

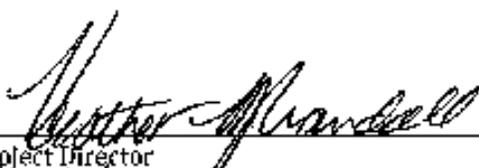
Commenting on the News:
How the Degree of Anonymity Affects Flaming Online

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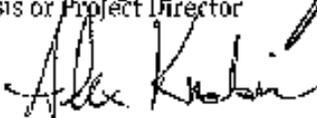
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We the undersigned, certify that we read this thesis and approve it as adequate in scope and quality for the degree Master of Arts.



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Abstract

The internet has become the number two for news (Pew Research Center, 2011). News organizations which previously did not allow commenting on the news now routinely permit anonymous commenting on stories on their online news websites. This practice has resulted in widespread reports of personal attacks known as flaming (Hlavach & Freivogel, (2011). This study examines the degree to which the anonymity of users affects their tendency to engage in flaming in online news forums through a qualitative analysis of four different types of news stories on four different news websites, two allowing anonymous comments and two requiring use of real names. The study also examines the effect of story topic on flaming behavior, and the degree to which lack of anonymity affects willingness to participate in the discussion. The study found that flaming is significantly more common in anonymous commenting scenarios, and requiring real names does not suppress participation rates. This study adds new insights into the ongoing study of flaming in CMC, and provides news editors with valuable guidance as they develop commenting policies to maximize constructive civic dialogue that will result in a better-informed public.

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Introduction

The internet has become the number two source of news for Americans after TV news, according to the Pew Research Center (2011). At the same time that more Americans are getting their news online, they are also spending more time on social networks. A study by A.H. Nielsen (2011) found that the average Facebook user spent seven hours per month on the social network, and social networking websites were the single most popular online activity. Responding to this social impulse, many news websites now permit readers to comment on news stories online. Many permit anonymous commenting via user-selected pseudonyms (Hlavach & Freivogel, 2011), in direct contradiction of the long-standing policy of newspapers to only publish letters to the editor that were signed with the reader's real name (Boeyink, 1990).

The policy of permitting anonymous commenting on news websites has resulted in increased audience engagement, with some stories receiving hundreds of comments, but it has also led to reports of *flaming* (Hlavach & Freivogel, (2011), defined as “uninhibited expression of hostility” towards another person (Kayany, 1998, p. 1137). The problem of flaming on these news websites has led editors of several prominent websites to eliminate the anonymous commenting option and instead to require participants to use their real names (Albanesius, 2011). Facebook, the largest social networking website, only permits commenting using a person's real name.

Importance of the Study

The prevalence of flaming, and the observed tendency for commenting threads to degenerate into off-topic diatribes or name-calling, have led some to argue against permitting anonymous commenting on news stories (Hlavach & Freivogel, 2011). The policy question of

whether to permit anonymous commenting on news stories is vital to examine because journalism as a profession has a moral, ethical responsibility to not merely report the news but to promote an informed public (Boeyink, 1990; Reader, 1995; Hlavach & Freivogel, 2011). Although technology now makes it possible to comment on the news online in real time, substantive debate about the practice has yet to take place (Hlavach & Freivogel, 2011). Permitting some degree of anonymity would seem to broaden the online conversation about the news of the day and encourage more perspectives and greater honesty. However, in practice, civility appears to suffer in anonymous commenting spaces. News editors of all online news organizations would benefit from an empirical analysis of the effects of allowing anonymous commenting on online news stories compared with requiring real names.

Statement of Purpose

This study examines the degree to which the anonymity of users affects their tendency to engage in flaming behavior in online news forums through a qualitative analysis of four different types of news stories on four different news websites, two allowing anonymous comments and two requiring use of real names. The study also examines the effect of story topic on flaming behavior, and the degree to which lack of anonymity affects willingness to participate in the discussion.

Researchers have studied the tendency to engage in flaming since the advent of computer-mediated communication. Early research suggested that flaming was caused by the reduced social cues in CMC. Advocates of this Reduced Social Cues (RSC) model argued that the relative absence of non-verbal clues such as facial expressions, tone of voice, inflection and gestures caused an increase in uninhibited, anti-normative behavior (Kiesler, Siegel, & McGuire, 1984). Later research disproved this view, concluding that flaming was more complex, with

anonymity, the norms of the virtual community, and the nature of the subject matter all affecting the tendency to engage in hostile speech. This study seeks to add to the existing body of knowledge related to flaming in CMC, and the specific effects of anonymity, while also providing news editors with empirical data with which to inform the policies they establish for commenting on the news online.

Definitions of Terms Used

This study examines the communication that takes place in online news website comment sections, a form of *computer-mediated communication*. The term CMC refers to “any human communication achieved through, or with the help of, computer technology” (Thurlow, Lengel, & Tomic, 2004, p. 15). Common examples of CMC include email, texting and the online comment sections that are the subject of this study.

