

“Yes We Can”: How Online Viewership, Blog Discussion, Campaign Statements and Mainstream Media Coverage Produced a Viral Video Phenomenon

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Abstract

“Viral videos” – online video clips that gain widespread popularity when they are passed from person to person via email, instant messages and media sharing websites – can exert a strong influence on election campaigns. Unfortunately, there has been almost no systematic empirical research on the factors that lead viral videos to spread across the Internet and permeate into the dominant political discourse. This paper provides an initial assessment of the complex relationships that drive viral political videos by assessing the interplay between audience size, blog discussion, campaign statements and mainstream media coverage of the most popular online political video of the 2008 campaign – will.i.am’s “Yes We Can” music video. Using vector autoregression, I find strong evidence that the relationship between these variables is complex and multi-directional. More specifically, I argue that bloggers and members of the Obama campaign played crucial roles in convincing people to watch the video and in attracting media coverage while journalists had little influence on the levels of online viewership, blog discussion or campaign support. Bloggers and campaign members, in other words, seem to occupy a unique and influential position in determining the whether an online political video goes viral.

Keywords: Viral videos, YouTube, Media, Campaigns, “Yes We Can,” 2008 election

Introduction¹

Online videos have become an important part of the way that members of the public participate in and learn about the political process in the United States.² Sites like *YouTube* (<http://www.youtube.com>), *Metacafe* (<http://www.metacafe.com>) and *Daily Motion* (<http://www.dailymotion.com>) have become popular places³ for Internet users to not only upload their own politically-oriented videos but also to view political content posted by others. A recent survey of the online activities of the American public, for example, found that 8 percent of adult users have uploaded a video file to a website where other people can watch it (Madden, 2007) and *YouTube's* news and political director has estimated that nearly 10 hours of video are uploaded to *YouTube* every minute (Grove, 2008).⁴ Similarly, a recent study by the Pew Internet & American Life Project found that 27 percent of Internet users have gone online to watch speeches or announcements by candidates, 26 percent have watched online videos of interviews with candidates and 25 percent have watched campaign-related videos that did not come from a news organization or the campaigns themselves (Smith & Rainie, 2008).⁵

Online videos have also become an important tool for candidates to use in their efforts to win elections. Beginning with the 2008 presidential primary campaign, a strong presence on *YouTube* became a prerequisite for any serious candidate for national political office. Indeed, every major party candidate for president created a *YouTube* channel to post campaign-related videos and John Edwards, Hillary Clinton and Barack Obama even used *YouTube* videos to announce their candidacies. During the general election, both Barack Obama and John McCain devoted a significant amount of time and energy to communicating through *YouTube* – with Obama posting over 1800 videos on the site and McCain posting over 300. Presidential hopefuls, however, were not alone in relying on the site to get their

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² The data are available from the author upon request. In addition, the data will be uploaded on the *Journal of Information Technology & Politics'* Dataverse site (<http://dvn.iq.harvard.edu/dvn/dv/jitp>) in October 2009.

³ The popularity of these online video sites is the result of the convergence of three separate trends: cheap and easy to use video cameras and video editing software, the expansion of virtual communities and a desire for unfiltered information (Grossman, 2006; Heldman, 2007).

⁴ Other estimates have suggested that about 200,000 three-minute videos are added to *YouTube* every day (Pew, 2008). In July 2008, approximately 91 million Americans watched at nearly 5 billion videos on *YouTube* – with the typical viewer watching 55 videos on the site in that month (Rasiej & Sifry, 2008).

⁵ Overall, the Pew survey found that 35 percent of Americans have watched online videos related to the 2008 campaign.

message out. Over 70 candidates for various local, state and national offices created *YouTube* channels before the elections in November.⁶

The online political videos posted on the Internet by members of the public and candidates for office can gain widespread popularity when they are passed from person to person via email, instant messages and media sharing websites. If these so-called “viral videos” are frequently discussed in the blogosphere, supported by a candidate’s campaign and widely covered in the mainstream media, they can exert a strong influence on the dynamics and outcomes of elections. Jim Webb’s campaign for the Senate in 2006, for example, received a huge boost in the polls, attracted support from the Democratic National Committee and tripled their campaign contributions after posting a video of George Allen calling an Indian-American man a “macaca” on *YouTube* (Scherer, 2006). Similarly, an anonymously produced⁷ *YouTube* video (entitled “Vote Different”) in which a woman wearing an Obama campaign logo throws the sledgehammer through a screen playing a clip of Hillary Clinton attracted over 3 million views in less than a month, received widespread attention from national news outlets and prompted a series of statements by both the Clinton and Obama campaigns (Marinucci, 2007).⁸

Despite their ability to transform election campaigns, there has been almost no systematic empirical research on the factors that lead viral videos to spread across the Internet and permeate into the dominant political discourse.⁹ As a result, little is known about how online viewership, blog discussion, campaign statements and mainstream media coverage interact to produce viral political videos. Do journalists, for example, play a critical role in creating a viral video phenomenon by discussing the clips that they see during their own searches of the Internet – regardless of how many other viewers the videos have attracted – or do they only cover an online political video after it achieves some critical mass of viewers? Similarly, do bloggers lead the way in producing viral videos – by channeling online traffic to

⁶ Not all of the election-related activity on *YouTube* in 2008, however, was focused on candidates. Campaigns for ballot initiatives and propositions from around the country also became the subjects of countless online videos. Most notably, both opponents and supporters of California’s Proposition 8 relied heavily on online videos to reach out to voters (Garrison, 2008).

⁷ The video’s creator – Philip de Vellis – eventually came forward and claimed credit for making and posting the video (Marinucci, 2007).

⁸ In an interview with Larry King, Obama himself addressed the video and said, “Well, the – we knew nothing about it. I just saw it for the first time. And, you know, one of the things about the Internet is that people generate all kinds of stuff. In some ways, it’s – it’s the democratization of the campaign process. But it’s not something that we had anything to do with or were aware of and that frankly, given what it looks like, we don’t have the technical capacity to create something like that. It’s pretty extraordinary” (<http://transcripts.cnn.com/TRANSCRIPTS/0703/19/lkl.01.html>).

⁹ Academic researchers have been much slower to assess the dynamics of viral videos than those in the business world. A little soaking and poking on the Internet, for example, will reveal hundreds of “viral marketing” firms that specialize in attracting attention for commercially-produced videos.

and alerting journalists about new and interesting videos – or do they merely follow the pack of Internet users and mainstream media reporters who find online videos on their own?

