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OLD GAMES, SAME CONCERNS: EXAMINING FIRST GENERATION VIDEO GAMES THROUGH POPULAR PRESS COVERAGE FROM 1972-1985

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Abstract

This study explores early video game technology by examining video game fears in the popular press in the 1970s and 1980s. This textual analysis examines games during their formative years, assesses risks associated with new technology, and encourages critical examination of technophobia in news media. This topic is particularly relevant in light of the Supreme Court's recent decision regarding video game regulation. Key findings include: physical ailment fears, deviant behavior fears, fears related to drug use, and violent behavior fears. These fears persist, for the most part, in contemporary mainstream coverage.

On April 20th, 1999 at 11:19 am, two high school seniors killed 12 students and one teacher. On Thanksgiving in 2001, a man shot himself in front of his computer. In January 2007, a woman, participating in a radio program competition, died from water intoxication. And most recently, a shooter killed 20 children and six adult staff members at Sandy Hook Elementary School. What does each of these events have in common? The popular press blamed video games for each (Duggan, Shear, and Fisher; Kohn; Sandoval, Friedman, and Hutchinson; Zeller).

These examples are contemporary but the current study asks: how did we get here and how were video games perceived during their entrance into the mainstream? The purpose of this paper is to identify the dominant frames related to negative attitudes surrounding video games as evidenced by popular mass media. While an examination of popular press media cannot provide direct evidence of the prevailing

public attitude, the application of framing theory can help illuminate how these portrayals of video games may have shaped public opinion (Gilboa; Robinson; Wiley). In doing so, this paper helps develop an understanding of first and second generation video games that are now defunct, out of print, or rarely used.[1] This allows us to assess how these media frames have persisted or dissipated over the last 40 years.

To date, video game history and video game effects have been examined but historical negative attitudes toward video games in the popular press have not been adequately explored. The time to analyze these frames is as germane as ever in light the recent Supreme Court of the United States ruling (Mauro). In 2011, the Supreme Court reviewed a California statute banning the sale of violent video games to anyone under the age of eighteen, requiring labeling beyond the existing Electronic Software Ratings Board (ESRB) rating system, and imposing a fine for any infraction (*Brown v. Entertainment Merchants Association*). The majority of the Supreme Court found the act unconstitutional based on free speech rights guaranteed by the First Amendment (*Brown v. Entertainment Merchants Association*). However, within this ruling, some of the Justices argued that video games can be inappropriate for minors and that the Court should be wary of the unknown effects of video game technology. These comments indicate that, despite the unconstitutional nature of the statute, there is a degree of fear among the Justices of related video game technology. But where do these fears come from? This study suggests that media frames are a likely source of these fears.

Prior to this Supreme Court ruling, there were many cases in lower courts concerning the regulation of video games. *Video Software Dealers Association v. Maleng* (2004), *American Amusement Machine Association v. Kendrick* (2001), *Entertainment Software Association v. Blagojevich* (2005), *Interactive Digital Software Association v. St. Louis* (2003), and *Entertainment Software Association v. Granholm* (2005) are cases from various states that have addressed statutes similar to the statute challenged in the Entertainment Merchants case. The outcome was universal in all of these cases but

similar rulings were not found outside of the United States. For example, in the Netherlands it has become illegal to sell violent video games to minors (Wetboek van Strafrecht) and Switzerland completely banned violent video games (Parfitt, 2010). Meanwhile, specific video games have been banned all over the world for a variety of reasons: China banned *Command and Conquer Generals* for its portrayal of China, Australia banned *Getting Up: Contents Under Pressure* because it featured graffiti which is illegal in Australia, and United States military bases banned *Medal of Honor* because an early version of the game allowed players to assume the role of Taliban members (Blacklisted). Regardless of the legal system in place, each instance shows a fear of video games and their impact on society.

From here, this paper will review literature related to technophobia, video game history, and framing theory. Then, the findings will be detailed followed by a comparison to contemporary coverage.

