacco related content descriptors by the Entertainment Software Ratings Board (ESRB).

-Tobacco is present in games rated for and being played by adolescents, is recalled consciously, and that the ESRB ratings do not reflect tobacco content recalled by adolescent and adult players.

-Adolescents may be exposed to significantly more tobacco imagery than previously thought.

Acknowledgements:

Thanks to Quinn Grundy and Kate Horton for providing feedback on the first draft of this article.

Funding:

Susan Forsyth is funded by a dissertation award from the Tobacco-Related Disease Research Program (TRDRP), grant #22DT-0003.

Competing interests:

The authors declare that they have no competing interests

Contributorship statement:

Susan Forsyth co-conceived and designed the project, conducted interviews,researched, analyzed and interpreted data and wrote the first draft of the manuscript.

Ruth Malone co-conceived and assisted with design, supervised on all phases of the project, analyzed and interpreted the data, and cowrote sections of and edited the manuscript.

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Chapter Six

"Playing the Movies": Tobacco Content in Video Games and Gamer Perception

Adolescents and young adults spend increasing time using online electronic media, including video games. In 1999, on average, adolescents between 8-18-years spent 3 hours and 52 minutes daily using screen-based media for non-school or job-related purposes, including television, computers, videos, movies and video games. Twenty-six minutes of that time was spent playing electronic games (Rideout, Foehr, & Roberts, 2010). By 2015, on average, adolescents between 13-18 years spent 6 hours and 40 minutes daily recreationally using screen-based media, with an average of 1 hour 21 minutes of that time spent playing video games (Rideout, 2015). On any given day, 56% of adolescents play electronic games, with 72% of boys and 38% of girls playing. On days that adolescents play video games, an average of 2 hours and 25 minutes is spent gaming (Rideout, 2015).

However, little is known about whether games played by adolescents contain tobacco imagery, and, if so, about how players perceive it. Previous tobacco content studies are dated (Haninger, Ryan, & Thompson, 2004; Haninger & Thompson, 2004; Thompson, Tepichin, & Haninger, 2006) and the video game rating agency, the Entertainment Software Ratings Board (ESRB), has not consistently rated games that contain tobacco content with accuracy (Forsyth & Malone, 2015).

Tobacco product use among adolescents continues to remain unacceptably high. Tobacco initiation is primarily an adolescent phenomenon. Among cigarette smokers, nearly 9 out of 10 first tried smoking by age 18, and almost all smokers began before age 26 (U.S. Department of Health and Human Services, 2012, 2014). Every day in the

United States, more than 3,800 youth aged 18 years or younger try tobacco for the first time, and an additional 2,100 youth and young adults became daily cigarette smokers (U.S. Department of Health and Human Services, 2012, 2014). In 2014, 24.6% of high school age adolescents reported using a tobacco product in the last 30 days with e-cigarettes being the most prevalent type of product used (Arrazola, et al., 2015).

Video games have largely been overlooked as a vector to convey tobacco imagery and meaning to adolescents and young adults, with little current research on the amount and type of tobacco imagery in popular games, and how players perceive such imagery. The purpose of this paper is to examine the amount and type of tobacco content encountered in video games, the accuracy of gamer recall of smoking imagery and the type of imagery that elicits recall. I also explore how tobacco-using video game characters are perceived by the players and why game designers choose to insert tobacco imagery in games. Finally, I investigate perceptions of harm and the question of regulation from the the viewpoint of players and game designers.

Background

Multiple studies have shown that exposure to tobacco imagery in film is associated with youth uptake of tobacco use, regardless of other factors (Dalton, et al., 2009; Primack, et al., 2012; Sargent, et al., 2005; Shmueli, Prochaska, & Glantz, 2010; Song, Ling, Neilands, & Glantz, 2007; E. M. Thompson & Gunther, 2007; Titus-Ernstoff, Dalton, Adachi-Mejia, Longacre, & Beach, 2008). Since video game playing is also a visual and auditory experience, with the addition of agency, it is relevant to consider this literature. In 2008, the National Cancer Institute published a report stating that exposure to tobacco imagery in movies was not only associated with adolescents becoming

smokers, but actually was a cause of adolescent smoking (US National Cancer Institute, 2008). In 2012, the US Surgeon General reported that that adolescents with the most exposure to tobacco use in films were twice as likely to become smokers as those adolescents with the least exposure, independent of other factors (U.S. Department of Health and Human Services, 2012). Studies have indicated that the more strongly adolescents identified with an on-screen smoking character, the more likely they were to start smoking, regardless of whether the character was portrayed in a positive or negative light (Dal Cin, Gibson, Zanna, Shumate, & Fong, 2007; Tanski, et al., 2009).

The tobacco industry has carefully groomed the the image of tobacco through advertising and its product use in movies and other media (Proctor, 2011). To make tobacco use appeal to its prime target group, the tobacco industry has run media campaigns to associate smoking with characteristics that teens value: friendship, social acceptance, masculinity or femininity, rebelliousness, risk taking, having fun, managing stress, relaxing, and appearing older and more sophisticated (US National Cancer Institute, 2008).

Hollywood and the tobacco industry have historically had a close relationship (Mekemson & Glantz, 2002; Proctor, 2011). Using the tobacco industry-created tropes associated with smoking, the film industry has made frequent use of tobacco products to convey meaning (McCool, Cameron, & Petrie, 2003; Morgenstern, Stoolmiller, Bergamini, & Sargent, 2016; Stanford Research into the Impact of Tobacco Advertising). In a series of interviews with people from the film industry, Shields, et al, found that tobacco imagery was inserted into movies to help develop characters or reveal some aspect of the character such as sexiness, sophistication, recklessness, coolness,

desperation, toughness, weakness, indifference and/or social inferiority and to add to the "realism" of the film (Shields, Carol, Balbach, & McGee, 1999). The cigarette was thought by film makers to be a flexible prop with the ability to convey many different types of messages and meaning. Cigarettes were also used to allow the actors to have something to do with their hands and to help light scenes in specific ways or to use the on-camera smoke. In Shield's study, the interviewees were careful to state that cigarettes must "fit" the character in question (Shields, et al., 1999).

While no studies yet directly link the amount and type of tobacco content in video games to increased tobacco use rates among adolescents, there is considerable research on the relationship between violence in video games and adolescent thought and behavior indicating that real-world behavior is influenced by video game playing. In 2010, Anderson et al. completed a meta-analysis of the effects of violent video games on aggression, empathy and prosocial behavior, using international data (Anderson, et al., 2010). The final sample included 381 effect-size estimates based on 130,296 participants. Violent video game exposure was positively associated with and causally related to aggressive behavior, aggression cognition and aggressive affect. Violent video game exposure was also positively associated and causally related to desensitization, lack of empathy and lack of prosocial behavior.

Since 2010, other studies have supported these findings. Saleem, Anderson and Gentile (2012) found that playing violent video games increased state hostility and decreased positive affect, but that playing prosocial video games had the opposite effect. Similarly, Rothmund, Gollwitzer and Klimmt (2011) investigated, using a randomized, experimental design, whether interacting with aggressive virtual characters changed trust

and cooperation levels. Trust and cooperation levels decreased after playing violent games, especially when the player assumed the role of the victim (Rothmund, Gollwitzer, & Klimmt, 2011). Another randomized controlled trial (RCT) found that playing video games that included violence and aggression toward women within the game resulted in statistically significant increases in rape myth acceptance by the men, but not the women, who played the game (Beck, Boys, Rose, & Beck, 2012). A longitudinal study, which followed 1,492 adolescents from grades 9-12, found that sustained violent video game play was significantly related to steeper increases in adolescents' trajectory of aggressive behavior over time (Willoughby, Adachi, & Good, 2012). A cross-sectional survey study of 385 Italian students, aged 14-20, that were exposed to the violent game *Grand Theft Auto,* found that exposure predicted higher levels of moral disengagement as compared to those not exposed (Gabbiadini, Andrighetto, & Volpato, 2012).

In this study I examined the amount and type of tobacco content in popular video games, explored how game players perceive and interact with the imagery and analyzed the reasons game designers choose to insert tobacco imagery into video games.

Methods

To determine what games gamers were actually playing, whether they were encountering tobacco imagery in them, and what they thought about the imagery, I employed three recruitment strategies. I recruited a convenience sample of adolescents aged 13-21 using flyers and snowball sampling in a large Northern California metropolitan area and advertised for participants over age 18 on the website *Reddit* in the subReddit *Samplesize* (Reddit, 2015). Inclusion criteria for these participants included: speaking and writing English and having previously played video games for an average

of two hours on most days for at least a year. I also recruited, via networking, game designers who had worked in the video game industry at least one year (IRB #11-06485). Written consent and/or assent was obtained for each participant. Parental consent was obtained for all participants under age 18. All participants were given a $20 gift card for participation. After the $20 gift card was emailed to the online participants, their contact information was deleted to preserve confidentiality.

For adolescent interviews conducted in-person, I met each participant in a location they selected. After consent, each participant completed a short demographic survey, including questions on age, race, ethnicity, school status, favorite video game devices, age at gaming initiation, average hours per day spent gaming, current and previous favorite games. After the interview started, participants were asked to describe their family, school and friends. They were then asked about how they became video game players, to describe their favorite game(s) and to comment on how gaming impacted their lives. With no prompts given, I asked participants to recall any games that they remembered as containing tobacco imagery, to describe the tobacco imagery and how it fit into the narrative of the game and what they thought about it, to describe their own smoking history and their thoughts on regulating smoking in video games. For participants recruited online, I followed a similar strategy. Each participant completed a short demographic questionnaire including: age, race/ethnicity, current location (either state or country), employment status, hours per day spent gaming, and age at which gaming was initiated. I then had participants respond to a series of questions about games they liked to play now and previously, what had stood out about their favorite games, if they could recall any games with tobacco imagery, what they thought about that

imagery, their personal smoking status, and what they thought about the game ratings and the the agencies that applied game ratings. For all participants, if they disclosed that that they had smoked tobacco at least once, they were defined as an "ever smoker." If they had smoked tobacco in the last 30 days, they were defined as a "current smoker."

Game designers were interviewed either in person or via video phone and were asked about their history in the business, what had prompted them to enter the field and to describe their current roles, projects and process of game design, i.e.- what makes a good game. I asked them to recall their favorite games and what they had particularly enjoyed about each game. I asked each whether they had had any experience with product placement, and if yes, to describe how various products were placed in games and to to recall any tobacco imagery in games, whether they had placed any tobacco imagery in games and to discuss why tobacco imagery might be used in a game. Each designer was also asked to discuss their perceptions of the accuracy of the ESRB and their opinions on any potential regulation of the industry.

Interviews were transcribed and coded using NVivo software (QSR International Pty Ltd, 2014). Data were coded using an inductive approach focused on analysis identifying narratives, themes, and strong exemplars as described by Benner (Benner, 1994). As codes were developed, they were refined and discussed through discussion and data review with my dissertation advisor. Portions of raw data and emerging interpretive findings were also shared and discussed with a group of qualitative researchers to further refine the analysis. All games discussed by participants or noted as favorites in the demographic survey were catalogued. I counted the number of games played by participants in two ways, by unique game and by the number of participants that recalled

a particular game. If a game was mentioned at least one participant, it was considered a unique game and cataloged. For each unique game I counted the number of participants who discussed that game, and catalogued this number of times the game had been recalled.

Because tobacco content was not consistently catalogued, additional methods were used to determine whether a game might contain tobacco content not recalled by a participant, to determine whether a participant had erroneously recalled tobacco content in a game, and to determine the type and quality of the tobacco content. General internet searches were completed on each game using *Google's* search engine and the website *Wikipedia* to gain understanding regarding game demographics (dates released, whether the game was part of a series, the type of game play available and the arc of the story.) The Entertainment Software Ratings Board (ESRB) website was searched for ratings and tobacco content descriptors. *Common Sense Media* is a website that also rates games according to their appropriateness for children and considers tobacco content as part of these ratings (Common Sense Media, 2015). All game names were placed into its database search engine and any reference to tobacco content was recorded. The Internet Movie Database (IMDb), an Amazon subsidiary, also maintains a section on video games, with a "parent's guide" containing a section labelled "alcohol/drugs/smoking" allowing registered users to comment on individual game content. Any comments about tobacco content were recorded. Additionally, each individual game's wiki site was searched with the terms "cigar, cigarette, tobacco, pipe" and "smoking." All results were examined to ascertain whether they related to actual tobacco content present in video games under question. Finally, the video sharing website *You Tube.com* was searched

using the individual title of each game, followed by the terms "game movie" and/or "cut scenes." Videos that appeared to include both the arc of game play and the short cinematics (cut scenes) that tie game play sequences together to move the plot line were selected for viewing. At least one hour of each game movie was watched and each instance of tobacco content recorded. A game was considered to have tobacco content if such content could be verified using the ESRB, Common Sense Media, the IMDb, the individual game wiki site, and/or had at least one instance of tobacco content in *You Tube* game play videos. A tobacco instance was defined as including: cigarettes, cigars, pipes, hookah, e-cigarettes, tobacco leaves, ashtrays with butts in them, cigarette packs, cartons, and/or vending machines selling cigarettes visible during game play, verbal references to tobacco, and/or any character using any type of tobacco product. Multiple points of verification were sought for each game. Games identified by participants as including tobacco but with unverifiable tobacco content were treated as not containing tobacco content.

Tobacco content was also difficult to track since many video games are really part of game series, each with possibly different content and characters. If a specific game was mentioned, that particular game was investigated. If multiple games in a series were mentioned, the most recent game in the series released in North America prior to December 31, 2014 was investigated. If a series of games was mentioned without specifying a specific game, I examined the entire series for tobacco content.

Initially, each game or game series was coded dichotomously, as either containing verified tobacco content or not containing verified tobacco content. Game content was then further coded by the tobacco typology found in each game. Categories of tobacco

typology were developed iteratively from examining all instances of tobacco content found. After examination of all video games played by the participants, six broad categories of tobacco content emerged: no tobacco content found, visible tobacco paraphernalia present, tobacco products used to further game play, non-playable background characters using tobacco products, non-playable main characters using tobacco products, and playable characters using tobacco products. Each game with tobacco content was assigned to all applicable categories, and could receive up to five codes. The code "no tobacco content found" was applied when no tobacco content could be verified, even if participants stated that they recalled tobacco content within the game. The code of "visible tobacco paraphernalia" was applied to games when cigarettes, cigars, pipes, hookah, e-cigarettes, tobacco leaves, ashtrays with butts in them, cigarette packs, cartons, and/or vending machines selling cigarettes were visible during game play. "Tobacco products furthering game play" was applied when the use of tobacco or tobacco paraphernalia served a useful role during game play. "Non-playable background characters using tobacco products" was applied when game-controlled characters that did not further the storyline or game play were seen smoking. (For example, pedestrians smoking in the street that provided backdrop to play.) "Non-playable main characters using tobacco products" was applied when game-controlled characters playing a role in moving the plot or game play were seen smoking. "Playable characters using tobacco products" was applied when a character that could be controlled by the player smoked or had the ability to smoke, whether the player chose to exercise that ability or not.

After tobacco content was categorized, each game was assigned a tobacco content intensity rating based on the number of tobacco typologies found, using a researcher

developed scale. Based on the number of tobacco typologies found in each game, each game was rated between 0-5 on the tobacco intensity scale (TIS), with zero indicating no tobacco content was found in the game and five indicating that all five typologies were found in the the game. (See Table 1 below.)

Table 1: Tobacco Intensity Scale for Video Games

Tobacco Intensity Level 0	No tobacco found in the game
Tobacco Intensity Level 1	Only one tobacco typology found in the game
Tobacco Intensity Level 2	Two tobacco typologies found in the game
Tobacco Intensity Level 3	Three tobacco typologies found in the game
Tobacco Intensity Level 4	Four tobacco typologies found in the game
Tobacco Intensity Level 5	Five tobacco typologies found in the game

Findings

Participants

See tables 2 and 3 for a description of the participants. Twenty-one adolescents responded to recruitment methods. One respondent failed to attend the scheduled interview. Twenty respondents met inclusion criteria, were interviewed and retained in the sample. Forty-one participants were interviewed online, met inclusion criteria and were retained in the sample. Five game designers were recruited, met inclusion criteria and were retained in the sample.

Tobacco Content in Video Games Played by Participants

Participants together discussed 152 unique games or game series, meaning that if was mentioned by on participant or multiple participants it was catalogued similarly. (See appendix D for a list of all games mentioned by participants.) However, counting each game as equal did not give an adequate picture of which games were most popular. The number of participants who discussed the same game varied, with some games discussed

only by a single participant and others discussed by multiple participants. The total number of games discussed by all participants, including those discussed by multiple participants, was 366, ranging from a single participant discussing a game not brought up by anyone else, to 22 participants discussing the same game. The most commonly recalled game was the *Grand Theft Auto* Series, mentioned by 34% of the participants. Games catalogued ranged from those that participants had enjoyed during childhood to games that they were playing at the time of the interview.

Tables 4 and 5 indicate that gamer player recall for tobacco imagery was inconsistent. Participants were more likely to not recall tobacco imagery when it was actually present than they were to insert tobacco imagery into games where it was not present. Of the 152 unique games recalled by participants, at least one participant recalled tobacco content in 25% of the games, of which 23% were verified as containing tobacco content. (See table 4) Of the 366 times that games were recalled, participants recalled tobacco content in 28.2% (103) of the games, of which 27.1% (99) were verified as containing tobacco content. (See table 5). Regardless of player recall, the presence of tobacco content was verified in 39.4% of the unique games, and in 48.7% of the total games recalled by participants.

Games contained varying amounts of tobacco content, ranging from having no tobacco content to having a player-controlled character that smoked. (For a list of games with verified tobacco content, the type of tobacco imagery present and a description of the imagery, see appendix E.) Almost 18% of unique games and 32% of the total recalled games had a playable character that used tobacco. Of the unique games that contained at least one tobacco instance, 88% scored a two or higher on the TIS. Of the total recalled

games that contained at least one tobacco instance, 95% scored a two or higher on the TIS. (See tables 6 and 7). As games scored higher on the TIS, gamer recall of tobacco imagery increased. (See figure 1.) Although only 3.9% of the unique games scored a five on the TIS, they accounted for 13.1% of the total recalled games, indicating that these games were popular and frequently discussed by more than one participant. Games that scored a five on the TIS had a nearly 90% tobacco content recall rate by participants, while games that had a TIS of one had a 22% tobacco content recall rate. While these data clearly show that tobacco content, both noticed and unnoticed, exists in many video games, and that more tobacco typologies that are present, the more gamers recall the content, it does not tell us why it is put there nor how players perceive tobacco content when it is noticed.

Tobacco Content as Shorthand

Both players and game designers implicitly understood that using smoking imagery in a video game allowed messages to be conveyed quickly about characters given cigarettes, pipes or cigars as props. Game designers stated that the game industry often drew on common tropes surrounding smoking to imbue characters with certain types of personality traits. They discussed how if they wanted to set up a character quickly with a certain vibe, they used tobacco imagery as a "quick and dirty" (Henry, 5 years as a game designer) way to impart that sense to the player. Smoking cigarettes or cigars were used when designers wished to convey that the character was cool, world weary, 'badass', rebellious, a 'bad guy', grizzled, edgy, and/or dangerous. One independent game designer stated that, while he had not specifically designed games that

included tobacco content, he would have no qualms in doing so if it "fit the character" which he described as:

> You would definitely have, again, like that aesthetic of, "This guy is cool. This guy is edgy," or, "This girl is cool. This girl is like a little bit dangerous," and like kind of the bad boy/bad girl thing. It's a trope as much as it is in the movies, I think, to just establish that this person is – they don't play by the rules or whatever, that – basically, the same kind of appeal to be – appeal to kids – or not necessarily kids, not because, "We want you to smoke," but, "This guy's cool," you know (Vincent, 2 years a game designer).

Reflectively, Vincent corrected himself when he revealed that a character who smokes could appeal to kids as cool, drawing a distinction between the appeal of a type of character and the behavior and image that the character displays. For him, game design was about characters whose risk-taking enhanced the appeal of the the game. The underlying normalization of tobacco products allowed it to simply become a prop to convey messages, so absorbed was he in the game aesthetic. Mary, a game designer for 5 years, expressed similar thoughts, stating that it would be okay to have a character smoke if it were a "normal part of the character" and that the designer would not be trying to send a particular message about smoking to the players, but "just adding to this character to make it more realistic."

Another game designer, who designed for a large highly successful military game franchise, echoed Vincent's focus on the game aesthetic without problematizing the underlying smoking behavior. This designer stated the reason that a character smoked in the game he helped design was because "he was a war veteran. He smokes. It's just part

of his character. It's not really to showcase his addiction. It's more to showcase his toughness and that he is so old that he doesn't care anymore" (Kai, 7 years as a game designer). Kai then spoke of including smoking when it "fit" a character ethos and the type of feeling that the designer wished to portray. He gave the example that including smoking might be appropriate when a character had "just escaped a situation with his life" and he is like "ah I need a cigarette" in order to relieve the stress. He would then "light one up, and it's all good." For Kai, in this instance, smoking served as a script to signify that the action had concluded for the moment and the character, and by extension, the player could relax, thus tying in the image of smoking with the real life feeling of relaxation.

Designers also scripted in tobacco instances to create moments in which they would reveal a character's state of being, using tobacco as a taken-for-granted signifier. Henry described how he had used a cigar to light a scene, create drama, and quickly help players understand who the character was:

> Yeah, we tend to do a little bit of shortcutty things -So if you fade up, and you're sitting beside a guy, and he's just smoking a cigar, and he flicks it away all cool… how badass this guy is. It's just a shorthand, and I don't know exactly why, but it's just such a powerful image of when a guy looks away, and he's really tense, and he smokes a cigar and he just has a specific way of flicking at a cigar (Henry, 5 years as game designer).

Henry, aware of the power of smoking imagery to convey messages, was focused on the ease with which tobacco made these messages clear, not questioning deeply why they were powerful. For Henry, as for the other designers, game design was about creating an

artistic and appealing game using signifiers that were easily understood and had clear and universal meanings.

The flow of meaning between game designers and players was evident in the data. The gamer participants not only recalled the presence of tobacco in video games, but also attributed various qualities to those characters who smoked, including: being tough, masculine, cool, rebellious, hardened, experienced and/or in need of stress relief, the same ones that the game designers wished to impart. Participants implicitly understood that tobacco use marked a character as having certain attributes and game designers used tobacco to explicitly signal those attributes to players.

One of the main themes discussed by game participants was that smoking imparted a certain "coolness" to characters, marking them as different from the others. A participant who played most often in online multiplayer worlds, discussed the coolness of smoking and routinely noticed other avatars that smoked, stated:

> When you see someone - when I saw one of my friends with that accessory [cigarettes], I'd be, like, "Oh, that's very cool. You got it yesterday?" And they'd be, like, "Oh, yeah, yeah." And you know, maybe it would complement their outfit, or something, and it would make their entire character look better, or more well put together (Ellen, age 21).

For Ellen, in-game tobacco use was clearly something desirable and glamorous, making the character better than it would be without the cigarette. Victor, age 20, who enjoyed playing the same game as Ellen, identified characters that smoked as "looking nice" and said that if he had had the money (it costs real money to obtain virtual smoking equipment in some of these games) he would have liked that accessory. Tom, age 19,

said that he recalled that a high ranking "white dude" in the game *Call of Duty* was a smoker and "it looked pretty cool." When I asked him what was cool about it, he responded, "I don't know, just something about it." These participants understood that cigarettes enhanced a character and provided that character with additional desirability, but did not know why. Instead, tobacco content created scripts about characters to which the players reacted seamlessly and unquestioningly, as the designer intended.

Along with coolness, masculinity was another attribute that using tobacco imparted to characters in video games. A participant, speaking about the purpose of a character that smoked in the game *Halo* commented:

> I think it makes him look more masculine. I don't know if it's the smoking, per se, but his figure, you know. The fact that he has these big muscles and the cigarette itself just amplifies his masculinity rather than define him as a person (Joel, age 18).

Joel identifies the cigarette as a value added item, amplifying an already masculine man to hyper-masculinity. Tobacco use imparted the impression of grander masculinity in other games too. David, a quiet college freshman, liked to played *Duke Nukem*, a first-person shooter game. He identified Duke, the title character, as a character who smokes a cigar throughout the game. About Duke, he stated: "He is supposed to be the epitome of manliness, they show him smoking a cigar …he has a big box of them [cigars]" (David, age 18). In *Duke Nukem* games, the player plays as Duke as he repeatedly saves humanity from alien invasion, using a brash style and huge guns, all the while being the most prolific smoker in the game. When describing Duke, David placed Duke's tobacco use

next to his masculinity, each co-constitutive of each other, each enhancing the meaning of Duke's character.

Players also understood tobacco use as a way of imparting that a character was outside the mainstream in a variety of ways. Laurie, age 20, identified smoking as a way of making some characters appear to be "rebel kids" and others as "older." David also discussed other games with smoking, including *Left for Dead*, which contained an older character who smoked, "I think he was a war vet maybe, so he was old, and he's kind of wise. He just really seems kind of cool." Anna, age 18, characterized smokers as, "Oh, you smoke? Oh that's what gangsters do." George, age 18, identified smokers generally as "bad guys" but did remember one smoker who was valorous: "One of them died saving a hero."

Echoing the game designers, several participants spoke about how smoking "fit" the character and increased the "realism." Ron, age 31, stated, "It fitted the character quite well, reinforcing the general idea we all have about having a cigarette, to relax, to clear the head, to be cool." Ron alluded to the shared meaning that "we all have" about smoking and its ability to script in meaning that is easily understood. Ron's narrative suggested that it was normal for a certain type of character to have a cigarette and there was a "tobacco character" type in games. One high school freshman commented about a game with a western theme, "Well it looks kind of normal for a westerny character to have a cigarette…like in that time they did not know it was bad for you, so that's not like it's weird or anything." He went on to describe how tobacco content in games set in the future would also be okay, especially if it was a post-apocalyptic future, because, "I'm sure you'd be stressed out and might want to have a cigarette" (John, age 13). Woven

throughout the participants' narratives were comments about how smoking enhanced or heightened the intended personality of the character or avatar, making the character more lifelike and realistic. These comments also indicated that gamers understood messaging around tobacco imagery to be shared knowledge, something that all players would understand.

Several games were particularly highlighted by gamers as having memorable tobacco content. The *Metal Gear Solid* (MGS) series of video games scored a five on the TIS and all 13 of the participants who mentioned it as a game they liked to play also recalled that it contained tobacco content. The first MGS game was released by Konami in 1998 and the franchise is still active today, with the company releasing MGS V in 2015. It has been one of the most popular video games in gaming history and by December 2014, over 40 million *Metal Gear* games had been sold worldwide (Shaikh, 2014). The main protagonists in all but one of the Metal Gear games, Solid Snake or his father Big Boss, were both heavy smokers. In a *GamesRadar* blog Solid Snake was described:

> The most famous smoker in gaming history, Solid has been lighting up for decades with little care of the consequences. …He usually keeps a pack handy no matter what his superiors say. Even when dropped into a hostile base in the first Metal Gear Solid, he snuck a pack in his stomach, unknown to his displeased CODEC friends (Gilbert, 2009).