In an initial effort to specify exactly how online political videos “go viral” and change the dynamics of political campaigns, this paper asks: what is the relationship between audience size, blog discussion, campaign statements and mainstream media coverage of an online political video? Using vector autoregression to analyze the data from the most popular viral political video of the 2008 primary campaign – will.i.am’s “Yes We Can” music video – I find strong evidence that the relationship between these variables is complex and multi-directional. More specifically, I find that bloggers and members of the Obama campaign played crucial roles in convincing people to watch the video and in attracting media coverage while journalists had little influence on the levels of online viewership, blog discussion or campaign statements. Bloggers and campaign members, in other words, seem to occupy a unique and influential position in determining the whether an online political video goes viral.

Literature Review

Despite the dearth of empirical research on the specific process of “going viral,” large bodies of literature on the media, the blogosphere and election campaigns provide a number of clues about what might produce a viral political video. In this section, I draw upon these studies to spell out some initial expectations for the interactions between online viewership, blog discussion, campaign statements and mainstream media coverage. Based on the existing research, I predict that online views, blog discussion, campaign statements and mainstream media coverage are likely to be deeply intertwined and each probably exerts a strong influence on the others (see Figure 1). Put differently, a viral political video is most likely the result of a complex and multidirectional interplay between the actions of Internet users, bloggers, campaign members and journalists.

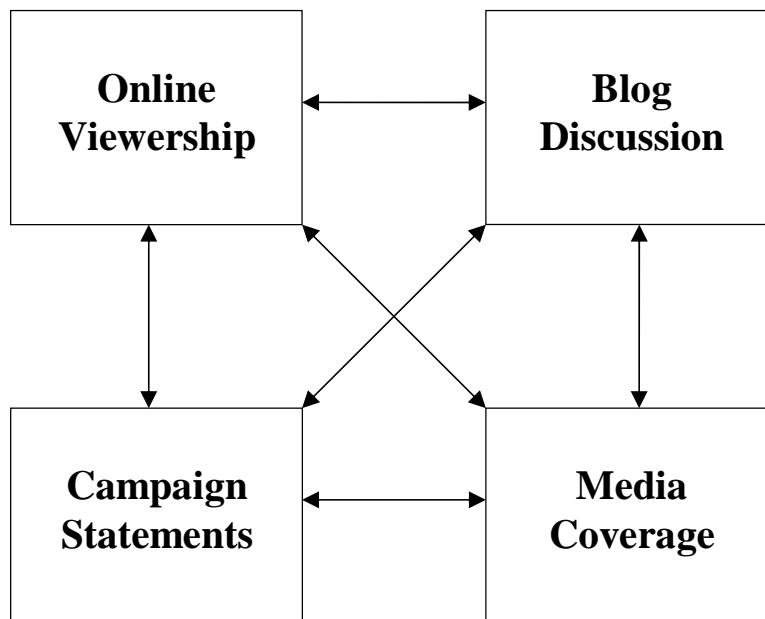


Figure 1 – Predicted Relationships between Online Viewership, Blog Discussion, Campaign Support and Media Coverage

Media's Influence on Audience Size, Blog Discussion and Campaign Statements

A long tradition of research in mass communications on the so-called “media agenda setting hypothesis” suggests that mainstream media coverage of an online political video will increase the number of people who watch it online and the number of bloggers who write about it on their blogs. In its most basic form, the media agenda setting hypothesis states that media coverage — by providing the public with cues about the significance of various political issues — will exert a strong influence on the relative importance that the public attaches to these issues. Beginning with the groundbreaking work of McCombs and Shaw (1972), this fairly simple proposition has been tested using a wide variety of research designs and has been expanded upon to include the influence of a large number of moderating and intervening variables (Zhu & Blood, 1997). Regardless of the methods used, however, most studies of the media agenda setting have found a strong relationship between the media and public agendas. Indeed, in his review of the literature on the media agenda setting hypothesis, McCombs (2000) concludes that, “The power of the news media to set a nation’s agenda, to focus public attention on a few key public issues, is an immense and well documented influence” (1).

The media agenda setting hypothesis implies that mainstream media coverage of an online political video will increase the number of people who watch the video. When politically attentive members of the public pick up a newspaper or tune in to a television news broadcast and learn about an online political video, they are likely to think that the video is important and worth their attention. The interest generated by media coverage will lead many of the technologically sophisticated members of the audience to search out the video on the Internet.¹⁰ The number of views for the video should, therefore, quickly rise after mainstream media coverage of the video. In short, when journalists mention a video in their discussions of political events, the people exposed to the coverage are probably more likely to search out and watch the video online – thereby driving up the viewership statistics.

Although the media agenda setting hypothesis was formulated to describe the relationship between the media and public agendas, there are two reasons to expect that it will also account for the relationship between what the media covers and what bloggers blog about. First, political bloggers rarely do any original reporting and, as a result, they tend to

¹⁰ Print and broadcast reports are unlikely to provide audiences with specific URL’s for the online videos they discuss. As a result, those interested in watching the full and unedited versions of online videos are forced to locate it by themselves. There are two methods that Internet users are likely to employ in their searches. First, many Internet users probably type the video’s title or subject into a search engine, such as *Google* (<http://www.google.com>) or *Yahoo* (<http://www.yahoo.com>), and hope to get results that will lead them to a site where they can watch the video. Second, some Internet users may bypass general search engines altogether and use the various searching features found directly on the homepages of video hosting sites such as *YouTube*, *Metacafe* or *Daily Motion*. Regardless of the specific mechanism they use to locate online videos, interested audiences have to invest some time and energy in order to find the online videos they learn about through traditional media coverage.

rely primarily on established media outlets for their information (Haas, 2005). Adamic and Glance (2005), for example, found that political blogs linked to news articles more than any other kind of site during the 2004 campaign and Reese et al. (2007) found that nearly half of the links on news related blogs pointed to mainstream media sites.¹¹ Second, political bloggers are likely to discuss the events presented in news coverage on their blogs because they view themselves as a “fifth estate” (Cornfield et al., 2005). McKenna and Pole (2004), for example, find that A-list political bloggers act as “watchdogs” for the coverage presented in the mainstream media and McKenna (2007) finds that so-called “policy bloggers” frequently fact check the media’s coverage on the issues they blog about. Because bloggers seem to follow mainstream media coverage so closely, online political videos should find their way into blog posts when the mainstream media chooses to talk about them.

The influence of the mainstream media does not, however, stop with Internet users and bloggers. Research on media effects suggests that news coverage of an online political video may prompt political campaigns to issue statements about the video as well. A number of studies of the relationship between the campaign and media agendas have discovered a close connection between what the media covers and what political campaigns choose to discuss (Dalton et al. 1998; Just et al. 1996). More directly, Flowers et al. (2003) found that news routines and journalistic norms significantly influenced the content of press releases from Republican presidential candidates during the 1996 primary season and Tedesco (2005a) discovered a strong correlation between candidate agendas and media coverage of the 2004 presidential election. When coupled with research indicating that news coverage can attract Internet users and bloggers to online political videos, this literature makes a powerful case that journalists are crucial to the process by which online political videos spread across the Web.

