

Email Flaming Behaviors and Organizational Conflict

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This study explores whether the attributes listed in the literature on flaming in email are considered characteristic of flaming by actual email users. Through the creation of a semantic differential scale—called the Message Invectives Scale—the study took eight concepts found in more than 20 research articles on flaming and examined email users' responses to a set of 20 messages in relation to those eight characteristics. Findings indicate that in each of the 20 cases, six of the original eight concepts relate to each other to form a common set, which also correlates positively with perceptions of flaming. Some of the messages that scored high for flaming contained profanity, all capital letters, excessive exclamation points or question marks, indicating that these attributes also relate to flaming. Based on these findings, recommendations are advanced as to how email should be used to avoid negative attributes that can lead to organizational conflict.

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Introduction

Much research has been conducted on the effects of computer-mediated communication (CMC) on work life. Many studies have focused specifically on how email plays a role in organizational conflicts. While some researchers claim that email plays a positive role by flattening organizational structures, allowing for greater information exchange among more people and enhancing socialization (Spence, 2002; Sproull & Kiesler, 1986; Walther, 1995), others contend that this form of communication invites more conflict—manipulative and disrespectful behavior that escalates anger and reduces productivity—through the reduction of social cues and depersonalization of the other, which can lead to exchanges of negative emails between two or more people (Friedman & Currall, 2003; Harrison & Falvey, 2002; Landry, 2000; Markus, 1994; Moore, Kurtzberg, Thompson, & Morris, 1999; O'Sullivan & Flanagan, 2003).

Such conflictual messages are often referred to as “flames” (Baruch, 2005; Cleary & Freeman, 2005; Landry, 2000; Markus, 1994; McGuire, Kiesler, & Siegel, 1987;

Siegel, Dubrovsky, Kiesler, & McGuire, 1986). More generally, although there are different definitions in the literature as to what constitutes a flame, most studies claim that messages showing attributes such as hostility, aggression, intimidation, insults, offensiveness, unfriendly tone, uninhibited language, and sarcasm can be considered flames. In addition, other attributes, such as the use of profanity, all capital letters, or numerous punctuation marks at the end of a sentence in email messages, are sometimes said to be characteristic of flaming.

Despite this body of literature, few studies have attempted to test empirically what constitutes a flame for actual email users. This study sought to explore whether the attributes listed in the literature are considered characteristic of flaming by people who use email on a regular basis. Knowing what characteristics in email messages constitute a flame could help email users better understand what aspects in email messages will likely lead to conflict. The intent was to accomplish two goals: first, to determine what characteristics in email messages could cause conflict, and second, to determine whether these same characteristics correlate with what is called a "flame." Through the creation of a semantic differential scale—called the Message Invectives Scale—the study took eight different concepts found in more than 20 research articles on flaming and examined email users' responses to a set of messages in relation to those eight characteristics. The characteristics tested were hostility, aggression, intimidation, insults, offensive language or tone, uninhibited behavior, sarcasm, and unfriendly tone. These items were chosen because they are the most consistently used attributes to describe flaming in the previous literature.

The Message Invectives Scale was then used in a survey containing 20 actual email messages that was distributed to 196 respondents, who rated each message according to the eight items in the scale, along with a variable called flaming to be compared to the eight variables. The assumption was that messages that were rated high for some or all of the items in the scale can be considered flames and, therefore, messages with the potential to cause conflict. The responses were used to determine 1) whether the eight variables interrelate with each other in the participants' responses to the email messages and 2) whether the eight variables correlate with the variable labeled flaming.

In what follows, I review the existing literature on flaming and how it has been defined, followed by a review of the literature which explains how flaming can cause and exacerbate organizational conflict. After presenting the survey methodology in detail, I then describe how respondents reacted to the 20 email messages using the Message Invectives Scale. The findings indicate that in each of the 20 cases, six of the original eight concepts relate to each other to form a common set, which was also found to correlate positively with the variable called flaming. In addition, some of the messages that scored high for flaming contained profanity, all capital letters, and excessive exclamation points or question marks, suggesting that messages containing those attributes could also cause potential conflict. Based on these findings, recommendations are advanced as to how email should be used to avoid negative attributes leading to organizational conflict. The term "organization" is used in this study to refer to a wide range of entities, not just entities in the business arena.

What is Flaming?