Technophobia

Broadly, fear of technology is known as *technophobia*. While video games appear to be one of the latest targets of technophobia, it is nothing new. Classic novels such as *Frankenstein* warn of the horrors of technological advancement and wildly popular science fiction franchises like *The Terminator* and *Battlestar Gallactica* explore worlds where humans have lost control of their machines. In the early 1800s, skilled workers destroyed machines fearing the machines threatened their way of life (Binfield) and 19th century Romantics commonly argued that technology disrupted the purity of life (Herf). Huhtamo calls this the "dark side of progress" born from human dependence on machines.

A more specific conceptualization defined technophobia as "anxiety about current or future interactions with computers or computer-related technology; negative global attitudes about computers, their operation or their societal impact; and/or specific negative cognitions or self-critical internal dialogues during actual computer interactions or when contemplating future interaction" (Rosen and Maguire, p.

276). Jay (p.47) defined technophobia as "a resistance to talking about computers or even thinking about computers; fear or anxiety towards computers; hostile or aggressive thoughts about computers." A third definition described technophobia as an aversion or anxiety toward technology based on the products' complexity (Sinkovics, Stottinger, Schlegelmilch, and Sundaresan). Primarily, these definitions describe technophobia in terms of the technological interface and the fears surrounding interactions with that interface. For example, someone feeling anxious while using an ATM or frustrated while using a computer. However, based on the fears alluded to in the aforementioned examples, the supposition is that this definition cannot accommodate all of the media frames. As a result, this study argues that technophobia should also account for the unfamiliarity/newness of the technology, the uses of the technology, and the content of the technology.

The technology acceptance model (TAM) also provides a valuable lens for this study. The TAM suggests an individual's intention to use a technology is influenced by perceived usefulness (how functional a technology is) and perceived ease of use (how difficult using the technology will be) (Venkatesh and Davis). The TAM is helpful for examining media frames of video games because they can be analyzed for acceptance via perceived usefulness and perceived ease of use. While a lack of intention to use a technology does not equate to technophobia, this framework can used to help develop understanding of how games were discussed.

Video Game History

Long before the Supreme Court debate on video games, in the early 1960s, Regnecentralen, a fledgling video game company, was interested in exploring how computers and humans might interact (Jorgenson). However, Regnecentralen's video game product, Nimbi, was a commercial failure due to hardware constraints. After Regnecentralen, the first video game console, a machine that displayed audio and video game content through a television set, was the Magnavox Odyssey[2] (Mazor and Salmon) but due to the

steep costs of designing video games, Magnavox eventually abandoned the video game industry. Simultaneous with the release of the Magnavox Odyssey, Atari released *Pong*. Atari, a video game company, helped shape the way video games are understood because *Pong* was one of the first vastly popular coin-operated arcade games. *Pong* was popular in the 1970s and remains a pop culture icon. *Pong* was successful from a technical standpoint because of its ability to effectively integrate a variety of technologies into a simple interface (Lowood); something Regnecentralen failed to do. In other words, *Pong* was, arguably, the first video game that effectively reached a wide audience.

In 1977, Atari expanded its empire and released the Atari 2600 home video game console. Through the gaming console, video games extended their reach from the public space of the arcade into the privacy of the gamer's home. As a result, video games became a larger part of American life.

While these are the earliest iterations of video game technology, we know little about the fears surrounding video games when they first entered mainstream culture in the 1970s and early 1980s. Video games rose to prominence during the 1970s and 1980s, when recreation was frenzied, and social upheaval/questioning the status quo were commonplace (Williams). Williams' analysis stated that children of the generation displayed an unprecedented affinity for using technology, like video games, for leisure. It is likely that these cultural shifts informed opinions on video games at the time. In fact, Williams reviewed three major U.S. news magazines from 1970-2000 and found that they used utopian frames and dystopian frames to discuss video games. Utopian frames suggested positive and exciting new opportunities for video game use. Utopian frames included: development of physical skills, catharsis for violent behaviors, educational opportunities, intelligence building, fun, team building and technoliteracy. Dystopian frames detailed the fears of implementing a new technology. Dystopian frames included: health risks, physical ailments, facilitating antisocial behavior like theft or drug use, addiction and promoting

violence. As such, the popularity of arcades and the reach of video game consoles brought with them a rise in excitement for some and fear for others.

