What makes a video go viral? An analysis of emotional contagion and Internet memes

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ABSTRACT

What qualities lead some Internet videos to reach millions of viewers while others languish in obscurity? This question has been largely unexamined empirically. We addressed this issue by examining the role of emotional response and video source on the likelihood of spreading an Internet video by validating the emotional response to an Internet video and investigating the underlying mechanisms. Results indicated that individuals reporting strong affective responses to a video reported greater intent to spread the video. In terms of the role of the source, anger-producing videos were more likely to be forwarded but only when the source of the video was an out-group member. These results have implications for emotional contagion, social influence, and online behavior.

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1. Introduction

During the 2008 Presidential campaign, supporters of Senator Barack Obama created a video entitled "Yes We Can." This video "went viral" after the New Hampshire Primary, quickly spreading across the Internet. In fact, "Yes We Can" became the most popular online video of the 2008 campaign; with over 20 million views by the time Obama secured the Democratic nomination for President (Nahon, Hemsley, Walker, & Hussain, 2011; Wallsten, 2010). Wallsten performed a thorough analysis of the process by which the video went viral and determined that bloggers and personnel within the Obama campaign were largely responsible for attracting viewer and media attention. Nahon et al. reported similar findings. However, characteristics of the video itself may have made it especially likely to "go viral."

Political communications can be tailored to specific audiences most likely to be influenced (Karlsen, 2011), and although viewers may have found the video's content compelling, it also is likely that the visceral emotional reaction created by the images, music, message, and people in the video increased viewer interest and led them to forward it to friends and acquaintances. In fact, Robertson, Vatrapu, and Medina (2010) found that political video postings on Facebook during the 2008 campaign were often used to provide proof

of a candidate's character defect (e.g., dishonest, "flip-flopper") or to provide amusing footage of a specific campaign or candidate. In this paper, we investigate how the emotions produced by specific Internet videos affect each video's likelihood of being forwarded.

1.1. Contagion

Contagion involves the rapid spread of influential information among people (Cialdini, 2009). Recently, Guadagno, Cialdini, and Evron (2010) suggested that the rapidity with which people can spread information online enhances contagion. For example, survey data indicate that one in seven adult users report that they have uploaded a video to the Internet (Purcell, 2010), and 59% of people report that they "very frequently" or "frequently" forward Internet material to colleagues, peers, family or friends (Allsop, Bassett, & Hoskins, 2007). A particular form of contagion, emotional contagion, involves the convergence of one's emotional state with the emotional states of those with whom one is observing or interacting (Hatfield, Cacioppo, & Rapson, 1994). Whereas a dyadic interaction can produce emotional contagion directly, forwarding existing information to another person also can involve shared emotion indirectly. That is, when people watch Internet video clips, they may experience the same emotions as the people in the clip, and by forwarding that clip, they anticipate that the receiver will experience similar emotions. When one is embedded within an existing network of likeminded individuals (e.g., online political organizations), this contagion can spur appropriate behavioral responses by a mass of people (Karpf, 2010).

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While nearly two million videos are viewed on youtube.com every day, only a fraction of these videos spread rapidly (Youtube.com, 2010). Social media commentators (Cashmore, 2009) have found emotional commonalities between the most popular videos on youtube.com. Specifically, videos that are cute, humorous, or emotionally arousing draw more viewers. The "Yes We Can" video was contagious in nature; in fact, it spread from the Internet to other media, such as television and print. The pervasive spread of the "Yes We Can" video makes it an example of an *Internet meme*. Internet memes are a digital version of Dawkins' (1976) idea of memes, defined as individual bits of cultural information that propagate from person to person while undergoing variation, selection, and retention. Memes are transmitted throughout a population via social learning, and at any given time, members of a population either are adopting cultural traits (which become memes) or rejecting those traits through a complex interplay of social, emotional, and cognitive processes (Baker & Gammon, 2008).

Knobel and Lankshear (2007) documented the content of many Internet memes and found that most are intended to provide humor or social commentary. For example, they describe one Internet meme, "Bert is Evil," that involved Bert, the beloved Muppet from *Sesame Street*. Users manipulate and disseminate pictures of Bert that make him appear to be engaging in "evil" behaviors (e.g., participating in a Nazi rally). While this Internet meme may at first sound inconsequential, the question persists as to why people find a manipulated picture of a Muppet humorous enough to both create their own versions and pass along pictures created by others. Although no existing literature on Internet memes answers these questions, we can examine research on other viral behavior to construct a framework for the proposed studies.