Snake's attitude toward smoking, which pervaded the entire series, was introduced in the first MGS game. In this bit of dialogue, Snake was talking to a colleague:

Dr. Naomi Hunter: Are you smoking?

> *Solid Snake*: Yeah, so what?
>
> *Dr. Naomi Hunter*: Didn't you know that cigarettes contain benzopyrene, a chemical that leads to lung cancer? We now know that when benzopyrene enters the body, it changes to benzopyrene diolepoxide and attaches to the receptors on the P53 gene, the gene which causes lung cancer. The BPDE attaches to the P53 gene in three specific locations and causes pre-cancerous changes to the lung tissue.
>
> *Solid Snake*: You know a lot about science, but you don't know how good a cigarette tastes in the morning (IMDb Wiki Community, n.d.).

In this dialogue, Snake discounted the health risks of smoking, making them pale in comparison to the satisfaction of being able to smoke the first cigarette of the morning. By juxtaposing highly technical "facts" and sensual experience, smoking was made to appear desirable while the science was presented as tedious, reifying the edgy and yet appealing meaning of cigarettes in the game. Snake continued to smoke in all of the MGS games made for game consoles. In MGS 3, participants were particularly aware of Snake's smoking as one of the missions required the player to use cigarette smoke to spot otherwise invisible lasers. When asked to recall a game with smoking, Grayson, age 23, responded:

> Metal Gear Solid is the most memorable… Gritty game, gruff character. In Metal Gear Solid it [smoking] would slowly drain health, but would allow you to see lasers that would be unseeable otherwise.

Other participants described Solid Snake's ability to smoke as no big deal and not terribly important. "So since his character, he likes to smoke. He always just has it. So at

the start of the game, he'll already have it. It's already there. You don't have to buy it. It's just there" (Brian, age 20). For participants, Snake's smoking assisted in contouring his character, but it did not define it. Smoking showed Snake being a "manly guy, doing manly things" (Owen, age 30) and helped display his strength, his experience and his non-conformity. Players also viewed Snake's smoking as almost something to be accepted, not noticed particularly, since it "fit" his character, a tough, battle worn, rebellious fighter that always pushed boundaries and limits, thus reifying the association between masculinity, risk-taking and smoking.

Also frequently commented on was the load sequence in MGS IV. In this game, the load sequence featured Snake power smoking cigarette after cigarette for the duration of the load (brobocops, 2012). Kai, a game designer for 7 years, described the sequence as, "One of the nicest character models on the market." He continued on to explain that the reason that Snake smoked was that you could not just have a character model "just standing there" and so the designers "had him casually smoking" to "make him look tough" and so that "he would be doing something" and that cigarettes were "the simplest prop you could introduce into a scene." This load sequence appeared to be particularly iconic, with other designers referencing it and praising the the artistry and lighting of the scene, without expressing concern for the smoking depicted.

Another set of games that many participants enjoyed was the *Grand Theft Auto* (GTA) series. The GTA series together has sold 220 million game copies with GTA 5, the latest game released, selling over 54 million copies since 2013 (Sledge, 2015). GTA scored a 5 on the TIS and was listed as a favorite 22 times by participants with 17 of those participants specifically recalling tobacco content within the game. In GTA, the

player played as a criminal and engaged in underworld activities and vice. Participants pointed out that in the GTA world smoking was to be expected. Maria, age 15 commented, "You can expect anything to be there, mostly." Mike, age 20 stated, "It makes sense to me for those characters to smoke, it's part of the realism." Part of the appeal of GTA was the open world aspect, in which players could wander around the created cities exploring neighborhoods and interacting with characters on the street. In the GTA universe, pedestrians engaged in "normal" activities, including smoking cigarettes while walking around, making smoking part of the background environment (Grand Theft Auto Wiki Community, 2016). There were billboards, radio and television advertisements touting cigarettes. For example, in *Grand Theft Auto- Vice City* a player could hear the following advertisement on the radio:

> Male character: "They say that living in Los Santos in the equivalent of smoking two packs a day. If that is the case I want a choice in the matter, so I chose Redwoods."
>
> Second male character: "I used to sell my body for drug money on the street, and I have now cleaned up and have a wife and go to church, and I owe it all to Redwood cigarettes."
>
> Female character: "Sometimes when I get really stressed out I used to beat my children with anything that I could lay my hands on, since I tried Redwoods I find a way to relax 20-30 times a day, I know it's bad for me, but what is more important, me or my children?"
>
> Voiceover: "Stress kills millions of people a year, causes divorces, automobile accidents and even war. When stress is about to get you, get a

> Redwood. Redwood cigarettes, proud sponsor of the LS city marathon" (AlexRanwellAR, 2009).

While this "ad" is apparently intended to be ironic, it conveys a message, suggesting that smoking itself conveys ironic wit, along with stress relief.

In three of the games, *Grand Theft Auto- Vice City, Grand Theft Auto V* and *Grand Theft Auto Online,* game players could also make playable characters smoke in the game. In Vice City, smoking is available as a "cheat", a special code within the game that will unlock additional game play, ammunition, different clothing, weapons, etc. Cheats are often hidden in games by designers, making them desirable to find. Players can then type in secret passwords or press buttons in a specific order to access special content. By typing the ironic cheat "certaindeath" in *GTA Vice City*, the player's character is able to smoke a cigarette. Making smoking available as a cheat, made it special for players "in the know," thus adding cachet and and a "forbidden fruit" message, making it very appealing to adolescents (Bijvank, et al, 2009). In GTA V, one of the main protagonists (playable character) is able to smoke, and players are given the option to do so when the character is sitting down in front of the television. In GTA Online, each player starts the game with 10 cigarettes, is able to smoke them and can buy more at convenience stores (Grand Theft Auto Wiki Community, 2015).

While players recalled tobacco content in GTA, they also pointed out that they felt it was unimportant to the game. Brian, age 20, commented about the background nature of smoking in GTA:

> Yeah, I do [play GTA]. I'm not against it or anything, but whenever I played it, it was more about killing people and violence and reckless driving and stuff like

> that. I didn't really see that much of smoking. I'm sure there was some smoking in the game. I just never noticed it.

Jack, age 15, also found tobacco use to be in the background, sure it was there, but unable to recall it fully, stating about GTA IV, "At least one person who smoked, but there's probably plenty because that's – lots of gangsters and stuff." In the GTA world smoking assumed a backseat to apparently riskier behavior. Smoking was seen as tame and barely noticed in this world of hyper-violence.

Risk Perception

While each participant could recall at least one game in which there was tobacco content, when asked whether they considered tobacco content to have any impact on their perceptions of real-world smoking, every participant stated it did not personally make any difference. A typical comment, when asked to recall a character that smoked was, "Well the character, the main character is a commander while the person above him- he smokes. He's this big guy who just had these huge muscles and he has a cigarette hanging from his mouth and he just smokes." When asked what he thought about that the participant responded that "Well I don't think anything about it. He's just one person in the game, not me. So yeah, that's just how I feel like. It's not me, just them" (Joel, age 18). Maria, age 15, stated that tobacco content made no impression on her, "It didn't make me feel anything because I don't use it, so it really doesn't affect me directly." Lucas, age 25, commented, "He smokes, so what." One comment summed up how a majority of participants seemed to feel about in-game smoking:

> Trees have leaves, some characters wear high-heeled boots, and some characters smoke. It's 99% decoration. It does nothing. It's like a necklace. This character is different from the other characters. This one smokes (Casey, age 22).

Casey indicated that tobacco content in games was trivial and to be seen only as cosmetic enhancement that would have no effect on the player, much like having a player with different hair color. Yet at the same time Casey asserted that smoking did nothing to change a character, she allowed that smoking, along with other "enhancements" differentiated characters from each other. Casey perceived the gaming space as a radically free place and a "good form of self-discovery," a place where she had agency and control, not a place where tobacco content mattered or affected her. Victor, age 20, echoed this sentiment:

> I don't think it really does anything for changing your mind whether you're going to smoke or not because I think at this point with the information that's available about smoking, if you're going to smoke, it's because you're gonna smoke. And like – and if you are, you are, and I don't think a video game is going to change your perception on whether or not you're going to choose to smoke or not.

Participants often repeated the idea that smoking was a choice and that plenty of information was already available on the harms of tobacco, which potential smokers could weigh before they decided to use tobacco. Left out of the discussion was the evidence that viewing smoking imagery in a variety of media sources is a causative factor of smoking. Participants presented the decision to smoke in real life as a fait accompli, made by smokers with complete information about the risks and in isolation from normalizing cultural influences. Tobacco content in video games, in many participants'

minds, was not part of the equation.

However, several participants did suggest that tobacco imagery was not as benign as most thought. One smoking participant denied that tobacco content had impact on his perceptions of smoking, but went on to say that smoking imagery in games made him, "feel like having a cigarette" (Nolan, age 21). Another commented that the only effect that viewing tobacco content had was that he learned a new way to get cigarettes out of a pack that was "badass" (Asher, age 18). Both Nolan and Asher, while denying that tobacco content was a factor, described real world behavior that changed due to tobacco content in video games.

A few people were concerned that while tobacco content had no affect on them, it might affect others. Maria, age 15 stated that, "It didn't bother me because I wouldn't try that personally, so I mean, but then, you think about the other people who play it, they're not like you. They might actually try it. They might encourage other people to try it." Five other participants (Jim, Ron, Chase, Sarah, Mariah) thought that tobacco content might have an effect, especially on younger players. Mariah stated that, "Young people are too easily influenced by what they see," and she would like to keep smoking "out of games."

Others felt that tobacco content was a trivial issue in comparison to other problem issues in video games. Laurie, age 20, after describing a situation in which her younger brother had smashed a television, attributed the act to his playing of violent video games, stated "I think violence is a bigger issue with videogames than anything. I think parents need to monitor that. Smoking I don't think as much." For Laurie, the other graphic content in games presented a larger comparative and immediate harm than did tobacco

content. While she acknowledged that she felt that video games could have effects on real world behavior, she discounted that effect for tobacco. For most participants, tobacco content in video games was generally not perceived to be a problem, with one participant saying, “If people don't make a big deal about arbitrary shit like this, arbitrary shit doesn't become a big deal” (Casey, age 22).

The Question of Regulation

The data suggested that tobacco use in gaming imagery served a normative role in this setting, legitimizing smoking as an individual choice, a discourse that the tobacco industry actively has promoted (Balbach, Smith, & Malone, 2006). Both gamers and designers routinely spoke of “choice” and valorized the ability to choose the type of games they designed and the type of games they played. Participants also largely expressed the view that tobacco content was without consequence and should not be regulated beyond the current system of rating games. One participant was concerned about how regulating in-game smoking would affect the imported games she enjoyed playing:

> I think it’s an artistic thing [smoking in games]. It’s hard to say, “Oh, we’re going to ban these characters.” If you say that in America, that would put off a lot of video games that come from other countries, too. Maybe that will promote more of American games, but I know it would be a big scene for - I know a lot of people who love these Japanese games” (Laurie, age 20).

Another participant when asked about regulating smoking within games, responded, “Well, I think it kind of helps with some of the characters, but, I mean I think it doesn’t matter if it’s in there or not; it depends on the individual, how they take it exactly” (Lisa,

age 21). Reflexively, Lisa corrects herself after she says that smoking “helps” to “it doesn’t matter” and it depends on the “individual,” thus moving the responsibility for the effect of tobacco imagery from the game to the player. Daniel, a 21-year old college senior who played primarily single-player role playing games, also felt that it should be parental and player responsibility to monitor game content and the gaming industry should not be held accountable:

> Well, that's what the rating system's for. Honestly, it says on the back, “May contain violence, alcohol, and smoking” clearly and that's what the rating system's for. Like you can't make them put - honestly, if it's in there and they say it's in there, then either you can't - like I wrote a paper about this. You can't use it as a scapegoat just because you let your children play it, you know what I mean? Either you monitor it - you can't blame the designer for putting that aspect in there.

Daniel also expressed that whether a character uses tobacco in a game should not affect how a player perceives the character,

> I don't think any bad of them. Like, it depends on how the role is in the story of how I think of that character. Like, “Oh man, he's mean.” “Oh man, he's a good guy.” Like it's not really makes sense to judge them just because of their choice or habits.

What is particularly interesting about these two comments together was that the first one alluded to the agency of game designers to insert tobacco content into games while the second comment suggested that it is the game characters themselves that make the choice to smoke, giving the agency to the smoking character, indicating the personhood that

Daniel accords the in-game characters. Both comments reflect Daniel's experience that games are places of freedom, freedom for game designers to design, characters to act, and for him to play. Daniel also used words like "habit" and "aspect" to describe smoking indicating his belief that tobacco use in games was on par with finger nail biting, or swearing too much, maybe not preferred, but a trivial detail in this world of freedom.

Other participants were concerned that regulating tobacco imagery in video games would have larger effects on someone's personal freedom to use tobacco in real life. An outgoing first-year college student commented:

> I don't care personally. If they're smoking in the game, then they're smoking in the game. It's not like just because they're smoking in the game that someone's just going to pick up smoking. Smoking's everywhere. It's on TV too. Are they're going to cut smoking on TV? Are they going to cut smoking on the Internet? Are they going to cut smoking out of real life? It's legal, so I don't think there should be a problem with it. If they were smoking weed or doing some other kind of hard-core drug, I could understand that. But smoking…(Anna, age 18).

Anna described smoking as a normal and legal part of life, visible everywhere, but not of concern. For Anna, tobacco content in video games and other media could not be problematized, since it was legal, everywhere and normal. She singled out marijuana use and "hard-core" drugs as potential problems, since these were not everywhere and not legal, but the ubiquitous nature of tobacco made it unremarkable. For Anna, something available in real life at nearly every corner store should not present a problem in video games. In general, participants painted a picture that inserting tobacco content should be

an artistic choice of game designers and that viewing tobacco imagery was mostly harmless, normal and should not be further regulated.

Game designers were clear that using tobacco imagery was something that they wanted to have a choice to use and that they believed that impact of tobacco content on adolescent players was negligible. When asked about the effects of tobacco imagery, Mary commented:

> But I don't think any game would ever change a sane person who would never shoot somebody to a person who would shoot somebody. And I think the same goes for smoking or drinking. Sure, it keeps being in your subconscious and stuff like that but if you're a kid and you make a decision to start smoking it's not because you played the game. It's because of the peer pressure mostly.

Mary was reacting to arguments made by many video game opponents that identify gaming as one of the root causes of serious societal violence (Donovan & Garriott, 2010). Mary put forth the idea that games are relatively harmless and a "sane" person would not let their actions be affected by gaming, while at the same time admitting the behaviors learned might stay in a person's subconscious, but allowing that most people would not be influenced to action by these subconscious thoughts. She gave agency to children who use tobacco, saying that it is a decision that they made because of peer pressure, thus removing any culpability for the normalizing role that media play in creating an environment where smoking was seen as a reasonable choice.

Game designers also pointed out that the ESRB rates games and lists content descriptors on the game box, allowing parents to decide whether the game would be appropriate for their child. Commenting on whether there should be mandatory regulation

of tobacco content in video games, Henry, a designer for a major game studio and working on an extremely popular game, stated:

> That choice should always exist for the artist and then regulating consumption of that content should be the parents and the children, one of the things that helps to regulate that is ESRB itself, [it has] a very clear set of guidelines. You can look on the back of the box. It will tell you the age. It will tell you what's in the game (Henry, 5 years as a game designer).

For Henry, art creation should be unconstrained and it was up to consumers to decide whether to engage with the particular art, although he allowed that the video game industry needed the ESRB as a mediator since the parent often buys the game that the child will play, often playing it without close parental supervision. According to Henry, it was the artist's job to create, the ESRB's job to inform, and the consumer's job to choose which games to to play. The idea of any mandatory control of game content was distasteful to game designers as artists, with Henry calling it "awful" and stating that "people wouldn't be able to express themselves." It was invisible to Henry that when he used cigarettes to indicate different character types and to convey meaning, he was reifying tobacco industry-created tropes designed to addict people to their products. For Henry, as with the other designers, cigarettes brought with them the value a set of intrinsic meanings that were universally understood and provided instant shared recognition. All of the game designers expressed confidence in the ratings board and in parental ability to monitor and choose appropriate games for their children. However, in reality the ESRB is nearly useless when it comes to appropriately labelling tobacco

content, making it nearly impossible for parents to effectively choose games for their children without tobacco content (Forsyth & Malone, 2015).

Discussion

Tobacco content was present in many of the video games that adolescents play, although the amount and content varied. In games in which tobacco was present but not featured, participants often did not consciously remember that such content was in the game. Video games were usually dynamic, interactive spaces to which player attention was drawn toward action and movement. Just as in real life, things that were expected faded into the background: there, but not consciously experienced as memorable. Tobacco imagery seemed to fall into this category, present but often difficult to recall unless it involved the player in some way. Games in which the player used tobacco to further game play or played a character that smoked were far more likely to be noteworthy than more passive content. However, just because a player did not remember the tobacco content did not mean that the player did not see it. Research about product placement in video games indicates that even when something is not consciously recalled as being present, it still can impact decision making. Children who played with branded items in games were more likely to select that brand when given a choice than those who had played with unbranded items, even when they could not recall the brand (Hang, 2012; Hang & Auty, 2011). Interacting with branded items in a game increased top-mind awareness, brand image and behavior intention of participants toward the brand ($p<.05$) (Van Reijmersdal, Jansz, Peters, & Van Noort, 2010). Playing video games and interacting with products and brands during the game also created processing fluency, (Schwarz, 2004) allowing children to later express that brand as a preference.

In video games, the use of tobacco industry-created tropes harkened back to time before the tobacco control movement began to problematize tobacco use (Brandt, 2007; Proctor, 2011). While in much of the United States today, public use of tobacco has been limited, advertisements are controlled, and there are active anti-smoking campaigns, but this was not reflected in gaming worlds. In many games, tobacco was used in public spaces, advertised in various in-game media, available in vending machines, and smoked by many different types of characters in wide ranging venues, thus creating spaces where adolescents went for hours a day to experience a world where tobacco use was again normalized and acceptable.

Many of designers and the players commented on how tobacco use added "realism" to the game, making characters appear "more realistic." Being "authentic" was a key attribute that the players valued. However, many of the games that contained tobacco were authentic only to tobacco-industry versions of reality and not reflective of actual reality. In the six games that received a score of five on the TIS, two games were set in times where tobacco use was limited. *Bioshock Infinite* was set in 1912 and *Red Dead Redemption* was set in 1911, an era just before World War I and the rise of the tobacco industry. Smoking rates were relatively low in the early part of that century. In 1911, 173 cigarettes were smoked per capita per year, and in 1912 the rate only rose to 223, as compared to over 4000 cigarettes per capita per year in the late 1960s and early 70s (The American Lung Association, 2011). GTA V was set circa in 2013 in a city mimicking Los Angeles during a time when strict anti-smoking laws have existed since the 1990s. *Metal Gear Solid IV* was set in 2014, again a time during which strong anti-smoking campaigns and laws existed. *The Wolf Among Us* was set in 1986 during a time

where tobacco use was widely known to present health risks and anti-smoking campaigns were becoming active, yet Bigby Wolf, the main character, was criticized only for the poor quality of his cigarettes he smoked, apparently a cheap brand, and not for chain-smoking. Only *LA Noire,* set in the 1940s, was set during a time where tobacco use had not been heavily problematized and a significant percentage of the population smoked. The rest of these games reflected a created reality in which tobacco use was inserted to increase the realism for a reality that never actually existed.

Tobacco content imbued characters with certain traits that both designers and players understood. Similar to movie makers (Shields, et al., 1999), game designers placed tobacco imagery into games because of its cultural meaning and its ability to convey that meaning quickly and effectively. Rather than concern for the effects of the tobacco content on the player, concern lay in the desire to be true to the character and the art form. The players, aware that tobacco use was unhealthy, were confident in their capacity to not be swayed by by interacting with any such imagery. Those players who smoked did not attribute their use of tobacco to playing video games with tobacco content. While players were readily able to describe situations where gaming had impacted their lives (see chapter four), when asked, each carved out tobacco as an item that had no personal impact. Gaming was where they went to experience freedom and agency not always available to players in their real lives. The idea that engaging in tobacco imagery in video games would in any way shape their perceptions of tobacco use was unpalatable. They controlled the games, the games did not control them.

The idea that tobacco imagery was harmless and an artistic choice extended then to participant perceptions of any possible regulation. With few exceptions, regulation was

seen as limiting and an affront to the personal freedom of both the game designer and the player. This perception echoed the historic arguments of the tobacco industry that valorized the "choice" to smoke as an individual right and an essential liberty that should be available to all in a free society (Proctor, 2011). The role of corporate entities in shaping such choices, and the meanings they carried remained unexamined.

Conclusion

Tobacco imagery in video games is cause for concern. This paper demonstrates that tobacco imagery is present in video games, is consciously recalled by players and it is imbued with rich meaning understood by both the game designers and the players. Players and game designers do not, by and large, view this content as problematic, nor do they think that regulation beyond industry self-disclosure of content has a place in gaming. Strong evidence exists that tobacco content in movies causes adolescent movie-goers to start using tobacco at greater rates than those not exposed. Many adolescents are exposed more frequently and with greater intensity to video games than movies (Rideout, 2015; Rideout, et al., 2010). The tobacco imagery in video games is likely particularly appealing to adolescents and young adults, with its emphasis on coolness, masculinity, being older, and being a rebel, all characteristics that many adolescents wish to emulate. Video gaming is also an active experience, where gamers are given agency. One participant described the sensation as "play[ing] the movie directly" (Ryan, age 20), possibility indicating the tobacco content in video games may have an even greater effect on gamer players than tobacco content has on movie goers. More research is needed to understand the extent of tobacco content exposure and the effects it has on both perception, tobacco uptake and use.

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Table 2: Gamer Study Participants

	Name*	Age	Sex	Race/ Ethnicity	Location	Ever smoker	Current smoker	Mean Hours per day gaming	Age started gaming
In-person gamer interviews:									
1.	George	18	Male	Hispanic	California	no	no	4.5	4
2.	Ellen	21	Female	Asian	California	no	no	5	5.5
3.	Victor	20	Male	Hispanic	California	no	no	4	6
4.	Laurie	20	Female	Caucasian	California	no	no	4	2
5.	David	18	Male	Hispanic	California	no	no	4	8
6.	Lisa	21	Female	Asian	California	no	no	5	11
7.	Anna	18	Female	African American/ Caucasian	California	yes	no	4	5
8.	Daniel	21	Male	African American	California	no	no	4	2
9.	John	13	Male	Caucasian	California	no	no	2	7
10.	Jack	15	Male	Caucasian	California	no	no	2	9
11.	Mark	16	Male	Hispanic	California	no	no	3	4
12.	Joel	18	Male	Asian	California	no	no	5	5
13.	Samuel	18	Male	Caucasian	California	no	no	5	11
14.	Adam	18	Male	Asian	California	no	no	6	2
15.	Maria	15	Female	Hispanic	California	no	no	3	12
16.	Brian	20	Male	Asian	California	yes	yes	4	8
17.	Tom	19	Male	Asian	California	yes	no	2	8
18.	Ryan	20	Male	Caucasian	California	no	no	2	5
19.	Connor	13	Male	Caucasian	California	no	no	4	8
20.	Patrick	13	Male	Caucasian	California	no	no	3	7
Online gamer Interviews:									
21.	Rick	24	Male	Caucasian	Netherlands	yes	no	2.5	3
22.	Marla	22	Female	Caucasian	UK	yes	yes	2.5	14
23.	Mike	20	Male	Caucasian	Oklahoma	yes	yes	3	3
24.	Ron	31	Male	Caucasian	Argentina	yes	no	2	5
25.	Susan	33	Female	Caucasian	Wisconsin	yes	yes	3	10
26.	Jim	21	Male	Hispanic	Illinois	no	no	3	4
27.	Joe	20	Male	Caucasian	Canada	no	no	2	7.5
28.	Luke	21	Male	Caucasian/ Asian	Canada	no	no	4	11
29.	Ethan	19	Male	Caucasian	Canada	yes	yes	2.5	2
30.	Owen	30	Male	Caucasian	Massachusetts	yes	no	3	3
31.	Nathan	20	Male	Caucasian	South Africa	no	no	3	4
32.	Isaac	20	Male	Caucasian	Canada	yes	no	2.5	14
33.	Joshua	28	Male	Caucasian	Michigan	yes	no	2	4
34.	Evan	20	Male	Asian	Illinois	no	no	1	2
35.	Ian	23	Male	Caucasian	Minnesota	yes	no	2	13
36.	Austin	24	Male	Caucasian	New York	yes	yes	2	10
37.	Cole	27	Male	Caucasian	Washington	no	no	2	12
38.	Brody	20	Male	Caucasian	Iceland	yes	no	2.5	8.5
39.	Sean	20	Male	Caucasian	Connecticut	yes	yes	3.5	6.5
40.	Ryder	18	Male	Caucasian	Germany	no	no	4	9
41.	Jordan	35	Male	Caucasian	USA	yes	no	2.5	6
42.	Blake	21	Male	Caucasian	Colorado	yes	no	2.5	12
43.	Norma	38	Female	Caucasian	Canada	yes	no	2	16
44.	Mariah	37	Female	Declined	New York	yes	yes	2	15
45.	Leo	18	Male	Caucasian	UK	yes	yes	4	10
46.	Asher	18	Male	Caucasian	Spain	yes	no	3	6
47.	Miles	19	Male	Caucasian	California	yes	no	4	6
48.	Maya	21	Female	Caucasian	Arkansas	no	no	2	6
49.	Hudson	20	Male	Caucasian	Arizona	yes	no	2	10

50.	Colin	28	Male	Caucasian	California	no	no	2	10
51.	Chase	19	Male	Caucasian	Minnesota	yes	yes	4	7
52.	Tyler	26	Male	Asian	Florida	no	no	2	9
53.	Julian	32	Male	Caucasian	California	yes	yes	2	10
54.	Nolan	21	Male	Caucasian	Netherlands	yes	yes	3.5	10
55.	Hunter	20	Male	Caucasian	Illinois	no	no	2	1
56.	Dylan	28	Male	Caucasian	New Jersey	no	no	2	3
57.	Grayson	23	Male	Caucasian	UK	yes	no	2	8
58.	Sarah	18	Female	Caucasian	Ohio	yes	no	2	1
59.	Casey	22	Andro	Caucasian	UK	no	no	3	1
60.	Elliot	26	Male	Caucasian	New York	yes	yes	8	12
61.	Lucas	25	Male	Caucasian	USA	no	no	2	5