Blog Discussion’s Influence on Audience Size, Campaign Statements and Media Coverage

Mainstream media organizations are not the only actors likely to play an important role in the creation of a viral political video. Blog discussion of an online political video is likely to influence viewership in the same way that mainstream media coverage is likely to – with increases in the number of blog posts leading to increases in the number of people who see the video. There are important reasons to expect, however, that blog discussion will have a stronger influence than media coverage on the size of the online audience for a video. Most notably, although blogs have a much smaller and narrower audience than mainstream media outlets¹², they do attract an audience that is, by definition, more likely to have the skills needed to quickly and easily locate political information – such as online political videos – on the Internet. Furthermore, because blog posts about online videos typically contain hyperlinks

¹¹ In a more narrow study of blogging about the Iraq War, Tremayne et al. (2006) also found that the majority of links on blog posts about the Iraq War led to traditional news stories.

¹² According to a recent survey by the Pew Research Center for the People & the Press (2008), 52 percent of the public said they regularly watch local television news, 39 percent said they regularly watch cable television news, 33 percent said they read newspapers regularly and 10 percent said they regularly or sometimes read blogs about politics or current events.

that guide users directly to the video or contain embedded copies of the video in the post itself, blog readers are able to view the video without exerting any additional effort. In other words, while both mainstream media coverage and blog discussion should exert positive influences on the number of people who watch an online political video, increases in blog discussion should produce more dramatic increases in the size of the video's audience than increases in mainstream media coverage.

There is a growing body of research that suggests online political videos discussed on political blogs may also find their way into print and broadcast news stories. Journalists rely on bloggers to act as “diggers and aggregators of information” and “conduits of public opinion” (Palser, 2005, p. 44). A December 2004 survey of journalists, for example, found that 84 percent of journalists had visited a political blog in the past 12 months and approximately 30 percent of those reported visiting a political blog at least once a day on a regular basis (Roth, 2004). Mirroring these findings, a 2007 survey of reporters found that 84 percent of journalists said they would or already have used blogs as a primary or secondary source for their articles (Loechner, 2007). Many influential columnists, including Paul Krugman, Howard Fineman and Fareed Zakaria, have even said that blogs form a critical part of their information-gathering activities (Drezner & Farrell, 2004; Smolkin, 2004). When coupled with empirical studies that show a strong bi-directional relationship between the blog and media agendas (Wallsten, 2007), this evidence suggests that the content found on political blogs – whether discussions of scandals, debates over specific policies or links to newly posted online videos – exerts an important influence on the content of mainstream media coverage.¹³

There is also emerging evidence that suggests political campaigns will discuss online political videos that receive attention in the blogosphere. Politicians, it appears, are increasingly reading blogs in order to keep track of what issues, events and sources of information are becoming popular. Representative Jack Kingston (R-GA), for example, has his communications staff read through 50 conservative blogs every day in order to keep the House Republican leadership up to speed on which issues are driving their base (Pfeiffer, 2006) and over 90 percent of respondents in a recent survey of congressional staffers said that they themselves or others in their congressional office read blogs (Sroka, 2006). Similarly, Jimmy Orr, the head of the White House's Internet activities, admits that many in the administration read blogs every day to keep up to date on the issues that are receiving attention (Froomkin, 2004). More germane to my purposes here, Howard Dean's presidential campaign in 2004 devoted a great deal of attention to tracking which issues were discussed on liberal blogs (Trippi, 2004), the Kerry presidential campaign had a staff member devoted to tracking discussion on both liberal and conservative political blogs (Gordon-Murnane, 2006) and numerous 2008 presidential hopefuls hired “blog consultants” to help follow emerging trends in the blogosphere (Cillizza, 2006). Given the attention that politicians pay to what is

¹³ Consistent with this general body of research, a number of case studies on specific issues have shown that blog discussion can exert a small – but significant – influence mainstream media coverage. Schiffer (2006), for example, found that liberal blog discussion of the Downing Street memo led to more mainstream media coverage of the issue and Heim (2008) found that A-list political blogs exerted a significant impact on news stories about the Iraq War.

being discussed in the blogosphere, it would not be surprising if campaigns chose to make their own statements about online political videos that became popular on political blogs.

Audience Size's Influence on Blog Discussion, Campaign Statements and Media Coverage

Bloggers and journalists face a common problem – although the number of politically important issues, events and news sources is infinite, the amount of time, energy and resources for covering them is not. As a result, both bloggers and journalists must make difficult choices about what to discuss and what to ignore. Despite all of their differences, bloggers (Drezner and Farrell, 2004) and journalists (Louw, 2005) are likely to make these decisions based on a common consideration: what content will attract the largest possible audience? For bloggers, the desire to gain a wide readership comes, in part, from their motivation to use their blogs as a tool to influence the political world.¹⁴ Without a large number of readers, blogs cannot put overlooked issues on the agenda, change the way an issue is framed or mobilize people to take political action. For journalists, the desire to gain a large audience comes primarily from market pressures. The system of private ownership in the United States means that media organizations must try to maximize revenues and minimize costs. Because advertising rates are dependent on audience size, journalists must make decisions about what to cover based partially on what is likely to attract readers and viewers.¹⁵ A large audience, in other words, is likely to motivate both bloggers and journalists to select certain kinds of issues, events and sources in their discussions of politics.

¹⁴ There is a significant body of research that suggests political bloggers use their blogs to influence the political world. In their research on popular political bloggers, for example, McKenna and Pole (2004) found that popular political bloggers blog because it provides them with an opportunity to add new voices to the political debate, to increase political activism, to engage in dialogue with other citizens, and to expose readers to new sources of information. In a similar study of less popular political bloggers, McKenna and Pole (in press) found that less popular political bloggers use their blogs to inform readers, to advocate for causes, and to attempt to mobilize political action. Looking at a sample of bloggers who focus their blogging on one specific political issue, McKenna (2007) found that so-called “policy bloggers” use their blogs to filter information, to provide expertise, to form networks, to attract attention, to frame arguments, and to exploit windows of opportunity. Taken together, these studies suggest that political bloggers use their blogs to express their political beliefs, to interact with like-minded people, to inform their readers and to encourage political participation. Put simply, political blogging is designed to influence the political world by shaping the attitudes and behaviors of blog readers.

¹⁵ There are, of course, other factors that influence what media covers. In fact, a large literature on so-called “agenda building”(Lang & Lang, 1981) – the process by which journalists choose which issues, events and sources to focus on in their coverage of politics – suggests that decisions about what to cover are also influenced by ideological considerations (Reese, 1991), organizational routines (Berkowitz, 1992; Shoemaker & Reese, 1996), what other media outlets are covering (Reese, 1991), the political beliefs of journalists (Patterson & Donsbach, 1996) and the demographic composition of newsrooms (Shoemaker & Reese, 1996).

