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Clinicians' attitudes toward video games vary as a function of age, gender and negative beliefs about youth: A sociology of media research approach

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ABSTRACT

Debates regarding purported negative effects of video games have raged among scholars, clinicians and in the public arena. Surveys of both scholars and the general public reveal wide discrepancies in beliefs about the potential harmfulness of video games, and some evidence suggests that a "generational divide" may be at play. The current study examines this in a sample of 109 clinicians and clinical researchers. Beliefs about the potential harmfulness of video games varied widely in the sample, reflecting absence of a consensus. Beliefs about the harmfulness of video games were predicted by respondents' age, female gender and negative beliefs about youth. Contrary to hypotheses, respondents' neuroticism, openness, pacifism and previous gaming experience did not predict beliefs about video games. These results suggest that, even among clinicians, debates about video games are influenced by historical patterns of generational conflict with harmful beliefs endorsed mainly by older individuals who are hostile toward younger generations.

1. Introduction

The degree to which video games represent a potential public health threat to minors has been an ongoing controversy in the scientific literature, among policy makers and among the general public. Much of this controversy focuses specifically on the issue of violent content in video games, although others have worried about the impact of video games on mental health, potential addiction issues, and reduced social functioning. Evidence documenting the harmfulness of video games has remained mixed. Despite this, or perhaps in response to this, attitudes toward video games have become polarized, even within the scholarly community. Some scholars suggest that video games may impact mental health (Lemola et al., 2011), cause detrimental changes to the brain (Hummer et al., 2010), or promote permanent, long-term changes to personality (Anderson & Dill, 2000). For instance, in speaking to the potential for video games to have "unique dangers" related to changes to personality, Anderson and Dill suggest "If repeated exposure to violent video games does indeed lead to the creation and heightened accessibility of a variety of aggressive knowledge structures, *thus effectively altering the person's basic personality structure*, the consequent changes in everyday social interactions may also lead to consistent increases in aggressive affect" (p. 788, italics added for emphasis). Thus some scholars proclaim considerable potential negative impact for video games. Other scholars, have been more skeptical, however, suggesting that harmful video game influences are negligible or weak (e.g. Bean & Groth-Marnat, in press; Desai, Krishnan-Sarin, Cavallo, & Potenza, 2010; Kutner & Olson, 2008). Thus, it is a fair question to ask how different educated experts look at the same pools of evidence and come to very different conclusions. This paper concerns itself with beliefs about video games and their harmfulness among clinicians and clinical researchers and how such beliefs are influenced by psychological and demographic characteristics of the individuals.

1.1. A sociology of media research approach

Whether or not media popular with youth contributes to societal or public health problems has been debated at least since the time of Plato and Aristotle (Ferguson, 2010). In present times, despite at least several hundred research studies, scholars continue to debate whether media violence contributes to societal violence. Given the degree to which personal and societal morality, generational conflicts, social desirability and other social factors are intrinsically built into both the production and consumption of data in this realm (Grimes, Anderson, & Bergen, 2008), it may be near to impossible to document whether media "really"

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contributes meaningfully to societal problems or not. This may seem a bleak assessment, but with one with both historical and contemporary precedent. However, with this in mind, it may be interesting to attempt to parse *why* even scholars and clinicians have difficulty in the production, dissemination and processing of objective data in this realm.

A sociology of media research approach suggests that media research itself responds to a variety of social and psychological influences that, despite the good faith intentions of scholars, limit the objectivity of data in this field. Such influences can be broken into three basic realms. The first of these include *practical incentives* consistent with moral panic theory (Gauntlett, 2005) which suggests that society attempts to promote certain pre-existing beliefs about media by incentivizing data production supporting beliefs in harm through mechanisms such as grant money, news headlines, political influence and praise from peers. The second are *personal incentives* for adopting and holding to a particular belief about video games (whether worried or unworried) are myriad. On one hand, individuals who themselves identify as "gamers" may be defensive about their hobby (Kneer, Glock, Beskes, & Bente, 2012; Kneer, Munko, Glock, & Bente, 2012; Nauroth, Gollwitzer, Bender, & Rothmund, 2014) where as those who worry more about younger generations and violence may focus primarily on data supporting their beliefs in harmful effects (Rothmund, Bender, Nauroth, & Gollwitzer, in preparation). The third issue is what can be *sanctimony bias*. Sanctimony bias is proposed here as resulting from an elevation in mood stemming from the belief one is morally superior to another. Thus, scholars may receive an elevation in mood from the belief they are protecting children from an exploitative media industry. More skeptical scholars may also experience sanctimony bias by believing themselves to be more careful empiricists in relation to their "fear mongering" colleagues.