Totals

	Mean age (SD)	**gender %**	**Race/Ethnicity %**	**Location %**	**Ever smoker % (n)**	**Current smoker %(n)**	**Mean hours per day gaming (SD)**	**Mean age started gaming (SD)**
In-person gamer interviews (n=20)	17.7 (2.7)	Fe .25 Male: .75	Asian .35 Hispanic .20 Caucasian .35 African/Am .05 Multiracial .05	USA 1.0	.15 (3)	.05 (1)	3.8 (1.2)	6.5 (2.9)
Online gamer interviews (n=41)	23.9 (5.4)	Fe .15 Male .83 Andro .02	Asian .05 Hispanic .02 Caucasian .88 Multiracial .02 Declined .02	USA .61 Canada .12 Europe .22 Africa .02 South Am .02	.66 (27)	.29 (12)	2.7 (1.1)	7.5 (4.2)
All gamer interviews (n=61)	21.9 (5.3)	Fe .17 Male .82 Andro .01	Asian .15 Hispanic .08 Caucasian .70 African/Am .02 Multiracial .03 Declined .02	USA .74 Canada .08 Europe .15 Africa .02 South Am .02	.49 (30)	.21 (13)	3.0 (1.2)	7.2 (3.8)

*** All pseudonyms**

Table 3. Demographics of Game Designer Participants (n=5)

Gender (n)	Male (4) Female (1)
Race/Ethnicity (n)	Caucasian (3) Asian (2)
Game design experience (n)	Independent studio (1) Major studio (2) Independent/advergames (1) Multiple independent studios/co-owner small studio (1)
Years worked as designer mean(SD)	8.8 years (9.2) Range 2-25 years

Table 4: Unique games identified by participants

Unique games identified by participants (n=152)	**%(n)**
Games without verified tobacco content and not recalled by participants as containing tobacco content	58.5%(89)
Games without verified tobacco content but recalled by at least one participant as containing tobacco content	2.0% (3)
Games with verified tobacco content with at least one participant recalling the game as containing tobacco content	23.0% (35)
Games with verified tobacco content and not recalled by any participants as containing tobacco content	16.4%(25)
Total	100% (152)

Table 5: Total games identified by participants

Total games recalled by participants (n=366)	**%(n)**
Games without verified tobacco content and not recalled by participants as containing tobacco content	50.3% (184)
Games without verified tobacco content and total recalls by participants as containing tobacco content	1.1% (4)
Games with verified tobacco content and it was recalled by participants as containing tobacco content	27.1% (99)
Games with verified tobacco content not recalled by participants as containing tobacco content	21.6%(79)
Total	100% (366)

Table 6: Typology of tobacco imagery in unique games and in total recalled video games

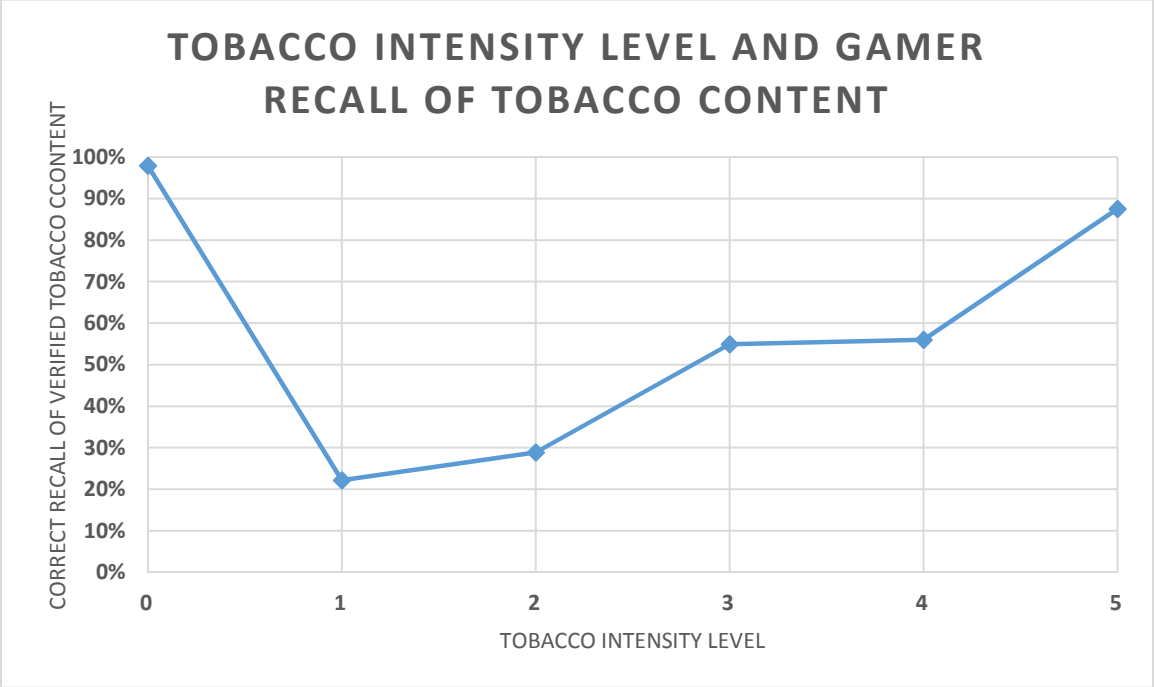
Type of tobacco reference/imagery in video games with tobacco imagery	Unique games and type of tobacco content %* (n) n=152	Total games recalled and type of tobacco content %*(n) n=366	Example
No tobacco imagery found	60.5% (92)	51.4% (188)	n/a
Visible tobacco paraphernalia	39.5% (60)	48.6% (178)	Silent Hill Downpour (2012): Scattered around the game world of Silent Hill are cigarette packs. They do not appear to serve any purpose, but they are frequently seen in random spots. The packs look similarly to Marlboro Golds.
Tobacco products furthering game play	12.5% (19)	22.4% (82)	Fallout 3 (2008): Cigarettes, packs and cartons are a valuable trade good that can be collected by the player. Packs and cartons of cigarettes are also used as Rock-it launcher ammunition.
Non-playable background characters using tobacco products	19.7% (30)	24.3% (89)	Medal of Honor (2010): Soldiers are asked if they want a cigarette by a guard at an Afghan checkpoint- they respond "no," a US sniper is seen with a pack of cigarettes in his gear and a Taliban fighter is seen smoking before he is shot.
Non-playable main characters using tobacco products	45.0% (27)	29.7% (109)	Mass Effect 3 (2012): Human are in an intergalactic war against aliens. The Illusive Man heads a human paramilitary group. The Illusive Man is a impeccably dressed older man who is always seen smoking. He is a shadowy figure, not seen much, but with enormous power. He was voiced by Martin Sheen, who said he sucked through an empty pen to emulate the noise of the Illusive Man smoking.
Playable characters using tobacco products	17.8%(24)	32.0% (117)	Left 4 Dead (2008): One of the four playable characters, Bill Overbeck, is always seen with a cigarette in his mouth, regardless of what he is doing. He is a grizzled Vietnam vet, who is the oldest of the group. He ultimately sacrifices himself to save the rest. In death is the only time that the cigarette is not lit.

*Totals add to more than 100% as many games fell into more than one category

Table 7: Tobacco intensity score by unique games and recalled games

	Unique games in level, %(n) (n=152)	All games in level recalled regardless of recall of tobacco content, %(n) (n=366)	All games in level recalled by participants as having tobacco content, %(n) (n=103)	% of time participants recalled the game and also correctly recalled games' verified tobacco content, % (correct tobacco recalls/all games in level)
Tobacco Intensity Level 0	60.5%(92)	51.4%(188)	3.9%(4)	97.9% (184/188)
Tobacco Intensity Level 1	4.6% (7)	2.4% (9)	1.9%(2)	22.2% (2/9)
Tobacco Intensity Level 2	15.1% (23)	12.3% (45)	12.6%(13)	28.9% (13/45)
Tobacco Intensity Level 3	11.2% (17)	13.9% (51)	27.2%(28)	54.9% (28/51)
Tobacco Intensity Level 4	4.6% (7)	6.8% (25)	13.6%(14)	56.0% (14/25)
Tobacco Intensity Level 5	3.9% (6)	13.1% (48)	40.8%(42)	87.5% (42/48)
Totals	100% (152)	100% (366)	103	77.3% (283/366)

Figure 1: Tobacco intensity level and gamer recall



Chapter Seven

Conclusion

The shared purpose of the three empirical chapters of this dissertation was to critically examine perceptions of tobacco content in video games and its meanings. Placing perceptions of tobacco content (chapter six) within the context of the relationship adolescents had with the games they play (chapter four), provided a rich exploration of the meanings, purposes and potential power of the imagery. Because little previous work had examined whether video games actually contained tobacco content, part of the purpose of this dissertation was to understand the nature and scope of the various types of tobacco imagery (chapters five and six). In this final chapter, I will briefly summarize the findings of the empirical chapters and then discuss how they contribute to the overarching themes of the dissertation. I will then consider the policy implications and suggest avenues for future research.

Analysis was informed theoretically by ecological theory, the theory of presence and the general learning model and methodologically by an interpretive phenomenological (IP) approach to data collection and analysis. The primary data sources for empirical chapters were 66 qualitative interviews with people involved in the video game playing community, and secondary sources including 40 hours of direct observation of video game playing, 350 hours of watching game movies and examination of relevant artifacts, incorporating: game ratings websites, game commentary websites, individual game wikis, and articles and books written about video gaming and specific games.

In chapter four, I examined the game playing experience and the meaning players ascribed to their play for 20 in-person interviews with adolescents age 13-21. I juxtaposed the adolescent playing descriptions against five game designer descriptions of game design, highlighting that the emotions elicited by video games for players were often carefully sculpted by those who create the games. I found that game players valued playing because of their ability to transport them into worlds where they experienced freedom, power, stress relief and relaxation. Far from being isolating, games also served as a place to gather, make community and create, hone and extend identity. Games played by participants were also likely to be violent, and the players accepted, and often reveled, in the violence as part of the game playing world. In their descriptions of being immersed in the gaming world, participants painted a complex and nuanced picture of the role video games played in their lives beyond what the phrase "I am playing a video game" might initially suggest. Calling these activities "games" in some sense trivialized the importance of the role they played in narratives; in reality video games were activities that took up hours of participants' lives, drew them into multiple created worlds, and these world were enduring over time. Over the span of adolescence and young adulthood game favorites changed, but the importance of the activity in participants' lives did not.

In chapter five, I turned to the question of how to catalogue tobacco content present in the games that participants played. Using modified methodology as described by Barrientos-Gutierrez et al (Barrientos-Gutierrez, Barrientos-Gutierrez, Lazcano-Ponce, & Thrasher, 2012), I first examined the tobacco content descriptors assigned by the Entertainment Software Ratings Board (ESRB), the board charged with labelling games with relevant content descriptors to aid consumers in making a choice about which

games to buy, to ascertain whether tobacco content was present in specific games. It became immediately apparent that the ESRB was not rating games with tobacco content appropriately, and I devised alternative methods of verifying tobacco content in games. I found that only 8% (9/118) of the games included in the sample had received ESRB tobacco-related content descriptors, but I verified that 42% (50/118) contained such content. 42% (49/118) of games were rated "M" for mature (content deemed appropriate for ages 17+). Of these, 76% (37/49) contained verified tobacco content; however, only 4% (2/49) received ESRB tobacco-related content descriptors. I concluded that it that game players were exposed to more tobacco content than the ESRB ratings had suggested, particularly in M rated games. Because of the disparity between actual tobacco content and ESRB flagged tobacco content, I focused this paper on the topic as a guide to future research.

In chapter six, I considered the dual issues of scope and type of tobacco content in the range of games played by participants and, secondly, the perception and purpose of that content from both player and designer perspectives. I found that participants were more likely to recall of tobacco content when the player was actively involved with the tobacco product. Tobacco content in the background or content with which the participant did not engage often was not remembered. Games in which the tobacco content was foregrounded, were more likely to be recalled as containing tobacco content than those games in which the tobacco content was in the background. Games were rarely recalled as having tobacco content when they did not. This may have been in part due to the qualitative nature of data collection. Participants were asked to freely recall and describe games in which they had seen tobacco as well as other games they enjoyed

playing, both now and historically. They were not prompted nor given lists of games to categorize, thus limiting the times that participants selected a game that they thought should contain tobacco but did not. When describing their recall of tobacco imagery, both players and game designers implicitly understood that using such imagery in a video game allowed messages to be rapidly conveyed about characters, including industry groomed tropes such as being cool, a rebel, world-weary, stressed, "badass", masculine or feminine, tough and normal. Designers and players together "spoke the language" of tobacco imagery, thus further reinforcing it. Game designers stated the game industry often drew on the popular mythos surrounding smoking to quickly imbue certain characters with certain personality traits that would be immediately understood by players.

In the initial examination of interview data, which was used as the game data set for chapter five and the subsequent article in *Tobacco Control* (Forsyth & Malone, 2015), 140 unique games were identified. However, when all of the data was reexamined and recoded for chapter six, an additional 12 games were identified. These games were missed in the original analysis secondarily to the volume of data with game names embedded in the narrative (11 games) and due to the addition of another online participant (one game). To ascertain whether these games would have changed the outcome of the *Tobacco Control* analysis, I examined the missed games. Of the 12 games, four contained tobacco imagery. Of those four, three had ESRB ratings. None of the three had received a tobacco content descriptor. Of the 12 games, nine were rated by the ESRB, resulting in 3/9 games that contained tobacco imagery. Taking these data into account would have increased the n in chapter five from 118 to 127. However, this

change did not result in a difference in the total percentage of games with verified tobacco content (50/118=42%, 53/127=42%). It did however, slightly change the result for games with verified tobacco content that were also identified by participants from 30% to 27.6% (35/127).

Overarching themes

Qualitative work in the IP and ethnographic traditions is not intended to yield statistically generalizable results, but rather to examine everyday experience from a critical and thematic perspective in order to understand the world of the participants; their understandings, activities, and what is noticed and unnoticed.

Games as Creative Space and Regulatory Aspects

One theme that emerged from the data was that video games are understood by players and designers to be a form of creative expression and that to place regulatory limits on game content would be to constrain the art form and the playing experience. Imagery was judged on its fit and suitability in the story line rather than on possible "real world" effects on the player. With few exceptions, participants expressed that if the game content was reflected in the ESRB rating and content descriptors (or other ratings boards for international participants), the player (or parent) was making an informed choice and therefore responsible for the effects of any game content. All moral agency is placed on the player or the game-buying parent. Participants, throughout their narratives, insisted that the ESRB served an appropriate regulatory role on which parents and consumers could rely and that further intervention would limit choice and infringe on the designers' right to create the game as they saw fit. For example, a thirteen-year-old boy stated,

> In video games, I think that video games are, they can have smoking in them, because like, the ESRB ratings, they tell you what kind of things will be in there, so you should go into a game knowing what's gonna be in there. And I think those ratings are really strict (John, age 13).

The construction by participants of the ESRB as the neutral purveyor of game related information with the player/parent serving in the role of active decision maker fits with a well-known theory of health education, the health belief model (Janz, Champion, & Strecher, 2002). This theory posits that a person is a rational, independent decision maker and has the right and responsibility to select the choices that seem most beneficial to him/her, when given the full range of choices. The tobacco industry has long used this argument to justify the continued selling of deadly tobacco products (Balbach, Smith, & Malone, 2006). Since tobacco is a well-known harm, the industry contends that consumers, knowing the harms, should be allowed to make a conscious choice to smoke if they so desire.

While I am not suggesting that the video game industry is making a product that kills half of its users as does the tobacco industry (Doll, Peto, Boreham, & Sutherland, 2005), I am proposing that the presence of the ESRB rating system allows the industry to move the locus of responsibility for content from the industry to the consumer. The ESRB defines itself as a, "non-profit, self-regulatory body that assigns ratings for video games and apps so parents can make informed choices" (Entertainment Software Ratings Board, 2016). This is further clarified in the ESRB's mission statement:

> To empower consumers, especially parents, with guidance that allows them to make informed decisions about the age-appropriateness and suitability of video

games and apps while holding the video game industry accountable for responsible marketing practices (Entertainment Software Ratings Board, 2016).

This construction allows the video game industry to essentially absolve itself of the problems that plagued it in the early 1990s, the assertion that games were exposing adolescents to violent and other negative imagery. By placing age ranges and content descriptors on the box, consumers could now make the choice whether they wished to expose themselves or their children to such imagery. However, as chapter five illustrates, the ESRB frequently does not consider tobacco content as warranting notice, and the ratings are therefore useless.

Games as a Normalizing Force, Seen and Unseen

A related theme that also emerged was the overall importance of gaming for participants, who at the same time denied that certain content had any effect on them. Participants related stories of empowerment, identity development, stress relief and community, but when asked about whether tobacco imagery affected them, all participants discounted any possible consequences to themselves, with only a few suggesting that it might affect others. For participants, the characters they played "lived" in the world created by the game designers, and the received view of that world became real and largely unquestioned. Their successes and failures in the game were experienced as personal triumphs or losses. Yet, no one mentioned that one of the reasons the game existed was to make money for the game company, nor did they problematize tobacco content within games. Because many game players accept the dimensions of the created world as real while playing, game companies are uniquely positioned to inculcate game-

normative values among players, including continuing the normalization of smoking and its associated tropes.

The normalizing power of video games can be illustrated by the game *America's Army,* a game specifically designed to be a military recruiting and training tool. In his book *War Play,* Corey Mead discussed how the US Army, by making a first-person shooter video game about becoming a soldier and distributing it free to high school students, was able to vastly change its reputation (Mead, 2013). By 2008, an MIT study (Edery & Mollick, 2008) noted that "30% of all Americans age 16-24 had a more positive impression of the Army because of the game, and even more amazingly, the game had more impact on recruits than all other forms of Army advertising combined", even though the game development costs represented only 0.3% of the Army's marketing budget (Mead, 2013). By turning recruiting into a video game, the US military was able to target potential recruits by showing a fictionalized version of military service, thus creating a space where players could experience this world, while normalizing and practicing expected recruit behavior.

The *America's Army* example suggests the power of video games to influence perceptions. By using tobacco tropes created and propagated by the tobacco industry (Proctor, 2011), video games have continued to normalize tobacco use as acceptable. The dialogue between player and designer around tobacco content meanings was clear and understandable. If a designer placed a cigarette in a character's mouth to indicate that the character was cool, the player was able to grasp that meaning as intended. Similar tobacco tropes used in movies are a causative factor in adolescent smoking uptake (U.S.

Department of Health and Human Services, 2012, 2014; US National Cancer Institute, 2008), and this dissertation demonstrates that these tropes also exist in video games.

Future Research

While the systematic review in chapter three demonstrated that the subject of tobacco in video games is currently understudied, and the following empirical chapters demonstrated that tobacco content is present in video games and is imbued with meaning, we do not have evidence that tobacco content in video games is associated with increased tobacco uptake among adolescents and young adults. To research this, it will be important for future researchers to continue to refine techniques for discovering the amount and type of tobacco content in games. In this dissertation single games were given the same weight as game series. Games could be a series of several games or many, some of which contain tobacco content, and some of which might not. Depending on the game mode, various content is displayed, some with tobacco, some without. By refining and standardizing techniques, it should be possible to acquire a numerical range of tobacco impressions to which a player would be exposed during game play.

Another important avenue of research would be to longitudinally study tobacco uptake in adolescents who frequently play games with a high number of tobacco impressions as compared to adolescents who do not. Similar to the tobacco in movies research, this would demonstrate whether tobacco in video games results in increased smoking uptake and move the issue into policy making arenas. Given the imagery and agency aspects of video games, it is likely that tobacco imagery impacts adolescents, but currently there are no data to indicate whether this actually happens and/or the possible strength of the association. In addition, data collected would be useful in understanding

how many M rated games are frequently played by adolescents to assess whether the M rating acts as a deterrent or an attractor for these players.

Policy Implications

This dissertation contributes to the discussion around tobacco in video games and possible policy solutions. One of the critical findings is that it was difficult to discover whether and to what extent tobacco content existed in games played by adolescents. Unless there is more evidence regarding the extent of such content, it will be difficult to craft policy solutions. It is imperative that the agencies such as the ESRB start to more accurately quantify the amount of tobacco content in video games so that reliable estimations can be made.

Currently, in the tobacco control community there is a concerted push to give an "R" rating to all movies with tobacco content that is not historical in nature. The same policy argument should be considered for tobacco content in video games, although this may present several problems, differing from issues presented by movies. Movies are a place that people "go" and for movies with an "R" rating, unaccompanied youth under 17 are not admitted. On the other hand, video games are played at home, with friends, or anywhere that someone can use a handheld device. There is no gathering point of control, no theater. Nor does it seem that rating a video game "M" is a strong deterrent against adolescent play, and it may actually serve as an inducement (Bijvank, Konijn, Bushman, & Roelofsma, 2009). *Common Sense Media*, a website that rates media for child appropriateness, also allows parents and children to comment on age appropriateness. Illustrating the range of how age appropriate a game is perceived to be, *Grand Theft Auto V* (GTA V), is rated M by the ESRB, rated 18+ by *Common Sense*

Media, but 273 parental reviews on the *Common Sense* website gave the game a mean age rating of 13+, and 245 reviews by children gave the game a mean age rating of 14+ (Sapieha, 2013), indicating that many users of the *Common Sense* website considered the content of GTA V fine for younger adolescents. For example, in one typical parental comment, a mother of a 13-year old stated, "I think that this game has many violent and awful things, but if your child knows the difference between the game and the real world, they should be fine" (Sapieha, 2013).

Another avenue to be investigated would be to work with game designers helping them understand how by placing tobacco content into games, they are reinforcing tobacco-industry created tropes. While honoring the art of game design, game designers could be encouraged to use other, more creative methods of attaching meaning to characters, beyond the cigar or cigarette and to consider whether there is a way to use the personal freedom and artistic expression frame to change/subvert the meaning of tobacco rather than reinforce old meanings. It will be important to gather allies inside the gaming community. A frequent criticism from the gamer community towards academics is that academics do not have a nuanced understanding of game culture and frequently paint games as "violent" or "causing bad behavior" without considering the complexity of gaming (Goldberg & Larrson, 2015). It will be essential to carefully craft and develop strategies and consider possible unintended consequences, such as what happened in the early 1990s debate that created the ESRB. In this debate, some games were broadly characterized as violent or sexual, resulting in the ratings system that just confirmed the content rather than questioning it in a meaningful way (Donovan & Garriott, 2010).

Video games can be viewed as meaningful tools for interpreting and extending the world around the player, creating relationships, crafting identity, and encouraging creativity, but they can also be powerful agents of normalization, presenting worlds and ways of being that are not necessarily healthy. Video games are one lens through which adolescents perceive reality, and it is critically important that researchers examine what it is that they are perceiving. Video games are not going away; they will only become more technologically advanced and more engaging to players.

In 2016, the first virtual reality headsets were made commercially available, allowing wearers to explore totally immersive 3D worlds. During the Game Developers Conference in San Francisco in 2015, I tried on a headset prototype and found myself suspended in space. The experience felt so real that I had to continually tap my feet on the ground to assure myself I was not really floating. Children growing up today are going to have these types of gaming devices, and others not conceived of yet, as part of their reality. Children now grow up gaming and it is time that we turn our attention to this powerful medium.

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Appendix A: Data collection tool for Systematic Review (Chapter 2)

Citation	
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Sample	
Design	
Major Findings	
Strengths	
Weaknesses	
Notes	

Appendix B

Games Played by Adolescent Players Interviewed In-person (Chapter 4)

	Game Name/ Year published	Participants N=20	ESRB Rating	Perspective	Opponents	Goals of game	Process of play
1.	Adventure Quest (Saltzman, 2002) 2002	George	n/a	Single player RPG-questing and fighting	Single player	Collect experience points, gold, weapons and special items, leveling up.	Players defeat monsters with weapons- disappear when killed
2.	Assassins Creed II (Saltzman, 2009a) 2009	Laurie	Mature	3rd person open world, can switch to first person for certain actions	Single player	Move through story missions, set in 15th century Italy, playing as an assassin defeating Knight Templars, particularly Rodrigo Borgia (Pope Alexander VI)	Players defeating enemies by killing them with 15th century implements- bloody, graphic.
3.	Banjo Kazooie(Schneider, 1998) 1998	George	Everyone	3rd person platformer	Single player	Play as the bear Banjo and bird Kazooie. The evil witch Guntilda kidnaps Banjo's sister Tooty to steal her beauty. Goal is to rescue Tooty and defeat Guntilda. Move through levels collecting musical notes, jigsaw pieces, defeating enemies.	Player defeats enemies in comic ways, rolling into them, whacking them with tools.
4.	Battle Arena Toshinden 3(World of Longplays, 2011) 1996	George	Teen	3rd person battle arena	Single player, two player	A diabolical group known as "The Organization" is going to release an evil god into the world. The Toshinden fighters must fight to defeat them and save the world.	Players defeat enemies by fighting them in the arena using hand-to-hand combat and various weapons. Defeated character collapses on the ground. No blood.
5.	BattleField: Bad Company 2(Sapieha, 2010a) 2010	Ellen	Mature	1st person shooter	Single player Multiplayer 2-24	The Russians have stolen a weapon of mass destruction and it is up to Bad Company to retrieve it. Mission based.	Players shoot enemies with high-powered weaponry. Graphic and bloody.
6.	Bioshock(Gamer's Little Playground, 2014a) 2007	Mark	Mature	1st person shooter with RPG elements	Single player	After a plane crashes in the ocean, the player descends to a decaying underwater 1940's dystopia. There the player gains superhuman powers by using gene-altering chemicals (plasmids). The player collects weapons and plasmids, using them to complete objectives, finally defeating the main antagonist, and returning to the surface. Moral choices made during game play impact the outcome of the game.	Players are able to kill enemies in with variety of weapons, and in many ways, including incineration, lightening strikes, electrocution, etc. Players have the option of killing mutated little girls. Graphic and bloody.