Flaming is the term that has come to be used to describe hostile speech in CMC (O’Sullivan & Flanagan, 2003). Kayany defines flaming as “uninhibited expression of hostility” towards another person (1998, p. 1137). The *Reduced Social Cues (RSC)* model posits that the relative absence of face-to-face social cues has a negative impact on behavior in CMC (Thurlow et al., 2004, p. 60). *Disinhibition* is any behavior characterized by an apparent reduction in concern for self-presentation and the judgment of others. (Joinsen, 1998, p. 44).

In popular culture, there is now even a name for those who enter online comment spaces anonymously for the purposes of attacking others. They are called “trolls” and their behavior is referred to as “trolling” (Bowerman, (2011).

Organization of Remaining Chapters

Chapter 2 begins by examining the historical basis within journalism for disallowing anonymous comments. The chapter continues with a critical review of the research done on the problematic practice of flaming in CMC, including a specific examination of the degree to which anonymity heightens aggressive commenting behavior. Little research has been done specifically related to online news commenting because this is a relatively new area, so the literature review also highlights the need for measuring and evaluating flaming in online news story comments in relation to degree of anonymity. Chapter 2 concludes by proposing an applied research project using an outcome evaluation approach to examine the degree to which anonymity impacts flaming in online news sites. Chapter 3 describes the scope of the study and the method to be used to investigate the study's research question. Chapter 4 presents the findings of the study, including data analysis, results and a discussion of the outcomes. Chapter 5 identifies limitations of the study and makes recommendations for further research opportunities, and then concludes with a summary of the study.

Chapter 2 - Literature Review

This section begins by stating the philosophical assumptions underlying this study, and the theoretical foundation of communication theory upon which the study is built. Next, the study reviews the historical practices and guiding principles used by journalists regarding the public opportunity to engage in commenting on news stories. Finally, the literature on the practice of flaming is examined, including definitions of flaming, the degree to which CMC contributes to flaming, and the role of anonymity in promoting flaming behavior. The review concludes with a summary of the gaps in existing research in relation to the focus of this study.

Philosophical and Theoretical Foundation

The Credo for Communication Ethics by the National Communication Association calls for “truthfulness, accuracy, honesty and reason as essential to the integrity of communication” (Griffin, 2009, Appendix C) because all communication conveys values. In face-to-face communication, people understand that how they communicate counts because there is a person in front of them whose verbal and nonverbal reactions will signal them if they fail to communicate in a respectful, ethical way. This study is grounded in the philosophical belief that how we behave when we communicate still counts, and this fundamental truth still applies even though new digital technologies have made it possible for people to exchange information, emotions, and opinions with people from other cultures and even on the other side of the world via website comment spaces.

This study relies upon the oldest ideas of the Rhetorical tradition, dating back to Aristotle, in asserting that words have persuasive power, even and especially in new digital expressions such as news story comments. This study is built upon the Socio-Cultural Tradition (Griffin, 2009), and the specific theory of Coordinated Management of Meaning, which holds

that people in conversations, even digital ones, co-construct their own social realities and are at the same time shaped by these worlds that they create (Pearce, 2004). Flaming rather than civil discourse in online news story forums - and the reaction of others depending on their actions - is a modern technology-based version of this long tradition of inquiry into the ways in which people co-create the reality of the spaces they inhabit. The design of this study draws upon the Socio-Psychological tradition in believing that study and observation can identify cause-and-effect relationships in human communication behavior (Hovland, Janis, & Kelley, 1953), specifically the effect of anonymity in encouraging online flaming communication.

This study of the tendency to engage in flaming behavior, and the variables that either contribute to or inhibit that behavior, is based on the philosophical assumption that journalists as a group of professionals have a moral, ethical responsibility to not merely report the news but to promote an informed public (Boeyink, 1990; Reader, 1995; Hlavach & Freivogel, 2011), and that the story commenting space has an influential rhetorical role, and is an important way in which participants in this discourse co-create either a civil or uncivil online community.

History of Anonymity in News

Within the community of news reporting, commenting on the news by news consumers has historically been restricted, excluding those who do not fully identify themselves (Boeyink, 1990). For example, anonymous Letters to the Editor of newspapers are routinely rejected, and anonymous sources are used in news stories only in rare and specific instances. Participation in the conversation about news has been limited by editors, who are following practices set down as industry standards articulated in the Handbook of the Society of Professional Journalists (1996) which view anonymous sources as less credible and trustworthy. There are legal as well as journalistic reasons that news commenting has been restricted. Defamation laws have led news

organizations to avoid publishing anonymous statements when there is a risk of legal action (Martin, Caramanica, & Fargo, 2011).