Framing

Given the importance of frames in this study, a brief review of framing theory is valuable. Framing theory suggests that media outlets highlight particular aspects of issues and, therefore, make specific attributes more accessible and applicable than others (Entman; Scheufele). This heightened accessibility and applicability impacts individuals' judgment making processes. In other words, the way in which media organizations portray a certain issue impacts people's attitudes toward that topic.

Framing typically consists of two steps, frame-building and frame-setting (de Vreese, 2005). Frame-building describes the process through which frames are manifested by content producers (de Vreese). Frame-setting is the interplay of media frames and individual audience members' attitudes and attributes (de Vreese). This study focuses primarily on media messages relaying video game fears, or the frame-building of these messages.

According to Entman, highlighting certain content defines problems, diagnoses causes, makes moral judgments, and suggests remedies. Accordingly, framing constructs social reality and often shapes the perceptions of audience members (Goffman). Within the context of this study, there is not direct evidence of how these frames impact public attitudes toward video games but framing theory allows for speculation on how these frames informed attitudes toward video games broadly.

Method

In order to more deeply explore technophobia related to video games in the 1970s and 1980s, this textual analysis examined journalistic coverage of video game concerns. The sample was limited to articles and

stories published between the release of the first generation of video games in 1972 and the launch of the Nintendo Entertainment System (NES) in 1985. This time period was selected because it represented a period when video game arcades and video game consoles were first becoming popular in mainstream American culture. The end point, 1985, was selected because the launch of the NES represented a shift in the video game industry. Specifically, 1985 saw a shift from the second generation of video games to the third generation. Besides the hardware shift, Atari, who largely dominated the games industry, was disbanded by 1984. In 1985, Nintendo replaced Atari as the video game industry leader. As a result, the industry went from American leadership to Japanese leadership. Cultural differences as well as the lessons learned from Atari's failure changed the industry (as seen in Nintendo's stricter control of content, hardware, third party developers, and licenses) (Scheff). These new practices ushered in unprecedented success for the games industry that far surpassed that of the first and second generation. Thus, 1985 served as a suitable ending point for this project.

 The sample included U.S. newspapers, popular magazines, and news broadcasts. Newspapers, magazines, and broadcasts organizations examined included: the *Los Angeles Times*, *Chicago Tribune*, *Baltimore Sun*, *New York Times*, *Wall Street Journal*, *People Weekly*, *Forbes*, *U.S. News and World Report*, *National Review*, *CBS*, *ABC*, *NBC*, and *PBS*. These were selected because mainstream news outlets can be used to indicate general attitudes towards video games at the time (Tosh) as opposed to special interest publications that may have more specific perspectives on video games. For example, video game or technology and science magazines might offer more nuanced perspectives that do not reflect the general frames used to portray video games. Over 80 stories were included in this textual analysis.

 Despite the broad time period implemented, there were few news stories that covered video games during their early stages (1970s -1980s). While *Pong*, released in 1972, was popular, video games received more substantial attention from media outlets in the 1980s (Long). As a result, most of the articles

reviewed for this analysis were from the 80s, not the 70s. The following sections outline the main findings from the textual analysis.

Findings

After reviewing popular press articles and television news stories from the 1970s and early 1980s, the most common frames related to fears surrounding video games were: risk of physical injuries, video games and their relationship with addicting drugs, the dangers of a video game lifestyle, and video games' influence on violent attitudes and behaviors. Each of these fears will be expanded upon in the following sections.