7.	Borderlands (Molina, n.d)2009	David John	Mature	1st person shooter with RPG elements playing FPS	Single player Multiplayer 2-4	The player plays as one of 4 mercenaries as they search the planet Pandora for the mysterious alien "vault," rumored to contained advanced technology and infinite wealth. The player completes quests to further the story, and//or earn cash and experience points.	Players defeat enemies by using will use a large array of weapons, from shotguns to rocket launchers. Deaths are bloody, with limb loss, decapitation, etc. The dying often scream.
8.	Bugs Bunny: Lost in time(SinRoth52, 2011) 1999	Maria	Everyone	3rd person Platformer	Single player	Bugs is lost in time and must traverse five different eras (21 total levels) to defeat enemies and collect clocks and golden carrots which will allow him to return to present day.	Players defeat enemies by kicking them, pushing them, stomping on them or dropping things on them. When vanquished, the enemy often disappears in a puff of smoke.
9.	Call of Duty: Modern warfare 3 (Sapieha, 2015a) 2011 (Also played Call of Duty: modern warfare 1&2 and Black Ops)	George Anna Daniel Jack Joel Samuel Brian Tom Ryan	Mature	1st person shooter	Single player Multiplayer	It is World War III, and Russians are attempting to invade the United States. Playing as various soldiers, the player completes story-driven missions, finally capturing and killing the main antagonist.	Players engage in realistic, first-person military combat using a variety of weapons. Enemies respond by screaming and writhing in pain, and blood gushes from wounds and staining the environment. Executions are shown.
10.	Captain Claw(StubbornAtom, 2012) 1977	Ryan	Everyone	3rd person Adventure Platformer	Single player Multiplayer 2-64	Captain Claw is a famous cat pirate recently defeated by a band of dog pirates. He escapes prison and goes in search of gems, which together will make the amulet of 9 lives, giving the wearer near immortality. The player proceeds through levels, collecting gems and fighting through enemies and obstacles.	Captain Claw fights with his sword, a pistol and fists. When he defeats an enemy, the character appears to fall off the side of the platform and disappears.
11.	Civilization V(Sapieha, 2010e) 2010	Tom	Everyone 10+	Turn based strategy game. Top down view	Single player Multiplayer	Each player represents the historical leader of a discrete civilization and must guide its development over 1000s of years. As the years go by, the player must scout for land, built more cities, decide on government engage with other civilizations. Victory can be achieved militarily, diplomatically, and by scientific achievement.	Historical military units fight from a bird's-eye view. Soldiers crumple and disappear when defeated. Can also ally with other civilizations, and use diplomacy, ideology, etc. to overcome obstacles
12.	Clash of Clans (Morris, 2014a) 2013	Connor Patrick	n/a	Top-down 3rd person action/strategy	MMOG Single player	The player collects resources, builds an army, works cooperatively within	The player can attack NPC goblins and villages. When your troops are killed, they

						clans to be able to attack other villages, NPC and clans to gain money and resources.	scream, turn briefly to ghosts, and then tombstones are shown. No blood.
13.	Counter-Strike: Global offensive (Counter-Strike Wiki Community, 2015) 2012	Brian Tom	Mature	1st person shooter	Multiplayer A few single player modes	The player joins either the terrorist or counter-terrorist team. The goal is to eliminate the other team and reach objectives. Players receive in-game money based on successful game play to buy weapons.	The player using a variety of realistic military-type weapons graphically and brutally is able to kill members of the other team. Very bloody. It is one of the few games that require to player to wait to respawn until the round is over.
14.	Dance Dance Revolution 2011 (Also played other DDR versions)	Ellen Lisa	Everyone	Dancing to according to directions on the screen	Single player Multiplayer	Players move their feet corresponding to arrows scrolling on the screen to music. The player is given a score based on accuracy.	Players try to gain greater scores with increasing difficult dance steps.
15.	Dark Souls (Sapieha, 2011a) 2011	David	Mature	3rd person/ action role playing	Single player Multiplayer	The player explores the demon infested land of the undead in an attempt to retrieve their lost souls and lift a curse. In open-world exploration, the player collects items, kills enemies, gaining "souls" which act as currency and experience points. Known as a very difficult game.	The player violently and graphically kills and is killed. The player uses fists, axes, swords, bows, spears, knives, whips, etc. to kill opponents. Bloody.
16.	Dead or Alive 4(Rorie, 2006) 2005	Laurie	Mature	3rd person Battle arena	Single player Multiplayer	Players select a character and then are pitted against either the computer or other players to fight. Each playable character has different moves and skill sets.	The player engages in fast paced hand-to-hand combat. When characters are defeated, they remain on the ground. No blood. Grunting and screaming is heard during the fight.
17.	Dead Island (Sapieha, 2011b) (Tetra Ninja, 2011) 2011	David	Mature	1st person action RPG Survival horror	Single player Multiplayer	Players are on open-world island where most of the inhabitants have contracted a virus and turned into zombies. The player's goal is to survive, find weapons, complete quests, engage in combat and gain experience points.	The player is able to kill zombies is many ways, from hand-to-hand combat to running them down in a vehicle. Bloody and graphic, body parts are often laying around.
18.	Defense of the Ancients (Defense of the Ancients Wiki Community, 2015)	Jack	n/a	Top down Online battle arena	Multiplayer up to 10 players	This game is a mod of Warcraft III: Reign of chaos. The game pits two teams of players against each other. In the center of each team's base is a building called "the Ancient." The goals are to gain skills, level up, collect gold, kill the opponents and destroy the other team's building.	The player kills other player's avatars and NPCs. They disappear in a puff of red and black smoke.

19.	Destiny (Sapieha, n.d.-a) 2014	Connor Patrick	Teen	1st person shooter Mythic science fiction	Single player multiplayer	Set in the distant future, earth is threatened by a malevolent evil known as the Darkness. Players take on the role of warriors with special talents who set out to explore the wastelands of Earth, the Moon and other planets to defeat the evil.	Players use lethal violence to defeat the enemy. There are a variety of weapons, ranging from clubs to futuristic guns and military weapons. Enemies cry out in pain, lay on the ground or disintegrate. White or black blood is occasionally seen.
20.	Devil May Cry 4 (casualgamerreed, 2013; Saltzman, 2008a) 2008	Ellen	Mature	3rd person action	Single player	In gothic feeling game, the goal is for the player to kill as many demons as possible, playing as Nero or Dante, two powerful demon hunters. The player goes on missions, which are then graded, collects items and moves through the story arc.	In this game, many demons are killed. The player is able to fight with large swords, high-powered pistols, and special demon killing powers, like special arm strength that can pulverize demons. Demons disappear when killed Graphic and frantic fighting.
21.	Donkey Kong(Harris & Harris, 2014) 1981	Victor Mark	Everyone	3rd person Platformer puzzler	Single player Multiplayer	Players play as Mario the Plumber, moving through levels, avoiding obstacles, destroying objects, collecting items, completing tasks and gaining points. The goal is to save the heroine Pauline from the ape Donkey Kong.	Players use cartoon violence like hitting obstacles with hammers to destroy them. They disappear upon destruction.
22.	Doom 2 (Kushner, 2004) 1994	Ryan	Mature	1st person shooter	Single player Multiplayer	The player is a space marine, returning to earth and finding it overrun with demons. The player must secure the spaceport allowing humans to leave earth, thus securing the survival of humanity. The player goes on the find the source of the demon egress onto earth, enters it, battles the main demon and closes the portal. Players navigate levels, picking up useful items, gaining experience and battling monsters.	Players use their fists, various guns, and chainsaws to kill humans and monsters. Enemies die in bloody explosions The bodies often remain and bloody piles on the ground. Mutilated bodies and blood are visible.
23.	Dragon Age: Origins(Saltzman, 2009b) 2009	Adam	Mature	3rd person Fantasy RPG	Single player	The player assumes the role of the Grey Warden, whose goal it is to defeat the Archdemon and save the world from the disastrous event know as the Blight. The player moves through the open world storyline fighting	The player uses bows and arrows, magic and swords to fight enemies. The player can decapitate and plunge swords into chests. Blood spatters are seen.

						enemies and finally saving the world.	
24.	Dragon Quest VIII (kirtanloorii, 2015) 2005	Lisa Daniel	Teen	3rd person 1st person option when fighting Fantasy RPG	Single player	A possessed court jester turns the entire castle into trolls, plants and animals except for the protagonist. In this story-driven open world, the player must break the spell and return everyone to humans. The player battles enemies, collects items, becomes more powerful and gets the girl.	They player, using weapons and magic, battles various enemies. When defeated the enemies turn into dust and disappear.
25.	Duck Hunt (Total Speed Gaming, 2007) 1985	David	n/a	1st person Sport shooting game	Single player	Using zapper, the player shoots at ducks on the screen to kill them. The more killed, the higher the score.	When shot, the ducks cast off a few feathers, squawk and fall to the group. A dog picks up the dead ducks and shows them to the player.
26.	Duke Nukem Forever (bahamut2k456, 2011; Sapieha, 2015b)	Laurie David Samuel	Mature	1st person shooter	Single player Multiplayer	The player plays as Duke, a misogynist muscle bound man who has previously saved the world from aliens. Alien are now re-invading the earth and Duke finds he must save it again. Now the aliens are abducting Earth's women, including Duke's two girlfriends. He battles aliens, a government bent on betraying him and ultimately saves the Earth. The player moves through levels, collects objects and battles enemies.	Players can use a variety of weapons to dispatch enemies, from large guns to bare hands. The kills can be graphic and bloody.
27.	Dwarf Fortress (Weiner, 2011) 2006	Ryan	n/a	Top-down Construction and management simulation	Single player	Open world, sandbox game where players creates environments for their dwarves, and then are responsible for their well-being. The players establish successful colonies, manage complex competing needs and defend their fort from enemies.	Players engage with opponents such a goblins that are a threat to their communities. Player has god-like control over the world. Combat wounds are described by text in the scrolling log.
28.	Eastern Mind: The lost souls of the Tong Nou(azuritereaction, 2010; Iwant, 2014) 1994	Ryan	everyone	1st person	Single player	Players wakeup to find that they have lost their soul and they must to the island of Tong Nou to reclaim it. The island turns out to be a large green head in which the player must enter and explore. The goal of the game is to die and transmigrate into new entities, and them	Players get enveloped by the opponent and then die. For example, a large mouth comes at the screen, and the player is killed and starts the reincarnation sequence. No blood or graphic violence.

						complete the fate of the entity. Non-linear.	
29.	Elsword (MMOhuts, 2011; Talyor, 2012) 2007	Ellen Victor	n/a	3rd person MMOG RPG	Multiplayer	The story takes place in a mystical land, where the stone that provides life has been stolen. Players go on quests, works in teams, gather items, increase fighting skills, form alliances, raise pets, and explore the land, while attempting to find the stone and save the land.	Elsword has been characterized as a "beat-em-up" type MMO. Players, using variety of weapons, skill and magic, fight with opponents. When defeated, opponents fall to the ground, disappear and items or coins appear in their wake.
30.	Elder Scrolls V: Skyrim (ZTRCTGuy, 2012) (Sapieha, n.d.-b) 2011 (also played Elder Scrolls IV)	David Daniel John Ryan	Mature	1st and 3rd person fantasy RPG	Single player	This is an open-world role playing game, taking place in Skyrim, the northernmost province of Tamriel, during a time of civil war and dragon attacks. The hero (the player) finds that he is one of the dragonborn, capable of killing dragons and stealing their voices. The player completes quests, learns magic, collects valuable items, thus becoming the powerful person in the land. The player must ultimately defeat Alduin, the first dragon and the Nordic god of destruction.	While graphic violence is endemic in this game, players can choose the personality of their avatars, from villainous to virtuous. Players use various hand-held weapons and bows and arrows in brutal combat, blood and body parts are seen. Executions and torture are shown.
31.	Fallout III (Damon dj productions, 2015) (Saltzman, 2008b) 2008 (Also played Fallout: New Vegas)	David John Mark Brian 16,5,9, 11	Mature	1st person RPG adventure	Single player	The open-world game is set 200 years from now in a post-apocalyptic future, 30 years after a devastating nuclear war. Much of life is lived underground. The player has grown up with his father in vault 101, but when his father leaves the vault, the player goes to search for him. On the surface the player encounters a dangerous wasteland, where the player must complete quests, collect items, collect karma points and battle with mutants, while being assisted by other human survivors. Ultimately, the player must defeat the remnants of the former US government, who are planning to infect	The player is able to use a variety of weapons from handheld to rocket launchers. It is bloody and graphic, with body parts flying and blood spattering.

						everyone with a virus, except themselves.	
32.	Far Cry III (Gameatics, 2013; Saltzman, 2012a) 2012 (Also played Far Cry 1&2)	Tom	Mature	1st person shooter-open world-action/ adventure	Single player Multiplayer	The player plays as vacationing Jason Brody who is stranded on tropical island with his friends. Pirates soon capture them, with Jason escaping. He then must work to rescue his friends. He also engages in a spiritual journey to find a knife sacred to the natives. The player must complete quests, find items, battle and kill opponents, and make moral choices to complete the game.	The player kills thousand of people in the course of this game, using a variety of weapons from knives and machine guns to other explosives. Death is violent and graphic, with sounds, and bloody graphics
33.	Fire Emblem(CGRundertow, 2011) 2008	Lisa	Everyone 10+	Top down 3rd person Tactical role playing game	Single player Multiplayer	A prince, who has previously fled to exile, must now retake his kingdom, rescue his sister and save the realm from the evil Shadow Dragon. The player must move through levels, gaining skills and powers, while fighting opponents and collecting items.	The player engages in combat using various handheld weapons. The battles are visually simple and do not contain blood. The opponent disappears when killed.
34.	Flyff (Koh, 2005a; MMOHuts, 2009) 2005	Ellen	n/a	MMOG RPG	3rd person	Set in the fantasy world of Madrigal. Players design characters, go on quests, collect items and kill monsters. No one character can do everything, for success player-groups must be formed. The goal is to level up your character, becoming increasingly skilled and powerful.	When players kill monsters, they drop to the ground and disappear. Players use weapons, magical items and potions to defeat foes. Players can also duel other players via their avatars.
35.	Final Fantasy VII (IMDb Wiki Community, 2013) (PalmSmash, 2012) 1997 (Also played FF VIII)	Victor Lisa Daniel Adam	Teen	3rd person Fantasy RPG	Single player	Players embark on quests to prevent an evil corporation from taking over the world. There are 9 playable characters, each trying to stop the world-controlling megacorporation Shinra from draining the life of the planet for use as an energy source. The player battles opponents, collects items and levels up.	The player engages in combat with a variety of weapons including guns, swords, spears, boomerangs, etc. When opponents are defeated, they become transparent then disappear. No blood is seen.
36.	Gears of War 3 (Saltzman, 2011a; stepultura, 2012) 2011	David Daniel	mature	3rd person shooter	Single player Multiplayer	Set in the future on a distant planet, the human inhabitants are under attack from giant intelligent locusts and other	Very violent game. The player uses high powered weapons to destroy the aliens, which explode in gold colored liquid. Blood

						mutants. Elite fighting forces known as Gears must find ways to defeat the enemies and save humanity. The player plays as the leader of the Delta Squad. Players complete missions to further the story, gaining experience, which increases based on the number of kills and executions the player completes.	is seen when human characters are killed. Players can complete "finishing moves" resulting in graphic kills, earning them extra points.
37.	Goat Simulator (Morris, 2014b; TheYooj, 2014)	Ryan	Mature	3rd person	Single player Multiplayer	In this game, the player controls a goat that roams an open-world suburban environment. The goal is for the goat to cause as much destruction and mayhem as possible. The player can earn points by having the goat preform stunts and can gain greater powers by collecting golden goat hidden around the environment.	The goat appears relatively indestructible, able to withstand getting run over by cars. When the goat head butts people, they fly around and land on the ground, and can appear dead. No blood or body parts are seen.
38.	Golden Sun: Dark Dawn (Sapieha, 2010b) (Mikey's Walkthroughs, 2010, 2011) 2010	Lisa	Everyone 10+	3rd person RPG fantasy, quest	Single player	Players, having saved the fantasy world Weyward in the last game by restarted the life giving force of Alchemy, must now find ways to deal with Alchemy's life giving but destructive forces. Players must battle opponents, solves puzzles and mazes, find items and preform magic and spells in order to bring order and save the world.	Player characters use bows, swords, axes, staffs, and magic while fighting a variety of non-human fantasy opponents (giant rats, troll-like apes, etc.). When eliminated enemies flash brightly for a split second and then disappear.
39.	Grand Chase (MMOhuts, 2010) 2008	Ellen Victor	n/a	3rd person MMOG fantasy	Massively multiplayer	Two kingdoms are living together peaceably until a shape shifter comes and creates strife, causing war to breakout. After years of war, the king realizes the source of the discord and goes after the shape shifter, however she has disappeared. The hunt for her is the Grand Chase. The players develop characters, complete quests, collect items, and gain experience points to level up, making their characters increasingly	Players use magic, hand held weapons to fight monsters. Fighting can be frenetic, but there is no blood or body parts. When killed, the monsters disappear. Players are rewarded with in-game money, experience points and items for killing monsters.

						powerful. Players work in teams.	
40.	Godfather (IMDb Wiki Community, 2013; Lazenby, 2010; UPlayNetwork, 2014) 2004	Ellen	Mature	3rd person Open-world Action adventure	Single player Multiplayer	It is 1940s New York and the game follows the adventures of the Corleone crime family as they attempt to become the dominant force in the New York Mafia. The player plays as Aldo who, as a child, saw his father murdered by the Barzini crime family. He joins up the Corleones and begins by completing low level missions, and eventually moves up to murder and high level extortion. Finally the player becomes a made man and ultimately the Don of New York.	Players engage in bloody contract killings using a variety of weapons. Players also engage in torture. When foes are killed, there is blood and carnage.
41.	Grand Theft Auto V (Gamer's Little Playground, 2013; IMDb Wiki Community, 2015b; Kushner, 2012) (Also played GTA 1-4)	Laurie Anna Jack Mark Joel Maria Brian Tom Ryan	Mature	3rd person and 1st person shooter, action adventure	Single player Multiplayer	GTA games are open world games set in thinly veiled US cities with players playing criminals involved in the underworld. GTA V, the latest iteration of the franchise, is set in the fictional San Andreas, modeled after Southern California. The player plays as one of three gangster characters, who together and separately complete a variety of violent crimes The player is able to have sex with prostitutes, torture and kill people, steal, drive without regard to rules, drink, smoke and use drugs. The player moves the story by completing missions, collecting money, increasing skills and carrying out heists.	Playing as criminals, the player uses a variety of realistic weapons to kill people. Cars can also be used to run over pedestrians. Hundreds of people may be killed in the course of game play. Bloody, graphic and violent.
42.	Guild Wars 2 (Koh, 2012; MMOhuts, 2012) 2012	Tom	Teen	3rd person MMOG	Massively Multiplayer	In the high fantasy world of Tyria, five sleeping elder dragons are waking and will wreak havoc on the land. Players must band together to form guilds to fight the dragons and save the world. Players customize their avatars, then engage in the world, learning skills, collecting items,	Players kill fantasy creatures and humans to further game play. They will use magic spells and weapons like swords, firearms, and explosives. Blood is sometimes visible and corpses are seen after kills.

						leveling up to become more powerful.	
43.	Half Life (Bolloxed Gaming, 2015) (IMDb Wiki Community, 2015a) 1998	Jack Ryan	Mature	1st person shooter	Single player	Set in the near future, the player plays as Gordon Freeman, a scientist as the Black Mesa Research facility. After an experiment goes terribly wrong unleashing aliens, Freeman is caught between aliens and the government soldiers sent to clean up and cover up the incident. Ultimately Freeman must go through a space portal and destroy the uber alien that is holding it open, thus saving the world.	The main weapon that Freeman uses is a crowbar to smash and kill opponents. He can also use various guns and blow people up, with body chunks flying around. Blood spatters are seen.
44.	Halo: The Master Chief Collection (Gamer's Little Playground, 2014b; IMDb Wiki Community, 2014a; Saltzman, 2014) 2014	George Laurie David Joel Samuel Ryan	Mature	1st person shooter Military science fiction	Single player multiplayer	The game centers on an interstellar war between humanity and a theocratic alliance of aliens known as the Covenant. The player controls Master Chief Petty Officer John 117, a cybernetically enhanced super soldier. The player must battle the aliens, complete missions and gain skills in order to save the world.	Players engage in intense, graphic violence, using a range of weapons from guns, grenades, knives, etc. Thousands of aliens will be killed. Screaming and large amounts of blood are parts of battle.
45.	Happy Wheels (TobyGames, 2012a, 2012b) 2010	Patrick	n/a	3rd person platformer	Single player	The player selects a character and a vehicle (ranging from a wheelchair to a tractor) and traverses the level. In route the player can run over people or be killed in a variety of ways. The goal is to complete the course.	Players and NPCs can be decapitated and torn into to chunks in a variety of ways. Cartoonish blood spurts and body bits are everywhere.
46.	Infamous (Saltzman, 2009c; Tree Hugger, 2012) 2009	David	Teen	3rd person shooter, post apocalyptic action-adventure	Single player	The player plays as Cole McGrath, a normal human until a package he is delivering explodes, destroying everything around him, but leaving Cole with superhuman electrical powers. In this open-world game, Cole must decide to use his powers for good or evil. To save the city, Cole must complete missions, while gathering more powers, gain experience points and killing the bad guys.	Graphics are similar to comic books. Players use their superhuman electrical powers to kill opponents. Some blood can ben seen, but not to graphically.
47.	Heavy Rain (Little Gamers Playground,	Samuel	Mature	3rd person Interactive	Single player	In this interactive noir thriller, the player	In this game, the player can use

	2014a; Saltzman, 2010a)			drama, mystery		plays four different characters, all trying to find a mysterious serial killer who preys on young children. One of the playable characters is trying to save his son who has been captured by the so-called origami killer. Decisions made by the player affect the arc of the game. This is a dark, but engrossing game.	weapons to fight, in which blood is present, may see corpses. Not a shoot-em up, more of a murder mystery.
48.	Injustice: The Gods among us (IMDb Wiki Community, 2015a; InjusticeGame, 2013; JoshimusPrimeGaming, 2014)	Connor Patrick	Teen	3rd person fighter	Single player Multiplayer	This game is based on the DC comics superheros and villain pantheon. The superheros are transported to an alternative dimension where Superman has become a malevolent dictator. The other superheros must defeat Superman and his allies in order to reestablish democracy and the American way. This is done though a series of one-on-one fights.	Players punch, kick, and generally beat-up their opponents using a variety of weapons, including knives, swords, machine guns, crowbars, etc. Impact sounds are heard and blood splashes are seen.
49.	James Bond 007: Bloodstone (Lafferty, 2010; Sima Movies, 2013) 2010	Anna	Teen	3rd person shooter Action adventure	Single player Multiplayer	Top-secret plans that could destroy the world are missing and MI6 called in James Bond to find the culprit. In this game, the player plays as James Bond, tracking down and neutralizing the bad guys using hand-to-hand combat, real- world weaponry, and various vehicles.	Players take out opponents in various ways, from choking, to using weapons and vehicles to run people over. Foes, when overpowered or killed, fall to the ground in a heap. Occasional blood spatters are seen.
50.	Kingdom Hearts (Gamer's Little Playground, 2015) 2002	Ellen Laurie	Everyone 10+	3rd person Action RPG young warrior in fantastical world to stop a destructive force	Single player	Set in a mash up of the Final Fantasy and Disney worlds, the player plays as Sora who, along with her companions Donald and Goofy, must find three friends who have been taken by the Heartless, the antagonists, whose hearts have been corrupted by darkness. The player moves through levels, gaining experience points, increasing in power and skill.	The player engages in many battles against a most non-human enemy group. Foes are killed using staffs, key blades, shields, etc. No blood is shown. When opponents are killed, they burst into colorful lights and disappear.
51.	Kirby (Footoferret, 2014) (multiple games)	George Joel	Everyone	3rd person Action platformer	Single player	Kirby is a pink ball type creature from the planet Popstar. He goal in most of the Kirby games is to save Dreamland, a kingdom	The player plays as Kirby and defeats enemies with his powerful inhale, sucking them in. Enemies can also

						constantly under threat from King Dedede, Dreamland's evil ruler. Players move through levels, solving puzzles and inhaling enemies, thus gaining power from them.	disappear in a puff of smoke.
52.	League of Legends (Koh, 2009; League of Legends, 2014) 2009	Jack Brian	Teen	3rd person online battle arena	Single player Multiplayer	The game is set Runterra mythical world where the action of the game takes place. The players assume the role of a "champion" with unique abilities and battle against a team of other players or computer-controlled champions. The goal is to rack up kills and capture the opponent' base.	The purpose of this game is kill opponents in melee-style combat. Players can use of variety of weapons (various swords, arrows and guns) to accomplish this. Foes fall to the ground. Minor blood may be seen.
53.	Left 4 Dead (IMDb Wiki Community, 2015c; Left4Dead Wiki Community, 2015; MMendozaProductions, 2013) 2008	David Adam	Mature	1st person shooter survival horror	Single player Multiplayer	Set in modern day Pennsylvania during the aftermath of a pandemic apocalypse that caused most of humanity to turn into killer zombies. The player assumes a role of one of the four survivors who work together kill the zombies and try to escape.	Players kills zombies in melee-style combat using a variety of weapons from guns to Molotov cocktails. Zombie heads and limbs are frequently blown off, leaving blood streaks around.
54.	Legend of Dragoon (IsaacCaelum, 2013) 2000	Lisa	Teen	3rd person RPGfantasy questing	Single player	The story takes place in the fantasy world of Endiness. The world is under attack by monsters and an evil emperor. The hero finds that he has the power of the Dragoon, a legendary knight who fought in a ancient battle which saved humanity. Now, along with other Dragoons, the hero must quest to again the human race. The goals are to gain experience, collect items, kill foes, become more powerful and save humanity.	Using hand-help weapons and magic, the player overcomes foes. No blood is seen.
55.	Legend of Zelda: Ocarina of Time (IMDb Wiki Community; JHNingamer, 2014) 1998 (Also played- other Legend of Zelda games)	George Victor David Adam	Everyone	3rd person action adventure Puzzles	Single player	The game takes place in the Kingdom of Hyrule. The player plays as Link, an elven boy who finds out that he has been chosen to save the land and defeat the evil King Ganondorf. The player moves Link through levels, completing puzzles, collecting items,	Link fights and kills various monsters with weapons and items ranging from swords to explosives to a bow and arrows. Monsters bleed blue or green blood when attacked. Must of the story line revolves around battling.

						gaining power and battling monsters.	
56.	Little Big Planet 3 (Duck360Gaming2, 2014) 2014	George	Everyone	3rd person Puzzle platformer	Single player Multiplayer	The player plays as Sackboy, a small brown, humanoid creature with button eyes. In the game, Sackboy is transported from LittleBigPlanet, modeled after earth, to another world, Bunkum. Here, he has to awaken its three missing heroes, OddSock, Toggle and Swoop. Sackboy moves through colorful levels, avoids hazards and uses his special powers to defeat enemies. Much of the focus of this game is on creation of game content.	Players can jump on enemies heads and/or redirect them into hazards; enemies generally pop/disappear amid mild explosions when defeated.
57.	Mabinogi (Saltzman, 2008c) 2008	Lisa	n/a	3rd person MMOG RPG	Massively Multiplayer	Players create their own character, join guilds, practice professions, and go on quests. Players gain skills, collect items and try to level of their characters. It is a highly social environment based on Celtic and Welsh mythology, where players interact with each other.	There are a lot of battles in Mabinogi, where players engage in hand-to-hand combat using weapons and magic. Players stick others with swords and frenetically fight. However, there is no blood and gore.
58.	Madden NFL (Saltzman, 2010b) (Multiple games)	Anna Daniel Connor	Everyone	Sports game football	Single player Multiplayer	In these games, the players can engage in all aspect of football, from team creation, to actually playing on the field, from running, passing, defending, play calling and tackling.	The game mirrors the real-life sport with hits and contacts and tackles. In later iterations of the game head butting is not allowed and players that sustain concussions are no longer allowed to return to the game. Player win by winning the game.
59.	Maple Story (Koh, 2005b) 2005	Ellen Lisa	Everyone 10 +	3rd person MMO 2-D platformer	Massively Multiplayer	Players become citizens of Maple World and work to defend it against the evil Black Mage. The goals of the game are to improve the skill and status of a player's avatar over time. Players can interact, go on quests, combat monsters, acquire experience points, collect items. Players can also develop in-game professions, allowing them to craft useful objects.	Players are required to kill monsters to advance in Maple story. Weapons include things such as swords, daggers, whips, various magic items, guns, axes, etc. When killed monsters just fall over and disappear. If an avatar gets killed, a "ghost shape" replaces it.

