Review Article

Social science's curious war with pop culture and how it was lost: The media violence debate and the risks it holds for social science

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A B S T R A C T

For nearly half a century, psychologists, pediatricians and psychiatrists have studied the potential impact of media violence on aggression and societal violence, particularly among youth. Despite hundreds of studies, scholars have failed to find consensus on potential effects. Nonetheless, professional organizations such as the American Academy of Pediatrics and American Psychological Association have released policy statements conclusively linking violent media to societal concerns. In reaction, some scholars have accused these professional groups of distorting evidence and failing to inform the public of the inconsistent nature of studies in this field. The current paper reviews recent research on media violence. It concludes that caution is recommended in public statements regarding media effects and that professional groups risk serious reputation damage with policy statements calling for behavioral change without clear reflection of the current evidence-base of the research. Recommendations are provided for practitioners and for science policy.
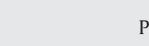
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1. Introduction

The debate on media violence within the scholarly community has waged, in modern times, for at least fifty years. Despite that widespread agreement on media violence effects among scholars never seemed to

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entirely coalesce, scholarly guilds and advocacy organizations, such as the American Academy of Pediatrics (AAP) (Council on Media and Communication, 2009), American Psychological Association (APA, 2015), or the Society for the Psychological Study of Social Issues (SPSSI, 2014) released policy statements conclusively linking media violence to aggression and violence in society. In each of these cases, professional guilds and advocacy organizations released statements ignoring considerable research conflicting with the policy statements. In many cases, these policy statements may have been written by or influenced by individuals with potential conflicts of interest. Further, the statements rarely acknowledge research examining the benefits of media use, including violent media. Each of these organizations have also endorsed potentially censorious or regulatory efforts directed at media, despite judicial and constitutional prohibitions against the same. This combination of citation bias in public policy statements (i.e. failure to cite or recognize research contradicting the policy statements) and calls for regulatory efforts that are unconstitutional arguably risk damaging the reputation of these professional organizations and the media psychology endeavor far more than it does the media industry. Moreover, it contradicts the ethical, professional and social obligation to provide the public, in this case parents, with sound, evidence-based guidelines on the risks and potential benefits of activities that influence child development. We argue in this review that the conclusions on the dangers of media violence are unsubstantiated by rigorous scientific research.

2. A brief overview of media violence research

Meta-analyses of both research on television/movies (Paik and Comstock, 1994) and video games (Anderson et al., 2010; Ferguson, 2015a) suggest there may be several hundred studies in each of these realms, though of varying and sometimes controversial quality (Savage, 2004). Despite the size of this research field, considerable concerns remain regarding endemic methodological quality problems for the field, particularly when such quality limitations have been shown to be associated with spurious effects (Ferguson, 2015a; Savage and Yancey, 2008).

2.1. Meta-analyses of results

Regarding individual studies, there are certainly studies that find evidence for relationships between media violence and aggression, but there are also a great many (and potentially increasing) number of studies that do not find evidence for such links, or suggest even that exposure to violent media may be inversely related with some forms of aggression (Colwell and Kato, 2003; Ferguson and Olson, 2014; Feshbach and Tangney, 2008; Breuer et al., 2015). With such contradictions between individual studies, scholars have sometimes turned to meta-analyses. Meta-analyses of media violence literature suggest that effects, averaged across studies, fall somewhere in the range of, roughly, $r = 0.00$ through $r = 0.20$, effects that are either null or weak (Paik and Comstock, 1994; Anderson et al., 2010; Ferguson, 2015a; Savage and Yancey, 2008; Kanamori and Doi, 2016; Sherry, 2007). These observations are made with several further caveats, also identified through meta-analyses namely:

First, as scholars move from studying artificial tests of aggression in the lab to real-world aggression and violence, effect sizes diminish, ultimately approximating zero (Paik and Comstock, 1994; Ferguson, 2015a; Savage and Yancey, 2008). Second, the use of unstandardized measures of aggression results in higher effect sizes (Ferguson, 2015a) as does overuse of bivariate rather than controlled effect sizes (Kanamori and Doi, 2016). Third, citation bias (the tendency for authors to cite only studies supporting their personal views) is associated with higher effect sizes (Ferguson, 2015a). Fourth, publication bias is a clear problem for the field (Ferguson, 2015a). Thus, it is difficult to conclude from meta-

analysis, that media violence has a reliable or profound influence on youth behavior.

2.2. Societal level and population-based data

One other source of data to consider is societal level data. With societal level data, researchers track society's use of violent media, alongside societal problems theoretically related such as homicide levels, violent crime, youth violence or bullying and often make direct claims regarding their influence (Strasburger, 2007). Data do not support the association between consumption of media violence and violence in society (Ferguson, 2015b; Markey et al., 2015a). Indeed, evidence has now clarified that, if anything, the release of violent movies (Dahl and DellaVigna, 2009) and videogames (Markey et al., 2015b) are correlated with decreases in crime. These results are consistent with routine activities theory which suggests that occupying the time of people at high risk for offending gives them less time to offend. Graphs representing the correlation between movie violence consumption and homicides and video game violence and youth violence rates are presented as Figs. 1 and 2 respectively.

Fig. 1 plots the frequency of violence in top grossing movies across the 20th century against homicide rates (see Ferguson (2015b) for methodology). As can be seen, these two phenomena did appear to correlate in the mid-20th century. However, both before this period as well as after 1993, movie violence consumption and homicide rates were inversely correlated. Similarly, as seen in Fig. 2, for the years in which data are available consumption of violent video games and youth violence rates are inversely related. Societal-level correlational data are just one source of information, of course but coupled with the increasing replication crisis among laboratory, longitudinal and correlational studies, point to overall weak data for assumptions of violent media effects.

3. Theories of media violence effects

3.1. Hypodermic needle models

Theories of media effects vary to the extent that they posit media as a primary driver of behavior or a tool used by agentic individuals toward specific motivational ends. Hypodermic needle models fall into the former category. The name derives from the basic view that behaviors are injected into viewers by the media, who passively model viewed behaviors in a predictable and unidirectional way. Indeed, proponents of such a theory may claim that the effects of violent media are no different from experiencing violence in real life (Bushman and Huesmann, 2014).

Hypodermic needle models are obviously congruent with the fears society may have over new media, as they tend to emphasize that objectionable media will create similarly objectionable behaviors in young viewers. Such models may allow for some moderator effects, such that some viewers may be influenced more than others, but generally take a "no one is immune" type of approach. At the same time these models have been critiqued for hidden assumptions within the model, such as that aggression is mainly a learned, cognitive process rather than an innate trait or stress response, that fictional media violence has the same impact on viewers as real-life violence, and that any level of aggression is "bad" (Ferguson and Dyck, 2012).

3.2. Motivational models

Motivational models posit that the media user is at the center of the media experience. Such models, including Uses and Gratifications (Sherry et al., 2006) and Self-Determination Theory (Przybylski et al., 2010), suggest that individual users select media in order to meet specific motivational or emotional end goals, and that these may differ from user to user. Thus, rather than a direct link between media exposure and resultant behavior, the user's motivation, selection of media, and processing of that media is more critical than the content of the