Physical ailments

Throughout the time period analyzed, the popular press raised concerns over physical injuries that might occur while or after playing video games. As gaming grew in popularity during the 1970s, many users began playing video games more frequently. Importantly, numerous video games implemented similar control hardware, like joysticks and paddles. If a gaming motion was repeated too often, such as using video game joystick, one might develop a physical ailment. In 1981, the *Los Angeles Times* discussed the emergence of "Space Invaders wrist," a wrist degradation condition developed from repeated use of the joystick while playing the video game Space Invaders or games with similar controls ("Space Invaders Wrist"). In 1982, "space invaders wrist," was listed in the *Sun* alongside other physical ailments that might accompany gameplay or other hobbies (Peddle).

Other terms and conditions detailed in the *Los Angeles Times* described physical ailments derived from game play (Krier). These were "Pacman elbow," named for a condition from playing too much of the popular video game Pac-Man. "Qix callus," named after a 1981 arcade cabinet. "Coleco palm," named for overuse of the controls of the 1982 video game console ColecoVision. Similarly, the *MacNeil/Lehrer News*

Hour described how an avid player of Atari's Breakout had to submerge his hand in ice water in order to dull the pain to keep playing the game (D'Alli). In short, physical ailments were associated with overuse of the controls associated with certain games or platforms.

Generally, these ailments were treated with derision and humor. According to the coverage, these conditions were not legitimate concerns but, rather, amusing news items. Similarly, these articles did not appear prominently in their publications. Based on the journalism practice of placing important news early in a newscast or on the front page of a newspaper, this suggests that these stories were relatively insignificant to news producers.

However, this derisive treatment of physical ailments associated with video game play was not universal. Concerns that video games caused damage to bodily organs, like the heart, arose around the same time. A *Chicago Tribune* article argued that video games might lead to a stroke because they encourage the body to respond to a stimulus without providing an outlet for physical action ("Heart is a Loser"). This concern, though similarly hidden deep within the publication, did not receive the same derisive or casual presentation. Rather it was presented alongside scientific evidence.

In summary, early coverage of video games focused on physical ailments that could arise from video game play. However, all physical ailment concerns surrounding video games were not treated equally. Justified or not, some were dismissed while others were treated seriously. Thus, video games were framed by the media as threats to physical well-being. However, these frames did not treat skeletal/muscular issues seriously while damage to organs like the heart was framed as a serious issue.

This frame suggested that news organizations perceived video game hardware to be unfamiliar and, in turn, uncomfortable and harmful. Through the lens of the TAM, these stories indicated that there was little ease of use because use can cause injury. The ridicule of these ailments directed attention to a lack

of usefulness. Someone who is injured wasting time playing a "child's toy" was deserving of derision. A derisive frame would not likely be used if someone were injured during a "worthy" and traditional task like, an office job, playing football, or whittling. According to this frame, one should not play video games because they could injure you or you would be mocked for playing them.

Regardless, these frames during video games entrance into the mainstream indicated, at least, a lack of acceptance of the technology and, in some cases, fear of the technology.

Video games and addicting drugs

In the 1970s and 1980s popular press, video games were commonly linked to illegal drug use. This link was usually done in two ways. First, video games were compared to drug use. For example, in the *Chicago Tribune*, video game play was compared to the use of drugs such that video games were abused in the same manner as an illegal, addicting drug (Collins). Second, stories described how youths who played video games were feared to be drug-dealers and/or drug-users. A *New York Times* story on this topic spanned multiple pages and was accompanied by a large photograph (Scrivener). This sort of presentation conferred importance and made the issue seem significant.