60.	Mario Kart (Healy, 2011; UltimatePisman, 2012) (Multiple games)	Laurie Lisa Adam	Everyone	3rd person Car racing	Single player Multiplayer	This is a cartoonish racecar game based on the Mario universe. The famous plumbers race against their friends and enemies, trying for the fast time.	Players can throw out various items such as banana peels, turtle shells, etc., to slow down other racers. The racers just flip over. They always right themselves and no one is hurt and the race continues.
61.	Mass Effect 3 (IMDb Wiki Community, 2015d; MedyGames, 2013) 2012	Samuel Adam	Mature	3rd person shooter action RPG Science fiction	Single player Multiplayer	It is 2183 and Earth has made contact with multiple alien species. The planet is now under attack by a nearly unstoppable foe, the Reapers, and all out galactic war is occurring. The player plays as Commander Shepard, the soldier charged with bringing about a galactic alliance to save Earth. Shepard is alternative helped and hurt by a human-survivalist paramilitary group known as Cerberus, lead by the Illusive man. The player's goal is to save the universe by defeating the Reapers in battle.	Using a wide variety of advanced weaponry, players can graphically kill humans and aliens. Player are able to also engage in hand-to-hand combat, and space battles. It shows realistic violence and blood.
62.	Minecraft (Sapieha, 2011c) 2011	Lisa Jack Connor Patrick	Everyone 10+	Sandbox building game	Single player Multiplayer	Players use 3D blocks to build structures and environments. Players can also explore, resource gather and craft items. Multiple game modes are available including combat, survival, adventure and creative modes.	Players can do battle with monsters with swords and bows and arrows but these creatures can also be avoided. There is no blood or gore; graphics are blocky and rudimentary. Monsters disappear in a puff of smoke when defeated.
63.	Medal of Honor (Gameatics, 2012; IMDb Wiki Community, 2014b) 2010	Ryan	Mature	1st person shooter	Single player Multiplayer	This game is set in Afghanistan, during current combat operations. The player plays members of the Wolfpack, a US fighting team attempting to defeat the Taliban. They go on missions that typically include elements like hostage rescue, raiding enemy hideouts and undercover operations to violence and stealth to achieve goals.	This is an extremely violent and realistic war game. Players use high powered weapons and are able to target foes by looking down the barrel of a gun. There is profuse blood and victims scream in pain and terror then being killed. Fight can be fast paced and vicious.
64.	Metal Gear 4 (IMDb Wiki Community, 2012; RandomBlackGamer, 2013; Sapieha, 2015c) 2008	Brian Ryan	Mature	3rd person shooter action adventure	Single player	It is 2014, and the world is in almost constant civil war fought by private military companies with soldiers whom are equipped with	The players are able to engage in realistic violence using guns, knives and hand-to-hand combat. When foes are killed, they cry out and blood is

	(Also played Metal Gear games)					nanomachines to enhance their fight abilities. The soldiers are controlled through a system called Sons of the Patriots. The antagonist, Liquid Ocelot, plans to hijack this system to control the soldiers, renaming them Guns of the Patriots. The player plays as Solid Snake, a genetically engineered super-soldier, whom, although he experiencing accelerated aging because he is a clone, is able to battle Liquid Ocelot and save the world. Unlike other games, it does show the futility of war.	seen. They call to the ground with wounds visible.
65.	Metroid Prime (IMDb Wiki Community, 2016) 2002	David	Teen	1st person action adventure	Single player	The player control the bounty hunter Samus Aran as she battles space pirates and their biological experiments on the planet Tallon 4. Play involves moving through levels while puzzle solving to unlock secrets, platform jumping, collecting items and shooting foes.	The player shoots many aliens during the course of this game. Non-red blood is seen when aliens are shot. Sometimes enemies explode.
66.	Mortal Kombat (Little Gamers Playground, 2014b) 2010	Lisa	Mature	3rd person fighting game Battle arena	Single player multiplayer	Mortal Kombat is set in a fictional universe of various realms, one of which is Earthrealm (our world). All realms are controlled by the Elder Gods, and differences are settled by hand-to-hand combat. Characters all have special powers and finishing moves. For the finishing move, the winning character hurts or kills the opponent graphically; bodies are made temporarily transparent so that bones breaking and organ damage can be viewed. The goal is to have your character be the best fighter.	Extremely violent game. The entire point is to kill your opponent in the most gruesome way possible, which may include impalement, bone snapping, ripping flesh in half, and gunshots to the head. there are also X-Ray effects so the player can see what's happening inside the opponent's body when inflicting damage, such as ripping a foe's spine out.
67.	NBA Live (TmarTn2, 2014) (multiple games)	Anna	Everyone	Basketball simulation game	Single player multiplayer	In this game, players simulate playing NBA basketball by using real NBA rosters, selecting players, calling plays and playing the game.	Player use skill to play and best their opponents on the basketball court.
68.	Neopets (Kushner, 2005;	Lisa	Everyone	3rd person	Single player	In this game, players select pets and then	In the battledome, owner can have their

	WatcherOfThe2000s, 2014) 2007			Pet care game	Multiplayer	must care for them. Players collect "neopoints" in order to buy what items for their pet. They do this by playing a wide variety of games, so of which having marketing imbedded. Players can also buy neo lottery tickets and invest in the neo stock market. They can sell unused items to other players. Neopets can also be battle trained and fight other pets in the battledome.	pets battle using various weapons from a candy cane sword to a zombie squirt gun. If a pet loses the battle it doesn't die but it will have to recover before it can fight again.
69.	NeverWinter (MMOBomb, 2013) 2013	Samuel	Teen	3rd person MMOG RPG	Massively Multiplayer	Based on the game Dungeons and Dragons, it brings in much D&D game play such as rolling the dice to build your avatar. The game takes place in the Forgotten Realms. The city of Neverwinter has been thrown into chaos after the disappearance of its last Lord. The undead are rising and attacking the realm. Players take the role of citizens and form factions with other players, go on adventures, then struggle for dominance, while gaining skills, collecting valuable items, solving puzzles and leveling up.	During questing, the player encounters and fights many foes with a variety of weapons and magic. When hit, the enemy falls to the ground and the player can loot the body. Very little blood.
70.	Nintendogs (Gudmundsen, 2005; PeanutButterGamer, 2014) (multiple games)	Joel	Everyone	3rd person (Pet) 1st person (player) Pet care simulation	Single player Multiplayer	Players adopt and then careful virtual puppies. They must feed, water, walk, groom, train and pet their animals. Failure to do so causes the puppy not to thrive and may cause it to run away. Players receive points for caring for their animals. Players may enter their puppies in shows and received points for how well they do. Players can buy items for their pets or new pets with the points.	This is a non-violent game. Completion is based on how well a player cares for and trains their pet.
71.	Operation Flashpoint (Andrei Dmny, 2011; Saltzman, 2011b)	Ryan	Mature	1st person tactical shooter	Single player Multiplayer	This game is set in the Middle East, with players playing as US Marine Fireteam Bravo Unit, sent to fight enemy forces. Using realistic	This is a realistic shooter. Players use high-powered weapons and sight their kills down the barrels of guns. There is copious blood and

						weapons, the players go on missions to secure areas, destroy IEDs, protect resources and kill insurgents.	those shot may have body parts fly around.
72.	Orly's Draw a Story (ObscureNForeign, 2014) 1999	Laurie	n/a	Creative-player illustrates a story	Single player	In this game player listen and watch stories told by Orly, a Jamaican girl accompanied by her pet frog. Players are asked to draw elements of the story which then are used to further the plot.	Non-violent. Non-competitive.
73.	Persona 4 (Goldberg, 2008; Yic17 Gaming, 2013)	Laurie	Mature	3rd person RPG	Single player	A small fictional Japanese town in 2011. The protagonist moves from the city to stay with his uncle Dojima and cousin Nanako. Soon mysterious murders begin to happen and the player discovers he and his friends can move from the real world to the TV world with the help of Teddie, a resident bear of the TV world. The player realizes that many of the murders emanate from the TV world and set out to solve the mystery. When players go into the TV world, they will battle enemies, leveling up with each successful battle.	The player can wield a knife and use magic in TV land. There is blood spraying when an enemy is killed.
74.	Pheonix Wright: Ace Attorney Trials and Tribulations (Bell, 2007; NicoB, 2015) 2007	Laurie	Teen	3rd person Adventure/ interactive novel	Single player	The player players as a court attorney and engages in investigation and prosecution of a case. The case proceeds like a courtroom drama, with the player collecting evidence and cross-examining witnesses. The goal is to win the case.	They player does not engage in violence in this game, although violent scenes are shown depending on the crime in question. The player is trying to bring the criminal to justice.
75.	Pokeman (Kent, 2010) (multiple games)	George Victor Laurie Lisa Jack Joel Connor Patrick	Everyone	3rd person RPG	Single player Multiplayer	The Pokemon games are set in a fictional universe in which trainers (the players) search for, capture and then train small, fantastical creatures called Pokemon. After obtaining Pokemon, trainers venture through the world with their Pokemon, battling other Pokemon, collecting more, caring for and developing each	Player's pokemon battle other player's pokemon for dominance. They can use non-graphic hand-to-hand combat or the special skills of their pokemon. No blood or graphic violence.

						Pokemon's potential, with the goal of becoming the strongest trainer. The defeated Pokemon react by fainting, not actually dying. Each game has a subplot in which the trainer must also defeat a malevolent force that is attempting to misuse the Pokemon and take over the world.	
76.	Postal 2 (Anticult100, 2014; I am Wildcat, 2015)	Ryan	Mature	1st person shooter	Single player Multiplayer	This game is set small town Arizona. The player plays as the Postal Dude, who sets out each day to complete several tasks. He can either do this peacefully or by violence. Violent activities include killing people to the point of dismemberment then urinating on them, attaching cats to the end of his gun and using them as "silencers." This game has been banned in several countries due to its objectionable content.	The player is able to freely roam around graphically killing people and animals with a variety of weapons from swords to guns. The player can set people on fire and watch them crawl as they burn. Very gory and bloody.
77.	Professor Layton (Multiple games) (Saxcat20 Let's Plays, 2013)	Laurie	Everyone 10+	Puzzler adventure	Single player	Players solve mysteries by solving puzzles. Players get clues after they complete brainteasers related to the story. To progress in solving the mystery, the play needs to use math, reading and reasoning skills.	Occasionally the player engages in minor battles such as martial arts, although no one gets hurt.
78.	Red Dead Redemption (IMDb Wiki Community, 2015e; Red Dead Wiki Community, 2015; Sapieha, 2010c; TheDepressedTurtle, 2012)	Mark	Mature	3rd person open world action adventure	Single player Multiplayer	It is 1911 in the West. The player plays as John Marston, a former outlaw whose wife and son have been taken hostage by the government. Marston must hunt down the men in his former gang as ransom. The player goes on missions, lives off the land and is able to freely roam the land. Succeeding in gunfights is a major play component of the game.	Players engage in gunfights involving rifles, pistols, and slow motion effects occur frequently. Players can also fight with knives. Corpses are visible and blood can be seen spurting from wounds and gathering in puddles on the ground. Scenes of torture occur.
79.	Red Steel 2 (Giant Bomb, 2011; Sapieha, 2010d)	David	Teen	1st person sword fighting	Single player	Set in the Nevada desert, the player plays as a samurai on a quest for retribution for the murder of his clan and	This game is played on the Wii game console, with a handheld motion sensor, allowing the

						to recover his stolen katana. The player goes on revenge quests, gaining skills and acquiring items which will ultimately allow him to slay his nemesis.	player the act out the action. This game contains unrelenting violence, with the player using guns and swords to fight foes. To advance the game, hundreds of villains die. However, when the villains die, they turn to dust and disappear, there is no bloodshed or gore.
80.	Resident Evil 6(bloodfanRKO, 2012; Saltzman, 2012b)	Anna	Mature	3rd person shooter, action adventure	Single	Bio-terrorists have unleashed the C-virus, capable of turning everyone it infects into killer zombies. The player can play one of four characters, each instrumental in stopping the c-virus from destroying all of humanity. The players go on campaigns, kill enemies and zombies, collect items and move through the game plot.	In this extremely violent game, players use melee weapons as well as guns and explosives to defeat the zombie onslaught. Blood splatters and players can dismember, decapitate and impale both zombies and humans.
81.	RIFT(Lafferty, 2011; Sambonz, 2011)	Adam	Teen	3rd person MMOG fantasy	Massively Multiplayer	In this fantasy game, Telara, the world of RIFT, is being torn apart by invasions from other planes as well as from the threat of the demonic dragon, who is also seeking to rule the lands. Warrior souls have been brought back by the gods to battle the invasions. But even though the overall goals are the same, the Guardians (those who abstain technology) and the Defiant (those that embrace a sort of steampunk technology) are opposed and will battle each other if the chance permits. Players decide to join the ranks of either the Guardians or the Defiant to thwart the attacking evil.	The combat is violent, rapidly paced, and includes blood. There is no gore, decapitation, or dismemberment, but players can expect to hear cries of pain when in combat, and there are areas in the game where dead bodies are seen. The weapons used in the game are swords, daggers, axes, etc. Opponents fall to the ground when killed.
82.	Runescape (Armour Polly, 2005) 2005	Ellen Lisa John Jack Mark Joel	n/a	MMOG RPG fantasy	Massively multiplayer	In this highly social and interactive game, players design and select avatars. The game takes place in Gielinor, a medieval fantasy realm, where inhabitants can do magic, go on quests and kill monsters. Players can work cooperatively in guilds to accomplish goals,	Avatars kill monsters in this game, using a variety of medieval weapons. It is not bloody or gory.

						and level up their avatars. Players also work at jobs crafting things to make in-game money.	
83.	Second Life (Coon, 2011; Guest, 2010) 2003	Brian Ryan	n/a	3rd person MMOG Virtual world	Massively multiplayer	Second Life is less of a game and more of a virtual community. Players create fully customizable avatars, which they then use to interact with others. With Second Life, players can own virtual land, engage in virtual commerce and have virtual relationships and have virtual sex. By crafting and selling virtual items, a few players have made substantial real-world money. Communities often gather based on mutual interests. A wide variety of games can be played within Second Life.	Depending on how the player engages with Second Life, it can be quite violent. Avatars are armed and can battle one another (usually with a medieval twist). The extent of combat and casualties depends on where the player goes. There have been reports of virtual suicides and rape on the site in the past. However, since much of the content is user created, and there is no specific storyline, each user experience may be different.
84.	Sims (Multiple games played) (Bell, 2009)	Laurie Anna Ryan 18,4,7	Everyone Everyone 10+ Teen	3rd person Life simulation, virtual world	Single player Multiplayer MMOG	In these games there often is no set goal. Players are encouraged to create virtual people, buy or build a house, develop a profession, direct their moods and satisfy their desires. In some Sims versions, there is more directed game play	While not directly violent, Sims can taunt, insult and fight with each other.
85.	Sonic (multiple game played) (Harris, 2014)	George Daniel Adam	Everyone	3rd person Action platformer-	Single player	These games chronicle Sonic, a blue hedgehog, attempts to save the world from Dr. Robotnick, who desires world domination. The player usually controls Sonic.	Sonic frequently fights with his enemies but there is no blood shed or death.
86.	Spyro: The year of the Dragon (Temple of the Azure Flame, 2015) 2000	Joel	Everyone	3rd person Platformer-gather eggs defeat dragons	Single player	Players play as Spyro, a small purple dragon. Spyro must travel many worlds to collect dragon eggs and gems. The dragon eggs are given as rewards for completing various tasks and levels. Spyro eventually battles the Emperess, the original thief of the dragon eggs and bests her. He then is able to return the baby dragons to the dragon realm.	Players engage in battles with various enemies, but there is no blood and only comic violence.
87.	Star Fox 64 (Chrop Nintend, 2011) 1997	Laurie	Everyone	3rd person Scrolling shooter	Single player	The player plays a Fox McCloud, a red fox who pilots a spaceship.	When the player shoots down another space ship, the ship

						The player must save his planet system from Andross, the evil monkey antagonist. The player pilots a space ship, blows up enemies ships, collects items for later use and ultimately defeats Andross.	bursts into flames and crashes. The player uses high powered space guns to shoot down the ships.
88.	Star Wars (Taylor, 2014) (multiple games played)	John Adam Ryan	Teen	3rd person 1st person	Single player Massively Multiplayer	The games are set in the Star Wars universe, with the player selecting from a large variety of characters to play depending on the game. The player roams the universe, fighting evil (or being evil, if that sort of character was selected) in order to bring balance to the force.	Players use light sabers, guns, explosive devices, missiles and lasers to fight enemies and blow up enemy ships and targets. Damage on objects can be seen, but there is little physical damage seen to humanoid characters, falling lifeless to the ground.
89.	Street Fighter III (World of Longplays, 2013) 1999	Lisa Brian	Teen	3rd person Fighting game	Single player 2 Player	The player selects one of fighters. The goal is to beat up the opponent.	A player hits, kicks and throws things at the opponent. The hit the player and the opponent grunt and react, including flying up into the air. When a opponent is beaten badly enough they fall supine to the ground. The voice over says, "You win, that's cool."
90.	Super Mario (Morris, 2015; Partin, 2015) (multiple games played)	George Victor Laurie David Daniel Mark Joel Adam Maria Brian	Everyone	3rd person Platformer-	Single player Multiplayer	The games follows plumber Mario's adventures in the fictional Mushroom kingdom as he attempts to save Princess Peach from the primary antagonist Bowser, the leader of the powerful and greedy Koopa race, a turtle-like group with dragonoid features. The player guides the avatar through a series of obstacles, often running, jumping or flying to advance the game. The object is to progress through levels, collect items to use as power-ups, and defeat enemies en route saving the princess, all without dying.	Players use various power-ups they have collected to defeat enemies, who often crumble, disappear in a puff or appear stunned when vanquished.
91.	Super Smash Bros. Brawl (ProsafiaGaming, 2015) 2008	George Laurie Jack Mark Joel	Teen	3rd person Fighting game	Single player Multiplayer	This game brings in popular characters from various video game franchises. Using special moves, players battle and	Players use fists, legs, and weapons to fight opponents. When bested, opponents, disappear, burn up or explode.

						attempt to defeat the opponent.	
92.	Team Fortress 2 (IMdb Wiki Community, 2015b; Missy_Red, 2012) 2007	Mark Patrick	Mature	1st person shooter	Single player Multiplayer	The gameplay is centered around two opposing teams, the RED team and the BLU team, both trying to each the objective. The player can chose to be either RED or BLU, and chose to be one of nine different classes in their team, each with their own abilities, weaknesses and strengths. The objective depends on game mode with most centering around "capture the flag" type scenarios.	Players attempt to kill and do harm to others, using hand-to-hand combat, knives, guns and other weapons. Blood will spray when a player is shot. When a player is slashed or blown up, pieces and body parts will fly across the ground, letting blood rain down on the landscape. Most deaths end in the killed player's character model going limp and becoming a "ragdoll", with perhaps some red splotches depending on how much they were injured prior to dying.
93.	Tetris	Daniel	Everyone	Electronic game board	Single player	Players attempt to rotate blocks into to fit together as they drop from the top of the game. Scores increase as more blocks are fitted.	The player attempts to get increasingly high scores.
94.	Toho Project: Undefined Fantastic Object (Nereid, 2010) 2009	Jack	n/a	Scrolling shooter Shoot-em up fighting game	Single player	The goal is to shooter as many objects as possible while collecting items. The player is attempting to find an unidentified flying ship so that its treasures can be plundered.	When destroyed objects disappear. No blood.
95.	Uncharted 2 (Saltzman, 2009d; Sima Movies, 2012) 2009	George	Teen	3rd person Action/adventure shooter	Single player Multiplayer	The player plays as Nathan Drake, a thief. In this game, the player with his accomplices steal and oil lamp once owned by Marco Polo that contains the directions to Shangri-La and a mysterious substance that makes a person invincible. Story-driven game.	Nathan is able to use knives and guns to kill opponents. He also uses chokeholds to break the necks of enemies. Blood and bodies are seen.
96.	Warcraft III (SenpaiAus, 2011) 2002	Jack	Teen	3rd person Real time strategy	Single player Mulitplayer	Takes place in the World of Warcraft universe. Players chose one of 4 races, then completes campaigns. The final campaign is an epic battle, which involves the player striking down a large number of enemy foes and destroying their base.	Players continually fight in intense fights. There is little gore, but very violent. Players use various objects like axes to hew at each other.

97.	Wolf Among Us (Gamer's Little Playground, 2014c; IMDb Wiki Community, 2014; Sapieha, 2014) 2013	Mark Adam	Mature	3rd person Interactive story	Single player	Set in 1986, many creatures from myth, legend and folklore have moved to New York to escape "The Adversary" a entity that has terrorized their storybook homeland. In the mundane world the creatures, live in enclave known as Fabletown and hide by using glamours, disguises that make them look human. The Big Bad Wolf, known as Bigby Wolf, is the sheriff of Fabletown. The player plays as Bigby. The story revolves around a murder investigation being conducted by Bigby. Players follow clues and try to figure out who murdered Snow White.	Combat involves humans and fantasy characters punching, tackling, biting, and shooting each other. While comic book appearing, the violence is graphic, with decapitated heads, blood and gore seen. Multiple scenes depict an ax embedded in a character's skull.
98.	Words with friends	Laurie	Everyone	Puzzle Scrabble type game	Multiplayer	Players try to put the highest scoring words on the board based on the letters in their game tray.	The player with the highest points wins the game.
99.	World of Warcraft (Nardi, 2010)	David John Jack Brian Tom	teen	MMO	1st person or 3rd person Massively multiplayer	Player design and control avatars as they adventure, fight monsters and complete quests in the fantasy world of Azeroth. Players join guilds with each other and build community. They try to level up their avatars, gaining power and skills.	Quests involve killing monsters using medieval weapons. Blood may be present for the duration of the kill.

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Appendix C

Video Games with Verified Smoking Content (Chapter 5)

	Game name (Number of games with that name listed in ESRB database), Most recent game	Year	Ratings ERSB (1)	Number of participants listing or discussing the game	Number of participants mentioning seeing tobacco content in the game	ESRB content descriptor for tobacco?(2)	Verification of tobacco content
1.	Batman: Arkham Asylum (single game)	2009	T	1	0	Yes	ESRB Common Sense Media(3) Wiki (4, 5)
2.	Battlefield bad company 2 (single game)	2010	M	3	0	No	Common Sense Media(6) Wiki (7) YouTube Game Movie(8)
3.	Bioshock franchise (3 games) Most recent game: Bioshock Infinite	2013	M	1	1	Yes	ESRB Common Sense Media (9) Wiki (10) YouTube Game Movie(11-13)
4.	Borderlands (Single game)	2009	M	2	1	No	Wiki (14)
5.	Borderlands 2 (Single game)	2012	M	1	0	No	Wiki (15)
6.	Call of duty: Black ops (2 games) Most recent game: Call of Duty: Black Ops II	2012	M	2	2	No	Common Sense Media (16) YouTube Game Movie (17)
7.	Call of Duty-Modern Warfare (3 games) Most recent game: Call of duty: Modern warfare III	2011	M	8	7	No	Commonsense Media (18) YouTube Game Movie (19) Wiki (20)
8.	Captain Claw (Single game)	1997	E	2	0	No	YouTube Game Movie(21)
9.	Counterstrike (4 games) Most recent game:	2012	M	2	0	No	Wiki (22)

	Counterstrike: Global offensive						
10	Dead Island (Single game)	2011	M	1	1	No	Wiki (23) YouTube Game Video (24)
11	Deus Ex (Single game)	2000	M	1	1	No	Wiki (25) YouTube Game Movie (26)
12	Duke Nukem (4 games) Most recent game: Duke Nukem Forever	2011	M	6	6	No	Commonsense Media (27) YouTube Game Movie (28)
13	Europa Universalis IV (Single game)	2013	T	1	0	No	Wiki (29)
14	Fallout 3 (Single game)	2008	M	3	3	No	Wiki (30) YouTube Game Movie(31)
15	Fallout- New Vegas (Single game)	2010	M	1	1	No	Wiki (30) YouTube Game Movie(32)
16	Far cry 3 (Single game)	2012	M	2	1	No	Wiki (33)
17	Far cry 4 (Single game)	2014	M	1	1	No	YouTube Game Movie(34)
18	Final Fantasy VII (Single game)	1997	T	2	2	No	Wiki (35)
19	Gears of War 3 RAAMS Shadow (Single game)	2011	M	1	1	No	YouTube Game Movie(36)
20	Goat Simulator (Single game)	2014	T	1	0	No	YouTube Game Movie(37)
21	Grand theft auto (7 games) Most recent game: Grand Theft Auto V	2013	M	15	15	No	Wiki(38, 39) YouTube Game Movie(40)
22	Half-life 1 (Single game)	1998	T	1	0	No	Wiki (41)
23	Halo series (10 games) Most recent game: Halo the	2014	M	7	5	No	Wiki (42-44) YouTube Game Movie(45)

	Master Chief Collection						
24	Heavy Rain (Single game)	2010	M	1	1	No	Commonsense Media(46) Wiki (47) YouTube Game Movie(48)
25	Hitman: Absolution (Single game)	2012	M	1	0	No	Wiki (49-51) YouTube Game Movie(52)
26	Injustice: The Gods Among Us- Ultimate Edition (Single game)	2013	T	2	0	Yes	ESRB YouTube Game Movie(53)
27	LA Noire (Single game)	2011	M	3	3	No	Commonsense Media(54) Wiki(55, 56) YouTube Game Movie(57)
28	League of Legends (Single game)	2009	T	5	4	Yes	ESRB Commonsense Media(58)
29	Left for Dead (Single Game)	2008	M	2	2	No	Wiki(59) YouTube Game Movie(60)
30	Little Big Planet (3 games) Most recent game: Little Big Planet 3	2014	E	1	0	Yes	ESRB
31	Mafia (2 games) Most recent game: Mafia II	2010	M	1	1	No	Wiki(61) YouTube Game Movie(62)
32	Mass effect (3 games) Most recent game: Mass Effect 3	2012	M	5	3	No	Wiki(63) YouTube Game Movie(64)
33	Medal of Honor (2010) (Single game)	2010	M	1	1	No	YouTube Game Movie(65)
34	Metal Gear Solid (4 games) Most recent game: Metal Gear Solid 4: Guns of the Patriots	2008	M	14	14	No	Commonsense Media(66) Wiki(67, 68) YouTube Game Movie(69)