An online political video that attracts a large number of views is likely to be an appealing event for bloggers and journalists to discuss because it has the potential to attract a large audience to the blog or to the media outlet.¹⁶ Viral political videos have not only shown that they meet traditional standards of newsworthiness, such as novelty, timeliness and political significance (Graber, 2006), but they also have shown that they are able to command the attention of a large number of people. If bloggers and journalists can capture some of the interest generated by the video, they can drive their own audience size up. A large number of views can provide a powerful motivation for talking about an online political video on a blog, in a newspaper story or during a television report.

A large online audience may also lead campaigns to talk about an online political video. Depending on the content of the online political video, campaigns may be motivated by opposing considerations. On the one hand, if a popular online political video contains information that is critical of their candidate or contains footage of their candidate committing a gaffe, campaigns may feel compelled to circumvent any change in public opinion and issue statements that refute the claims made in the video or offer an explanation for the candidate's behavior. George Allen's apologetic appearance on MSNBC's "Meet the Press"¹⁷ in the wake of his "macaca" comment spreading across the Internet (Turkheimer, 2007) and Hillary Clinton's backtracking on the details of a 1996 trip to Bosnia after a number of *YouTube* videos juxtaposed her account with a twelve year old CBS news report of the event (Seelye, 2008) are illustrative of the large impact that embarrassing online political videos can have on the communication strategies of political campaigns. On the other hand, if a popular online political video casts their candidate in a positive light or portrays their opponent negatively, campaigns may believe that public statements about the video will improve their standing in the polls, help them secure more fundraising or attract new volunteers. The Webb campaign's repeated statements about Allen's use of the word "macaca" (Craig & Shear, 2006; Martin & Ambinder, 2006) exemplify the way that campaigns are likely to opportunistically respond to the expanding popularity of an online video that hurts the image of their opponents. When a large number of people watch an online political video, therefore, bloggers, journalists and campaign members are all likely to start talking about the video because each actor sees it as a way to further their own goals.

¹⁶ One way that journalists and bloggers may track the number of views is by looking at *YouTube*'s statistics on a daily basis. Journalists and bloggers can either look at the specific video to see how viewership is changing or look at the most viewed videos on a day by day basis in categories such as "News and Politics."

¹⁷ Allen and his campaign actually issued a number of conflicting statements about the controversy prior to his appearance on "Meet the Press." Allen originally claimed that did not know what the word meant and had picked it up from his staff. Soon after, Allen's campaign claimed that he used the word to refer to the Mohawk hairstyle that S.R. Sidarth – the target of the remark – was frequently seen wearing (Craig & Shear, 2006). A week later, Allen began asserting that he had never heard the word before and that he had simply made it up on the spot (Whitley & Hardin, 2006).

Campaign Statements' Influence on Audience Size, Blog Discussion and Media Coverage

When political campaigns speak about an online political video, online audiences, bloggers and journalists will probably listen. Research into campaign effects has shown that political campaigns can increase voter knowledge (Alvarez, 1997; Bartels, 1997), prime voters to weigh certain issues more heavily in their voting decisions (Johnston et al., 1992; Just et al., 1996) and influence the salience voters attach to political problems (Dalton et al. 1998). At the heart of these studies is the idea that statements made by candidate campaigns can lead members of the public to view political issues in a particular way and to take certain kinds of political actions. If campaigns decide to prominently discuss the emergence of an online political video, it is likely that Internet users and bloggers (who act as “gatekeepers” for the online world), will become interested in the video. The result should be growing viewership statistics and more discussion about the video in the blogosphere.

Campaign statements about an online political video are also likely to motivate journalists to cover the video. Communications and public relations scholars have consistently shown that information resources from campaigns, such as political advertisements, direct mail, speeches, press releases and Web page content, can have a strong influence on the mainstream media agenda (Gandy, 1982; Roberts & McCombs, 1994; Turk, 1986; Turk & Franklin, 1987; Tedesco, 2002; Tedesco, 2005a).¹⁸ Kaid's (1976) study of campaign influence on media coverage, for example, discovered that over 30 percent of newspapers ran stories that copied candidate press releases verbatim. More specific to the context of recent presidential campaigns, Miller et al. (1998) found evidence that the campaign communications of Lamar Alexander and Steve Forbes set the agenda for three major newspapers in 1996 and Tedesco (2001) discovered that the issue agenda of John McCain's campaign in 2000 was highly correlated with the agendas of network news organizations. It is also important to point out that news organizations may find it even harder than usual to ignore the content of campaign communications when they focus on online political videos. The media's desire for novel and timely storylines (Graber, 2006) may lead them to seize upon campaign statements about online videos with greater fervor than candidate communications about more traditional subjects. In short, mainstream media organizations seem likely to pick up discussions of online political videos if they are prominently feature in campaign communications.

The “Yes We Can” Viral Music Video

In order to explore whether the relationship between online viewership, blog discussion, campaign statements and mainstream media coverage is, in fact, complex and multidirectional, I selected the “Yes We Can” music video. I selected the “Yes We Can” music video as a case study for exploring the dynamics of viral videos because it was the most popular and high profile online political video of the 2008 campaign. The video, which

¹⁸ There is even evidence that changes in the media environment may be increasing the impact of campaigns on the media agenda. As Tedesco (2005b) argues, today's growing “interdependence between candidates and media, coupled with the 24-hour media cycle in modern campaigns, augments the likelihood that information resources from campaigns will have a powerful influence on news agendas” (92).

included cameo appearances by celebrities such as John Legend, Herbie Hancock, Scarlett Johansson, Kareem Abdul-Jabbar and Kate Walsh, featured black and white clips of Obama's concession speech following the New Hampshire primary set to music written by will.i.am of the hip hop group "The Black Eyed Peas." The video was completely "supporter-generated" – with the Obama campaign playing no role in its production.