Both of these frames hinged on the notion of addiction. Expert testimony was used to make strong connections between video games and addicting drugs, calling video games a "stimulant" and "electronic caffeine" (Levin). Meanwhile, children themselves noted how addicting games were (Drinkwater). Around the same time, *Forbes Magazine* painted a picture of video game addiction such that video games forced people to pump hundreds of quarters into arcade games ("Games Addicts Play"). This article asserted that the video game industry made money by creating addicts of all ages. Indeed, early arcade games were designed specifically to collect coins from players (Huhtamo). The video games were very difficult and

required more coins to try again or experience more content. The idea was to let players learn a bit more each time they played so they kept inserting coins. This "addiction" is perhaps more closely related to a gambling addiction than a drug addiction but this distinction was not always apparent in the sample.

In 1982, the coverage of video games and addiction reached its apex due in large part to the Surgeon General of the United States publicly announcing the perils of video game addiction. The Surgeon General oversees the United States Public Health Service Commissioned Corps and is considered the "Nation's Doctor," providing the American public with scientific information to promote health and well-being (surgeongeneral.gov; usphs.gov). In 1982, the Surgeon General was C. Everett Koop, who served from 1982 to 1989. Koop, prone to public announcements was considered the nation's first "celebrity Surgeon General."

Koop's statement at Pittsburgh's Western Psychiatric Institute and Clinic regarding claimed, "They are into it body and soul. Their body language is tremendous and everything is zap the enemy. There's nothing constructive in the games" (Associated Press). Koop also stated outright that children were "addicted," and that games were responsible for "aberrations of childhood behavior." Notably, Koop said that he was stating his opinion and that, at the time, no empirical evidence of the dangers of games existed but he predicted that this evidence would present itself before long.

Koop's belief that video games were addicting and harmful was widely reported (Blustein; Mudd, "9 Nov 1982"; Rather, Dan). However, an Associated Press article covering the same story applied a more critical eye to the issue of video game addiction. This article, run by the *Chicago Tribune* ("Surgeon General Calls Video Games") and the *Sun*("Video Games May Be Threat") was careful to point out that Koop cited no empirical evidence for his claims.

With regard to framing, video game play was framed as an issue of addiction. Stories varied in their condemnation of games but video games and addiction were very common in the dialogue. This was common frame and these stories were generally serious in tone, presenting the topic as a genuine concern. The prevalence of this frame coincided with the war on drugs in the United States. The same time period featured the emergence of the iconic "just say no" campaign (Suddath). "Just say no" was an anti-drug campaign directed at American youth, led by First Lady Nancy Reagan. This campaign was nationally funded and was extremely high profile. This likely helps explain the common use of the term "addiction" despite the fact that video game addiction was not an officially recognized condition by the American Psychological Association and the American Medical Association (AMA will not label; American Psychiatric Association).[3] Similarly, a formal or clear definition of video game addiction was never offered across all stories. Despite this lack of precision, media frames impact public opinion and policy decisions (Gilboa; Robinson; Wiley). It is likely not a coincidence that many video game bans were attempted in the United States around this time.

Based on this frame, video game addiction was considered a tremendous problem by 1983. The TAM offers insight into why this fear was manifested. Video games were not viewed as useful and therefore time spent playing games was considered wasteful (Huhtamo). In turn, any increase in time spent playing games was problematic. Early video games were some of the first interactive media content designed to create habitual consumption. For example, the draw of Pac-Man is to beat your previous high score. By its very nature you must play the game habitually to keep your skills sharp and determine which tactics work best. While this does not necessarily equate to an addiction, it became labeled as such.

Overall, these findings indicate that early video game technology was feared because of its novel ability to engage with and appeal to audiences. This sort of entertainment media was new, unknown, and was

taking up a lot of time. Tapping into the zeitgeist of the time with the war on drugs, video games were often framed in terms of addiction.