35	Mortal Kombat (17 games) Most recent game: Mortal Kombat	2011	M	1	0	No	Wiki(70) YouTube Game Movie (71)
36	Ni No Kuni: Wrath of the White Witch (Single game)	2013	E 10+	1	0	Yes	ESRB
37	Persona (5 games) Most recent game: Persona 4	2008	M	2	2	No	Commonsense Media (72) Wiki(73)
38	Postal II (Single game)	2004	M	1	1	No	Wiki (74) YouTube Game Movie (75, 76)
39	Red Dead Redemption (Single game)	2010	M	2	2	No	Common Sense Media (77) Wiki(78) YouTube Game Movie (79)
40	Resident Evil (11 games) Most recent game: Resident Evil 6	2012	M	2	1	No	YouTube Game Movie(80)
41	Silent Hill (8 games) Most recent game: Silent Hill Downpour	2012	M	1	0	No	Wiki (81) YouTube Game Movie(82)
42	Sly Cooper- Thieves in Time (Single game)	2013	E 10+	1	1	Yes	ESRB Common Sense Media(83) Wiki(83) YouTube Game Movie(84)
43	Spec Ops- The line	2012	M	1	0	No	Wiki (85) YouTube Game Movie(86)
44	Star Wars Galaxies (Single game)	2003	T	1	1	No	Wiki(87)
45	Starcraft 2: Wings of Liberty (Single game)	2010	T	3	2	Yes	ESRB Common Sense Media(88) Wiki(89)

							YouTube Game Movie(90)
46	Team Fortress 2 (single game)	2007	M	3	2	No	Wiki (91, 92) YouTube Game Movie(93)
47	The Godfather (Single game)	2006	M	1	1	No	Common Sense Media(94) YouTube Game Movie(95)
48	The Wolf among us (Single game)	2013	M	6	6	Yes	ESRB Common Sense Media(96) Wiki(97) YouTube Game Movie(98)
49	Vampire the Masquerade-Bloodlines (Single game)	2004	M	1	1	No	YouTube Game Movie (99)
50	Wolfenstein-the new order	2014	M	1	1	No	YouTube Game Movie(100)

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Appendix D

All games Recalled by Participants and Tobacco Recall (Chapter 6)

	Game Name/ Year published	Number of participants recalling the game	Number number of participants recalling tobacco content in the game	ESRB Rating	Verified tobacco content present	Tobacco Intensity Scale
1.	Adventure Quest 2002	1	0	n/a	No	0
2.	Animal Crossing Series 2001-2012	1	0	Everyone	No	0
3.	Assassins Creed II 2009	2	0	Mature	No	0
4.	Banjo Kazooie 1998	1	0	Everyone	No	0
5.	Batman: Arkham Asylum 2009	1	0	Teen	Yes	2
6.	Battle Arena Toshinden 3 1996	1	0	Teen	No	0
7.	BattleField: Bad Company 2 2010	3	0	Mature	Yes	4
8.	Bayonetta 2010	1	0	Mature	Yes	4
9.	Bioshock series 2007-2013	2	1	Mature	Yes	5
10.	Borderlands 2009	3	1	Mature	Yes	1
11.	Borderlands 2 2012	1	1	Mature	Yes	1
12.	Bugs Bunny: Lost in Time 1999	1	0	Everyone	No	0
13.	Call of Duty: Black Ops II 2012	2	2	Mature	Yes	4
14.	Call of Duty: Modern warfare series 2007-2011	14	8	Mature	Yes	4
15.	Candy Crush 2012	1	0	n/a	No	0
16.	Captain Claw 1997	1	0	Everyone	Yes	2
17.	Civilization V 2010	2	0	Everyone 10+	No	0
18.	Clash of Clans 2013	2	0	n/a	No	0
19.	Command and Conquer Series 1995-2012	1	0	Teen	Yes	2
20.	Counter-Strike: Global offensive 2012	7	0	Mature	Yes	2
21.	Crusader Kings II 2012	1	0	teen	No	0
22.	Dance Dance Revolution Series 1998-2012	3	0	Everyone	No	0

23.	Dark Souls 2011	1	0	Mature	No	0
24.	Dayz 2013	1	0	n/a	Yes	1
25.	Dead or Alive 4 2005	1	1	Mature	No	0
26.	Dead Island 2011	1	1	Mature	Yes	2
27.	Defense of the Ancients 2 2013	3	0	n/a	Yes	3
28.	Destiny 2014	5	0	Teen	No	0
29.	Deus Ex 2000	1	1	Yes	Yes	3
30.	Devil May Cry 4 2008	1	1	Mature	No	0
31.	Diablo 3 2012	3	0	Mature	No	0
32.	Donkey Kong Series 1981-2014	2	0	Everyone	No	0
33.	Doom 2 1994	2	0	Mature	No	0
34.	Double Down Casino	1	0	n/a	No	0
35.	Dragon Age: Origins 2009	2	0	Mature	No	0
36.	Dragon Quest VIII 2005	3	0	Teen	No	0
37.	Duck Hunt 1985	1	0	n/a	No	0
38.	Duke Nukem Series 1991- 2011	6	5	Mature	Yes	3
39.	Dungeon Stone Crawl Soup 2006	1	0	n/a	No	0
40.	Dust Force 2012	1	0	Everyone 10+	No	0
41.	Dwarf Fortress 2006	1	0	n/a	No	0
42.	Eastern Mind: The lost souls of the Tong Nou 1994	1	0	everyone	No	0
43.	Elsword 2007	2	0	n/a	No	0
44.	Elder Scrolls Series 1994-2014	7	0	Mature	No	0
45.	Eternal Sonata 2007	1	0	Teen	No	0
46.	Europa Universalis IV 2013	1	0	teen	Yes	2
47.	Everquest 1999	1	0	Teen	No	0
48.	Evony 2009	1	0	n/a	No	0
49.	Fallout III 2008	6	3	Mature	Yes	2
50.	Fallout New Vegas 2010	1	1	Mature	Yes	3
51.	Far Cry III 2012	3	1	Mature	Yes	3
52.	Farcry 4 2014	2	1	Mature	Yes	2

53.	FIFA Series 1993-2014	1	0	Everyone	No	0
54.	Fire Emblem 2008	1	0	Everyone 10+	No	0
55.	Flyff 2005	1	0	n/a	No	0
56.	Final Fantasy Series 1987-2010	6	2	Everyone 10+ Teen	Yes	3
57.	Forrest (The) 2014	1	0	n/a	No	0
58.	Gears of War 3 (RAAMs shadow) 2011	2	0	Mature	Yes	2
59.	Goat Simulator 2014	1	0	Mature	Yes	1
60.	God of War Series 2004-2014	2	0	Mature	No	0
61.	Godfather 2004	1	1	Mature	Yes	3
62.	Golden Sun: Dark Dawn 2010	1	0	Everyone 10+	No	0
63.	Grand Chase 2008	2	0	n/a	No	0
64.	Grand Theft Auto Series 1997-2013	22	17	Mature	Yes	5
65.	Guild Wars 2 2012	1	1	Teen	No	0
66.	Half Life 1998	2	0	Mature	Yes	2
67.	Halo: The Master Chief Collection 2014	7	5	Mature	Yes	3
68.	Happy Wheels 2010	1	0	n/a	No	0
69.	Harvest Moon 1996-2014	1	0	Everyone	No	0
70.	Hearthstone 2014	1	0	Teen	No	0
71.	Heavy Rain 2010	1	1	Mature	Yes	2
72.	Hill Climb Racing 2012	1	0	n/a	No	0
73.	Hitman: Absolution 2012	1	0	Mature	Yes	4
74.	Infamous 2009	1	0	Teen	No	0
75.	Injustice: The Gods among us-ultimate edition 2013	2	0	Teen	Yes	2
76.	James Bond 007: Bloodstone 2010	1	0	Teen	Yes	2
77.	Kingdom Hearts 2002	2	0	Everyone 10+	No	0
78.	Kirby series 1992-2014	2	0	Everyone	Yes	2
79.	LA Noire 2011	3	3	Mature	Yes	5
80.	League of Legends 2009	9	2	Teen	Yes	3

81.	Left 4 Dead 2008	2	2	Mature	Yes	3
82.	Legend of Dragoon 2000	1	0	Teen	No	0
83.	Legend of Zelda Series 1996-2013	6	0	Everyone	No	0
84.	Leisure Suit Larry series 1987-2013	1	0	n/a	No	0
85.	Little Big Planet 3 2014	1	0	Everyone	Yes	1
86.	Lost Odyssey 2008	1	0	Teen	No	0
87.	Mabinogi 2008	1	0	n/a	No	0
88.	Madden NFL 1998-2014	3	0	Everyone	No	0
89.	Mafia Series 2002-2010	1	1	Mature	Yes	4
90.	Maple Story 2005	3	2	Everyone 10 +	No	0
91.	Mario Kart Series 1992-2014	4	0	Everyone	No	0
92.	Mass Effect 3 2012	5	3	Mature	Yes	2
93.	Medal of Honor 2010	1	1	Mature	Yes	2
94.	Metal Gear Solid Series 1998-2014	13	13	Mature	Yes	5
95.	Metroid Prime 2002	1	0	Teen	No	0
96.	Minecraft 2011	6	0	Everyone 10+	No	0
97.	Mortal Kombat 2010	1	0	Mature	Yes	2
98.	NBA Live 1995-2014	1	0	Everyone	No	0
99.	NHL 1991-2014	2	0	Everyone 10+	No	0
100	Need for Speed 1994-2013	1	0	Teen E10+	No	0
101	Neopets 2007	1	0	Everyone	No	0
102	NeverWinter 2013	1	0	Teen	No	0
103	Ni No Kuni 2013	1	0	E10+	Yes	2
104	Nintendogs 2005	1	0	Everyone	No	0
105	Operation Flashpoint 2011	1	0	Mature	No	0
106	Orly's Draw a Story 1999	1	0	n/a	No	0
107	OSU! 2007	1	0	n/a	No	0
108	Papers, please 2013	1	0	n/a	Yes	1
109	Persona 4 2008	2	2	Mature	Yes	2

110	Phoenix Wright: Ace Attorney Trials and Tribulations 2007	1	0	Teen	No	0
111	Pirates of the Caribbean Online 2007	1	0	Everyone 10+	No	0
112	Pokeman Series 1996-2004	10	0	Everyone	No	0
113	Postal 2 2003	1	1	Mature	Yes	4
114	Prince of Persia 1989-2010	1	0	Teen	No	0
115	Professor Layton Series 2007-2013	1	0	Everyone 10+	No	0
116	Red Dead Redemption 2010	2	2	Mature	Yes	5
117	Red Steel 2 2010	1	0	Teen	No	0
118	Resident Evil 6 2012	2	0	Mature	Yes	2
119	RIFT 2011	1	0	Teen	No	0
120	Rockband Series 2007-2012	2	0	Teen/E10+	No	0
121	Runescape 2005	8	0	n/a	No	0
122	Saints Row 2013	1	1	Mature	Yes	2
123	Second Life 2003	3	0	n/a	Yes	3
124	Silent Hill Downpour 2012	1	0	Mature	Yes	1
125	Sims 2000-2014	4	0	Everyone Everyone 10+ Teen	No	0
126	Sky Force 2004	1	0	Everyone	No	0
127	Sly Cooper- Thieves of time 2013	1	1	Everyone 10+	Yes	3
128	Sonic Series 1991-2014	3	0	Everyone Everyone 10+	No	0
129	Spec Ops- The line 2012	1	1	Mature	Yes	2
130	Splinter Cell: Blacklist 2013	0	0	Mature	No	0
131	Spyro: Year of the dragon 2000	1	0	Everyone	No	0
132	Star Craft: Wings of Liberty 2010	3	1	Teen	Yes	4
133	Star Fox 64 1997	1	0	Everyone	No	0
134	Star Wars Series 1993-2014	3	1	Teen	Yes	4
135	Stonehearth 2011	1	0	n/a	No	0

136	Street Fighter III 1999	2	0	Teen	No	0
137	Super Mario Series 1985-2013	15	0	Everyone	No	0
138	Super Smash Bros. Brawl 2008	5	0	Teen	No	0
139	Team Fortress 2007	3	3	Mature	Yes	3
140	Tetris 1984	2	0	Everyone	No	0
141	Titanfall 2014	1	0	Mature	No	0
142	Toho Project: Undefined Fantastic Object 2009	1	0	n/a	No	0
143	Tomb Raider Series 1996-2013	2	0	Teen	No	0
144	Tony Hawk- Pro Skater 1990-2012	1	0	Teen	No	0
145	Torchlight 2009	1	0	Teen	No	0
146	Uncharted 2 2009	1	0	Teen	Yes	2
147	Vampire the Masquerade 2004	1	1	Mature	Yes	3
148	Warcraft III 2002	1	0	Teen	No	0
149	Wolf Among Us 2013	6	6	Mature	Yes	5
150	Wolfenstein: The new order 2014	1	1	Mature	yes	3
151	Words with friends 2009	1	0	Everyone	No	0
152	World of Warcraft 2005	10	0	Teen	No	0
	Total:	366	103	Everyone: 15 E10+: 28 Teen: 37 Mature: 52 n/a: 25*	60	

Appendix E

Role of Tobacco in Video Games/Verification of Tobacco Content (Chapter 6)

Key:
Visible tobacco paraphernalia (VTP): Use code when cigarettes, cigars, pipes, hookah, e-cigarettes, ashtrays with butts in them, cigarette packs, cartons, vending machines selling cigarettes are visible during game play.

Tobacco products furthering game play (FGP): Use when tobacco itself, tobacco products themselves or use of tobacco products furthers the story line or is useful during game play. (Examples- tobacco used a trade good, cigarette packs are trade items, smoke from cigarettes allow lasers to be seen)

Non-playable background characters using tobacco products (NPBC): use when characters not controlled by the player are seen smoking during game play. Background characters refer to characters not important to plot line. (example- characters on the street smoking that provide the backdrop to play)

Non-playable main characters using tobacco products (NPMC): use when characters important to plot line are seen smoking, but the computer, not the player controls the character in the game.

Playable characters using tobacco products (PC): Use when a character than can be controlled by the player is able to smoke or is seen smoking