1.2. No consensus on a consensus

In years past, scholars who advocated for the position that media could be harmful often suggested that a scholarly consensus had been reached on the issue (e.g. Murray, 1984) an argument some advocates of harm-related hypotheses have revived more recently (e.g. Bushman, Gollwitzer, & Cruz, 2014). In 1984, Murray conducted an informal poll of media scholars and found that 90% of psychologists and 85% of communication scholars agreed with a rather sternly worded warning about media violence. The wording of this statement by the National Institutes of Mental Health itself mentioned a consensus among scholars, linked media violence definitely to societal aggression and suggest the effect was as strong as any other known influence on aggression.

Thirty years later, evidence for a consensus has become murkier, at best. One survey study (Bushman et al., 2014) found that only 58% of media researchers agreed or strongly agreed with a more general statement causally linking media violence to aggression, and only 35.2% agreed that media violence was a factor in real-life violence. Indeed, a larger proportion of researchers disagreed (41%) with this last statement than agreed. About 66% of scholars in this survey agreed that violent video games could cause some level of aggression. However, only certain groups of scholars were included in this sample (for instance, APA's Division 46, Media Psychology and Technology was included, but Division 10 devoted to Psychology of Creativity, Aesthetics and the Arts which presumably might be more sanguine about media effects, was not). Thus, it is unclear whether selection bias may have been an issue for this sample. However, if we examine the question linking media violence to real-life violence (the question arguably most similar to Murray's 1984 statement), agreement among scholars dropped from roughly 87.5–35.2%.

To make the picture more complex, in another analysis by Van Looy et al. (2013) only 10.1% of media scholars agreed or strongly agreed that digital game violence effects on aggression were a problem for society. This survey was open to all media scholars, not just specific groups such as in Bushman et al. (2014). Differences in wording of the two surveys could help understand differences in responding. For instance one might reasonably agree that media violence causes increases in very mild forms of aggression, but that these do not represent a problem for society or contribute to youth violence.

Further, in 2013 a group of approximately 230 media scholars wrote an open letter to the American Psychological Association asking them to remove their policy statements regarding media violence (Consortium of Scholars., 2013). Thus, from these disparate sources of data, it is probably safest to say that no consensus exists among scholars one way or another on the issue of media effects, or at least media violence. Whether a consensus exists on other areas of media research, such as body dissatisfaction and thin-ideal media, or pornography effects is less clear. However, despite occasional claims to the contrary, it seems reasonable to suggest that scholarly opinions differ widely regarding media effects. It may be useful to understand why.

1.3. Beliefs about media effects

As with much that has been done on the sociology of media effects, much of the data on people's perceptions of media effects has come from media violence and particularly video game violence. Much of this stems from the attention that video games often receive following tragic mass shootings, whether or not the perpetrators ultimately are revealed to have been gamers (Fox & DeLateur, 2014). In the wake of the 2012 Sandy Hook shooting, several polls were conducted regarding the general public's attitudes toward video game violence and its potential contribution to societal violence. One of the most publicized was a Harris Polls. (2013) released shortly after the shooting, when much discussion of video games still occurred in news media, and considerable speculation surrounded the shooter's alleged addiction to violent games.[1] This poll revealed that a slight majority (58%) of the general public agreed that violent video games might increase societal violence. However, the poll also revealed stark generational divides with older adults and women more likely to endorse such beliefs than younger adults and males. Further, older adults were less familiar with the Entertainment Software Ratings Board (ESRB) system of rating video games, suggesting that unfamiliarity contributes to fears of video games. The poll also took place soon after the shooting and in an atmosphere of enhanced speculation over video game effects and this may not represent typical attitudes during less stressful times.