The dangers of a video game lifestyle

When video game addiction was mentioned it often accompanied other problematic behaviors associated with gaming. Most notably, the lifestyle of video game players required that players had money to pay for their gaming habits, such as quarters for the arcade. As mentioned, arcade machines were designed to maximize profit (Huhtamo) so some stories argued that video game players became thieves, spent their college funds, or inappropriately saved their lunch money to finance video game play habits (McCormack). Indeed, video games were feared to exploit children by making them want to spend money (Macneil, "11 Oct"). Similarly, according to *U.S. News and World Report*, video games posed a litany of behavioral risks that were a waste of time and money ("Video Games Fun"). Video game play was so synonymous with wasteful and irresponsible behavior that game play was used as a metaphor for waste in other domains ("The Pac-Man Syndrome"; White). Even a feature in the *Sun* about a world-class Robitron player described video game players as isolated, hypnotized, addicted, and transformed into zombies (Nugent).

Many of these stories focused on video game arcades. Erkki Huhtamo offered a noteworthy explanation for this phenomenon: Video game arcades were "descendants" of bars/game parlors and inherited their poor reputations. According to Huhtamo, the reason for those poor reputations were many, among them: decent people did not patronize these venues, these venues subverted contemporary morals, they were no place for children, they were associated with the loosening of family unit, they were places for vice and disease, and they were associated with organized crime. The new stories in this sample reflect Huhtamo's argument. Video game arcades were presented as rallying points for antisocial behavior. Not surprisingly, news stories covered neighborhood outcry over zoning laws that determined the presence

of video game arcades (Young). In 1980, a group protested the presence of an arcade in their neighborhood by carrying a coffin, believing that an arcade would raise occurrences of crime that would threaten the health and safety of local residents (Zuckerman). Two years later in New Jersey, a similar outcry occurred because residents of a neighborhood felt an arcade would provide children access to drug dealers (Scrivener).

Beyond the arcades themselves, news stories also lamented the events that occurred within them. Video game arcades were places where youths were shot and killed (Hunter-Gault, "10 May"). Arcades were full of "lone minors" (Mudd, "10 Nov") and jobless, high school dropouts committing crimes (Hunter-Gault, "22 Jan"). Arcades attract truants and keep students out after curfew (Kashiwahara). According to the coverage, video game arcades attracted and caused negative behavior. There was rarely much discussion of this phenomenon, simply an assumption that arcades were full of this behavior.

Generally, video games were framed in terms of arcades and the corresponding antisocial behaviors. This was presented as a serious concern. These stories spanned multiple pages, were features, and reported as hard news. These findings are consistent Huhtamo's claims and further reflect a lack of perceived usefulness for games. This finding also strongly indicates that video games symbolized unease with change and new technology.

Video games influence on violent attitudes and behaviors

The final set of concerns found in the popular press focused on how video game content might encourage violent behaviors and attitudes. For example, *Custer's Revenge* was feared to encourage sexually deviant behavior such as rape (Baron; Bowen) or playing *Firebug* encouraged players to set fires (Rather, Dan; Mudd, "10 Nov"). In other words, social learning was an early concern surrounding game content (Bandura). The fear was that players would learn and mimic behaviors they saw in video games. If a child

saw a violent act in a game they would be more likely to act out similar violence in other situations, like at school. But that was not the only feared outcome of playing violent games.

The risks of game play were numerous. One article reported that video game content might result in desensitization towards violence and stunt children's growth (McCormack). Surgeon General Koop's asserted that violent video game content had adverse mental effects on children (Blustein). Video game violence was described as a "deadly" tool for training soldiers (Indurfurth; Porter; Schell). Even articles that defended the virtues of video games stated that violent content might be problematic for children ("They Zap"). These concerns were treated seriously by the popular press but they were not as common as other concerns like addiction.

In recent years, considerable research has been dedicated to video game violence. As such, it is pertinent to briefly review some of that literature. Indeed, some research has suggested that the repetition and active participation in video games makes violent video games dangerous (Gentile and Anderson). Another study argued that aggressive behavior could be predicted by exposure to violent video games (Anderson and Dill). Similarly, violence in games can activate aggression-related attitudes and behaviors (Anderson and Bushman). However, another study showed that violent video games did not produce higher arousal nor did they induce more aggressive thoughts than nonviolent games (Ivory and Kalyanaraman). Likewise, even violent video games might actually be used to promote prosocial behaviors, not violence (Gentile et al.). A 2007 meta-analysis of violent video game research did not support the supposition that violent video games cause aggression (Ferguson) but a more recent meta-analysis suggests a causal relationship, dependent on research design, between violent video game play and aggression (Anderson, et al.). In conclusion, the research on video game violence shows disparate effects though this was not reflected in the news coverage.