After debuting the video on *ABCNewsNow*'s "What's the Buzz" on February 1, the video's producers released the video on *YouTube*¹⁹ and *DipDive* (<http://www.dipdive.com>) early on February 2. Versions of the video quickly spread across *YouTube* and, within three days, there were over 50 different postings of the video on the site. By the time Obama secured the nomination, the video had been viewed over 20 million times on various Internet sites, inspired a number of widely viewed spoofs²⁰ and been awarded an Emmy for Best New Approaches in Daytime Entertainment (Reuters, 2008).²¹

Data

Systematically studying the dynamic relationship between online viewership, blog discussion, campaign statements and mainstream media coverage requires daily measures of each variable over a significant period of time.²² In order to measure the number of views the "Yes We Can" video received during its first month online (February 2nd through March 2nd), I relied on data from *TubeMogul* (<http://www.tubemogul.com>). *Tubemogul* is a website that aggregates video viewing data from sites such as *YouTube*, *Metacafe* and *Daily Motion*. *Tubemogul* allows users to track any video they want and provides daily data on the number of times a video was viewed, the number of comments the video received, the number of ratings that were given and the overall ratings scores. As such, *TubeMogul* is an excellent resource for scholars interested in studying the rise, spread and impact of online political videos. Using the unique viewership data provided by *TubeMogul*'s tracking software, I was able to gather data on the number of views that the official (and most popular) posting of the "Yes We Can" video received each day on *YouTube*.²³

¹⁹ The official version of the video was posted by the producers under username "WeCan08" and can be found at: <http://http://www.youtube.com/watch?v=jjXyqcx-mYY>.

²⁰ The two most popular spoofs of "Yes We Can" were "john.he.is" (<http://www.youtube.com/watch?v=3gwgEneBKUs>) and "No You Can't" (<http://www.youtube.com/watch?v=EUKINg8DCUo>).

²¹ The video also earned will.i.am a Webby Award for Artist of the Year.

²² Theoretically, data could be gathered on even shorter units of time than days. The relationship between audience size, blog discussion, media coverage and campaign statements might usefully be explored, for example, at the hourly level. As a practical matter, however, analyses focusing on these shorter intervals of time run up against a host of methodological issues. Most significantly, traditional media stories are typically aired or printed only once a day and tracking viewership statistics on an hourly basis over a long period of time is a Herculean task even if researchers have the uncanny foresight to track a viral video from the moment it is posted online.

²³ Although tracking viewership for each of the over 60 versions of the video would have been the best research strategy, *TubeMogul* automatically collects data for only those videos

There is no immediately obvious way to measure the amount of blog discussion of an online video and, as a result, there are important questions about how to proceed in tracking the videos that are given attention by bloggers. Which blogs, for example, should be used to gather data on the videos of interest – only A-list blogs, only less popular blogs or a mix of both? Similarly, how should “discussion” of a video be measured – by mentions of the title, by mentions of certain keywords, by use of links to the video or by some other factor?

Following the number of links that lead to the video is likely to provide a better measure of blog discussion of online political videos than keyword searches for three reasons. First, bloggers rarely use the complete title of a video in their post and, as a result, keyword searches based on the title of an online video can systematically underestimate the level of blog discussion of the video. Second, searches for videos that have common titles, such as Obama’s frequently repeated phrase “Yes We Can,” can systematically overestimate the amount of blog discussion about an online video because it will produce many posts that have nothing to do with the video. Finally, following the links that bloggers use is likely to produce accurate estimates of blog discussion because bloggers are likely to link to the sites they are discussing – particularly when the site contains a video.

For these reasons, I decided to use *Technorati* (<http://www.technorati.com>) to track the number of blog links to various versions of the “Yes We Can” video for each day of the study.²⁴ I decided to use *Technorati* not only because it collects data on over 110 million blogs but also, and more importantly, because it provides a URL search function that allows researchers to easily track the links that bloggers use in their posts on a day to day basis.

To assess the number of campaign statements about the video, I employed two separate measures. First, I recorded the number of times various versions of the video²⁵ were linked to on the Obama campaign’s (<http://my.barackobama.com/page/content/hqblog>) and the McCain campaign’s (<http://www.johnmccain.com/blog>) official blogs. Second, I tracked the number of times the video’s title – “Yes We Can” – and its artist – “will.i.am” – were mentioned in emails from the Obama and McCain campaigns.

In order to measure mainstream media coverage of the video, I used a daily count of the number of articles printed in “U.S. newspapers and wire services”²⁶ and the number of stories aired on local and national news broadcasts that mentioned both “Yes We Can” and

that users submit to the system and, as a result, does not have archived daily data on the less popular postings of the video.

²⁴ The links that I tracked were: <http://www.yeswecansong.com>, http://www.youtube.com/watch?v=BHEO_fG3mm4, <http://www.youtube.com/watch?v=1yq0tMYPDJQ> and <http://http://www.youtube.com/watch?v=jjXyqcx-mYY>. These versions of the video were selected because they were posted on February 2, 2008 and because they each attracted over 500,000 views.

²⁵ I tracked the same four links on the Obama and McCain blogs that I tracked using the blog data from *Technorati*.

²⁶ More specifically, I searched the Lexis-Nexis archives of “U.S. newspapers and wires” for stories that mentioned the two phrases.

“will.i.am.”²⁷ As a result of the fact that print and broadcast coverage were closely related ($r = .61$), I decided to create an index of overall media coverage for the video.²⁸ The Cronbach’s alpha for this index was .76.²⁹

Results

Some elements of the relationship between online viewership, blog discussion, campaign statements and media coverage can be discerned by simply looking at how each of these variables changed during the video’s first month online. As Figure 2 shows, the video was an instant hit – drawing over 150,000 views on February 2nd. The audience for the video grew each of the next three days and reached its peak on February 5th – when it was viewed nearly 600,000 times. The number of views steadily declined over the next few weeks without any major surges in views. Overall, the official version of the video was viewed over 5.4 million times during its first month on *YouTube*.

Figure 2 suggests that many of the views that the video received may have been the result of bloggers linking to it. As Figure 2 shows, well over 1000 bloggers linked to the site as soon as it appeared on February 2. The number of blog links to the video remained high over the next two days and then started falling off dramatically. As Figure 2 also shows, the number of daily blog posts linking to the video never exceeded 300 after February 6th – the same day that video views began declining. Views of the video and blog discussion, in other words, followed very similar patterns of rise and decline.

The Obama campaign also seems to have also played a role in alerting Internet users to the video. Two posts on the campaign’s blog linked to the video on February 2nd and two days later, on the eve of the Super Tuesday primaries, Michelle Obama sent an email to supporters of the campaign that said, “Sharing this video, which was created by supporters, is one more way to help start a conversation with your friends, family, coworkers, and anyone else who will be voting soon about the issues important to them in this election.”³⁰ Unlike bloggers, however, the Obama campaign’s attention to the video was decidedly short lived. As Figure 2 shows, the campaign did not mention the video in any blog posts or official emails after February 5th. Perhaps unsurprisingly, the McCain campaign decided to not attract any further attention to the video and chose to ignore it in all of its blog and email communications during February and March.

²⁷ I decided to search the print and broadcast media archives for the occurrence of both words because searching only for “Yes We Can” was likely to produce too many stories that had nothing to do with the video. Indeed, because the Obama campaign frequently used “Yes, we can” as a slogan, searches relying only on this phrase consistently overestimated the amount of discussion of the video.