To date most research on whom and why people endorse beliefs in the harmfulness has been conducted by Przybylski (2014a). According to Przybylski, only about one third of participants in a general public sample of Americans believed that violent video games contributed to real-world aggression. Taking place several months after the Harris Poll, this may have indicated a downturn in emotion as the trauma of the Sandy Hook receded with less news attention to the issue of video games. More critically, Przybylski found that, in several studies, women, older adults and those with less gaming experience were more concerned about the effects of video games, confirming results of the Harris Poll in a

[1] Claims in news reports of the shooter, Adam Lanza's obsession/enthrallment to violent video games ultimately proved to be apocryphal. The official investigation report by the state of Connecticut ultimately revealed Lanza was more interested in non-violent video games such as *Dance, Dance Revolution* (State's Attorney for the Judicial District of Dansbury, 2013).

more scientific sample. Age, in particular was a critical factor in such beliefs with older adults (65+) a full six times more likely to believe in harmful video game effects than younger adults (18–24) and younger adults were about five times more likely than older adults to have gaming experience.

This observation about gaming experience fits well with the work of Ivory and Kalyanaraman (2009). They found that participants in an experimental study often endorsed beliefs in the harmfulness of violent video games. However, they found that when participants were exposed to a video game with heavy violence, participants no longer saw that game as harmful to behavior and were less supportive of efforts to regulate violent video games.

Gender also appears to be a significant factor regarding attitudes toward video games with women, more than men, expressing concerns about gaming effects (Przybylski, 2014a). As with the age issue, this may reflect a historical gender divide regarding video game exposure, with fewer women and girls playing video games, particularly those with objectionable content such as violence (Lenhart et al., 2008). However, the importance of gender may slowly change over time as women and girls are increasingly represented among gamer populations (most recent data suggest about 44% of gamers, Entertainment Software Association., 2015). As women and girls become more experienced with video games, particularly those with objectionable content, it may be the case that their expressed concerns about such games may decline.

Comparatively little research has examined whether personality variables influence opinions about video games. Rothmund et al. (in preparation) did find that pacifism was one factor influencing beliefs about video games with pacifists more inclined to believe in the harmfulness of video games. Although some research has examined how personality influence game play style (e.g. Bean & Groth-Marnat, in press) few have examined how personality may influence attitudes toward games. However, it is not unreasonable to suggest that high neuroticism and low openness may predict negative beliefs about games as such personality traits are typically connected with greater worrying (McEvoy & Mahoney, 2013) and difficulty adopting new technologies in job-related contexts (Minbashian, Earl, & Bright, 2013) or relating to different styles of media such as heavy metal (Swami et al., 2013).

1.4. The current study

At present, several studies have considered the beliefs of scholars and the general public regarding potentially harmful effects of video games. These surveys reveal a lack of consensus of opinion among these groups, with age, gender and experience related differences among the general public reminiscent of historical patterns of generational divide over new media. To date, little research has examined the opinions of clinicians and clinical researchers who actually work with children and families with psychological issues. The current research seeks to address this gap via a survey of clinicians and clinical researchers regarding their attitudes toward video games potential impact on the mental wellbeing of children.

Consistent with previous research several hypotheses will be tested. First (H1), consistent with previous studies of both scholars and the general public, it is expected that clinicians will vary in their opinions of video games, demonstrating lack of consensus. Second (H2) it is hypothesized that older clinicians will demonstrate more negative beliefs about video games' harmfulness. Third (H3) it is hypothesized that female clinicians will demonstrate more negative believes about video games' harmfulness. Fourth (H4) it is hypothesized that clinicians with less gaming experience will demonstrate more negative believes about video games' harmfulness. Fifth (H5) it is hypothesized that personality variables related to greater neuroticism, greater pacifism and lower openness will be associated with more negative believes about video games' harmfulness.

2. Methods

2.1. Participants

Recruitment of participants is discussed below in the procedure section. Participants in the study included 109 clinicians and clinical researchers (academics doing direct empirical research on mental health issues influencing families, youth or children). The sample comprised of 75 females (68.8%) and 34 males (31.2%). Regarding ethnicity, the majority (69.7%) reported being Caucasian American, with 15.6% Hispanic, 6.4% African American, 4.6% Asian American and 3.7% "other." Regarding degree, 44% of the sample reported having a doctoral level degree, 47.7% reported having a masters level degree, 7.3% reported having bachelors level degrees and one participant did not report his/her degree. The majority of the sample held some form of license for clinical practice (79.9%). The mean age of the same was 39.81 (SD = 12.69).

