

## **How the Issue of Violent Video Games is Framed on the 'Net**

### **A Political Economy Perspective**

Abstract - In recent years, search engines have come under increased scrutiny due largely to the perception that they are becoming increasingly dominated by commercial interests, but work in this area is not supported by a substantive body of research. This study used a content analysis method to analyze the framing of an issue with substantial commercial ramifications: the effects of violent videogames. The study provides evidence that search engines present a diversity of opinions and interests, a finding that challenges popular academic belief on the issue. The study is useful in understanding the political economy implications of commercial search engines.

### **Political Economy of Search Engines**

As the Internet continues to evolve as a medium, so do the various opinions and beliefs on the social implications of this medium. The initial optimism that accompanied the Internet during its formative years hailed it as a democratizing medium that would facilitate a positive reconstruction of society. This school of thought, sometimes referred to as techno-populism, has been counterbalanced by an increasingly vocal body of criticism that believes the Internet will ultimately be appropriated by dominant interests, that will simply reassert power relationships in society. According to McChesney (2000), the Internet will "likely be dominated by the usual corporate suspects."

In the past several years, the growing influence of commercial search engines has resulted in greater scrutiny of the political economics of the industry. Search engines have come under scrutiny for several reasons: First, they are becoming increasingly embedded in the daily online activities of users. According to the Pew Internet and American Life Project (2005), 84% of Internet users have used a search engine at some point and on any given day. Furthermore, the majority of search engine use takes place in four commercially-driven search engines: Google, MSN, Yahoo!, and AOL (Nielsen, 2006). To this date, no non-profit or non-commercial search engine has emerged as a viable alternative.

One practice that is often criticized involves the inclusion of sponsored results. According to Hargittai (2004), sponsored link designations are sometimes ambiguous. This notion is substantiated by research from a Pew Internet and American Life project (2005) survey project, which revealed that 62% of search engine users were unaware of a difference between paid and unpaid results. A focus group study of search engine users by Hotchkiss (2004) revealed drastically different results. In this study, 80% of users skipped sponsored listings and went directly to organic results. The Hotchkiss study also indicated discrepancies in judgment of sponsored listings between the major search engines, with Google users having the best understanding of which results were organic and sponsored.

Several academics have studied the social implications of search engines from a political economy perspective. Introna and Nissenbaum (2000) study concludes that there is a tendency on the part of search engines, to favor “popular, wealthy, and powerful sites at the expense of others.” Their conclusion is primarily based on research into search engine ranking and indexing methodology. Based on this methodology, they “predict” that search engine users are most likely to visit Web sites of organizations who A) have designers with the technical savvy to create search-friendly sites; and B) who have the financial resources to pay for placement in search engines and directories. Their conclusion is not supported by any empirical or anecdotal evidence, rather, it is based on an assumption that the existence of a certain type of methodology is intrinsically linked to influence by dominant interests.

Similarly, Hargittai's (2004) investigation into the framing of content on search engines and portals concludes that they are heavily influenced by commercial motives. Relying mostly on secondary research and economic theory, she concludes that the commercial nature of positioning on major portals negatively influences the overall quality of information that is available to users who are visiting these portals. Like Introna and Nissenbaum, she points to a positive association between financially powerful organizations and an ability to influence search engine rankings without referencing any anecdotal or empirical evidence.

A third study, by Hindman et. al (2003), distinguishes between retrievability (possibility of being seen) and visibility (likelihood of being seen). The study concludes that various categories of information are dominated by a small handful of sites, a situation they refer to as "Googlearchy." Although their research supports their hypothesis that a small group of sites exerts disproportionately high influence on search engine rankings, they do not provide further evidence that would necessarily associate these influential entities to dominant offline commercial or political organizations. Their study alludes to further examination into the nature of the sites, which allegedly shows a lack of any "hint of grass-roots flavor," but this conclusion is not supported by any data present in the article, nor do they provide any sort of methodology for how they focused on this component of the study.

Although there is a substantial body of theoretical discourse on the political economy of search engines, many of these findings are not supported by substantive evidence. This study explores the question of whether or not dominant commercial interests are really influencing the framing of issues through search engines. This study will use a content analysis method in order to study the framing of a commercially repercussive issue in a search engine. The issue that will be explored is the societal effects of violent video games.

### **Video Games and Violence**

According to a recent study by the Kaiser Family Foundation (2005), the average American child, age 8 – 18, spent nearly fifty minutes each day playing video games. Additional research Roberts et al. (1999; 2004) revealed that video game usage for children in the same age demographic nearly doubled between 1999 and 2004. As video game usage continues to grow, the effects of video game play have come under increased scrutiny. Much of the focus has been leveled on the potentially harmful effects of playing violent video games (VVG).