²⁸ Here “ r ” refers to the Pearson product moment correlation coefficient – which measures the linear association between two variables.

²⁹ Cronbach’s alpha provides one method of assessing how well a group of variables measure a single latent construct.

³⁰ The Obama campaign also dedicated a web page to the video that same day on their official website. The page can be found at: <http://my.barackobama.com/page/invite/yeswecanvideo>.

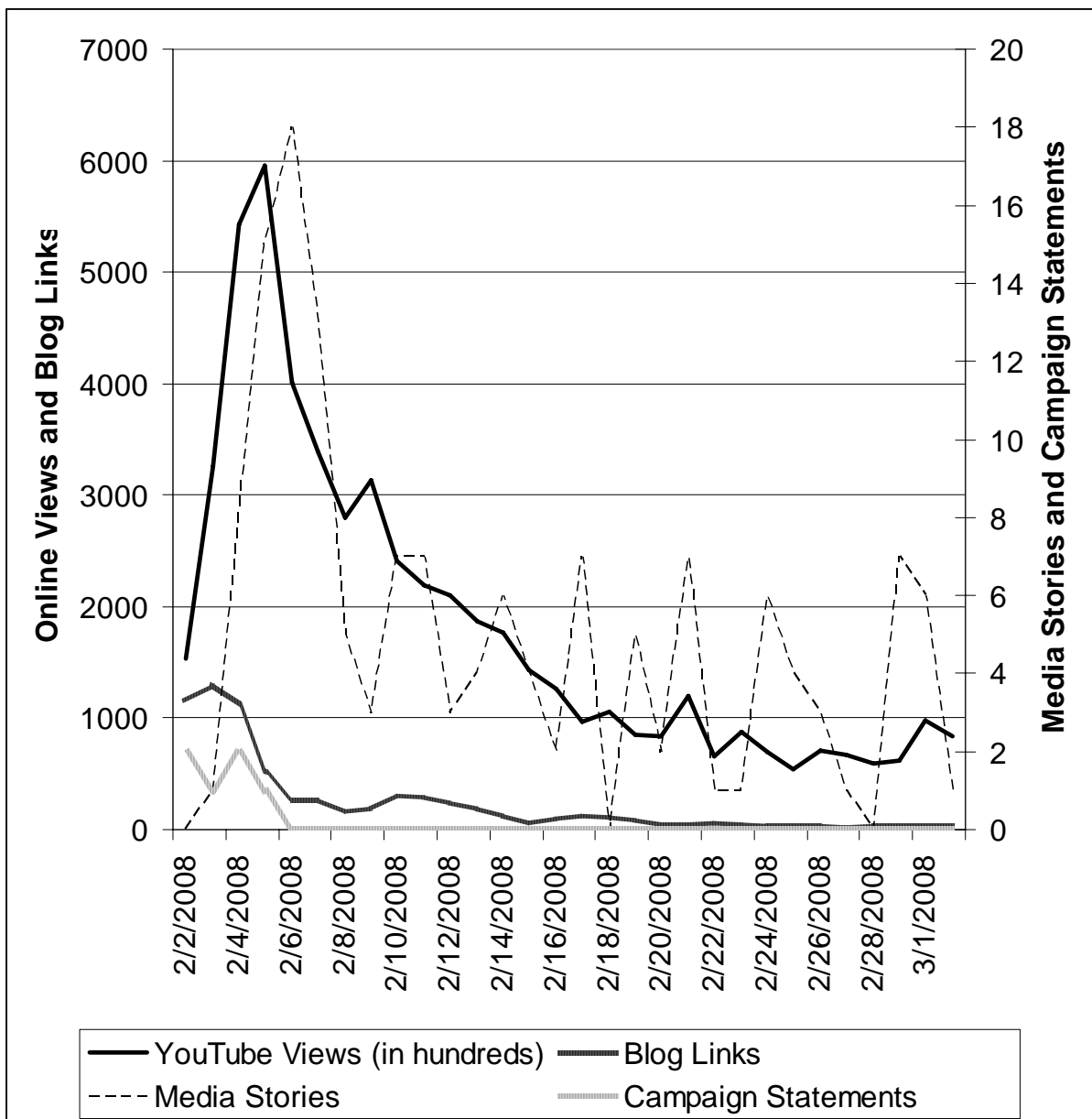


Figure 2 – Online Viewership, Blog Discussion and Media Coverage of “Yes We Can”

The online buzz created by bloggers, the support of the Obama campaign and the increasingly large number of people who had seen the video seems to have quickly captured the mainstream media’s attention. After ignoring the video on February 2nd and February 3rd, both the print and broadcast media picked up the story of the video and began discussing its electoral implications. The number of stories rose and remained high until steeply declining on February 8th. During the rest of February, the mainstream media periodically ignored and then discussed the video in its coverage of the primary elections. As Figure 2 shows, however, the ebb and flow of media coverage looks very similar to the ebb and flow of viewership and blog discussion on a two day lag.

While looking at the time series graphs presented in Figure 2 provide a general sense of how online viewership, blog discussion, campaign statements and mainstream media coverage interact, I also used vector autoregression to better specify the complex interplay between these variables.³¹ VAR models use lagged values of all of the variables in a system of interrelated variables to predict the current value of each variable in the system (Bartels, 1996).³² This approach is attractive for my purposes here because VAR models, unlike structural equation models, relax a priori assumptions about the direction of causality between variables and the number of time lags to be included in the analysis.³³ Indeed, Wood and Peake (1998) suggest that VAR is an effective methodology for determining causal relationships when theory is unclear or underdeveloped.

The first step in VAR analysis is to determine the appropriate number of lags to include in the system of equations that is being estimated.³⁴ Following Sims (1980), I determined the number of lags to include in each model by sequentially adding lags to the system of equations and testing for the statistical significance of each additional lag using a modified F-test. Additional lags need to lead to a significant improvement in the fit of the VAR model in order to be included.³⁵ Based on Akaike's Information Criterion (AIC) and the Final Prediction Error (FPE) as well as degree of freedom considerations, I selected a lag period of two days.

The next step in VAR analysis is to conduct "Granger causality" tests in order to detect the causal relationships that exist between the variables in the system of equations.³⁶ "Granger causality" is based on the idea that "variable X causes another variable Y, if by incorporating the past history of X one can improve a prediction of Y over a prediction of Y based solely on the history of Y alone" (Freedman, 1983; 328) and Granger causality tests, therefore, provide statistical evidence for whether lags of one variable Granger cause any of the other variables in the system. More specifically, a chi-squared statistic is used to test the null hypothesis that the lags of the independent variables are significantly different from zero.

³¹ For an overview of the use of vector autoregression in political science see Freeman et al. (1989). For empirical examples of VAR see Wood and Peake (1996) and Bartels (1996).