2.2. Materials

All survey instruments described below used a 5-item likert scale and demonstrated adequate psychometric properties unless otherwise discussed.

2.2.1. Negative attitudes toward video games

An 8-item scale was used to assess clinicians' attitudes toward video games. These items were adapted from those used by Van Looy et al. (2013) with scholars and examples include "The addiction effects of video games on kids and teens are a problem for society" and "The effects of video games on youth violent assaults is a problem for society." The content of the items were intended to address a full range of mental health items rather than just aggressive behavior but also included positively worded items such as "Using video games in health interventions has potential." These items were mixed in with a larger survey (including the youth attitudes questions described below) to function as distracter items to reduce demand characteristics. There were 5 items related to negative attitudes toward youth, described below. Two additional items served as manipulation checks for unreliable responding. Respondents who answered these items incorrectly ("Please mark this item as '4'" and "Great white sharks make excellent family pets (answer truthfully, not humorously") were removed from the dataset (from an initial sample of 121, 12 were removed for unreliable responses based on the manipulation checks resulting in the final sample of 109). An additional 22 distracter items had no bearing on the study hypotheses. The attitudes toward games measure had a coefficient alpha reliability of .78 with the current sample. All items are presented in Table 1.

2.2.2. Negative attitudes toward youth

Negative attitudes toward youth were also assessed with a 4-item scale. These items assessed attitudes related to declining virtues in youth and included "Kids and teens today are more narcissistic than they were in previous generations" and "Youth violence is as high as it has ever been."[2] Coefficient alpha for this scale was .61.

2.2.3. Neuroticism

A 10-item survey of neuroticism was taken from the International Personality Item Pool (Goldberg et al., 2006).

[2] Youth violence has, in fact, decreased to 40-year lows (Childstats.gov., 2013).

Table 1
Descriptive results for clinicians' responses to video game items.

Question	Str. disagree (%)	Disagree (%)	Neutral (%)	Agree	Str. agree (%)
Q1: The overall impact of video games on society is negative	11	26.9	33.9	21.1	7.3
Q2: Using video games in clinical work has potential	1.8	3.7	21.1	52.3	21.1
Q3: The effects of video games on youth violent assaults is a problem for society	12.8	20.2	27.5	30.3	9.2
Q4: Video games can have harmful mental health effects on kids and teens	8.3	20.2	23.9	41.3	6.4
Q5: The way video games become part of our broader culture is more important than any negative or positive effect they may have on individual kids or teens	4.6	23.9	43.1	19.3	9.2
Q6: The addiction effects of video games on kids and teens are a problem for society	4.6	11.9	22.0	47.7	13.8
Q7: I see myself as a gamer	65.1	20.2	5.5	7.3	1.8
Q8: Using video games in health interventions has potential	2.8	0.9	15.6	48.6	31.2

Note: One response was missing for Q8, so percentages do not add up to 100%. Questions 2, 5, 7 and 8 were reverse coded for calculation of the attitudes measure.

Neuroticism items pertain to personality constructs that predispose an individual to experience worry, stress or down moods. These items were included to examine for potential personality influences on attitudes toward video games. Coefficient alpha for this measure was .79.

2.2.4. Openness

A 10-item survey of openness was also taken from the International Personality Item Pool (Goldberg et al., 2006). Openness items pertain to personality constructs that predispose an individual to try new things and have an open mind regarding new experiences. These items were included to examine for potential personality influences on attitudes toward video games. Coefficient alpha for this measure was .68.

2.2.5. Pacifism

A 36-item survey of pacifism was included given previous research linking pacifism to attitudes toward video games (Rothmund et al., in preparation). These items were taken from the nonviolence test developed by Kool and Sen (1984). This test involves forced-choice answer questions in which participants report their hypothetical response to various responses which could involve either retribution for perceived slights or non-aggressive responses. Coefficient alpha for this measure was .94.