1.2. Virality of stories

Research on one's willingness to disseminate emotion-laden news has produced mixed results. For example, Heath (1996) found that people prefer passing on bad news, while Nisbett and Wilson (1977) found that people prefer passing on good news because recipients of this good news will then associate the positive mood with the messenger. Berger and Milkman (2009) recently analyzed the emotional content of 7000. The New York Times articles in order to determine factors contributing to an article's virality. When accounting for several non-emotional factors (e.g., article placement on the Times website, author fame), a pattern emerged based on emotional content. People tended to email articles that evoked positive affect, anger, or anxiety, but tended to not email sad articles. This is consistent with the findings of the Pew Research Center, who found that people were more likely to watch "comedy or humorous videos" than any other category (Purcell, 2010). Berger and Milkman concluded that the increase in physiological response accompanying high-arousal emotions may facilitate action and a desire to share the content, while the decrease in physiological response accompanying low arousal emotions may promote the conclusion that the content is unexciting and, thus, unworthy of sharing.

Heath, Bell, and Sternberg (2001) found similar results when examining another viral phenomenon, urban legends. The authors postulated that both positive and negative content will succeed in the "marketplace of ideas," as long as the emotion is one that is suitable for consumption by a particular audience. For instance, if an office worker finds an amusing Internet video, she may share the video with officemates as a way of sharing a positive mood during the workday. Establishing similarity through a shared emotional experience can increase closeness and liking (Anderson, Keltner, & John, 2003). Likewise, sharing positive emotions through social talk helps form and reinforce coalitional bonds between individuals (Peters & Kashima, 2007). Peters and Kashima further

suggest that social talk between in-group members that is both directed toward out-group members and anger-inducing may heighten negative feelings toward the out-group target. Derogating out-groups, in turn, can serve to bolster positive perceptions of the in-group and self-esteem (Fein & Spencer, 1997). This Emotional Selection Hypothesis helps to explain the spread of both positively and negatively valenced memes (Peters & Kashima, 2007).

1.3. The role of social validation

Besides emotional content, one factor that may contribute to the proliferation of Internet memes is social validation. Social validation is the tendency for individuals to look to others to see what others are doing to determine if a behavior is normative and appropriate (Cialdini, 2009). In environments where the correct course of action is ambiguous, people rely even more heavily on the cues provided by others. People are also more likely to follow the cues of others when the others are a member of their in-group and thus more similar to them. In a one such study, Salganik, Dodds, and Watts (2006) created a laboratory "music market" online where 14,000 participants were allowed to download songs they had never been exposed to previously. The researchers manipulated whether participants were made aware of other participants' choice to download a song. The results of the study demonstrated that increasing cues of social validation (providing participants with knowledge of other participants' download choices) decreased the predictability of success based on song quality. Thus, in terms of Internet videos, when one receives a forward from an in-group member, that may serve as a signal that the video is appropriate to forward to others.

1.4. The current studies

Drawing on the theoretical foundations provided by emotional contagion and social validation, we conducted two studies. In Study 1, we selected four pairs of videos that were intended to invoke positively- or negatively-valenced emotions. We also selected a pair of control videos that we intended viewers to find emotionally flat and boring. We expected that Internet videos are spread amongst Internet users in a manner similar to the way that urban legends spread (Heath et al., 2001), namely, based upon the strength of the emotion a video is able to evoke. For example, people were more likely to pass along an urban legend depicting a dead rat in a soda can when the story was manipulated to maximize its disgusting qualities (Health et al.). Thus, we expected emotional content of videos to show a positive relationship with a desire to forward those videos.

In Study 2, we also manipulated the alleged source of the video. One group of participants were told to imagine that the video came from a fellow student of their university, while in another group, participants imagined that the video came from a student attending a rival university. Previously, this manipulation has proven sufficient to create perceived in-group or out-group status (Moore et al., 1999). People tend to exhibit favoritism toward members of their in-groups, even when the groups are minimal (Tajfel, Flament, Billig, et al., 1971) or formed on the Internet (Amichai-Hamburger, 2005). Thus, via the principle of Social Validation, we expected participants to be more likely to forward a video if it allegedly comes from a member of their in-group.

Hypotheses:

(1) We expect a main effect for emotional content such that videos evoking any emotion will be forwarded more than videos with no emotional content.
(2) We expect a main effect for emotional content, such that videos evoking positive emotion (i.e., funny or cute) will be forwarded more than videos evoking negative emotions