	Games/ year	**VTP**	**FGP**	**NPBC**	**NPMC**	**PC**	**Game description/ description of tobacco content**	**Verification of tobacco content**
1.	Batman: Arkham Asylum (2009)	X	X				3rd person Setting: contemporary. The player plays as Batman battling the Joker whom has been placed in and subsequently taken over an insane asylum. Tobacco: Commissioner Gordon is kidnapped- leave a trail of "Wild Country" his favorite tobacco for Batman to follow. He also left his pipe-which was a birthday gift from his daughter to indicate that the tobacco is a trail to follow.	ESRB Common Sense Media(Molina, 2009) Wiki (Batman Wiki Community, 2015; Izuniy, 2013a) YouTube Game Movie (IZUNIY, 2013b) 2:09:00 IMDb (IMDb Wiki Community, 2015a)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
2. 2	Battlefield: Bad Company 2 2010	X		X	X		FPS- Setting: prologue set in WWII: main game contemporary, Russia is trying to take over the US. In WWII the Japanese has made the ultimate weapon of mass annihilation. In modern day the specter of Russian domination is looming and they the have ultimate weapon, originally made by the Japanese. A group of soldiers are tasked to find it. The player is one of these soldiers. Tobacco. Both the Japanese and American are seen smoking. During a break in the action, the US soldiers all stand around sharing the same cigarette. They are comrades, eventually they are killed and the weapon is not captured. In modern day, the soldiers helicopter pilot is a pacifist hippie who smokes. He is cool, a great pilot, and when the soldiers save his life and then he saves theirs, the first thing they give him is his pack of cigs. (Looks like Marlboro Gold). The hippie dies heroically, saving the group. At the end, when the soldiers have saved the US from destruction, the sergeant smokes a celebratory cigar as they enter back into US soil.	Common Sense Media(Sapieha, 2010a) Wiki (Battlefield Wiki Community, 2014) You Tube Game Movie(RecoilProductions, 2015) 1:53:00 IMDb (IMDb Wiki Community, 2013a)
3.	Bayonetta 2009	X		X	X		Setting: Modern day Europe. Player plays as the witch Bayonetta, who uses magic and weapons to fight against the angelic hordes of Paradiso. Tobacco: Two characters smoke cigars 6:24- Opening credits in a grave yard. Enzo,is puffing on a cigar. Smokes for about three minutes then throws cigar in the open grave. Wise-cracking bowler hat wearing. Information broker and friend of Rodin.	YouTube game movie(Duck360Gaming2, 2014) IMDb (IMDb Wiki Community, 2014a)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							10:59- Rodin lights cigar with a blue flame from his fingers. Cool, strong. AA, sunglasses trench coat type. Smokes throughout. He is Bayonetta's demonic weapons smith and owner of the Gates of Hell bar. ESRB and Commonsense- no mention	
4.	Bioshock franchise 2013	X	X	X	X	X	FPS. Setting: 1912, in a floating city controlled by a theocratic ruler-dystopia. The player plays as Booker, who is a smoker. In game there are cigarette advertisements, cigarettes packs, ashtrays with visible butts. NPCs, both major and minor, smoke. Cigarettes can be most commonly found laying out in the open, but will occasionally pop up in trash cans, in containers, and on corpses. Tobacco: Smoking a pack will take away a small sliver of health. This tiny decrease is more than made up for in the relatively large amount of Salts (substance necessary to use various extra powers) they give you.	ESRB Common Sense Media (Sapieha, 2015a) Wiki (Bioshock Wiki Community, 2015) You Tube Game Movie(Gamers Little Playground, 2014a; MisterK, 2013; OnlyZayth, 2014) 5:46:35 IMDb(IMDb Wiki Community, n.d.)
5.	Borderlands 1 (2009)	X					FPS. Setting: A future dystopia, on a planet called Pandora: Tobacco: While searching the nearly empty hideout of a enemy group, the player see cigarette packs are seen lying around the bunk area. Cigarettes are portrayed as a leisure time activity.	Wiki (Borderlands Wiki Community, 2015a) YouTube Game Movie(A Chimps World Walkthroughs, October 28, 2013) 22:18
6.	Borderlands 2 2012	X					FPS: Setting: A future dystopia, on a planet called Pandora: Tobacco: 1:30- Player is sent on a mission to	Wiki (Borderlands Wiki Community, 2015b) You Tube Game Movie(Dragonsbrovs Smith, May 16, 2014)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							find cigars. While looking, a woman calls out "That shiftless vault hunter is stealing our smokes." 5:57 Once the cigar is procured, it is given to man, with the comment, here is a cigar, "the universal sign for Freudian lust, marry me immediately" The man responds, "I'm good." Meant to be humorous.	
7.	Call of Duty: Black Ops II 2012	X		X	X		FPS- Setting: 2025 with flashbacks to 1986-89 (Oliver North consulted on the project to ensure historical "accuracy.") Tobacco: The story is recounted in flashbacks. The old soldier Woods (main character in previous Black Ops) is explaining current threats to the US based on historical actions with which he had been involved all while continually smoking cigarettes. These action-filled flashbacks contain bloodshed, killing and bravado. Other characters from the 80's are also seen smoking and pictures of smoking paraphernalia are shown when Woods is recounting the history of the CIA and its dealings with Noriega.	Common Sense Media (Sapieha, 2015b) You Tube Game Movie (VZoneGames, 2013) 2:54:56 IMDb (IMDb Wiki Community, 2014b) (Call of Duty Wiki Community, 2015a)
8.	Call of duty: Modern warfare III (2011)	X			X	X	FPS- Setting: near future- Russian is invading the United States. Tobacco: Captain Price smokes cigars at various points throughout the game. He is a brave, experienced soldier who is part of the small group saving the US from the Russians. For example, after Yuri (whom the player controls for most of the game) sacrifices himself for Price, the player then becomes Price for the last part of the game. The war between Russia and the US are in peace talks, but Price says the war isn't over until	Common Sense Media (Sapieha, 2015c) Wiki (Call of Duty Wiki Community, 2015b) You Tube Game Movie (Gamematics, 2014) 2:28:22 IMDb(IMDb Wiki Community, 2014a)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							Makarov (the villain) is dead. He hunts him down, and graphically strangles him and then hangs him. We see Makarov swinging from the makeshift gallows. From the first-person perceptive, Price, while waiting for the local police force to arrive, fumbles for his lighter, takes several attempts to light his cigar, when he finally does, the cigar is brought to the mouth, inhales, and exhales, smoke fills the screen with the body swinging in the background, - game over.	
9.	Captain Claw 1997	X		X			Setting: Pirate times- dog pirates v. cat pirates. Tobacco: 8:44 Captain Claw has been captured and escaped and is looking for intelligence to assist him to find the treasure. He enters a tavern and a bear is seen smoking a pipe and blowing smoke clouds. 9:29 A bulldog in the back of the bar is seen with a cigar in his mouth.	YouTube Game Movie(StubbornAtom, 2012)
10.	Command and Conquer Series 1995-2012	X		X			Tobacco:In a game movie retrospective, at minute 52, a soldier lights a cigarette after completing a mission.	You Tube Game Movie (mandalore CZ, 2013)
11.	Counterstrike: Global offensive (2012)	X				X	FPS- multiplayer Setting: Cotemporary- the player is either a terrorist or a counter-terrorist- goal to eliminate the other team. Tobacco: Member of the "Elite Crew" a middle east terrorist group can carry red and white Marlboro cigarette packs in their front pocket. No evidence of smoking them.	Wiki (Community, 2015)
12.	Dayz (2013)	X					Setting: zombie apocalypse MMO FPS Tobacco- player has ability to collect packs of cigarettes. Added function- added smoking, drinking and drugs to the functionality in 2013	You Tube game movie (Engage Tutorials, 2014)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
13.	Dead Island (2011)	X			X		FPS-open world Setting: Contemporary-zombie apocalypse. The player plays as one of the survivors of a plague that turned most of the island inhabitants to zombies. Tobacco: There are cigarette packs and cartons visible on the island. The survivors eventually run into Mowen, as Rastafarian appearing smoker, who leads them on a quest to "where the undead come from." He sacrificed himself and consumed by the zombies to save the survivors.	Wiki (Dead Island Wiki Community, 2015) YouTube Game Video (ClaytonKills Channel, 2011; NGTZombies, 2013; Tetra Ninja, 2011)
14.	Defense of the Ancients 2 (2013)	X	X			X	Online battle arena Tobacco: A magical item- the pipe of insight is highly useful, allowing the user to take greater damage in fights. Also one of the Heros- Warcog- has the option to have a cigar. This is a highly moddable game- very difficult to tell whether tobacco imagery is modded in or intended by the designers.	You Tube Game Movie (VekusProjectDota, 2013) Wiki (DOTA 2 Wiki Community, 2014)
15.	Deus Ex (2000)	X	X			X	FPS, RPG Setting; In the dystopian near future, a deadly plague known as the Gray Death has befallen mankind. The only known "vaccine", Ambrosia, the distribution of which is tightly controlled by Orwellian government agencies, merely delays the inevitable. Terrorist groups are capitalizing on the increasing desperation of the common folk. The player plays as a government operative to oppose the terrorists. Tobacco: There are cigarette packs around that can be picked up and put into the player's inventory. "Coughing Nails: When you just have to have a cigarette." There are also cigarette ads and vending machines	Wiki (Deus Ex Wiki Community, 2014) YouTube Game Movie(UncleJart, 2014) TV Tropes(TV Tropes Wiki Community, 2015) IMDb (IMDb Wiki Community, 2008)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							around. Smoking costs the player 10 hit points, but if the player chain smokes s/he can kill the enemy, cigarettes can be used as improvised weapon and to create a diversion.	
16.	Duke Nukem (4 games) Most recent game: Duke Nukem Forever (2011)	X	X			X	FPS Setting: 21st century, it is 12 years after Duke saved the earth from alien invaders, they are back and Duke needs to do it again. Tobacco: Duke vividly smokes cigars throughout the game. There are visible ashtrays and vending machines. Brands available are: Hellfire, Faggs, Lemur and Deathstix. There are pictures of him up in his house, depicting him smoking. Cigars can give Duke an ego boost-permanent life extending bonuses that are awarded when Duke first interacts with an object in the right way. (This game seems particularly aimed at the pubescent boy crowd-lots of naked women and bathroom humor. Duke goes into bathrooms picks up poop from the toilet and flings it around, we also get to see him pee.)	Common Sense Media (Sapieha, 2015d) YouTube Game Movie (bahamut2k456, 2011) IGN Wiki site (IGN Wiki Community, 2011) IMDb (IMDb Wiki Community, 2015c)
17.	Europa Univeralis IV (2013)	X	X				Grand strategy game-map based Setting: The player controls a country during the Early Modern Period (specifically, 1444 to 1821), conducting trade, diplomacy, colonization, and warfare. Tobacco: Tobacco is an historical trade good from the new world and is considered one of the best goods for it ever increasing events that boost their price further. Pipe over a tobacco leaf signifies tobacco as a trading item.	Wiki (Europa Universalis IV Wiki Community, 2015)
18.	Fallout 3 (2008)	X	X				FPS Setting: 2277, 200 years after a nuclear	Wiki (Fallout Wiki Community, 2014a, 2014b, 2015a, 2015b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							apocalypse destroyed the world. The player is the Lone Wanderer, the hero in this dystopian future. He ultimately sacrifices himself for the good of humanity. Tobacco: Cigarettes, packs and cartons are a valuable trade good that can be collected by the player. Packs and cartons of cigarettes are also used Rock-it launcher ammunition. NPCs are seen smoking cigarettes. The brand in the is *Big Boss*, a possible illusion to the Metal Gear series. The packs and carton are red and white striped with a red or white chevron.	YouTube Game Movie(Damon dj productions, 2015; Protox07, 2014) IMDb (IMDb Wiki Community, 2016a)
19.	Fallout- New Vegas (2010)	X	X	X			FPS Setting: 2281, 200 years after a nuclear war. The player takes control of the character known as the Courier, who is hired by a delivery service to take an unknown package across the Mojave Desert to the New Vegas Strip. During the delivery, the Courier is intercepted, shot in the head, and left for dead by a mysterious man who steals the package. The player spends the rest of the game seeking revenge and is caught between various factions competing for control over the desert and its most valuable asset, the Hoover Dam, ultimately coming to shape the future of its inhabitants. Tobacco: Cigarettes, packs and cartons are a valuable trade good that can be collected by the player. Packs and cartons of cigarettes are also used Rock-it launcher ammunition. NPCs are seen smoking cigarettes. The brand in the game is *Big Boss*, a possible illusion to the Metal Gear series. The packs and carton are red and white striped with a red or white chevron.	Wiki (Fallout Wiki Community, 2015a) YouTube Game Movie(ARCGaming, 2010; RobinlvGamer, 2010) Common Sense Media (Marc Saltzman, 2010) IMDb (IMDb Wiki Community, 2016b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
20.	Far cry 3 (2012)	X		X	X		FPS Setting: Contemporary. *Far Cry 3* is set on a tropical island between the Indian and Pacific Oceans. After a vacation goes awry, protagonist Jason Brody must save his friends, who have been kidnapped by pirates and escape from the island and its unhinged inhabitants. During the game, Jason develops from a partying college student to a hardened killer, who has killed "to many to count." Tobacco: Tobacco is visible at various points in the game, minor characters are seen smoking, cigarette packs, and cigars are visible in bar scenes. The key protagonist, Hoyt Volker, is a cigar smoker. One of the kidnapped students, Oliver is seen smoking cigarettes.	Wiki (Far cry Wiki Community, 2015) YouTube Game Movie (Gameatics, 2013)
21.	Far cry 4 (2014)	X		X			FPS Setting: Contemporary. The game takes place in Kyrat, a fictional Himalayan country. The main story follows Ajay Ghale, a young Kyrati-American of Nepali origin, going to Kyrat to scatter his mother's ashes but instead he is caught in a civil war involving Kyrat's Royal Army and The Golden Path. Ajay becomes the conflicted hero of the story. Tobacco: Tobacco is visible throughout the story. Cigarette packs are on tables, and minor characters are seen smoking.	YouTube Game Movie(Gamer's Little Playground, 2014a; GamesHQMedia, 2014) IMDb(IMDb Wiki Community, 2015d)
22.	Final Fantasy VII (1997)	X	X			X	3rd person role playing Setting: science fiction-postindustrial society. *Final Fantasy VII* follows protagonist Cloud Strife, a mercenary who joins the eco-terrorist rebel organization AVALANCHE to stop the world-controlling	Wiki (Final Fantasy Wiki Community, 2015) IMDb(IMDb Wiki Community, 2013b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							megacorporation Shinra from draining the life of the planet for use as an energy source. Tobacco: One of the playable protagonists, Cid Highwind, chain smokes cigarettes, and finishes each battle by lighting one up. He also lights dynamite from the end of his cigarette. He is the most uncouth, short tempered of the characters, but he has a good heart.	
23.	Gears of War 3 (RAAMs shadow) (2011)	X				X	3rd person shooter Setting: A planet called Sera, colonized by humans. Overuse of resources have caused a war and the rise of the locusts- a large bug-like race whose goal seems to be the destruction of all humanity. Gears are soldiers tasked with saving humanity from the locust horde. Tobacco: Michael Barrick is a Gear that is often seen with a cigar, even when fighting.	Wiki (Gearsapedia Wiki Community, 2015) YouTube Game Movie(m3tr0id86, 2012)
24.	Goat Simulator (2014)	X					3rd person action game Setting: Contemporary. The player controls a goat roaming a suburban/urban setting with the goal of doing as much damage as possible. Tobacco: In one sequence the goal goes into a convenience store and trashes it. Behind the register power a wall of cigarette packs is visible.	YouTube Game Movie(TheYooj, 2014)
25.	Godfather 2010 (Single game)	X		X	X		3rd person open-world, action/adventure Setting: 1940s New York, following the adventures of the Corleone crime family as they attempt to become the dominant force in the New York Mafia. The player plays as Aldo who, as a child, saw her father murdered by the Barzini crime family. He joins up the the Corleones and begins by committing low level crimes, eventually moving up	Common Sense Media(Lazenby, 2010) YouTube Game Movie(UPlayNetwork, 2014) IMDb (IMDb Wiki Community, 2013b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							the murder and high level extortion, with the goal of becoming a made man and finally the Don of New York. Tobacco: Many of the gangsters smoke and it is seen throughout the game. Smoking together seals the deal when two gangsters are plotting. Smoking is also used to punctate notable moments. For example, after Aldo's father is killed, the murder smokes a cigar and then crushes it out with his foot, saying, "It's only business." When Aldo meets Luca Brazi, one of the Don's most trusted men, Luca lights a cigarette.	
26.	Grand Theft Auto V (2013)	X	X	X	X	X	3rd and 1st person open-world action/adventure game Setting: Contemporary Southern California. The player can play three characters; Michael, a former bank robber now in witness protection, Trevor, a edgy meth lab owner, or Franklin, a former car repo man turned gangster. The player is able to freely roam the environment. The goal is to complete a series of missions, using involving driving, shooting, fighting and thieving. Tobacco: There are several brands of cigarettes visible, the most common is Redwood. Michael is frequently seen smoking, often for stress relief. In the game there are billboards, radio and TV commercials that advertise cigarettes. Redwood stock can be traded on the in-game stock market. One mission involves killing 4 jurors in a Redwood court case. If the player invests in rival brand Debonaire prior to the murders, the player makes money.	Wiki(Grand Theft Auto Wiki Community, 2015a, 2015c) YouTube Game Movie(EggsOnFire, 2014; Gamer's Little Playground, 2013; Mad Hatter Gaming, 2013; WhizzScout, 2013) IMDb (IMDb Wiki Community, 2015b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
27.	Half-life 1 (1998)	X		X			1st person shooter Setting: Black Mesa Research Facility in Arizona, sometime in the 2000s. The player plays as Gordon Freeman, a PhD researcher that survives a horrible accident that unleashes aliens to the world. Freeman in caught between two sides, the aliens and the US soldiers sent to cover up the incident. Tobacco: One soldier smokes a cigar, and another group uses cigarettes to light torches.	Wiki (Half-Life Wiki Community, 2013, 2015) IMDb (IMDb Wiki Community, 2016)
28.	Halo the Master Chief Collection 2014	X		X	X		1st person shooter. Setting: The 26th century. The game centers on an interstellar war between humanity and a theocratic alliance of aliens known as the Covenant. The player controls Master Chief Petty Officer John 117, a cybernetically enhanced super soldier. Tobacco: Cigarettes, cigars, pipe tobacco and hookah are available in Halo and it is an important commercial crop. Sweet William cigars are the most popular brand, smoked by many characters. Sergeant Avery Johnson is the most famous Halo cigar smoker.	Wiki (Halo Wiki Community, 2012, 2015a, 2015b) You Tube Game Movie(Gamer's Little Playground, 2014b) IMDb(IMDb Wiki Community, 2014c)
29.	Heavy Rain 2010	X		X			3rd person, interactive drama Setting: contemporary 2011. The player plays as one of 4 people with the goal to catch the origami killer, a serial killer who targets young boys by kidnapping, then slowly drowning them while making the father go through trials (cutting off own finger, driving the wrong way on the freeway, killing a drug dealer, drinking poison, electrocution) in order save his son. Tobacco: One of the mothers whose child was killed by the Origami killer smokes	Common Sense Media(Mark Saltzman, 2010) Wiki (Heavy Rain Wiki Community, 2015) YouTube Game Movie(Little Gamers Playground, 2014a) IMDb(IMDb Wiki Community, 2014b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							while she is talking with a private detective. At a party given by one of the suspects guests are seen smoking. Ashtrays are present in motel rooms.	
30.	Hitman Absolution 2012	X	X	X	X		3rd person stealth shooter Setting: contemporary. The player is a genetically engineered hitman working for the agency tasked to carry out various kills. He goes rogue to try to save a teenage girl who has also been genetically engineered. Tobacco: Various characters smoke. The main antagonist Travis, the Hitman's agency handler before he went rogue, is consistently seen with a cigarette, as is Lenny, a gangster working for Dexter industries. Cigarettes are in bars, on billboards in the street (we learn that A1 cigarettes are $2.75 a pack). Cigarettes are used to set things on fire. Minor characters also smoke.	Wiki (Hitman Wiki Community, 2015a, 2015b, 2015c) YouTube Game Movie(Gamer's Little Playground, 2015; IFreeMz, 2012) IMDb(IMDb Wiki Community, 2015c)
31.	Injustice: The Gods Among Us- Ultimate Edition 2013	X				X	3rd person fighter Setting: DC comics. The superheros are transported to an alternative dimension where Superman has become a malevolent dictator. They must defeat Superman and his allies in order to reestablish democracy and the American way. Tobacco: Lobo is a playable character, dressed like a biker. When selected to fight, he roars into battle, lights his cigar with a blowtorch, says "Let's liven up the joint" and proceeds to battle with his light cigar in his mouth. If he wins the battle, he says "They don't call me the main man for nothing," ashes his cigar on his opponent's body and sits on his motorcycle smoking.	ESRB YouTube Game Movie(InjusticeGame, 2013; JoshimusPrimeGaming, 2014; SuperMrAmazingPants, 2013) IMDb (IMDb Wiki Community, 2015b)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
32.	James Bond 007: Bloodstone (2010)	X		X			Setting: Modern day- James Bond Tobacco: 14:05 Bond is investigating a dig site for evidence. Go into office. Cigarette in ashtray visible. 34:25 Bond is Siberia investigating. While waiting with a Russian, the Russian is smoking a cigarette. 39:10- ashtray with smoking cigarettes while Bond is in the Russian bioterrorist factory.	ERRB Commonsense Media (Lafferty, 2010b) You Tube Game Movie (Gamer's Little Playground, 2014c) IMDb (IMDb Wiki Community, 2011) Common Sense Media(Lafferty, 2010a)
33.	Kirby Superstar (2011)	X		X			One the bosses that Kirby fights- a whale named Fatty Whale smokes a pipe. Fatty Whale appears in Superstar and Superstar Ultra. The other games are tobacco-free except for Kirby Triple Deluxe. In the closing credits, Kirby is seen smoking pipe.	Wiki (Kirby Wiki Community, 2015)
34.	LA Noire (2011)	X	X	X	X	X	3rd person action adventure Setting: 1940's LA. The player controls a WWII veteran as he climbs the ladder in the LAPD by solving a range of cases across 5 police divisions. Players must investigate crime scenes for clues, follow up leads, and interrogate suspects, and the player's success at these activities will impact how much of each case's story is revealed. Tobacco: Many of the central background characters are seen smoking heavily. The character that the player controls for most of the game is shown smoking only in war flashbacks. There are cigarette ads on the radio, billboards and in stores. In game brands include Guanaco cigarettes and Bullseye cigars. The Valor Tobacco company is directly involved in one of the missions.	Commonsense Media(Sapieha, 2015e) Wiki(LA Noire Wiki Community, 2011, 2012, 2015) YouTube Game Movie(IsaacCaelum, 2013) IMDb (IMDb Wiki Community, 2014c)
35.	League of Legends 2009	X			X	X	Multiplayer online battle arena Setting: Runterra, a mythical world where	ESRB Common Sense Media(Koh, 2009)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							the action of the game takes place. The players assume the role of a "champion" with unique abilities and battle against a team of other players or computer-controlled champions. Tobacco: Some of the characters are depicted with a pipe, cigarette or cigar.	YouTube Game Movie (League of Legends, 2014)
36.	Left 4 Dead (2008)	X			X	X	1st person shoot, survival horror Setting: Modern day Pennsylvania. Set during the aftermath of a pandemic apocalypse that caused most of humanity to turn into killer zombies, the player assumes a role of one of the four survivors who work together kill the zombies and try to escape. Tobacco: One of the playable characters, Bill Overbeck, is always seen with a cigarette in his mouth, regardless of what he is doing. He is a grizzled Vietnam vet, who is the oldest of the group. He ultimately sacrifices himself to save the rest. In death is the only time that the cigarette is not lit.	Wiki(Left4Dead Wiki Community, 2015) YouTube Game Movie(MMendozaProductions, 2013) IMDb (IMDb Wiki Community, 2015d)
37.	Little Big Planet 3 2014	X					3rd person puzzle platformer Setting: The player plays as Sackboy, a small brown, humanoid creature with button eyes. In the game, Sackboy is transported from LittleBigPlanet, modeled after earth, to another world, Bunkum. Here, he has to awaken its three missing heroes, OddSock, Toggle and Swoop. Tobacco: One of the in-game award stickers is a smoking pipe.	ESRB
38.	Mafia II 2010	X	X	X	X	X	3rd person shooter, action, adventure Setting: 1940s and 50's Empire Bay, a city modeled after New York City. The player plays as Vito Scarletti, a WWII veteran returning from the war who gets	Wiki(Mafia Wiki Community, 2015) YouTube Game Movie(Akkad, 2013) IMDb(IMDb Wiki Community, 2014)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							involved with the Mafia to pay off debts. The game progresses moves from petty criminal, hit man to member of the Mafia family. Tobacco: Virtually everyone in this game smokes. The brand of cigarette available is *Big Break* tobacco, available in three different colors, likely modeled after Lucky Strikes. Vito smokes Big Break Blues. Women in bars and sex workers are often smoking. Most of the mobsters smoke. One of the missions involves selling cigarettes out of back of a truck.	
39.	Mass Effect 3 2012	X			X		3rd person shoot, action role playing game Setting: 2183. Earth has made contact with multiple alien species and is now under attack by a nearly unstoppable foe, the Reapers, and all out galactic war results. The player plays as Commander Shepard, the soldier charged with bringing about a galactic alliance to save Earth. Shepard is alternatively helped and hurt by a human-survivalist paramilitary group known as Cerberus, lead by the Illusive man. Tobacco: The Illusive man is a impeccably dressed older man who is always seen smoking. He is a shadowy figure, not seen much, but with enormous power. He was voiced by Martin Sheen, who said he sucked through an empty pen to emulate the noise of the Illusive man smoking.	Wiki(Mass Effect Wiki Community, 2014) YouTube Game Movie(FluffyNinjaLlama, 2012; MedyGames, 2013) IMDb (IMDb Wiki Community, 2015e)
40.	Medal of Honor (2010)	X		X			First person shooter Setting: Afghan war 2002. The player spends most of the game playing as a member of the Wolfpack- an elite special forces unit tasked with killing Taliban and taking out their positions.	YouTube Game Movie(Gameatics, 2012) IMDb (IMDb Wiki Community, 2014d)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							Tobacco: Very minor use. Soldiers are asked if they want a cigarette by at an Afghan checkpoint- they respond "no," a US sniper is seen with a pack of cigarettes in gear and a Taliban is seen smoking before he is shot.	
41.	Metal Gear Solid 4: Guns of the Patriots 2008	X	X	X	X	X	3rd person action/adventure/shooter/ Setting: 2014, the world is in almost constant civil war fought by private military companies with soldiers whom are equipped with nanomachines to enhance their fight abilities. The soldiers are controlled through a system called Sons of the Patriots. The antagonist, Liquid Ocelot, plans to hijack this system to control the soldiers, renaming them Guns of the Patriots. The player plays as Solid Snake, a genetically engineered super-soldier, whom, although he experiencing accelerated aging because he is a clone, is able to battle Liquid Ocelot and save the world. Tobacco: Solid Snake is a heavy smoker. Smoking is used as a gesture of friendship, as a reward and a final activity before heading into a dangerous situation. Smoking also steadies Solid Snake's hands when he needs to be calm. The load sequence between part 1 and 2 features Solid Snake smoking 5 puffs a minute with two ask taps. The final scene of the game is Solid lighting a cigar for his clone father, Big Boss, and placing it in is mouth as he is dying as a gesture of love. The game ends with Big Boss dying and the cigar falling out.	Common Sense Media(Sapieha, 2015f) Wiki(Metal Gear Wiki Community, 2015a, 2015b) YouTube Game Movie(RandomBlackGamer, 2013) IMDb (IMDb Wiki Community, 2012)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
42.	Mortal Kombat 2011	X				X	3rd person fighter Setting: Mortal Kombat is set in a fictional universe of various realms, one of which is Earthrealm (our world) All realms are controlled by the Elder Gods, and differences are settled by hand-to-hand combat. Characters all have special powers and finishing moves. For the finishing move, the winning character hurts or kills the opponent graphically; bodies are made temporarily transparent so that bones breaking and organ damage can be viewed. Tobacco: One of the playable characters, Jackson Briggs, smokes a cigar in at least one scene. Briggs is an African-American battle hardened soldier from Earthrealm with bionic capabilities, known for his massive upper body strength. One of his signature moves is to rip off the head and arms of his opponent. (In Mortal Kombat X [2015] one of his signature moves is to shove an opponent's arms into his body, smoke a cigar, then rip the head apart at the jawline, snubbing the cigar out on the tongue.	Wiki(Mortal Kombat Wiki Community, 2015) YouTube Game Movie (IGN, 2015; Little Gamers Playground, 2014b)
43.	Ni No Kuni 2013	X		X			Role-playing game Setting: The player plays as Oliver, a 13-year-old boy who almost drowns while trying to drive a new car. His mother saves him, but dies immediately afterward. His tears awaken a doll given to him by his mother named Drippy. Drippy reveals that Oliver is from another world controlled by an evil wizard. Drippy reveals that everyone in this world has a soul mate in the other, and Alicia, a great sage, looks just like Oliver's mother. Oliver and Drippy head	ESRB Wiki (Ni No Kani Wiki Community, 2014)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							off to the other world to save Alicia from the evil wizard. Tobacco: Character cards sometimes depict tobacco- i.e. someone smoking a pipe.	
44.	Papers, Please 2013	X					Setting: Player plays as a immigration agent at a border crossing of a communist nation. Approves or disapproves immigration. Tobacco: Tobacco is occasionally mentioned at the border crossing	Common Sense Media (Skooja, 2013)
45.	Persona 4 2008	X			X		Role-playing game Setting: A small fictional Japanese town in 2011. The protagonist moves from the city to stay with his uncle Dojima and cousin Nanako. Soon mysterious murders begin to happen and the player discovers he and his friends can move from the real world to the TV world with the help of Teddie, a resident bear of the TV world. The player realizes that many of the murders emanate from the TV world and set out to solve the mystery. Dojima is a police detective and also is attempting to solve the crimes, at one point suspecting the player. Tobacco: Dojima is a smoker. He is seen smoking and often refers to wanting to smoke when there are stressful situations.	Commonsense Media (Goldberg, 2008) Wiki(Persona Wiki Community, 2015) YouTube Game Movie(Yic17 Gaming, 2013) IMDb (IMDb Wiki Community, 2015e)
46.	Postal 2 2003	X	X	X		X	First person shooter Setting: Contemporary small town in Arizona. The player plays as the Postal Dude, who sets out each day to complete several tasks. He can either do this peacefully or by violence. Violent activities include killing people to the point of dismemberment then urinating on them, attaching cats to the end of his gun and using them as "silencers." This game has been banned in several	Wiki (Postal Wiki Community, 2015) YouTube Game Movie (Anticult100, 2014; I am Wildcat, 2015; World of Longplays, 2012)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							countries due to its objectionable content. Tobacco: The player smokes a "health pipe" to regain full health, although the player will become addicted, with symptoms relieved by smoking another pipe. In convenience stores, there are power walls of cigarettes and background characters are occasionally seen smoking.	
47.	Red Dead Redemption 2010	X	X	X	X	X	3rd person action-adventure open world Setting: The game is set in the southwest, in 1911. The player plays as John Marston, a former outlaw whose wife and son have been taken hostage by the government. Marston must hunt down the men in his former gang as ransom. Marston is a rugged survivalist and knows life as a fight for survival; he adheres to the old-fashioned West in a world rapidly experiencing the advancements of modernized American lifestyle. Succeeding in gunfights is a major play component of the game. Tobacco: John Marston smokes cigarettes and chews tobacco, as do many other characters in the game major and minor. Chewing tobacco is a consumable item available in stores in the game and using it will refill the player's "dead eye" meter. The dead eye meter allows the game play to slow so that the player can more accurate target his shots.	Common Sense Media (Sapieha, 2010b) Wiki(Red Dead Wiki Community, 2015) YouTube Game Movie (TheDepressedTurtle, 2012) IMDb (IMDb Wiki Community, 2015f)
48.	Resident Evil 6 2012	X				X	3rd person shooter, action adventure Setting: Contemporary-Bio-terrorists have unleashed the C-virus, capable to turned everyone it infects into killer zombies. The player can play one of four characters, each instrumental in stopping the c-virus from	YouTube Game Movie(bloodfanRKO, 2012)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							destroying all of humanity. Tobacco: Chris Redfield is one of the playable characters, and is a special operations unit captain and founding member of the Bioterrorism Security Assessment Alliance. He is a blunt, tough, handsome man who inspires loyalty in his men. In the original Resident Evil game, Redfield was supposed to be a smoker, and was in the Japanese version. In the US ports of the game, the smoking was edited out. In Resident Evil 6, it was put back in. Redfield is seen smoking and drinking in a bar after a failed mission.	
49.	Saints Row IV 2013	X		X			Setting: Earth near future. The player is the head of the 3rd Street Saints gang, and has just been elected President of the United States. Aliens are invading and it is up the the President to save the world. He uses his gang Tobacco: 8:25, President is in an office and walks by two men in suits smoking. 1:24: The President is in a bar, on the bar is a full ashtray. 1:31- They kill a bad guy- take the cigarette pack from the corpse and the woman lights up. She takes a few drags and throws the cigarette on the body.	You Tube game movie (SovietGamer, 2013) IMDb (IMDb Wiki Community, 2015a)
50.	Second life 2011	X			X	X	Setting: Sandbox game. Players create avatars who then move about the world interacting with other, engaging in commerce, building houses, etc. Tobacco: Smoking is allowed in Second Life in all areas of the game without restriction.	Wiki (Second Life Wiki Community, 2015) Common Sense Media (Coon, 2011)
51.	Silent Hill Downpour (2012)	X					3rd person survival horror Setting: The game takes place in and near Silent Hill, a small rural American town that	Wiki (Silent HIll Wiki Community, 2014) YouTube Game Movie(SHN Survival Horror Network, 2015)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							exists in a parallel universe consisting of the real world, the mysterious fog world and the dark and nightmarish otherworld that exist in another dimension. The player plays as Murphy Pendleton, a convict who finds himself in Silent Hill after his transport van crashes. Murphy, trying to escape Silent Hill, explores the town, confronts monsters and encounters terrifying dream sequences as he moves in and out of the dimensions. Tobacco: Scattered around Silent Hill are cigarette packs. They do not appear to serve any purpose, but they are frequently seen in random spots. The packs look similarly to Marlboro Golds.	
52.	Sly Cooper-Thieves in Time 2013	X			X		3rd person platform stealth Setting: Modern day. Anthropomorphic animals populate the game. A raccoon, Sly Cooper, leads a gang of Robin Hood-like thieves whose mission it is to travel through time to find the villain who is destroying the book that chronicles the Cooper family history. By changing history, the evil villain is wiping out the Cooper clan and Sly Cooper and his gang of a hippo, turtle, a fox and Sly's various ancestors must stop him. Tobacco: In the first of five episodes, the villain is a cigar smoking tiger named El Jefe. El Jefe is a swaggering, strongman who has conquered many countries and then sold them to the highest bidder. He is rarely seen without his cigar. In the second episode, Sly Cooper finds himself in the old west. He meets up with his ancestor	ESRB Common Sense Media(Saltzman, 2015a) Wiki(Saltzman, 2015a) YouTube Game Movie(GregoryAnimeFan, 2013) IMDb(IMDb Wiki Community, 2015f)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							Tennessee "Kid" Cooper, a cool laid backed bank robber. Kid, Sly and the gang work together to defeat the villain of the episode, an armadillo named Toothpick. Kid has an unlit cigarette in his mouth during the entire episode.	
53.	Spec Ops- The line 2012	X			X		3rd person shooter. Setting: The largest dust storm ever recorded hit Dubai and has turned it into a no-man's land. A US regime- the damned 33rd- has gone in to help with the evacuation and has never been heard from again. The US covertly sends in a 3-man Delta Force team to carry out recognizance. The player controls Captain Martin Walker, the leader of Delta Force. Upon the finding dead American soldiers, Walker declares that the team's mission has changed, and that they will search Dubai for survivors. The team members gradually lose their sanity and their actions become more violent, ragged and angry. Does not glorify war. Tobacco: One of the main antagonists smokes cigarettes, the Radioman, a former Rolling Stone journalist who had been imbedded with the 33rd. He now broadcasts music and commentary through Dubai, detached from reality and without human empathy. He his killed while smoking by the Delta Force.	Wiki (Spec Ops Wiki Communiity, 2013) YouTube Game Movie (Gamers Little Playground, 2014b)
54.	Star Wars Series 1993-2004	X	X	X		X	MMORPG Setting: The game is set in the Star Wars universe, after the destruction of the original Death Star, but before the events of the *Empire Strikes Back.* The player can construct his/her own character from 10 species from 10 different planets with	Wiki(Star Wars Galaxies Wiki Community, 2012; Wookiepedia Community, 2015)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							the ability to select professions and skill sets. Tobacco: Death sticks are available in the Star Wars universe. They are more akin to e-cigarettes, as they are long, cylindrical, colorful, highly addictive tubes that can be smoked, although they eat away at a player's life bar. They are banned in the Republic, but freely available in the outer planets, Death sticks can be smuggled to planets like Coruscant (political center of the galaxy) by slythmongers, drug dealers who traffic between worlds.	
55.	Starcraft 2: Wings of Liberty 2010	X		X	X	X	Real-time strategy game Setting: Future, date unclear. The game revolves around three species; the Terrans- exiles from Earth, the Zerg- a super species of assimilated life forms and the Protoss- a technologically advanced species with vast mental powers. The story follows the exploits of Jim Raynor and his band of insurgents as they battle against the autocratic Terran government. Tobacco: Several of the major characters graphically smoke. Tychus Findlay, friend of Jim Raynor and former criminal turned insurgent, smokes his trademark cigar. He even smokes it when his battle helmet is closed, with it opening in a cloud of smoke. The main character is also seen smoking cigars. Both are tough battle-hardened soldiers.	ESRB Common Sense Media(Saltzman, 2015b) Wiki(Starcraft Wiki Community, 2013) YouTube Game Movie(MarioDragon, 2013) IMDb (IMDb Wiki Community, 2011)
56.	Team Fortress 2 2007	X	X			X	First person shooter, multiplayer Setting: The gameplay is centered around two opposing teams, the RED team and the BLU team, both trying to each the objective. The	Wiki (Team Fortress Wiki Community, 2014, 2015) YouTube Game Movie(Machinima, 2009) IMDb(IMdb Wiki Community, 2015g)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							player can chose to be either RED or BLU, and chose to be one of nine different classes in their team, each with their own abilities, weaknesses and strengths. Tobacco: The player class "Spy" is a smoker. He is usually seen with a cigarette in his mouth, may put out the cigarette on those that he kills. His cigarette case, as well as containing six cigarettes, also is his disguise kit, containing hidden spy tech. The spy is a well-dressed, knife wielding character that relies on stealth and trickery to aid him team.	
57.	The Wolf among us 2013	X	X	X	X	X	3rd person interactive movie Setting: Set in 1986, many creatures from myth, legend and folklore have moved to New York to escape "The Adversary" a entity that has terrorized their storybook homeland. In the mundane world the creatures, live in enclave known as Fabletown and hide by using glamours, disguises that make them look human. The Big Bad Wolf, known as Bigby Wolf, is the sheriff of Fabletown. The player plays as Bigby. The story revolves around a murder investigation being conducted by Bigby. Tobacco: Bigby is a heavy smoker, smoking Huff & Puff brand cigarettes throughout the game. Most consider Huff & Puff to be a low class cigarette and make fun of his brand. Other characters may smoke but not has heavily as Bigby. For example, one of the little pigs smokes and drinks whiskey. Huff & Puff cigarettes are a clue to the mystery, as they are at each murder scene.	ESRB Common Sense Media(Sapieha, 2014) Wiki(The Fables Wiki Community, 2014) YouTube Game Movie(Gamer's Little Playground, 2014d; Zoomin TV Games, 2013) IMDb (IMDb Wiki Community, 2014d)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							Not many people smoke them due to their inferiority, so it narrows the suspect pool.	
58.	Uncharted 2: Among Thieves 2009	X			X		Setting: Modern day. The player plays as Nathan Drake, a thief. In this game, the player with his accomplices steal and oil lamp once owned by Marco Polo that contains the directions to Shangri-La and a mysterious substance that makes a person invincible. Story-driven game. Tobacco: Cigar at 17:10 Sully is a cigar smoker. 2:51: After the hero saves the world. Sully reappears smoking his cigar.	You Tube game movie (Sima Movies, 2012) IMDd (IMDb Wiki Community, 2015h)
59.	Vampire the Masquerade-Bloodlines (Single game) 2004	X		X	X		1st/3rd role playing game Setting: Modern day Los Angeles. The player plays as a newly transformed vampire who must prove him/herself the to vampire world, make alliances and learn how to survive without being detected by humans. After the player proves him/herself, he/she goes on a mission to find the Ankaran sarcophagus, which may hold the remains of an ancient vampire and give power to the one who spossesses it. Tobacco: Various vampires and mortals smoke. There are cigarette butts around and a smoke shop.	YouTube Game Movie (N1GamingTube, 2011) IMDb (IMDb Wiki Community, 2013a)
60.	Wolfenstein-The new order 2014	X		X	X		First person shooter/action adventure Setting: 1960's Europe. In an alternative reality, the Nazi's won the war in 1948. The player plays as Blazkowicz, a US soldier who wakes up in Nazi Poland after being a coma for 14 years. Just as the Nazi's are about the execute him he escapes and joins the resistance. Tobacco: Some of the Nazi's smokes as do some of the resistance fighters. When the	YouTube Game Movie(XCV //, 2014) IMDb (IMDb Wiki Community, 2015g)

	Games/ year	VTP	FGP	NPBC	NPMC	PC	Game description/ description of tobacco content	Verification of tobacco content
							resistance fighters are planning their next moves, they often sit in a room smoking.	