2.2.6. Demographics

Participants were also asked about their age, gender, ethnicity, degree, license and hours spent video gaming in a typical week over the previous 6 months. This final variable demonstrated significant skew given a high frequency (56.9%) of clinicians who reported no video game exposure at all in a typical week. This skew was not fixed using a square-root transformation, which was not surprising given that zero hours was the modal answer. Because OLS regression is generally robust to non-normal variables (Wilcox, 2012) this variable will still be considered in analyses, although analyses will be run with and without this variable.

2.3. Procedure

Surveys were put online through SNAP software. Participants were recruited from a variety of sources to attempt maximum representativeness. This included listserves for clinical professionals such as the APA's early career listserve as well as social media pages for clinicians including social workers, clinical psychologists and psychiatrists. This was supplanted by identifying clinical researchers experienced with children, youth or families through the PsycINFO data base using subject search terms (youth OR adolescent* OR child* OR famil*) and (mental health). The corresponding authors of the first 200 studies so identified were solicited via email. The resultant sample is, of course, non-random. No compensation was offered for participation.

Recruitment materials made no mention of video games and merely stated that the survey regarded a variety of issues influencing the social well-being of youth. This was done to avoid demand characteristics and hypothesis guessing.

Data was analyzed using SPSS software. OLS (ordinary least squares) regression was used to assess age, gender, video game experience, attitudes toward youth and personality variables influence on attitudes toward video games.

3. Results

Descriptive results for the clinicians' responses to the video game items are presented in Table 1. The first thing to note is that this sample, by and large, did not identify with gaming. Only 9.1% agreed or strongly agreed (henceforth "agreed") with being a "gamer." This reinforces the result regarding game exposure over the previous 6 months in an average week wherein the mode response (56.9%) was zero. This sample of clinicians was not heavily involved in the gaming community.

Regarding attitudes, descriptive results present mixed feelings among clinicians regarding video games. By far, clinicians worried most about the potential addictive effects of video games with a full 61.5 agreeing with concerns about addiction. Clinicians also commonly worried (47.7%) about the potential for video games to have negative mental health influences on children. More divergence was seen on the issue of video games influencing violent youth assaults with 39.5% expressing this worry and a near comparable number, 33%, disagreeing this was a concern. Only 28.4% agreed that the overall impact of video games on society is negative. Clinicians were also enthusiastic about the potential for use of video games in clinical work (73.4%) and health more generally (79.8%).

3.1. Predicting attitudes toward video games

To examine the issue of variables predicting clinicians' negative attitudes toward video games an OLS regression was run. Mean replacement was used for missing data (results did not significantly differ when regression equations were rerun with missing data excluded pair wise or list wise with the exception of neuroticism noted below). Predictors included age, gender, neuroticism, openness, pacifism, negative attitudes toward youth and video game exposure. Regression results are presented in Table 2.

Results for the overall regression model were significant, [$R = .641$, $adjR2 = .370$, $F(7, 101) = 10.057$, $p < .001$]. In this regression equation, negative attitudes toward video games were

Table 2
Prediction of negative attitudes toward video games among clinicians.

Variable	Beta	95% confidence interval	*t*-test	Significance
Age	.207	(.020, .380)	2.476	.015*
Gender	.420	(.252, .563)	4.925	.000*
Neuroticism	−.160	(−.337, .028)	−1.985	.050*
Openness	−.071		−0.868	.387
Pacifism	−.017		−0.208	.836
Negative attitudes toward youth	.408	(.239, .553)	5.020	.000*
Video game use	−.055		−0.699	.486

* Denotes statistical significance.

predicted by age (β = .207), female gender (β = .420) and negative attitudes toward youth (β = .408). With mean replacement for missing data, neuroticism also negatively predicted negative attitudes toward video games (β = −.160). However, this variable was non-significant under pair wise or list wise deletion and the confidence interval crossed zero under mean replacement. Thus results for this variable were considered unreliable and are treated as non-significant henceforth. Video game exposure was not a significant predictor of negative attitudes toward video games. Removing this variable due to skew and rerunning the regression equation did not produce different results for the other variables.

4. Discussion

The potential influence of video games on the wellbeing of youth continues to be vigorously debated in the scholarly community, among policy makers and the general public. Whether or not a consensus exists among scholars, clinicians or other groups has been one ongoing facet of this debate. Current results suggest that, among clinicians and clinical researchers, no clear consensus exists, one way or another. Opinions about video games varied, and tended to be predicted by older age, female gender and negative attitudes toward youth themselves.