The term “flaming” first appeared in print in *The Hackers Dictionary* (Steele, 1983), where it was defined as: “to speak rapidly or incessantly on an uninteresting topic or with a patently ridiculous attitude” (p. 63). Since then, the definition has evolved to take on a number of different meanings, although the general consensus is that it is an email that is negative in tone. Although numerous studies have been conducted on the phenomenon, there is no firm agreement as to which attributes actually constitute a “flame” (Aiken & Waller, 2000; Castella, Zornoza Abad, Alonso, & Peiro Silla, 2000; Denegri-Knott & Taylor, 2005; Kayany, 1998; Thompsen & Foulger, 1996). In general, definitions range from people being merely unfriendly (Jensen, 2003; Yerxa & Moll, 1994), to sarcastic (Kayany, 1998; Thompsen, 1994), to the most commonly used adjectives to describe a flame—hostile, aggressive, uninhibited, intimidating, insulting, and offensive. For example, O’Sullivan and Flanagan (2003) define flaming as “a concept emerged from popular discourse surrounding the online community to describe aggressive, hostile, profanity-laced interactions” (p. 70). Landry (2000) refers to the phenomenon as “uninhibited and aggressive communication” (p. 139). Lea et al. (1992) call it “the hostile expression of strong emotions and feelings” (p. 156). Parks and Floyd (1996) define it as “verbal aggression, blunt disclosure, and nonconforming behavior” (p. 81). According to Aiken and Waller (2000), flaming constitutes “comments intended to offend others. While somewhat subjective, at the extreme flaming includes obscenities and other inappropriate comments” (p. 96). Reinig and Mejias (2004) define flaming as “verbal attacks intended to offend either persons or organizations” (p. 699). Finally, Baruch (2005) found that most people reported intimidation and insults to be the most common form of negativity in email.

In addition to the adjectives used to describe flaming, certain visual, typographic attributes of messages can also lead receivers to perceive a message as a flame. Extejt (1998), in an article on email etiquette in the business arena, warns against using all capital letters in any context, noting that it is “the equivalent of screaming” (p. 63). Cleary and Freeman (2005) add: “Some construe large bold font in uppercase as aggressive. Colour it red and it could be considered swearing!” (p. 63). Another visual aspect of email is the use of emoticons (smiley faces ☺, sad faces ☹, or other symbols) meant to mimic emotional or facial cues not present in text-only communication. Acronyms such as LOL! (laughing out loud) and J/K (just kidding) could also have an effect on how receivers perceive a message.

Thompsen (1996) found that the use of emoticons, or “pictographs,” can in some cases mitigate perceptions of flaming in email, but that the effect “diminished as the intensity of the hostility increased” (p. 225). Krohn (2004) conducted a similar study and concluded that emoticons are most useful for the younger generations that use them regularly:

It is recommended that recipients who are Traditionalists (born before 1946) should not be sent email with emoticons; those who are baby boomers (those born between 1946 and 1964) probably should not be sent email with

emoticons; those who are Generation Xers (those born between 1964 and 1980) may be sent email with some of the more common emoticons; and those who are termed Millennials (born after 1980 and coming of age after 2000) may be sent email with generous use of emoticons. (Krohn, 2004, p. 321)

Flaming and Organizational Conflict

While email has generally been regarded as a positive force in organizational communication, due to its speed, convenience, the increased social interaction it affords (Berghel, 1997), and the ability it gives people to communicate with others regardless of geographic location or time (Cleary & Freeman, 2005), it has also been cursed as a tool that creates and exacerbates conflict (Friedman & Currall, 2003; Landry, 2000). One of the main behaviors contributing to conflict via email is flaming (Baruch, 2005; Cleary & Freeman, 2005; Landry, 2000; Markus, 1994).

The occurrence of flaming in organizations is linked to a diverse set of triggers, such as the informality of the communication medium, the absence of a buffering “time lag” that might moderate response, and a lack of nonverbal feedback that might moderate and augment the interpretation. Researchers theorize that email encourages uninhibited and aggressive communications because emailers are less influenced by social norms in this environment. (Landry, 2000, p. 139)

Landry (2000) and other scholars contend that the depersonalization of the other and the lack of social cues such as facial expressions, tone of voice, gestures, and other cues found in face-to-face communication create misunderstandings between communicators, which can lead to flaming behavior (Alonzo & Aiken, 2004; O’Sullivan & Flanagan, 2003; Walther, 1995). The speed factor, for instance, can be considered a double-edged sword. Because of email’s “shoot from the hip” quality, people can fire off a message without thinking about the consequences (Baruch, 2005). In a lengthy discussion on email and organizational dispute management, Friedman and Currall (2003) note aspects of the medium that make conflict more likely to escalate. Email, they argue, is inherently more “asocial” than other forms of communication, because people often forget that another human being is at the other end of the message. “Emails are typically received and written while the writer is in isolation, staring at a computer screen—perhaps for hours at a time, so that awareness of the humanness of the counterpart may be diminished” (Friedman & Currall, 2003, p. 1329). Moore et al. (1999) add that “[i]n email negotiations, a specific misunderstanding can lead to a downward spiral of mistrust and eventual impasse. There is less interpersonal rapport to cushion the effect of a specific misunderstanding” (p. 5).