The emerging picture<sup>1</sup> is that the impact of violent video games on society is multi-faceted and complex. Although there is a substantial evidence that playing violent video games can be associated with short-term increases in aggressive behavior, there are substantial methodological critiques associated with these findings. The idea that VVGs

can unequivocally be held responsible for societal violence has been referred to as the “witch-hunt of the next century” (Kline, 2000). Furthermore, there is a body of research that points to potentially positive effects attributed to playing video games.

Behind the issue of VVGs is an industry that has become increasingly influential during the past two decades. In 2005, the video game industry’s net worth was estimated to total nearly \$10 billion US. This figure prompted one prominent US publication to estimate that it had surpassed Hollywood (Yi, 2004). The video game industry has a vested interest in the framing of the issue of VVGs.

### **Content Analysis Method**

As mentioned, much of the contemporary discourse on the political economics of search engines is not supported by a substantive body of qualitative or quantitative research. Content analysis is well suited for research in areas where there is not a substantial existing body of work because it combines both qualitative and quantitative methods (Weber, 1990). Furthermore, the research question’s focus is on the validity of claims made about the political economics of search engines. Content analysis can provide a fairly broad impression of a subject matter (Neuendorf, 2002) and is consequently well suited for this particular area of inquiry.

The latter point also accounts for a shortcoming of content analysis: content analysis provides a less in-depth view into a subject precisely because it is more generalizable (Neuendorf, 2002) than other methodologies. Its area of focus is on the manifest content that is available. In other words, the text is taken at face value. The latent meaning behind the content is often neglected in content analysis methodologies (Riffe, 1998). Compared with more qualitative techniques such as interviewing, content analysis techniques involve fewer ethical complications. It is also less obtrusive than many qualitative techniques, due to the fact that neither the producer nor recipient of the message under analysis, are aware of the analysis (Webb et. al, 1981; Riffe, 1998).

As Stemler (2001) points out, content analysis is useful for examining trends and patterns over time because the methodology is easily reproducible. If some of the leading critics are correct in their assumptions, search engine results should become

increasingly dominated by commercial interests over time. Given the highly dynamic nature of search engines, reproducibility of methodology should be considered even more important. Longitudinal studies of search engine results would help establish a sense of how the political economics of search engines are being affected over time.

A final shortcoming of the methodology is due to its limited scope. Shapiro and Markhoff (1997) point out that content analysis can provide a measure of relevance when it is triangulated with other measurements. In isolation, the findings from this study can provide somewhat anecdotal, isolated evidence of the hypothesis but in order to provide a more cogent argument, further research is needed into the subject matter.

## **Method**

We ran a Boolean query, "violence AND video games," in the Google search engine. The decision was made to focus on the Google search engine based on its high degree of popularity compared to other major search engines (Nielsen/Netratings, 2006). We were presented with 44,100,000 results. Of these results, the top 10 results composed the research population. This decision was based on a number of studies (Joachims et. al, 2005; Hotchkiss, 2004) that indicate most search engine users only review the top 10 results for any given query. The selected unit of analysis was the full text of the article<sup>2</sup> that the search engine result linked to.

In order to establish the presence of a message, the coder was asked to indicate whether or not the article contained a message indicating a positive association between VVGs and violence<sup>3</sup>; as well as a negative association. In order to determine whether or not the article took a particular stance on the issue, the coder was asked whether or not any message within the article explicitly supported either argument.<sup>4</sup> In order to analyze the degree to which the article supported either argument, the coder was asked to indicate whether the article either A) recommended some sort of limiting action on violent videogames; or B) supported less reactionism towards VVGs. The coding frame did not consider the possibility that a response activity would endorse increased exposure to VVGs and this decision was confirmed in the pilot testing phase. Next, the coder was asked to indicate the article's overall slant on the issue of exposure to VVGs. A simple three-degree scale was used to assess overall slant with an additional

“unknown” variable factored in. The final category involved classifying the type of organization that controlled the domain where the article was posted. ‘Control’ of the domain was equated to ownership of the domain name.

Two coders were used for the analysis. An initial training session was conducted over the telephone, in which the researcher helped explain the coding frame to the coder. Intercoder reliability for the category studying ‘presence’ of a relevant message was 85%; ‘support’ for a relevant message was 90%; and the category examining degree of support was 80%. Reliability for the category studying control of the domain was 90% and overall slant on the issue was 80%.