The current sample of clinicians, overall, did not identify heavily with gamer culture. Less than 10% reported considering themselves "gamers" and a majority reported playing zero hours of video games in a typical week over the past 6 months. Given past results linking unfamiliarity with video games to negative attitudes toward such games (Harris Polls, 2013; Przybylski, 2014a) it would not be unreasonable to expect relatively negative attitudes among this sample of clinicians. However, clinicians' attitudes toward video games were actually rather nuanced. As a whole, they tended to worry more about issues related to addiction and potential mental health issues. This is particularly interesting given that, although results generally indicate the potential for addiction in a small percentage of youth, evidence for direct effects of video games on mental health problems is low (Desai et al., 2010) and research does not support the stereotype of games as emotionally unstable or socially inept (Kowert, Festl, & Quandt, 2014).

Regarding the potential for video games to promote youth violence, although results were higher than for Van Looy et al.'s (2013) sample of media scholars, results generally indicated that clinicians did not come to a consensus on this issue with a majority either skeptical or undecided. Differences in percentage figures between the current sample of clinicians and Van Looy's sample of media scholars may reflect relative differences in familiarity with video games between the two groups. Nonetheless, the results were supportive of those of Van Looy et al. in that it is not possible to claim that clinicians have reached a consensus of concern regarding the possible influence of video games on youth violence (H1). This is a particularly important finding as some scholars have observed that claims to the contrary, if discovered to be unfounded, can actually damage the reputation of the field as too alarmist rather than carefully objective (Hall, Day, & Hall, 2011).

Clinicians who were older (H2) and female (H3) were more likely to express negative attitudes toward video games. These results support those of Przybylski (2014a) with the general public. Current results also indicated that clinicians who held more hostile attitudes toward youth (believing them to have more behavioral problems now than in the past, despite evidence to the contrary, see Childstats.gov, 2013) also held more hostile attitudes toward video games. This appears to be a novel finding. By and large the combination of age and hostile attitudes toward youth provide evidence for arguments that concerns about new media often follow along generational conflict lines, with new media disparaged by older adults unfamiliar with the media and perhaps concerned about a loss of control over society to youth. This observation is also important given the likelihood that professional advocacy organizations (such as the American Psychological Association or American Academy of Pediatrics) produce policy statements negatively commenting on new media wherein those policy statements are particularly influenced by older adults who are relatively less involved with the new media. Seeking input from younger adults or youth themselves may help reduce *warning bias* (the tendency to overproduce error-prone warning policy statements on new media) in professional organization policy statements (see Ferguson, 2013).

Thus hypotheses 1–3 (H1–H3) of the study were supported. However, H4 and H5 were not. Gaming experience was not specifically predictive of negative attitudes toward video games. This result was surprising. The high skew (mode response of zero hours at 56.9%) may have produced relatively low variability, influencing the predictive utility of this variable. Video game exposure did not correlate particularly highly with either age or gender in this sample (r = −.140 and .060 respectively, both non-significant), ruling out collinearity as an explanation. Personality variables also did not predict attitudes toward video games, contrary to hypotheses. The present data did not replicate the findings for pacifism from Rothmund et al. (in preparation) although this may be understood in terms of a difference between measures (pacifism as an individual approach to conflict in the present manuscript as opposed, perhaps, to an aversion to representations of violence in culture). From the current data it appears that demographic characteristics such as age and gender, as well as hostile attitudes toward youth are the best predictors of negative attitudes toward video games. Thus, the debate over video games may best be conceptualized as a generational conflict rather than one dependent upon individual predispositions and personalities.

4.1. Practical implications and warning bias

As noted above, the observation that concerns about new media tend to fall along generational lines have one obvious practical ramification to the extent that warnings about new media are

typically released by organizations under the control of older adults, including professional advocacy groups such as the AAP or APA. Some have noted that media-based moral panics tend to go through a repetitive cycle of concern, then repudiation of that concern, often with the reputation of those who give warnings damaged (Gauntlett, 2005; Kutner & Olson, 2008). Historical examples include the Payne Fund studies on movie violence in the 1930s, Fredric Wertham's crusade against comic books in the 1950s and congressional hearings on rock music in the 1980s led by Tipper Gore and the Parents Music Resource Center, which targeted acts ranging from Cyndi Lauper to Twisted Sister, mainly considered harmless classics thirty years later (Bowman, 2014; Kutner & Olson, 2008).