However, Reader (2005) argues this long-standing practice of excluding anonymous voices has unfairly silenced some voices and suppressed discourse. The reasons used by editors to exclude anonymous letters from the Letters to the Editor section fail to account for the benefits that can come from including anonymous voices, including the expression of unpopular views and the sharing of inside information that could put the discloser or whistleblower at risk (Reader, 2005). Feighery (2011) asserts that journalism itself would be improved by involving the public more in the process of critiquing news coverage. While journalists have a long-standing tradition of internal evaluation and criticism, input from the public has been limited; Feighery argues that including public voices, even anonymous ones, in the process of media criticism would improve media credibility as well as reporting quality.

Some news organizations that have not allowed anonymous comments in their print editions now routinely permit anonymous comments using pseudonyms on their online websites. Hlavach and Freivogel (2011, p. 23) note that “news organizations may have had certain ethical goals and values in mind when they decided to enable readers to submit comments at the end of news stories,” but the authors provide a case study of a crime story in Chicago in which flaming behavior, defined as name-calling and personal attacks, far outpaced any constructive comments on the story. The authors conclude that journalists are engaged in “cognitive dissonance” (p. 35) by banning anonymity in print while allowing it online, and they recommend development of a unified policy for anonymity in commenting. However, their case study is limited by the fact that they only reviewed a news website where anonymous comments were allowed, and did not examine the incidence of flaming on news stories where those who commented were required to

use their true identities. Thus, their study fails to adequately address the larger question of whether flaming is a function of the online medium, or a function of degree of anonymity, or a combination of the two.

The Social Impulse and Computer-Mediated Communication

As the internet has become ubiquitous, the forms and uses of CMC have grown dramatically, reflecting people's social impulse to connect (Thurlow, Legel & Tomic, 2004). People can and now do connect and communicate through a wide range of websites, online forums and social media platforms, and they often don't have to use their true identity.

Studies have identified numerous motives for being anonymous in using CMC. Wang and Chang (2010) conducted a field research study to develop a comprehensive scale for understanding the motives of people who went online to develop relationships. They developed nine factors that they tested and distilled down through a series of paper-and-pencil studies with students, concluding that the three core motives for seeking online connection were the desire for adventure, escape, and romance.

Anonymity has been identified as both a benefit and a negative in CMC. On the one hand, the anonymity of CMC has been seen as a benefit to those who might otherwise be too shy to express themselves. Roberts, Smith, and Pollock (2000) found that anonymity led people to open up and disclose more than they would have otherwise. On the other hand, researchers have also found that verbal aggression was significantly more common in anonymous CMC than in face-to-face communication (Siegel et al., 1986). Other studies have identified additional important effects of anonymity in CMC, including disinhibition and deindividuation, as well as polarization, conformity and cohesion (Thurlow et al., 2008). Joinsen defines disinhibition as “any behavior that is characterized by an apparent reduction in concern for self-presentation and

the judgment of others” (1998, p. 44). This description is consistent with the behavior of so-called “trolls” who purposely make comments to antagonize others in CMC and are not deterred, or are even encouraged, by the negative response of others. In cases of deindividuation, on the other hand, the group activity becomes more important and the individual’s self-awareness diminishes, as though merging into the group (Thurlow, et al., p. 63), for example when individuals adopt the social norms of acceptable behavior in a comment thread, either good or bad. The apparent rise in “trolling” by individuals who frequent online comment forums for the purpose of engaging in flaming (Bowman, 2011) has led to the question of whether there is something inherent in CMC that encourages aggressive flaming behavior.

Flaming in CMC

Early research into the nature of flaming in computer-mediated communication hypothesized that aggressive behavior was more likely because it was presumed that CMC was deficient in social cues compared to face-to-face communication (Kiesler, Siegel, & McGuire, 1984). As a result, advocates of the Reduced Social Cues model concluded that the medium itself was the cause of less inhibition and greater aggression (Kiesler, Zubrow, Moses, & Geller, 1985; Siegel, Dubrovsky, Kiesler, & McGuire, 1986). Kiesler (1985) conducted an experiment where previously unacquainted pairs got to know each other either face-to-face or via CMC. They found that those who used CMC showed more uninhibited behavior, were significantly more impolite and swore more than those who met face-to-face. Siegel (1986) had small groups participate in discussions about choice-dilemma problems via synchronous CMC and face-to-face. They found that most uninhibited remarks were made in the anonymous CMC context, and that this behavior was four times more common in anonymous CMC than in CMC where anonymity was not allowed. Joinsen (2001) varied the degree of visual anonymity among test

subjects and found that visual anonymity through CMC resulted in reduced inhibition and higher levels of personal disclosure.

These early studies suffered from two weaknesses. First, they lacked a focused definition for what is now called flaming. Early studies counted any kind of uninhibited behavior, including flirting and even exclamations (Lea et al., 1992); as a result, early research likely overstated the incidence of flaming in CMC due to an overly broad definition. Later research would more precisely define flaming as “uninhibited expression of hostility” towards another person (Kayany, 1998, p. 1137).