### **Analysis and Findings**

90% of results contained a message indicating a positive association between playing VVGs and an increase in violence. Furthermore, nearly half (N=4) of the articles supported arguments indicating a positive association between VVGs and societal violence. Only 40% of articles contained a message indicating a negative association between playing VVGs and an increase in violence. Overall, only 20% of articles supported a message indicating a negative association between VVGs and societal violence.

**Table 1**

<b>Message Content</b>	<b>N</b>
Contains argument - positive association	9
Supports argument - positive association	4
Contains argument - negative association	4
Supports argument - negative association	2
Support limiting action	4
Support less reactionism	3

Regarding the overall slant of the article, 40% indicated a positive association between VVGs and societal violence, while 30% were considered neutral. Only 10% of the articles maintained that VVGs do not lead to an increase in societal violence.

**Table 2**

**Overall slant of article**

	N
Violent videogames contribute to increased violence	4
Violent videogames do not contribute to increased violence.	1
There is evidence that suggests both.	3
Can not be determined.	2

A study of the organizations controlling the domains under analysis reveal that only 20% of the results were from domains controlled by commercial entities, and one of these (About.com) firmly supported a stance positively associating VVGs with societal violence.

**Table 3**

**Organizational Control of Domain**

	N
Trade Union (non-videogame)	2
Academic	3
Commercial	2
Non-profit	1
Media	2

**Discussion**

To recapitulate, there is a growing concern with the implications of increased commercialization of Internet search engines, largely stemming from the belief that they will be disproportionately favorable to dominant political and corporate entities. This study examined the framing of a contemporary issue in order to assess the credibility of this belief in a focused area. The societal effects of VVGs was chosen because the academic research on this topic was generally inconclusive, and because of the financial strength of the video game industry.

The content analysis method used in this study revealed a framing of the issue that was highly imbalanced against dominant commercial stakeholders. The overall message being communicated through the search engine was that VVGs are positively associated with an increase in violence. Further research into the nature of the organizations behind the message revealed that the space was dominated by non-commercial interests; and that the multi-billion dollar videogame industry virtually lacked any notable influence. The findings of this study seem to contradict conventional discourse on the political economy of search engines, which would theorize a greater influence by dominant commercial interests.

The study was highly focused on a particular issue and is not representative of the overall terrain of search engines. The study does provide anecdotal evidence that suggests a need for more research into the validity of claims about the political economy of search engines. A more comprehensive scope of research examining a broader range of commercially or politically-oriented themes would help provide a clearer picture of the reality behind the political economy of search engines. This study focused on how an issue was framed according to organic (non-sponsored) results. Most major search engines, including the search engine studied in this project, offer opportunities for paid placement in search engine listings. A more comprehensive inquiry into the framing of an issue would consider the role of sponsored listings in the habits of search engine users. Furthermore, the unit of analysis in this study was the article linked to from the search engine results; not the abstract that composes the result itself. Some studies (Hotchkiss, 2004) have shown the importance of weighing the abstract when estimating the likelihood of click-through. More research is needed into how users determine relevance in search engine listings, and make decisions about which results to select based on these conclusions. It should be additionally noted that the query used in the

sampling method was intuitively selected, but may not reflect popular usage. Follow-up research would more carefully consider the language employed by search engine users to study an issue.

In general, search engines are resources that are intended to provide the user with the most relevant results for a given query. If a search engine were to allow their results to be excessively influenced by commercial interests, it would negatively affect the brand of the search engine and provide other search engines with a competitive advantage. In other words, commercial search engines have a vested interest in ensuring that their results are the most relevant, regardless of the financial or political stature of the individual results. Claims about “corporate domination” of search engines would be more effectively aimed at the institutional levels in society, rather than on a technological component of society.

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## **Appendix**

1 - Many critics of violent video games work within a theoretical framework influenced by Bandura's (1986) social learning theory, which would conjecture that children would be inclined to imitate the practices that they engaged in while playing the violent video game. Several observational studies (Schutte et. al, 1988; Anderson & Dill, 2000) have shown a positive association between playing violent video games and short-term increases in aggressive behavior. A self-reported survey conducted by Anderson and Dill (2000) also seemed to indicate a positive association between playing violent video

games and aggressive behavior, as did Anderson and Bushman's (2001) meta-analytic review of 33 independent tests of the relation between video-game violence and aggression. Conversely, there are a number of academics who contend that there is no association between playing violent video games and increased aggression, as well as many academics who are critical of the studies showing a positive association between violent video games and aggressive behavior. Emes' (1997) literature review questions the reliability and validity of the procedures used to measure aggressive behavior and also emphasizes the lack of long-term studies in this area. Williams and Skoric (2005) longitudinal study of the cognitive and behavioral show no evidence that playing violent video games causes substantial increases in real world aggression. In addition, there are a number of theoretical approaches that stress the positive outcomes of playing video games. Catharsis theory (Feshbach & Singer, 1971) would suggest that playing violent video games might actually have a sedative effect on people. This theory has been somewhat substantiated by research from Graybill et al, (1987). Similarly, Chess (2005) suggests that for some, the structure in violent videogames might even "reproduce and reinforce the model of power of the Western penal system," as described by Michel Foucault.