³² In the context of this study, VAR models the activity of each actor as a function of the past behavior of the other three actors in the analysis.

³³ More specifically, VAR treats all of the variables in the system as endogenous to the equation rather than forcing the researcher to specify the relationship between the variables prior to the analysis.

³⁴ Determining the appropriate number of lags (p) in VAR analysis is crucial. As Enders (2004) writes, "appropriate lag length selection can be critical. If p is too small the model is misspecified; if p is too large, degrees of freedom are wasted" (281). In addition, Gujarati (1995) points out that Granger exogeneity tests can be highly sensitive to lag lengths.

³⁵ Although it is possible to include separate lag lengths for variables, most studies using VAR analysis use the same lag length for all equations (Enders, 2004).

³⁶ Because VAR is sensitive to non-stationarity in the data, I conducted a Dickey-Fuller test and examined the autocorrelation and partial autocorrelation coefficients for each of the time series. While blog, campaign and media discussion of the video showed strong evidence of stationarity, the number of views did not. In order to achieve stationarity, I differenced the number of views variable one time.

A significant chi-squared test means that the independent variable “Granger causes” the dependent variable while an insignificant chi-squared test means that the independent variable does not “Granger cause” the dependent variable.

In order to determine the factors driving the “Yes We Can” viral video phenomenon, I conducted a Granger causality test for the four equation system that included my measure of online viewership (the number of views for “WeCan08’s” video on *YouTube*), my measure of blog discussion (the number of bloggers linking to the video), my measure of campaign statements (the number of posts linking to the video on the official Obama campaign blog and the number of emails from the Obama campaign mentioning the video) and my measure of media coverage (the index of the number of print and broadcast stories citing the video’s title and its maker).³⁷ Table 1 displays the results of the Granger causality test. Each dependent variable is listed in the first column along with all of its independent variables in the second column.³⁸ Figure 3 presents the same information in a slightly different form – a diagram showing the observed relationships between each of the variables.

The Granger causality test results presented in Table 1 and in Figure 3 reveal a number of interesting relationships. First, support from the Obama campaign was crucial in making the “Yes We Can” video go viral. As Table 1 and Figure 3 show, the number of statements made by the campaign exerted a significant influence on the size of the online audience, the amount of discussion in the blogosphere and the number of media stories about the video. When the campaign sent emails and posted messages on their official blog about the video, Internet users, bloggers and journalists seem to have taken this as a cue that the video was something worth paying attention to. Although, as suggested above, there were many reasons to expect that campaigns could produce these kinds of effects on viewership and discussion of online political videos, these findings do provide the first empirical proof that campaigns can function as more than passive bystanders when their supporters create videos and post them online. Simply put, these results suggest that campaigns can make all of the difference in transforming supporter-generated videos from undiscovered white noise to a viral video phenomenon.

Second, bloggers also played an important role in drawing the attention of Internet users and journalists to “Yes We Can.” As Table 1 and Figure 3 show, blog discussion exerted a significant impact on both the number of people who watched the video and on the amount of media coverage the video received. The fact that blog discussion produced more views and more news coverage of the video should not be surprising. Indeed, as suggested above, a large body of research shows that bloggers can have a major impact on what media chooses to cover (Drezner & Farrell, 2004; Roth, 2004; Smolkin, 2004; Wallsten, 2007) and the links provided in blog posts can drive up viewership statistics by making it easy for interested readers to locate and watch the video online. The fact that blog discussion of “Yes We Can” significantly influenced online viewership and media coverage is yet another

³⁷ The VAR was also checked to ensure stability. All of the eigenvalues were within the unit circle, thereby, satisfying the stability condition.

³⁸ The chi-squared statistic represents the results for testing the null hypothesis of “Granger exogeneity” – that all daily lagged values of the independent variables have true coefficients of zero, so that the past history of that variable contributes nothing to our ability to account for the current value of the dependent variable.

example of the increasingly important role that bloggers are playing in structuring media coverage of and public opinion about political events. These findings do, however, make a strong case that online political video makers should cater to the interests of bloggers if they want their videos to attract a large audience in both the online and offline political worlds.

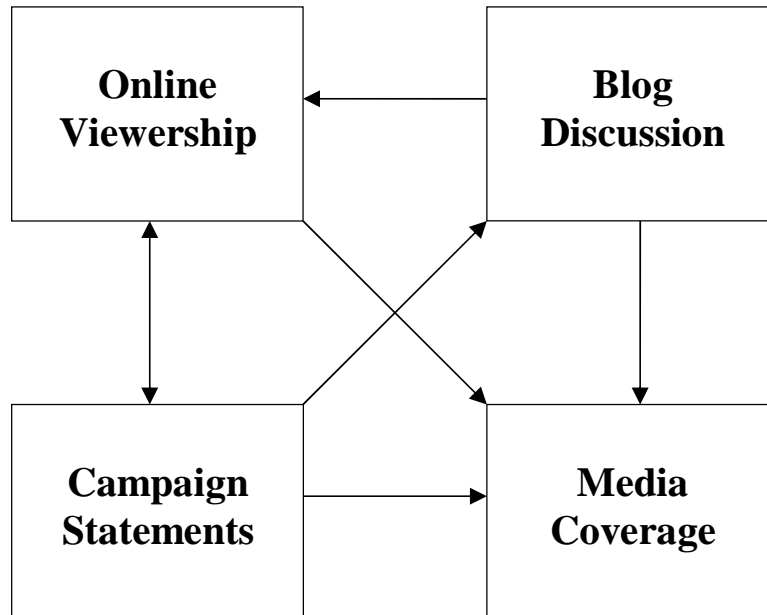


Figure 3 – Observed Relationships between Online Viewership, Blog Discussion, Campaign Support and Media Coverage

Third, the large number of views the “Yes We Can” video attracted with Internet audiences was an important part of its ability to attract attention beyond the online world. Indeed, the Granger causality test results presented in Table 1 and Figure 3 show strong evidence that the size of the online audience influenced the amount of mainstream media coverage “Yes We Can” received and the extent to which the Obama campaign supported the video. Interestingly, the number of views the video received did not significantly effect the level of discussion about the video in the blogosphere. Based on this evidence, it appears that journalists and members of political campaigns may be carefully tracking the popularity of the content posted on sites like *YouTube*, *Metacafe* and *Daily Motion* in order to determine what videos they should discuss while bloggers tend to base their decisions about what to talk about on other considerations – such as what campaigns are saying. Put differently, although bloggers may discuss online political videos in the absence of gaudy viewership statistics, a large audience seems to be a necessary condition for journalists and campaign members to devote time and energy to discussing an online political video.