Second, these early examinations of flaming predicted that the uninhibited behavior was due to the nature of CMC itself. Based on that hypothesis, flaming should be equally pervasive across all types and applications of CMC, cropping up wherever people use that medium. In fact, subsequent research found wide variations in the prevalence of flaming in CMC depending upon the specific context. For example, Kayany (1998) conducted a one-week content analysis of four different categories of internet newsgroups – asynchronous discussion groups that were the early version of today’s Google Groups and Yahoo Groups -- where both the topics and the country of the user varied. The study found dramatic differences in the prevalence of flaming behavior between the four newsgroups. For example, the politics newsgroup predictably had by far the highest incidence of flame posts, whereas the newsgroup devoted to Japan had almost no flaming at all.

Kayany’s findings were consistent with an alternative explanation for flaming put forth by Lea et al. (1992) in their critical review of previous CMC flaming research. The authors argue that flaming is “normative behavior that takes place within a social context that is pre-defined or communicated via the medium” (p. 109). Under this model, which they termed the Social

Identification Model of Deindividuation Effects (SIDE), flaming is best understood as a kind of behavior that is most significantly dictated by the social context in which the behavior occurs. The computer user's perceived 'social identity' as a member of a group is seen as overriding their 'personal' identity in CMC situations. Kayany (1998) points to the cultural norm in Japan against public disagreement as consistent with the findings that the Japan newsgroup had the lowest incidence of flaming of the newsgroups studied.

Moor (2010) tested this theory of socially defined norms by presenting subjects with one of two comment threads, and offering them the option to respond with a comment of their own. One group was shown a story with flame comments attached to it, while the other group was shown a story with relatively neutral comments. Based on the SIDE theory of Lea et al. (1992), Moor predicted that participants in the online forum would conform to the posting behavior of those who preceded them. In fact, those who were exposed to a comment thread that included flame posts were three times more likely to post a flame comment themselves.

The effort to place flaming in its social context was further refined by O'Sullivan & Flanagin (2003), who argued that the perceived prevalence of hostile CMC behavior was potentially exaggerated due to a lack of contextual understanding of the norms of online groups. They advocated for an interactional-normative view of flaming that takes into account the meaning that so-called hostile posts have to those within the CMC group. They argued that some perceived flames are actually missed, or misunderstood speech. While they did not conduct any actual tests of their normative framework, they did argue persuasively that context counts, and that an observer may incorrectly infer a flame in a communication between two parties where the context between the participants makes it 'normal' and understood speech.

In a similar vein, Lee (2005) conducted a two-year case study of a single internet comment group. Like Moor (2010), Lee found that political topics led to the highest rate of flaming, and he concluded that the geographical dispersion enabled by CMC made it easier for group members to come in contact with those who held differing political viewpoints. Lee's study was limited to a single group whose members were, on average, all over the age of 40, so it's unclear whether the findings can be generalized to the larger population of CMC users of all ages. Nevertheless, Lee found that the members of the group developed their own strategies for coping with flaming behavior by others within the group, a kind of self-policing strategy consistent with the normative model proposed by O'Sullivan and Flanagin (2003).

Anonymity and Flaming

Recent research into flaming behavior has effectively rejected the earlier theory that the medium of CMC was the cause of uninhibited online behavior. Lea et al. (1992) and others have argued persuasively that flaming occurs in a social and normative context. However, these studies do not address the motives of those who seek anonymity, nor do they examine the extent to which the degree of anonymity affects flaming behavior.

Chen, Chen, Lo and Yang (2008) sought to identify CMC users' rationale for seeking out anonymity in online experiences. Using 600 subjects, the researchers offered three levels of anonymity, from real name to pseudonym to total anonymity, matched with four online environment choices including personal email, members-only newsgroups, public newsgroups, and online chat rooms. Based on the subjects' choices, the authors concluded that certain personal characteristics motivated users to seek out pseudonyms and anonymity, including fear of negative evaluation, having an authoritative personality, empathy, and concerns around self-esteem. The study falls short of documenting how the choice of degree of anonymity impacted

online behavior on the spectrum of civility. However, it does provide valuable insight into the motivations of people who prefer online anonymity.

Because commenting on online news stories is relatively new, there is a dearth of research. Much of the evidence for the problem of flaming in online news sites comes from coverage in the news media itself. In a newsmagazine report, Goldsborough (2011) examined one popular news site and found a strong preference for anonymity among those posting comments. Only three of the 108 participants chose to use their real names; the rest used some kind of pseudonym with which to post comments. Flame posts in news sites are perceived to be so widespread and problematic, notes Bowman (2011), that the terms “troll” and “trolling” have become widely used to describe individuals who go online anonymously for the purpose of attacking others in these forums.

In their case study of news comments on a crime story in Chicago, Hlavach and Freivogel (2011) found multiple examples of flames by anonymous comment posters, including verbal attacks on the victims and suspects in the crime, wild speculations about motives, and multiple off-topic rants unrelated to the specifics of the news report. Permitting these anonymous comments is inconsistent with past practices by those same news organizations when considering anonymous comments for print publication (Boeyink, 1990; Feigherty, 2011; Hlavach & Freivogel, 2011).