In this frame, violent video game content was a major concern. Even though not highly realistic in comparison to contemporary video games, video game violence was viewed as being harmful to players. The suggestion was that video games, more so than other forms of media, like a violent movie, allowed players to practice violent behaviors. This interactivity altered their subsequent attitudes and behaviors. In other words, new developments and unfamiliarity with the technology bred fear of its influences. The TAM does not offer much explanation of this frame because this frame did not directly relate to ease of use or usefulness. Instead, this frame seems to fall into a separate category concerning content and the unknown.

Legislation and the video game crash of 1983

Many of these frames were mentioned within stories about legislation regarding video games. The Sun's feature on Marc Sartoph's Robitron abilities was within the context of regulating video games to protect children from video game dangers (Nugent). Other stories raised concerns about video games in terms of legal bans on games (Baron; Mudd, "10 Nov"; Mudd, "23 Feb"), "thorny legal issues," (Rather, J.) and arcade permits (Young; Zuckerman). This type of legislation and debate persists today and will continue into the foreseeable future. Often, this context gave the stories a grave and serious tone.

It is worth noting that the occurrence of these frames dropped significantly after 1983. This was likely due to the video game industry crash of 1983 (Hunter-Gault, "24 Dec"; Consalvo; Cordtz). At this time, news stories focused on financial concerns and video game industry layoffs instead of the aforementioned frames (Brady; Burns; Hard times; Hickey; MacNeil, "19 Oct"). While the focus shifted away from these frames in 1983, they reemerged with vigor in 1999 in the wake of the Columbine shooting (Richtel). As a result, few stories were found in the sample concerning video game fears after 1983.

Comparisons to contemporary coverage

In this section, the four frames discussed above (physical ailments, video games and addicting drugs, the dangers of a video game lifestyle, and video games' influence on violent attitudes and behaviors) are compared to contemporary coverage of video games.

In terms of physical ailments, the video game industry rose alongside the use of personal computers and, over time, it appears that terms such as "pacman elbow" were replaced by language that suited those who were using personal computers on a regular basis. These sorts of ailments are now more commonly known as repetitive stress injuries. As a result, this frame has not persisted but can be seen related to the use of new mobile technology with "iposture" and "text claw" (Maruli). However, video games are still linked to physical risks such as obesity (Elkes; Sanghavi; "Video Games, Not"). These articles suggested that poor physical condition was a result of video game play. In this context, the frame was did not look much different than it did in the 70s and 80s. This frame likely has not changed because these concerns are valid. Overindulging and neglecting physical exercise is a concern, though certainly not one limited to video games.

As for video games and addicting drugs, this frame was prevalent in the popular press as video game addiction was mentioned regularly (Crecente; Tito). Video game addiction was only officially recognized as a condition starting in May 2013 (Miller). It is likely that this shift in policy could be due, in part, to the persistent media frame (Gilboa; Robinson; Wiley). Indeed, the popular press had been referring to video game addiction for over 30 years prior to its recognition.

In terms of the dangers of a video game lifestyle, the concerns related to arcades were not as prevalent in the review of contemporary coverage because arcades were not as popular in the United States as they were in the 70s and 80s. Regardless, stories still noted that video games were connected to antisocial behaviors like thefts (Johnson), drug use (Sontag and Ruiz), and laziness (Hoovler; Kelly; Neal). These frames though, are not common in comparison to other frames.