To this extent, professional groups and individual scholars may experience *warning bias*, that is, the tendency to rush to warn the general public about the dangers of a new media before the data are clear and the field has a chance to carefully examine that data. Even within scientific fields, initial data are often highly supportive of a new hypothesis, only to experience diminishing returns over time (see Ioannidis, 2005). Particularly in a research field that taps into culture-war and generational divide struggles, it may take years or decades to truly sort out the data. And during periods of moral panic, society may incentivized harm-based conclusions from social scientists that distort initial research results (Gauntlett, 2005). Thus, patience in making conclusive statements about media effects may be key to reducing damage to the reputation of media psychology as a scholarly field (Hall et al., 2011).

It is important to note that warning bias undoubtedly occurs in good faith with scholars and professional groups genuinely concerned about the welfare of children. However, professional advocacy societies may also see short-term advantage in promoting their own members as solutions to a pressing societal problem. For instance, one 2004 press (American Psychological Association, 2004) release from the American Psychological Association trumpeted "Violent Video Games – Psychologists Help Protect Children from Harmful Effects." Such self-congratulatory press-releases arguably are one indication of warning bias, particularly to the extent that such warnings are seen as promoting the importance of the field itself. Or, put more simply, policy statements by professional advocacy groups such as the APA and AAP should perhaps not be viewed as neutral, objective, uninvested products, but rather as professional promotional materials, often with limited scientific merit (Ferguson, 2013; Hall et al., 2011).

This state of affairs can likely be ameliorated with attention to the historical patterns of warning bias over new media. Concerns over media appear to fit a pattern in which heightened and even dramatic statements by some scholars are common, only to gradually be eroded by increasing numbers of more skeptical scholars. With violent video games, that period of advancing skepticism seems to have arrived (Consortium of Scholars, 2013; Van Looy et al., 2013). Had professional groups such as the APA and AAP delayed policy statements by a decade, they might have avoided the predicament of defending policy statements coming increasingly under question.

Several suggestions may help reduce this potential in the future. First, professional advocacy organizations should avoid policy statement task forces comprised of invested scholars on either side of a debate. Scholars should not be asked to review their own research or those of competing scholars. Further, even outside scholars who have commented publically on media through news media quotes, policy advocacy or amicus briefs should be eliminated from tasks forces through a voire dire like process. Second, once a policy statement is proposed, skeptical scholars should be invited to formally propose a counter-statement and this should be published alongside the policy statement. Third, and perhaps more radically, professional advocacy groups may need to be aware that research fields often display an initial convergence on a popular theory, only to experience a "decline effect" or replication crises. Premature policy statements advocating a "harm" perspective can ultimately do more harm than good (Steinberg & Monahan, 2011).

4.2. Implications for practitioners

Practitioners are often placed in the difficult position of not knowing how to respond to parents who may be concerned about the potential impact of video games on their children. It may be important to understand that both parents' fears and practitioners' own beliefs may be shaped by fear-based narratives from news media, as well as by the problematic policy statements which have arguably been prematurely disseminated by professional advocacy organizations. Indeed, results from both this survey as well as surveys of the general public (Przybylski, 2014a) suggest generational effects are in play regarding fear of video games and these may take some time to fully resolve.

Regarding parental questions about video games, it is probably best for practitioners to be cautious in their responses. The most up-to-date meta-analyses regarding the influence of video games' influence on children and teens mental health, including aggression, suggests that across studies the effects are minimal, particularly when other variables such as family environment, personality and gender are controlled (Ferguson, in press). Thus, practitioners should be careful to indicate that, despite much hype in the news media, evidence does not suggest that video games have a profound influence on most children's behavior. In particular, claims of dramatic effects, such as on mass shootings, can be rejected as "myth" (Fox & DeLateur, 2014), and there is little evidence that children's mental health overall has declined during the video game epoch.