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Appendix F

Consents

For In-Person Adolescent Participants

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Study Title: How do adolescent and young adult electronic game users experience and perceive smoking imagery in games? A phenomenological study.

This is a research study about what it is like to be a teenager and/or young adult who has played electronic games (console, computer, handheld, or cell phone video games) and his/her experience with smoking imagery during game play. The study researchers, Ruth Malone, RN, PhD, and Susan Forsyth, RN, PhD(c) from the UCSF School of Nursing, will explain this study to you.

Research studies include only people who choose to take part. Please take your time to make your decision about participating, and discuss your decision with your family or friends if you wish. If you have any questions, you may ask the researchers.

You are being asked to take part in this study because you have identified yourself as having played electronic games for at least two hours a day on most days during the previous year.

Why is this study being done?

The purpose of this study is to learn more about what encountering smoking imagery during electronic game play means to teenagers and how it affects their views on smoking.

This study is being funded by the *Tobacco Related Disease Program (TRDRP*), grant number 22DT-0003.

How many people will take part in this study?

About 75 people will take part in this study.

What will happen if I take part in this research study?

If you agree, the following procedures will occur:

- You will meet the interviewer in a mutually agreeable private place for no more than two hours. This might be your home, a private room in a local library, or an office at UCSF.
- You will first be asked to fill out a two-page questionnaire about yourself. The questionnaire will ask you about your age, sex, education, occupation, race/ethnicity, and about your game playing habits during your teen years.
- After filling out the questionnaire, you will be interviewed by the co-principal investigator, Susan Forsyth, RN, PhD(c), for about one hour to 1.5 hours. You will be asked to describe your experiences playing electronic games, your favorite games, and what you thought about the characters in the games using cigarettes, smoking and other types of tobacco products.
- An audiotape will be made of this discussion. After the interview, someone will type into a computer a transcription of what is on the tape and remove any mention of names. The audiotapes will then be destroyed.
- Notes may also be taken during the interview. The notes will not contain your name and will be kept confidential.
- You may be asked to participate in a second follow-up interview. This interview would be voluntary and scheduled at a later date. In this interview you would be asked clarifying questions, questions about what you said during the first interview and/or questions to check whether the investigator correctly understood what you what you meant. This follow-up interview would last one to two hours and would be audio taped. After the interview, someone will type into a computer a transcription of what is on the tape and remove any mention of names. The audiotapes will then be destroyed.
- You may be asked to allow the investigator to observe you playing video games for one to three hours. This is completely voluntary and you can ask the investigator to stop observing at anytime. Notes may be taken during this time. The notes will not contain your name and will be kept confidential.
- You may be asked to allow the investigator to interview and observe your avatar while you are playing the game. The interview may last from one to two hours. The investigator will interview your avatar in-game using his/her own clearly identified research avatar. A transcript will be made of this interview and all mention of names will be removed. Notes may also be taken. The notes will not contain your name or your avatar's name and will be kept confidential.

How long will I be in the study?

Participation in the study will take no more than 8.5 hours, with a total of one or two in-person interviews, one in-person game observation session and one in-game interview of your avatar. If you participate in a second in-person interview, it will be held on a separate day from the first.

Can I stop being in the study?

Yes. You can decide to stop at any time. Just tell the study researcher or staff person right away if you wish to stop being in the study.

Also, the study researcher may stop you from taking part in this study at any time if he or she believes it is in your best interest, if you do not follow the study rules, or if the study is stopped.

What side effects or risks can I expect from being in the study?

- Some of the interviewer questions may make you uncomfortable or upset. You may be asked to talk about issues in your private life that bring up feelings discomfort or other unpleasant emotions. Remember, you are free to decline to answer any questions you do not wish to answer or to leave the interview at any time.
- While every effort will be taken to assure that your privacy is protected, privacy cannot be guaranteed. If there is a loss of privacy, you may experience embarrassment or discomfort.
- Remember the study is voluntary and may be stopped at any time.
- For more information about risks and side effects, feel free to ask one of the researchers.

Are there benefits to taking part in the study?

There will be no direct benefit to you from participating in this study. However, the information that you provide may help health professionals better understand/learn more about how electronic games influence young people's perceptions of smoking.

What other choices do I have if I do not take part in this study?

You are free to choose not to participate in the study. If you decide not to take part in this study, there will be no penalty to you.

Will information about me be kept private?

We will do our best to make sure that the personal information gathered for this study is kept private. However, we cannot guarantee total privacy. Participation in research may involve a loss of privacy, but information about you will be handled as confidentially as possible. Your personal information may be given out if required by law. If a reportable condition is disclosed, such as child abuse or neglect, you would be informed and the information would reported according to California State law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

Organizations that may look at and/or copy your research records for research, quality assurance, and data analysis include:

UCSF's Committee on Human Research.

What are the costs of taking part in this study?

You will not be charged for any of the study treatments or procedures.

Will I be paid for taking part in this study?

In return for your time, effort and travel expenses, you will be given a $20 gift card for taking part in this study. You will be paid immediately after completing the first interview. If a second in-person interview is held, you will receive another $20 gift card after completing the second interview.

What are my rights if I take part in this study?

Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you in any way. You will not lose any of your regular benefits, and you can still get your care from our institution the way you usually do.

Who can answer my questions about the study?

You can talk to the researcher about any questions, concerns, or complaints you have about this study. Contact the researcher Susan Forsyth RN, MS at (510) 512-8290 or Dr. Ruth Malone at (415) 476-3273.

If you wish to ask questions about the study or your rights as a research participant to someone other than the researchers or if you wish to voice any problems or concerns you may have about the study, please call the Office of the Committee on Human Research at (415) 476-1814.

CONSENT

You have been given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You have the right to decline to be in this study, or to withdraw from it at any point without penalty or loss of benefits to which you are otherwise entitled.

If you wish to participate in this study, you should sign below.

Date	Participant's Signature for Consent (Assent if under age 18)

Date Person Obtaining Consent

The person being considered for this study is unable to consent for himself/herself because he/she is a minor. By signing below, you are giving your permission for your child to be included in this study.

_____ _____

Date Parent or Legal Guardian

For Game Designer Participants

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CONSENT TO PARTICIPATE IN A RESEARCH STUDY
(Consent for Game Designers)

Study Title: How do adolescent and young adult electronic game users experience and perceive smoking imagery in games? A phenomenological study.

This is a research study about what it is like to be a teenager and/or young adult who has played electronic games (console, computer, handheld, or cell phone video games) and his/her experience with smoking imagery during game play. We are also interested in how people who create video games decide which imagery to include in the game. The study researchers, Ruth Malone, RN, PhD, and Susan Forsyth, RN, PhD(c) from the UCSF School of Nursing, will explain this study to you.

Research studies include only people who choose to take part. Please take your time to make your decision about participating, and discuss your decision with your family or friends if you wish. If you have any questions, you may ask the researchers.

You are being asked to take part in this study because you have identified that you are over the age of 18 and have held a paid position as a video game designer within the last five years.

Why is this study being done?

The purpose of this study is to learn more about what encountering smoking imagery during electronic game play means to teenagers and how it affects their views on smoking.

This study is being funded by the *Tobacco Related Disease Program (TRDRP*), grant number 22DT-0003.

How many people will take part in this study?

About 75 people will take part in this study.

What will happen if I take part in this research study?

If you agree, the following procedures will occur:

- You will meet the interviewer in a mutually agreeable private place for no more than two hours. This might be your home, a private room in a local library, or an office at UCSF.
- You will first be asked to fill out a two-page questionnaire about yourself. The questionnaire will ask you about your age, sex, education, occupation, race/ethnicity, how long you have been designing video games and the types of games you have designed. The form can be securely e-mailed, if a phone interview is used.
- After filling out the questionnaire, you will be interviewed by the co-principal investigator, Susan Forsyth, RN, PhD(c), for about one hour to 1.5 hours. You will be asked about how you came to be a game designer and how you select imagery for the games you design. You will also be asked whether you are ever encouraged or discouraged to put certain types of imagery in games.
- An audiotape will be made of this discussion. After the interview, someone will type into a computer a transcription of what is on the tape and remove any mention of names. The audiotapes will then be destroyed.
- Notes may also be taken during the interview. The notes will not contain your name and will be kept confidential.
- You may be asked to participate in a second follow-up interview. This interview would be voluntary and scheduled at a later date. In this interview you would be asked clarifying questions, questions about what you said during the first interview and/or questions to check whether the investigator correctly understood what you what you meant. This follow-up interview would last one to two hours and would be audio taped. After the interview, someone will type into a computer a transcription of what is on the tape and remove any mention of names. The audiotapes will then be destroyed.

How long will I be in the study?

Participation in the study will take no more than 4 hours, with a total of one or two in-person interviews. If you participate in a second in-person interview, it will be held on a separate day from the first.

Can I stop being in the study?

Yes. You can decide to stop at any time. Just tell the study researcher or staff person right away if you wish to stop being in the study.

Also, the study researcher may stop you from taking part in this study at any time if he or she believes it is in your best interest, if you do not follow the study rules, or if the study is stopped.

What side effects or risks can I expect from being in the study?

- Some of the interviewer questions may make you uncomfortable or upset. You may be asked to talk about issues in your private life that bring up feelings discomfort or other unpleasant emotions. Remember, you are free to decline to answer any questions you do not wish to answer or to leave the interview at any time.
- While every effort will be taken to assure that your privacy is protected, privacy cannot be guaranteed. If there is a loss of privacy, you may experience embarrassment or discomfort.
- Remember the study is voluntary and may be stopped at any time.
- For more information about risks and side effects, feel free to ask one of the researchers.

Are there benefits to taking part in the study?

There will be no direct benefit to you from participating in this study. However, the information that you provide may help health professionals better understand/learn more about how electronic games influence young people's perceptions of smoking.

What other choices do I have if I do not take part in this study?

You are free to choose not to participate in the study. If you decide not to take part in this study, there will be no penalty to you.

Will information about me be kept private?

We will do our best to make sure that the personal information gathered for this study is kept private. However, we cannot guarantee total privacy. Participation in research may involve a loss of privacy, but information about you will be handled as confidentially as possible. Your personal information may be given out if required by law. If a reportable condition is disclosed, such as child abuse or neglect, you would be informed and the information would reported according to California State law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

Organizations that may look at and/or copy your research records for research, quality assurance, and data analysis include:

UCSF's Committee on Human Research.

What are the costs of taking part in this study?

You will not be charged for any of the study treatments or procedures.

Will I be paid for taking part in this study?

In return for your time, effort and travel expenses, you will be given a $20 gift card for taking part in this study. You will be paid immediately after completing the first interview. If a second interview is held, you will receive another $20 gift card after completing the second interview.

What are my rights if I take part in this study?

Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you in any way. You will not lose any of your regular benefits, and you can still get your care from our institution the way you usually do.

Who can answer my questions about the study?

You can talk to the researcher about any questions, concerns, or complaints you have about this study. Contact the researcher Susan Forsyth RN, MS at (510) 512-8290 or Dr. Ruth Malone at (415) 476-3273.

If you wish to ask questions about the study or your rights as a research participant to someone other than the researchers or if you wish to voice any problems or concerns you may have about the study, please call the Office of the Committee on Human Research at (415) 476-1814.

CONSENT

You have been given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You have the right to decline to be in this study, or to withdraw from it at any point without penalty or loss of benefits to which you are otherwise entitled.

If you wish to participate in this study, you should sign below.

Date	Participant's Signature for Consent
Date	Person Obtaining Consent

Consent

Electronic Consent

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
CONSENT TO PARTICIPATE IN A RESEARCH STUDY
(Electronic Consent)

Study Title: How do adolescent and young adult electronic game users experience and perceive smoking imagery in games? A phenomenological study.

This is a research study about what it is like to be a teenager and/or young adult who has played electronic games (console, computer, handheld, or cell phone video games) and his/her experience with smoking imagery during game play. The study researchers, Ruth Malone, RN, PhD, and Susan Forsyth, RN, PhD(c) from the UCSF School of Nursing, will explain this study to you.

Research studies include only people who choose to take part. Please take your time to make your decision about participating, and discuss your decision with your family or friends if you wish. If you have any questions, you may ask the researchers.

You are being asked to take part in this study because you have identified yourself as having played electronic games for at least two hours a day on most days during the previous year.

Why is this study being done?

The purpose of this study is to learn more about what encountering smoking imagery during electronic game play means to teenagers and how it affects their views on smoking.

This study is being funded by the *Tobacco Related Disease Program (TRDRP*), grant number 22DT-0003.

How many people will take part in this study?

About 75 people will take part in this study.

What will happen if I take part in this research study?

If you agree, the following procedures will occur:

- You will meet the interviewer's avatar in a private chat area of this game.

- You will first be asked questions about your in-person self, including age, sex, education, race/ethnicity, and how long you have been playing video games.
- After filling out the questionnaire, you will be interviewed by the co-principal investigator's avatar, aka Susan Forsyth, RN, PhD(c), for 30 minutes. You will be asked to describe your experiences playing electronic games, your favorite games, and what you thought about the characters in the games using cigarettes and whether your avatar has ever smoked or considered smoking.
- A copy of the chat log will be made after the interview. After the interview, someone will remove any mention of names, including the names of avatars. The chat log will then be deleted from the game.
- Notes may also be taken during the interview. The notes will not contain your name and will be kept confidential.
- You may be asked to participate in a second follow-up interview. This interview would be voluntary and scheduled at a later date. In this interview you would be asked clarifying questions, questions about what you said during the first interview and/or questions to check whether the investigator correctly understood what you what you meant. This follow-up interview would last up to 30 minutes and would be held in a private chat area of the game. A copy of the chat log will be made after the interview. After the interview, someone will remove any mention of names, including the names of avatars. The chat log will then be deleted from the game.

How long will I be in the study?

Participation in the study will take no more than one hour, with a total of one or two interviews of your avatar. If you participate in a second avatar interview, it will be held on a separate day from the first.

Can I stop being in the study?

Yes. You can decide to stop at any time. Just tell the study researcher or staff person right away if you wish to stop being in the study.

Also, the study researcher may stop you from taking part in this study at any time if he or she believes it is in your best interest, if you do not follow the study rules, or if the study is stopped.

What side effects or risks can I expect from being in the study?

- Some of the interviewer questions may make you uncomfortable or upset. You may be asked to talk about issues in your private life that bring up feelings discomfort or other unpleasant emotions. Remember, you are free to decline to answer any questions you do not wish to answer or to leave the interview at any time.
- While every effort will be taken to assure that your privacy is protected, privacy cannot be guaranteed. If there is a loss of privacy, you may experience embarrassment or discomfort.
- Remember the study is voluntary and may be stopped at any time.

- For more information about risks and side effects, feel free to ask one of the researchers.

Are there benefits to taking part in the study?

There will be no direct benefit to you from participating in this study. However, the information that you provide may help health professionals better understand/learn more about how electronic games influence young people's perceptions of smoking.

What other choices do I have if I do not take part in this study?

You are free to choose not to participate in the study. If you decide not to take part in this study, there will be no penalty to you.

Will information about me be kept private?

We will do our best to make sure that the personal information gathered for this study is kept private. However, we cannot guarantee total privacy. Participation in research may involve a loss of privacy, but information about you will be handled as confidentially as possible. Your personal information may be given out if required by law. If a reportable condition is disclosed, such as child abuse or neglect, you would be informed and the information would reported according to California State law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

Organizations that may look at and/or copy your research records for research, quality assurance, and data analysis include:

UCSF's Committee on Human Research.

What are the costs of taking part in this study?

You will not be charged for any of the study treatments or procedures.

Will I be paid for taking part in this study?

In return for your time, $20 will be added to the game account of your avatar. You will be paid immediately after completing the first interview.

What are my rights if I take part in this study?

Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part in this study, you may leave the study at any time. No matter what decision you make, there will be no penalty to you in any way. You will not lose any of your regular benefits, and you can still get your care from our institution the way you usually do.

Who can answer my questions about the study?

You can talk to the researcher about any questions, concerns, or complaints you have about this study. Contact the researcher Susan Forsyth RN, MS at (510) 512-8290, at susan.forsyth@ucsf.edu or Dr. Ruth Malone at (415) 476-3273.

If you wish to ask questions about the study or your rights as a research participant to someone other than the researchers or if you wish to voice any problems or concerns you may have about the study, please call the Office of the Committee on Human Research at (415) 476-1814.

CONSENT

You have been given an electronic copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You have the right to decline to be in this study, or to withdraw from it at any point without penalty or loss of benefits to which you are otherwise entitled.

If you wish to participate in this study, you should electronically sign below as your avatar.

_____ _____

Date Participant's Avatar Signature for Consent

Appendix G

Recruitment Documents

Text for recruiting avatar participants from game forums.

Hello, I am NurseResearcherSusan. In real-life I am Susan Forsyth, RN, PhD (c). I am a student at the University of California, San Francisco doing research with Dr. Ruth Malone on smoking in video games and virtual worlds.

We are seeking volunteers to talk with us in private chat or in a secure private online forum about your experiences playing video game and smoking imagery you may of encountered. The study will consist of one or one-on-one interviews between your online avatar and my researcher avatar, lasting less 30 minutes.

Eligibility Criteria:
-A real-life age of over 18.
-Currently playing video games.
- Played for at least two hours a day on most days for at least a year.
- Able to write English.

You will not be asked your real name or to give us any real-life identifying information. All data will be kept strictly confidential.
If you think you might be interested in participating, contact me at my Redditt inbox , or susan.forsyth@ucsf.edu to see if you are eligible.

To participate, you will need to sign a consent form. You may sign the consent form with your user name to ensure privacy. See attached PDF.

To thank you for your participation, you will receive a $20 Amazon gift card.

In-person Recruitment Flyer

Research Volunteers Sought for a Study on the Relationship between Playing Multiplayer-type Video games and Smoking

Dr. Ruth Malone and Susan Forsyth, RN, MS, PhD (c), from the University of California, San Francisco School of Nursing are seeking volunteers to participate in a study on the relationship between video game playing and smoking.

If you played electronic games during your teen years you may be eligible to participate in this study.

Eligibility Criteria:
- Currently between the ages of 13 and 21
- Played a for at least two hours a day on most days for at least a year.
- Speak and write English

The study will consist of one-on-one interviews with each participant, lasting one to two hours. At least one and up to two interviews may be completed. You may be asked if the researcher can observe you for 1 to 3 hours playing a game. You also may be asked if the researcher can interview your avatar online in private chat while you are playing. This interview may take up to an hour. Your participation is completely voluntary and you may stop any of the interviews or observations at any time.

If you think you might be interested in participating in this study, please call Susan Forsyth at 510-512-8290 or email her at susan.forsyth@ucsf.edu to see if you are eligible. **If you are under the age of 18, you will need your parents signed permission to participate.**

To thank you for your participation a $20 gift card will be provided as compensation at the end of the first interview. If a second interview is completed, another $20 gift card will be provided at the end of that interview.

Video games and smoking study; Call Susan at (510) 512-8290 email: susan.forsyth@ucsf.edu
Video games and smoking study; Call Susan at (510) 512-8290 email: susan.forsyth@ucsf.edu
Video games and smoking study; Call Susan at (510) 512-8290 email: susan.forsyth@ucsf.edu
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Video games and smoking study; Call Susan at (510) 512-8290 email: susan.forsyth@ucsf.edu

Appendix H

Interview Guides

Interview Guide for Game Designer Interviews

Introduction:

Hello, thank you for agreeing to participate in this study on what it is like to play electronic games and encounter smoking imagery during game play. During the interview, you may stop or take a break at any time. Remember that I am not here to judge you, but rather to learn from you. Because of that I may ask you to tell more about something or give an example of what you mean. Before we begin, do you have any questions for me?

Interview questions:

How did you get into game designing?

Tell me about the first game you helped design.
- What was that like?

How did things change as you worked on different games?

What was the last game you helped design?

Some games use product placement within a game. Have you ever done that?
- What products have you put into games?
- What was the benefit of placing them there?
- Have you ever been given direction about what products to place in games and where to place them by your co-workers or other company staff?
- Have you or anyone you know ever been approached by a product manufacturer to place a product in a game?

Have you ever been involved in a game that included smoking imagery, even peripherally?
- How do you feel that impacted the game?
- Can you tell me more about designing that sort of imagery
- Have you ever been given direction about placement of smoking imagery and where to place them by your co-workers or other company staff?

What do you think about smoking in video games?
- What about games rated for everyone, for teens, or mature?
- When you think about characters that smoke in video games, what come to mind?
- Would you ever consider placing a character who smoked into one of your games?

Interview Guide for Adolescent In-person Interviews

Introduction:

Hello, thank you for agreeing to participate in this study on what it is like to play electronic games and encounter smoking imagery during game play. During the interview, you may stop or take a break at any time. Remember that I am not here to judge you, but rather to learn from you. Because of that I may ask you to tell more about something or give an example of what you mean. Before we begin, do you have any questions for me?

Interview Questions:

Tell me about your family.

- Where did you live? Have you always lived there, or did have you moved around a lot?
- How many brothers and sisters do you have?
- When you are all together as a family, what do you like best to do?
- Tell me about where you went (or are going) to school? Did you like school?
- What did you like/not like about it?
- Can you tell me what a typical day would be like hanging out with your friends?
- Do you and your parents talk a lot? What do they like to talk to you about? Do your parents watch what you do when you play video games? Tell me more about this….

Tell me about how long you have played video games?

- Tell me about one of the first times you remember being really excited about playing video games.
- What were some of your favorite games? What did you like about them?
- When did you first start playing role-playing games with other people?
- Tell me about the first role-playing game you played?

-Who was your first avatar? What game was that? What did he/she look like? What kind of things did he/she like to do? Tell me about your friends you made in (name of game). What did you like to do together? Tell me about your favorite time in this game.

- Tell me about your favorite role-playing game you currently play?

  -Who is currently your favorite avatar? How many do you have in the game? What did he/she look like? What kind of things did he/she like to do? Tell me about your friends you have in (name of game). How is your avatar different from the real you? Give me some examples. What did you like to do together with your friends in the game? Do you belong to a guild? Tell me more about that. Do you have any friends in the game that are your friends in real life too? Tell me about what you like to do most in the game.

Tell me more about the thing you can do in the game that you might not do in the real world, like smoking, drinking, driving fast, or dating.

- Have you ever seen avatars do these things? Describe to me the last time you saw an avatar smoking. Do any of your avatar friends smoke, drink or date? Tell me more about this.
- Did you ever have an avatar that smoked? If yes, tell more about your avatar who smoked. What did you like about letting your avatar smoke? If no, would you like an avatar that could smoke? Tell me more about why or why not.

Smoking in the actual world:

- Are you a smoker?

If no:

- -Have you ever tried smoking, even once? Do any of your friends smoke? What about your family?

If yes:

- At what age did you start? Tell me about your first cigarette. How did it make you feel? What do your friends think of you smoking? Tell me a story about talking with your friends about smoking. Do any of your friends smoke? Does anyone in your family?
- What do you think of smokers in the real world? Do you think there should more laws about smoking, or do we have enough? If you had a friend that smoked, what would you say to him?
- What about in video games? Is smoking okay there? Should there be any laws about smoking in video games? Tell me more about what you think. Should you be able to smoke in the game if you want to?

If I was going to starting playing (or I am a now a new player in these types of games) what advice would you give me? Any advice on creating an avatar? Making friends?

Is there anything else you want to say or think I need to know?

Thank you so much.

Interview Guide for Participants Interviewed Online

How old are you in the actual world?

What is your gender in the actual world?

What is your race/ethnicity in the actual world?

Tell me a little about what you do in the actual world? Work/School? What type? Do you like it? What is your favorite/least favorite things about work school?

What state or country do you live in?

How long have you been playing video games? What do you remember most about playing when you were younger? How much time do you think you spend playing each day?

What are your favorite games to play? What do you really like about them?

Describe an avatar you have created for yourself.

What sort of role does your avatar have? How is your avatar the same or different from you in real life?

Have you made online friends or had an online relationship? Tell me about the most important one.

Have you ever seen a character smoke in a video game? What did you think about that?

Do you remember the games in which you saw smoking? How did it make the character seem?

Have you ever had an avatar who smoked? Tell me more about why or why not you had a smoking avatar. What about friends? Did they ever have an avatar who smoked? Did it change the way you viewed them?

What are some words you think of when you think of characters in video games that smoke?

Has smoking ever helped or hurt a character in a game?

Have you ever tried actual smoking, even once? If so, what age did you start or try smoking? Do any of your friends or family smoke?

Have you ever tried actual smoking, even once? If so, what age did you start or try smoking? Do any of your friends or family smoke?

If you are a smoker, tell me more about why you started and what role smoking play in your life.

What do you think about laws that limit when and where people can smoke? Do we have too many, not enough, or just right. What would you like see changed?

What about smoking in video games? Should there be limits or regulations or smoking imagery in games?

What effect does viewing smoking in video games have on you?

What do you think about the ratings board that rates video games?

What else to you think I should know about the importance of video games?

What else do you think I should know about smoking in video games?

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