The most persistent frame in contemporary coverage was the video game violence frame (Pidd; Sutter). This frame was not terribly prominent in the 70s and 80s but lately has by far the highest frequency. This frame was often used alongside a handful of recent events. The most notable of these events were the 2011 Supreme Court ruling on violent video games (Mauro) and the shooting at Sandy Hook (Berger and Santora). However, other articles not directly related to these events emerged within the last year as well. In an article titled "Grand Theft Childhood," the writer lamented the violent content of a new video game as it harmed children (Macaskill). An article titled "Guns Don't Kill People–Our Sons Do" talked about video game play and violence in the context of diagnosing societal problems (Farrell). This use of this frame increased considerably since the inception of video games into the mainstream.

Overall, this analysis revealed that video games were framed similarly with subtle differences. Mainly, the frequency and specific content of the frames shifted to reflect current events but the overall frames remained in tact.

These negative frames were somewhat puzzling given the immense popularity of video games. In 2013, the video game industry found unprecedented success. First, *Grand Theft Auto V* made $800 million in its first 24 hours and *Call of Duty: Ghosts* made $1 billion on the day it launched (Griffiths; Kain). This set a record for the largest entertainment media launch. In other words, these games were bigger than any movie, book, or TV show in history. These record-breaking sales contributed to the $66 billion video game industry (Nayak). Perhaps the inconsistency between frames and popularity can be explained by the fragmentation of the media landscape. In other words, video game players can receive their news from venues that specialize in games. Meanwhile, those who do not play video games likely go elsewhere. In turn, these frames persist but only in certain venues. Indeed, many of the frames identified in this paper were directly refuted by news sources specializing in video games (Corriea; Narcisse; Totillo).

Technophobia Revisited

One of the arguments in this study was that the conceptualization of technophobia should be expanded beyond specific apprehensions related to interactions with the interface (Jay; Rosen and Maguire; Sinkovics, Stottinger, Schlegelmilch, and Sundaresan). Instead, technophobia should account for the unfamiliarity/newness of the technology, the uses of the technology, and the content of the technology. As demonstrated, media frames detailed fears that extended beyond interactions with the interface. Specifically, the stated definitions of technophobia cannot fully account for the games as addicting drugs frame, the dangers of a video game lifestyle frame, and the video game violence frame as they do not necessarily describe a fear related to using the interface.

Conclusion

Video game technology entered the mainstream in the 1970s and 1980s. Soon after, games were noted for a variety of concerns. Most commonly, video games were related to drugs by news media. Whether those that played video games would become drug users or those that played video games would develop addictions, video games were frequently linked to drugs.

The other common frames were physical ailments caused by video game play, the dangers of a video game lifestyle, and video game violence. Often, stories about video games were discussed in terms of controversy, especially legislation. However, due to the video game crash, in 1983 the frequency of these stories declined sharply.

Video games evolved a great deal between 1983 and 2013, with different consoles, games, and technological capabilities. Despite these advancements, these frames have shifted but not changed. Fears about physical ailments now mainly relate to health and exercise. Concerns about drug use have decreased in frequency but video game addiction is still a major concern in the popular press. Lastly, concerns over content and deviant behavior are more common now than in the 1980s but they are much

more focused on violence than other behaviors. Concerns that could be linked to a physical space, like an arcade, were very common in the 1980s but are now infrequent.

The present study demonstrated the similar news media reactions to new video games and old video games. This examination encouraged critical examination of technophobia in news media. Further examination of the topic would be beneficial, especially: examination of the validity of these frames, analysis of the expanded definition of technophobia, the study of other common media frames, and the examination of other media outlets.

Notes

1   Video game technology is broken into "generations." A generation is typically defined by new hardware such that when new hardware is introduced, a new generation begins. For example, the Sony Playstation was part of the fifth generation and the Sony Playstation 2 was part of the sixth generation. We are currently in the eighth generation of video games.

2   The Magnavox Odyssey was released in 1972.

3   Video game addiction was first officially recognized in the American Psychological Association diagnostic manual in 2013 (Miller).

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