Such advice does come with two caveats, however. First, evidence does suggest that video game use (whether violent or non-violent) like many other activities is best done in moderation. For instance, several studies indicate that light to moderate gamers tend to have the best mental health outcomes, compared to either heavy gamers or non-gamers (Allahverdipour, Bazargan, Farhadinasab, & Moeini, 2010; Kutner & Olson, 2008; Przybylski, 2014b). Thus, it is certainly reasonable for practitioners to advise parents to set limits on video game play so that gaming is balanced with other social and academic responsibilities. Further, practitioners are advised to suggest to parents that they take the time to game with their children. Current results suggest this is unlikely to cut down on violent exposure, although it is not clear that this is a meaningful practical goal anyway. However, time spent with children gaming may help parents become more informed about video games, reduce their fears of video games (Ivory & Kalyanaraman, 2009) and give parents greater credibility with their children should they seek to restrict a particular game due to its content.

The second caveat is simply that no one knows their child better than the parent themselves. Although evidence does not suggest the presence of predictable, general effects due to video game content, that does not exclude the potential for idiosyncratic effects that are difficult to document in research studies. Even violent content influences may be difficult to predict, both increasing and decreasing mild aggression in various children (Unsworth, Devilly, & Ward, 2007). Where parents have concerns, practitioners can be active in helping parents develop a guided plan of gradual game introduction keyed to specific behavioral and academic outcomes. This is likely more productive than fear-based messages focused on total abstinence from violent video games (itself a

construct so broad and ill-defined as to have little clear conceptual meaning).

Practitioners may also assure parents that objecting morally to the content of a specific game is still well within their rights. Practitioners can help parents to understand that moral concerns about a game's content are different from concerns that a game may be harmful, but are no less legitimate. Thus parents should be supported in their decisions to restrict video game content due to moral objections, even if such content is not necessarily harmful from a public health perspective.

Whatever their personal beliefs about video games, practitioners have considerable potential influence in quelling the moral panic over video games due to news media, and the premature dissemination of alarmist messages from professional advocacy organizations. Practitioners would be well advised to explore the historicity of moral panics over previous media, ranging from comic books, to rock and roll to Harry Potter to Dungeons and Dragons and help parents put current fears into that historical perspective. This is not to say that parents' concerns should be dismissed, only that they are put into perspective with moderation, rather than abstinence, emphasized as the most positive alternative.

4.3. Limitations and future directions

The prime limitation of the current study is with the sample which is non-random. It is possible that the current sample of clinicians may not reflect the attitudes of clinicians more generally. However, given relative lack of gaming experience among the current sample, it is unlikely that any sampling bias benefited skepticism regarding video game effects. Further, as a correlational study, the current study also cannot address causality. Lastly, as noted the video game attitude questions were developed from Van Looy et al. (2013), which appeared to be reasonable, if worded strongly. It is likely that different proportions of scholars might agree to less or more strongly worded statements. It may be possible that fewer scholars would respond to more strongly worded statements (e.g. "Videogames help cause mass shootings and other acts of serious violence") as opposed to less strongly worded statements (e.g. "Videogames may increase some mildly aggressive behaviors in some players but not others.") Exploring this with a range of different questions may help us to best understand scholarly opinions on this issue.

It would be valuable for future studies to continue a *sociology of media research* approach, understanding how clinicians, researchers, politicians and the general public come to decisions about media effects. Understanding the political process and how politicians come to promote anti-media legislation (see, for example, Brown v EMA., 2011) and the incentive structures for politicians to do so would be particularly valuable. Further investigations of scholars and clinicians should also be conducted. Additionally, the concept of media literacy is often promoted for families and children, but it may be worth investigating whether a different sort of media literacy, particularly focused on historical patterns of media moral panic and extreme statements by scholars and scholarly groups may help reduce the likelihood of scholars becoming involved in promoting media panics in the future (Ferguson, 2013; Hall et al., 2011).

The current study sought to examine clinicians' attitudes toward video games and their potential to harm children. Results indicated that clinicians' attitudes diverged considerably, were nuanced and tended to reflect historical generational and gender divides such as with previous media panics. It is hoped that the current article helps to advance discussions and understandings of the sociology of media effects research.

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