2 - In the Google search engine, the abstract consists of the title tag; an excerpt that is drawn from either the page's description tag or the first several lines of actual visible content; and the Web page's URL. There is compelling evidence (Hotchkiss, 2004) that the abstract plays a key role in determining whether or not a user will click-through to the article. We decided to focus our analysis on the full article located on the page linked to from the search engine result because there was insufficient content available in the article's abstract to analyze the themes present in the content to an appropriate depth.

3 - A key parameter concerns the term "violence." We defined violence as applying to both the individual and societal levels. For instance, a study showing that exposure to violent video games could potentially lead to a short-term increase in aggressive behavior would be considered as a positive association between exposure to violent video games and an increase in violence. Similarly, an article that related violent video games with an increase in societal violence would also be construed as communicating a positive association between violent video games and an increase in violence.

4 - A key distinction in these initial categories was between *presence* of an argument and *support* for an argument. *Presence* of an argument was considered to be a neutral classification whereas *support* was a biased classification.

#### 5 – Coding Sample:

Title	URL
Violent Video Games Can Increase Aggression	<a href="http://www.apa.org/releases/videogames.html">www.apa.org/releases/videogames.html</a>
Violent Video Games: Myths, Facts, and Unanswered Questions	<a href="http://www.apa.org/science/psa/sb-anderson.html">www.apa.org/science/psa/sb-anderson.html</a>
Science News for Kids: Feature: The Violent Side of Video Games	<a href="http://www.sciencenewsforkids.org/articles/20040114/Feature1.asp">http://www.sciencenewsforkids.org/articles/20040114/Feature1.asp</a>
seattlepi.com Special Report: Violence and Video Games	<a href="http://seattlepi.nwsourc.com/videogameviolence/">seattlepi.nwsourc.com/videogameviolence/</a>
Goldstein, Jeffrey. "Does Playing Violent Video Games Cause ...	<a href="http://culturalpolicy.uchicago.edu/conf2001/papers/goldstein.html">http://culturalpolicy.uchicago.edu/conf2001/papers/goldstein.html</a>
Video Game Violence and Public Policy	<a href="http://culturalpolicy.uchicago.edu/conf2001/papers/walsh.html">http://culturalpolicy.uchicago.edu/conf2001/papers/walsh.html</a>
Violent Video Games Produce Violent Behavior	<a href="http://mentalhealth.about.com/cs/familyresources/a/vidgameviolence.htm">http://mentalhealth.about.com/cs/familyresources/a/vidgameviolence.htm</a>
BYU NewsNet - Research links violence to video games	<a href="http://newsnet.byu.edu/story.cfm/43928">newsnet.byu.edu/story.cfm/43928</a>
Violence in E-Rated Video Games	<a href="http://www.kidsrisk.harvard.edu/faqs3.htm">www.kidsrisk.harvard.edu/faqs3.htm</a>
The Truth About Violent Youth and Video Games - Game Revolution	<a href="http://www.gamerevolution.com/oldsite/articles/violence/violence.htm">www.gamerevolution.com/oldsite/articles/violence/violence.htm</a>

#### 6 – Coding Frame

1. Does the article provide an argument for why violent videogames lead to an increase in violence?
  - a. Yes
  - b. No
2. Does the article explicitly support an argument for why violent videogames lead to an increase in violence?
  - a. Yes
  - b. No
3. Does the article provide an argument for why violent videogames do not lead to an increase in violence?
  - a. Yes
  - b. No
4. Does the article explicitly support an argument for why violent videogames do not lead to an increase in violence?
  - a. Yes
  - b. No
5. Does the article support action that would limit access to violent videogames?

- a. Yes
  - b. No
6. Does the article support less reactionism to violence in videogames?
- a. Yes
  - b. No
7. What is the article's overall perspective on violence in videogames?
- a. Violent videogames contribute to increased violence
  - b. Violent videogames do not contribute to increased violence
  - c. There is evidence that suggests both.
  - d. Can not be determined.
8. What type of organization controls the domain
- a. Commercial
  - b. Non-profit
  - c. Media
  - d. Academic
  - e. Trade Union (non-videogame)
  - f. Trade Union (videogame)