Other news websites have begun to experiment with the idea of requiring true identities in order to comment on the news. Alanesius (2011) reports on a new commenting technology from Facebook that displays a user’s Facebook identity, including name and even photo, next to their comments. The author reports that the popular online technology news service TechCrunch implemented the Facebook-based commenting and, anecdotally, the editor of the blog told the

reporter that the volume and degree of flaming posts dropped dramatically after the switch from anonymous to public commenting.

Summary and Research Questions

Although early CMC researchers argued that CMC was lacking in visual cues and therefore caused more uninhibited behavior, subsequent research persuasively documented that flaming behavior in CMC is a more complex process that also reflects the contextual norms of the online community as well as the social identity of the participants.

While flaming behavior may not be caused by the medium of CMC, there are clearly certain contexts in which flaming is more likely to occur in CMC. Multiple studies have identified political topics as prone to higher incidence of flaming. There is also clearly a connection between anonymity, which is facilitated in CMC, and flaming. Studies have identified a variety of reasons why users of CMC might seek out anonymity (Wang & Chang, 2010), and research supports the conclusion that flaming is most common in the format of total anonymity.

Commenting anonymously on the news is a relatively recent phenomenon. Traditional print news organizations have a long-standing practice of not publishing anonymous comments in newspapers. However, with the rapid growth in popularity of the internet and online news, many of these organizations now permit anonymous commenting on the online versions of those same stories. In a case study analysis, Hlavach and Freivogel (2011) found that flaming was widespread on a Chicago newspaper's website story about a violent crime. In contrast, Feigherty (2011) argued that the credibility and quality of journalism is enhanced by allowing the public to have a voice in critiquing the news, and he faults the past practice of excluding anonymous voices. Both researchers agree that news media outlets today lack a consistent policy around

when and whether to allow anonymous commenting on the news. Alanesius (2011) offers anecdotal evidence from a popular blog that switched to non-anonymous commenting that flaming was dramatically reduced by eliminating anonymity.

Additional research into the effect of anonymity on flaming behavior in online news forums is essential in order for news editors to be able to develop commenting policies that meet their moral and professional duty to promote constructive public discourse. There is a specific need for understanding the degree to which requiring real names changes the nature of online discourse; and, whether applying “terms of service” relating to flaming, and enforcing those via moderated comments, results in different online commenting than in un-moderated, anonymous comment spaces. The next section summarizes the purpose of this research study and the research methods used to investigate the effects of anonymity on flaming in online news story comments.

Chapter 3 – Scope and Research Method

Scope and Purpose

The purpose of this study was to test the hypothesis that readers of online news website stories are more likely to engage in flaming behavior when they are allowed to post comments anonymously than when they are required to use their real names. Qualitative analysis of actual story comments made on online news websites, in both anonymous and real-name scenarios, was used to assess the effects of anonymity on the frequency of flaming behavior. The study also tested the relevant related hypothesis that being required to use one's real name can have an inhibiting effect on expression, an argument made in defense of permitting anonymous comments (Reader, 2005). The scope of the study was limited to the relationship between anonymity and flaming behavior specifically in the category of online news website story comments.

The research question was tested by sampling the actual comments posted on four popular online news websites in Portland, Oregon. Two of the websites permitted forms of anonymous commenting, one of which regularly moderated comments and one which did not; the other two websites required users to display their real names in order to comment. This study was limited in scope to the comments posted on the three largest local news websites in this market and specifically to the variable of anonymity in comment posting and the degree of moderation of those comments.

Research Method

Applied research using an outcome evaluation approach was used to examine the impact of anonymity on flaming behavior. The specific research method for this study consisted of a

quantitative comparative analysis of comments made on a specific story topic by readers of four different presentations on online news websites, two of which permitted anonymous commenting and two of which required users to submit comments to use their real names. The number of flame posts in the different scenarios was scored and compared to determine the relationship between anonymity and incidence of flaming. Total number of responses was also totaled to examine the impact that the variable of anonymity had on participation.

Sample

The population of interest for this study consists of the subset of individuals who comment on online news stories. The sample for this study was drawn from three large local news websites in metropolitan Portland, Oregon. The website of the city's most-watched TV news station, *kgw.com*, receives 10 million page views per month and allows users to comment anonymously on news stories, and does not actively moderate those comments. At the same time, it posts those same news stories on its TV news Facebook page, where users must use their real name to comment on the stories. The city's top newspaper, *oregonlive.com*, receives 20 million page views per month and permits anonymous commenting on news stories but actively moderates those comments. The Vancouver Columbian, the second largest regional paper, requires users to display their real names via the Facebook comment tool in order to comment on the news online.