Table 1 – Granger Causality

Dependent Variable	Independent Variables	Chi-Square	p-value
Online Viewership	Media Stories	0.19	.91
	Blog Discussion	7.95	.02
	Campaign Statements	41.59	.00
Media Stories	Online Viewership	7.39	.03
	Blog Discussion	5.94	.05
	Campaign Statements	20.28	.00
Blog Discussion	Online Viewership	1.66	.44
	Media Stories	2.81	.25
	Campaign Statements	19.89	.00
Campaign Statements	Online Viewership	8.84	.01
	Media Stories	0.4	.81
	Blog Discussion	2.93	.23

Significant entries are in **bold**.

Finally, although journalists covered “Yes We Can” extensively during its first month online, there is no evidence that media reports contributed to the video going viral. As Table 1 and Figure 3 show, media coverage failed to exert a significant influence on blog discussion, campaign statements or online viewership. This finding was highly unexpected – all of the previous literature on the media’s agenda setting power suggested that widespread news coverage of an event like the video would lead members of the public to seek it out online, bloggers to blog about it on their blogs and the campaign to discuss it in their official statements. Of course, the fact that media coverage was not a significant influence on blog discussion, campaign statements or online viewership does not mean that the media is entirely unimportant when it comes going viral. There is no doubt, for example, that television broadcasts and newspaper stories about “Yes We Can” increased the overall number of people who learned about and saw the video. These findings do, however, establish that journalists are likely to be followers rather than leaders in the process of creating viral political videos.

Conclusion

This paper began by asking: what is the relationship between audience size, blog discussion, campaign statements and mainstream media coverage of online political videos?

Using vector autoregression to analyze the data from the most popular viral political video of the 2008 primary campaign – will.i.am’s “Yes We Can” music video – I found strong evidence that the relationship between these variables is complex and multi-directional. More specifically, I found that bloggers and members of the Obama campaign played crucial roles in convincing people to watch the video and in attracting media coverage while journalists had little influence on the levels of blog discussion, online viewership or campaign statements. Bloggers and campaigns, in other words, seem to occupy a unique and influential position in determining the whether an online political video goes viral.

In addition to providing the first glimpse into the dynamics that create a viral political video, the findings presented in this paper make contributions to three separate bodies of research. First, the conclusions presented here contribute to the emerging literature on the consequences of political blogging by suggesting that the interest of bloggers is a central factor in explaining the rise, spread and decline of viral videos. Second, the conclusions presented here contribute to the literature on media agenda building by detailing the factors that drive journalists to cover developments in the online world. Finally, the conclusions presented here contribute to studies of political campaigns by highlighting the role that campaign actions can play in promoting supporter-generated content online.

Future research should build on the findings presented here in a number of ways. First, studies of other political videos are needed in order to determine whether online views, blog discussion, campaign statements and mainstream media coverage interact with and influence each other in the same ways that I have found here. There are many reasons to expect that the dynamics driving the “Yes We Can” video were unique – it was filled with celebrity entertainers, it became popular almost immediately after it was posted and it was the most popular political video of the 2008 campaign. For online political videos that do not have this distinct set of characteristics, audience size, blog discussion, campaign statements and media coverage may influence each other in different ways. The number of online views, for example, may be an important factor in driving blog discussion when no celebrities are featured in the video because it can provide a compelling reason for talking about the video. Similarly, blog discussion may not exert such a strong influence on media coverage of online political videos when the number of people who have viewed the video is not rising as quickly as it did in the case of the “Yes We Can” video because blog discussion alone may not be enough to warrant coverage. Future studies, therefore, need to sample a larger number of online political videos in order to get a better, more general sense of how audience size, blog discussion, campaign statements and mainstream media coverage influence each other.

Second, in order to gain a fuller understanding of the ways that viral political videos emerge, spread and influence elections, data on how online political videos are passed from person to person through email and instant messages is needed. While blog discussion, media coverage and campaign statements are certainly important in diffusing online political videos, most people who find out about an online political video probably find out about it through email and instant message communication with friends and family. Recent surveys by the Pew Internet & American Life Project, for example, have found that 75 percent of online video viewers have received links to online videos via email or instant messages (Madden, 2007) and that 9 percent of Internet users forwarded or posted someone else’s political audio or video recordings using email or instant messages (Smith & Rainie, 2008). Because I did not include measures of these potentially important factors in this analysis, the statistical

findings presented here could be biased and misrepresent the relationship between online viewership, blog discussion, campaign statements and media coverage. Future work on the relationship between these variables should, therefore, try to include measures of email and instant message diffusion in order to ensure accurate estimates about the complex influences that online viewership, blog discussion, campaign statements and media coverage exert on each other.³⁹

Third, given the central role that bloggers play in the creation of viral political videos, future research should explore the factors that lead bloggers to discuss certain online videos and to ignore others. One potentially interesting line of inquiry would be to explore the role that ideology and partisanship play in the linkage patterns of bloggers. A number of recent studies have suggested that political bloggers link primarily to sites that share their ideological predispositions. Adamic and Glance (2005), for example, analyzed linkage patterns among popular political blogs during the final two months of the 2004 election campaign and found a great deal of fragmentation along ideological lines – with conservative bloggers being much more likely to link to other conservatives and liberal bloggers being much more likely to link to other liberals. Similarly, Hargittai et al. (2007) examined links between A-list political blogs during three one-week periods in 2004 and found that, although there is some cross-ideological linking between blogs, conservative and liberal bloggers are vastly more likely to link to blogs that share their point of view. Future research should explore the extent to which bloggers link to videos that confirm their predispositions and, more importantly, whether ideological or partisan linking tendencies have any influence on the role that bloggers play in spreading online political videos.

Finally, future research is needed to assess the impact that viral political videos have on members of the mass public. As suggested above, viral videos are a potentially important influence on electoral campaigns not only because so many people watch them but also because bloggers and journalists discuss them in their coverage of political events. In addition to being viewed nearly six million times, for example, the “Yes We Can” video was linked to on over 7000 blog posts and discussed in nearly 400 print and broadcast news stories in the first month after its release. Unfortunately, little is known about how all of this attention influences the attitudes and behaviors of members of the public. Did exposure to media coverage of “Yes We Can” lead undecided voters to watch the video and support Barack Obama? Did blog discussion of the video motivate supporters to contribute money or volunteer their time to the Obama campaign? Ultimately, the true importance of viral videos cannot be fully assessed until systematic empirical research on individual level questions such as these is completed.

³⁹ This data, however, is very difficult to come by and it may not be possible for academic researchers to obtain information about video diffusion through emails and instant messages. *Google* – in an attempt to increase ad revenue from YouTube – has formulated a special algorithm to predict which videos are about to “go viral.” Although the details of the algorithm are not publicly available, *Google* has said that it uses word of mouth (contained in instant messages, blogs and emails) to make predictions about which videos will become popular (Shankland, 2008).

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