The Oregonian newspaper website *oregonlive.com* and the KGW-TV news website *kgw.com* both allow users to make up a screen name and to post whatever comments they wish using that alias. On the KGW-TV news Facebook page www.facebook.com/kgwtv8 and on the Vancouver Columbian newspaper website *thecolumbian.com*, commenting users must disclose their true identities through the use of Facebook's commenting tool, which displays a user's real

name and photo icon. For this study, the research sample consists of those people who actually chose to comment, via anonymous and true identity options, on four specific story topics published to all four online news websites.

Method

Comments were coded as flame or non-flame comments as defined by Kayany (1998) to test the effect of anonymity on flaming behavior. A quantitative analysis was also performed to determine the total number of comments on stories in the anonymous and real-name scenarios. This method of testing the hypothesis was selected because the data sample captured the actual behavior of real readers of online news stories. Using real-world data has much higher external validity than attempting to accurately simulate the full context of this environment in a test or laboratory situation. In addition, laboratory tests can often include unrepresentative samples of the population that is the subject of the research. In this case, the sample population was highly representative of the target population because it consisted of those who actually comment on online news stories.

This method was also expected to have high construct validity because there were few differences between the two test groups other than the variable of commenter anonymity. The news websites themselves have similar demographics and similar editorial approaches. There was some potential for inconsistencies in internal reliability due to the fact that the real-name scenario requires those who submit comments to be members of the social networking website Facebook. Even though Facebook membership is nearly ubiquitous (Nielsen, 2010), requiring a Facebook profile in order to comment does slightly limit and therefore potentially distort the data of the group in the real-name commenting scenario.

To control for and assess the impact of story topic on commenting (Lea et al., 1992; Kayany, 1998), one story was selected from each of four common categories of news reports: a controversial story, a political story, a crime story, and a news feature story. Frequency of flaming behavior was compared between anonymous and real-name scenarios and then also between types of stories.

Data Analysis

Coders were used to analyze story comments to determine frequency of flaming behavior. The coders were instructed to apply the definition of flaming as “hostile, aggressive speech that attacks others or uses epithets” (Kayany, 1998) and then they coded the responses under the scenarios of anonymity versus real name. In addition, the total number of comments in anonymous versus true identity scenarios were counted and compared to see if requiring true identity had a suppressing effect on participation.

Trustworthiness/Anonymity

Two coders were used to minimize researcher bias in interpreting the qualitative data. Also, two coders were used to code all data instead of just one in order to triangulate the coding process. The individual results were averaged to minimize the effect of potential coder bias in interpreting and applying the definition of flaming. Using two coders also made it possible to analyze the individual results in order to assess the degree of variability resulting from subjective application of the definition of flaming. These steps were put in place to insure maximum data validity and to minimize the risk of researcher bias.

The next section of this study presents the data from the research and analyzes the results, including the relationship between anonymity and frequency of flaming behavior, as well as a

quantitative analysis of whether requiring real names suppressed participation, as measured by total comments in anonymous versus real-name scenarios.

Chapter 4 -- The Study

Introduction

For this study, four news stories were selected using the following criteria: the stories appeared on all four news web pages, the story text was similar if not identical, there were comments on those stories, and the stories met the criteria for diversity of news topic. The stories reviewed all appeared online between May and October of 2011. The stories were representative of the types of stories found on news websites, including a crime story, "Casey Anthony acquitted of murder"; a controversial story, "Debate over showing Bin Laden death photo"; a political story, "Dozens arrested in Occupy Portland protest"; and a local news story, "Portland passes plastic bag ban." Of the four stories, the Casey Anthony verdict and Bin Laden stories were written by the Associated Press and so the identical text appeared in all online publications. The Occupy Portland arrests and plastic bag ban stories were locally written but contained similar in content across all websites.

Four versions of commenting were compared for this study. Anonymous comments were reviewed on the TV news website KGW.com; KGW.com also posts those same stories, inviting comments, on its news Facebook page and those comments, which require real names, were compared; The Oregonian newspaper website oregonlive.com allows anonymous comments but moderates those comments actively; and The Columbian news website columbian.com incorporates Facebook commenting within individual stories, and requires real names.

Two coders were provided with the definition of flaming (Kayany, 1998) and scored the four different stories on the four websites, grading whether the comments met the definition of flaming. In addition, the number of comments in anonymous and real-name scenarios was counted to test the idea that lack of anonymity suppresses participation.

Data Analysis and Results

A total of 1,114 comments were tabulated across the four stories as they appeared on the four different websites. On average, there were 70 comments posted per story per website, with a high of 211 comments on one story and a low of zero on one story.

Flaming and Anonymity

For each one of the four stories, flaming was more common in the anonymous scenario than in the real-name scenario. For all four stories combined, flame comments were five times more common in the anonymous scenario, with 5 percent of anonymous posts deemed flame comments whereas only 1 percent of real-name posts were rated as flame comments (Table 1).

Table 1

Flaming prevalence: Anonymous versus real-name commenting

Story	Anonymous	Real name
Story 1: Occupy Portland	9 %	2%
Story 2: Anthony verdict	3 %	1 %
Story 3: Bin Laden photos	5 %	1 %
Story 4: Portland bag ban	3 %	2 %
Total (Average)	5 %	1 %

The website that actively moderated anonymous comments resulted in a significant reduction in the number of flame comments reported, compared to the un-moderated site that allowed anonymous comments. Across the four stories, flame comments were twice as common on un-moderated anonymous news stories (6.75% of comments rated as flames) as on the moderated anonymous news stories (3.25% of comments reported as flames). Nevertheless,

flame comments were still more common even on the moderated anonymous commenting website than on the websites that required real names from users.

Table 2

Frequency of flaming by identity and story type

Story	Anonymous, un-moderated	Anonymous, moderated	Real name, Facebook	Real name, Story page
Story 1: Occupy Portland	13 %	5 %	3 %	2 %
Story 2: Anthony verdict	3 %	3 %	2 %	0 %
Story 3: Bin Laden photos	8 %	1 %	1 %	0 %
Story 4: Portland bag ban	3 %	4 %	3 %	0 %
Total (Average)	6.25 %	3.25 %	2.25 %	0.5 %

Commenting with real names using the 'Facebook Comment' tool resulted in consistently low reports of flaming, less than 2 percent, whether the comments appeared beneath the news website's story or on the news website's Facebook page (Table 2). Users commenting with their real name were slightly more likely to engage in flaming behavior in the Facebook commenting environment (2.25 percent) than using Facebook comments within the news story environment (0.5 percent), although the later number may be less reliable due to the smaller sample size of comments.

Flaming by topic

Flaming behavior varied significantly by story topic. Overall, 5 percent of anonymous comments were rated as flames. However, frequency of flaming varied between stories (Table 1). The report of arrests at Occupy Portland had almost twice the frequency of flaming (9 percent

of comments), while the news report on the banning of plastic bags, and the Casey Anthony verdict resulted in lower rates of flaming (3 percent). In the real-name scenario, flaming did not vary significantly by topic, with all stories resulting in a rate of flaming of between 1 and 2 percent.

Effect of anonymity on participation

Three of the four methods of commenting saw comparable rates of participation. Commenting on news stories via a news station's Facebook page (96.5 comments per story) and commenting anonymously on moderated news stories (94.25 comments per story) had the highest rates of participation, followed closely by anonymous comments on un-moderated news stories (74.75 comments). Real-name comments within news stories using Facebook (13 comments) had a significantly lower rate of response, and one of the four news stories generated no comments at all.

Inter-rater reliability

Comments were scored by two different reviewers to assess the degree to which interpretation of the definition of flaming affected results. The use of two reviewers made it possible to evaluate inter-rater reliability in scoring comments (Table 3).

A comparison of the ratings by the two reviewers revealed differences in interpretation of flaming from one article to another; however, analysis of the data showed that the two reviewers came to the exact same overall ranking for best to worst websites on the criterion of frequency of flaming. Also, the two reviewers were within one-half of one percent of each other in their overall assessment of the frequency of flaming, suggesting that the reviewers had the same basic understanding of the concept of flaming; and, that using two reviewers and averaging their

scores had a beneficial effect on reducing the variability in interpretation of individual story comments.

Table 3

Inter-rater reliability (percent of comments scored as flames)

Story	Reviewer A	Reviewer B
Anonymous, un-moderated	6.75 %	6.5 %
Anonymous, moderated	4 %	2.5 %
Real-name, Facebook page	3 %	1.5 %
Real name, website story page	0 %	1 %
Total (average)	3.375 %	2.875 %

Discussion

Flaming was five times more common on news stories that allowed anonymous comments than those which required users to display their real names, a finding that supported the main thesis of this study. Degree of flaming behavior in anonymous situations varied significantly by story topic, with the political/controversial topics eliciting the highest rate of flame comments. These findings are consistent with studies by Lee (2005) and Moor (2010), who also found that political topics resulted in the highest rate of flame comments. Flaming was less common in all real-name scenarios and, interestingly, the degree of flaming did not vary significantly by topic in real-name scenarios.

Controlling for degree of moderation in anonymous commenting demonstrated that moderation can reduce the rate of flaming compared to an un-moderated forum, as expected.

However, even the moderated anonymous comment space resulted in more flaming behavior than either of the un-moderated scenarios where users were required to use their real names. This result confirms the direct relationship between anonymity and the likelihood of engaging in flaming behavior on online news stories. This finding also suggests the powerful self-moderating effect of group norms, i.e., that deindividuation can be a more effective as well as a more time-efficient method than having an actual designated moderator of the discussion.

An argument advanced in favor of anonymous commenting is that requiring true names has a suppressing effect on participation. This assertion was tested by tabulating total comments in the anonymous versus real-name scenarios. Participation rates were actually higher in some real-name scenarios, compared to commenting anonymously. However, there was a wide gap in participation between the two real-name scenarios, and the small size of the sample in the real-name, story-based group may lessen the validity of this portion of the research findings.

The final section of this study summarizes the findings, identifies potential mitigating factors that could have affected the meaning and reliability of this data, and identifies logical next steps for further research and inquiry.

Chapter 5 – Summary and Conclusions

Discussion

The review of literature on user behavior in CMC suggested that anonymity would result in a significantly higher rate of flaming in online news story comment sections than when users were required to use their true identity. The literature review also suggested that being required to use one's real name would lead to lower rates of participation than in scenarios where commenting was anonymous. The effect of anonymity versus requiring real names for commenting on the news is an important extension of existing research into flaming communication in CMC, and also has significant practical policy implications for online news organizations as they develop commenting policies for these new discussion spaces that have the effect of promoting civil discourse and minimizing flaming communication in these increasingly important virtual communities.

This study found that flaming was five times more common under anonymous commenting scenarios than in situations where real names were required. The study also found that, within the anonymous commenting scenario, moderating comments had a meaningful effect on reducing the frequency of flaming. This is consistent with the findings of Moor (2010), who found that individuals commenting in CMC tend to conform their communication style to the established norms; those who encounter fewer flaming communication are themselves less likely to engage in flaming. Compared to anonymous commenting, those who posted comments under the real-name scenario were consistently less likely to engage in flaming, regardless of whether those comments appeared beneath the news story or on the news station's Facebook page.

The findings of this study also contradict claims that requiring real names would suppress participation. In fact, the highest participation rate of the four studied examples was recorded in

one of the real-name scenarios. Coupled with the fact that news organizations offer multiple ways for news tips to be reported anonymously, this finding suggests that the demonstrated benefits of requiring real names as a way of reducing flaming and promoting civil discussion are not accompanied by any offsetting reduction in discussion participation rate.

Limitations

Additional research is necessary to validate the findings of this study, and to further refine the understanding of flaming behavior in anonymous versus real-name identity situations. This study specifically examined commenting behavior in Portland, Oregon on the websites of two newspapers and a television station. These results should be tested to control for the effect of geographic region to insure that the findings are representative of other areas. In addition, direct comparisons within a medium (newspaper to newspaper, TV news site to TV news site) would help to exclude any possible medium-specific variations in the findings. Lastly, the smaller online audience size of one of the newspaper websites in this sample contributed to a significantly lower rate of commenting across all story types; further study using news websites with a larger audience reach would yield larger study samples and greater data reliability.

Further Study

An area worthy of more specific study is the relationship between flaming communication and the topic of a news story. Previous studies have identified topics that resulted in higher and lower rates of flaming in CMC. For example, political topics tended to see higher rates of flaming communication (Kayany, 1998; Lee, 2005). This study also found that flaming varied by topic, with the most political story eliciting three times more flaming than two of the other three story topics. Further study of the effect of topic would yield deeper insight into

the understanding of the relationship between flaming communication and topic, and provide valuable practical information for online news editors.

The normative model advocated by O'Sullivan and Flanagin (2003) suggests that moderation of comments by a news organization might be unnecessary because groups will develop their own norms and engage in self-policing. A content analysis of the comments reviewed in this study revealed anecdotal evidence for this self-policing behavior. Specifically, some of the comments on a given story specifically addressed the communication style of others who had commented on the story. The capacity for online commenting groups to police themselves without the help of an editorial moderator is an area worthy of further investigation. It would be especially interesting to examine whether this self-policing tendency is affected by whether those who are commenting are anonymous or using their real names. It would also be worthwhile to interview those responsible for the moderated online news websites to gather data on their experiences.

Conclusions

In our increasingly wired world, the internet has become a primary source for many news consumers (Pew Center, 2011). Technology now permits readers of online news to comment directly on the stories they are reading, often anonymously, resulting in reports of flaming communication on news websites (Bowman, 2011; Hlavach & Freivogel, 2011). Problems with flaming have even led some news websites to ban anonymous commenting (Alanesius, 2011). These reports are consistent with previous studies documenting instances of flaming in earlier forms of CMC (Kayany, 1998; Lee, 2005).

This study confirmed the hypothesis that people are more likely to engage in flaming when allowed to comment anonymously than when they are required to use their real name.

Furthermore, moderating anonymous comments reduced the rate of flaming compared to stories whose comments were un-moderated. Reeder (2005) argued that excluding anonymous voices would discourage. However, the study found that requiring real names did not reduce rate of participation in the online comment space.

Coupled with research showing a moral-ethical basis for forbidding anonymous comments to the Letters to the Editor section of newspapers (Boeyink, 1990), the findings of this research study provide further support for the recommendation by Hlavach and Freivogel (2011) that news editors should restrict anonymous commenting on their online news stories, consistent with existing practices which strictly limit anonymous comments on other media platforms like the newspaper and televised news. Moderating anonymous comments or requiring real names in order to comment on the news is the most effective way to promote civil online discourse and minimize flaming communication in these important online comment spaces.

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