Working from the conflict spiral model (Rubin et al., 1994), Friedman and Currall (2003) claim that once an email is misunderstood as negative or aggressive, it can lead to the other person reciprocating in kind, which leads to more negative responses, and so forth. Throughout the process, the parties’ attitudes toward each

other may change. “The other is often seen as less moral than oneself, different than previously thought, untrustworthy, and perhaps an ‘enemy’” (2003, p. 1330). Similarly, Franco, Piirto, Hu, and Lewenstein (1995) use “second-guessing theory” to describe what happens when emails are misunderstood:

“Second-guessing” theory suggests that evaluations of messages (and therefore comprehension) will be closely linked to the receiver’s evaluation of the sender. This theory holds that people believe messages are biased, so they constantly “second-guess” the sender’s intentions to try to get a truer version of the communication. (p. 13)

This second-guessing effect can lead to misunderstandings, which can lead to flaming. The end result can be damage to organizational productivity and low morale and stress among employees. “Flame email can cause an increase in stress-related illnesses and harassment, which has a severe negative impact on people’s attitudes and behavior” (Baruch, 2005, p. 363). Baruch adds that the perpetrators can be supervisors, coworkers, or customers. As Alonzo and Aiken (2004) point out:

It [flaming] poses a serious threat to businesses engaged in electronic commerce as the exponential growth of the Internet has transferred enormous power to individuals who are able to express themselves freely in a medium that has few or no laws governing such behavior. (p. 205)

Andersson and Pearson (1999) claim that as organizational cultures have become less formal, they have also become less civil, creating a situation where flaming may be more prevalent. Relaxed cultures, they argue, can create an atmosphere where employees may become unwittingly disrespectful to one another. Although these transgressions may be minor to start with—such as not saying “thank you” or “please”—eventually they can lead to more aggressive behaviors, such as flaming. This is particularly important to keep in mind in organizational contexts, because it suggests that even a slight digression from polite behavior could be considered aggressive and lead to conflict. Indeed, as Vardi and Weitz (2004) contend:

The business world has started to reflect the casualness of society at large. Scholars have cited employee diversity, re-engineering, downsizing, budget cuts, continually increasing pressures for productivity, autocratic work environment, the use of part-time employees, and contingent labor for the increase of uncivil and aggressive workplace behavior. (p. 62)

Griffin and O’Leary-Kelly (2004) add that work alienation and environmental conditions lead to workplace incivility. “Both of these antecedent factors involve disconnection from fundamental aspects of the workplace (the work itself, the physical setting) and may lead employees to behave in rude, discourteous ways” (p. 480). The addition of email as a communication medium, as Friedman and Currall (2003) claim, gives people a new way to vent and express aggression and hostility, particularly given the lack of social cues and proximity between communicators. They add

that bad behavior via email does not have to be a common occurrence for it to have a negative effect on the organization:

Although we expect that the absolute number of incidents that any one person experiences will be modest, the implications are still important—just a few incidents of conflict escalation for most people can create enormous problems and, as the number of workplace relationships managed by email increases, the implications of email escalation will grow exponentially. (p. 1327)

The issue of flaming is therefore an important topic in organizational conflict, particularly since email has become a preferred medium for communication (Baruch, 2005; Berghel, 1997; Friedman & Currall, 2003). Although a number of articles attempt to operationalize flaming, none have tested actual email users to determine which attributes are perceived as contributing to flaming. Based on the findings from the previous literature on the topic, it is hypothesized that the attributes that have been listed as characteristic of flaming in email, but not empirically tested, will be considered characteristic of flaming by actual email users. The most common characteristics of flaming identified in the literature as a whole are: hostility, aggression, intimidation, insults, offensive language or tone, unfriendliness, uninhibited behavior, and sarcasm. These eight variables were chosen to be measured in this study, as they relate to flaming as a contributor to conflict. In addition, the email messages studied contain other attributes that may be characteristic of flaming such as profanity, use of all caps, excessive punctuation, and emoticons.

To address the issue of the ambiguity of the term flaming, this study sought to test the eight characteristics separately from the flaming variable, since these items could lead to conflict regardless of whether they are called flames. In addition, those eight variables would need to be tested for correlation with the flaming variable. If they did correlate, then it would be possible to conclude that a useful construct had been found to describe messages that can cause conflict. Thus, the research questions addressed in this study are:

RQ1: Do the eight characteristics chosen from the literature interrelate with each other in email recipients' responses to a given set of messages?

RQ2: If they form a common set, how does it relate to the construct of flaming?

Methods

Measurement of Variables

A survey using the Message Invectives Scale—a semantic differential scale measuring responses to 20 separate short email messages—was developed to test the variables as they relate to flaming. This type of scale was used because it allows the intensity of an item to be tested. Since flaming may be attributed to the intensity of certain attributes, such as hostility, aggression, etc. (Thompson & Foulger, 1996), it was important

to gather this information from the subjects. For the purposes of measuring the resulting answers, the seven increments on the scale were assigned scores of one through seven, with one indicating the highest extreme and seven indicating the lowest. Therefore, if a respondent rated a particular email to be high on hostility, aggression, etc., then that particular email would be more likely to be considered a flame by that participant and more likely to lead to conflict. The scale is shown below.

Message Invectives Scale

hostile __: __: __: __: __: __: __ non-hostile
 aggressive __: __: __: __: __: __: __ non-aggressive
 intimidating __: __: __: __: __: __: __ non-intimidating
 insulting __: __: __: __: __: __: __ not insulting
 offensive __: __: __: __: __: __: __ not offensive
 friendly __: __: __: __: __: __: __ unfriendly
 uninhibited __: __: __: __: __: __: __ inhibited
 sarcastic __: __: __: __: __: __: __ not sarcastic
 flame __: __: __: __: __: __: __ not a flame

The emails used in the survey were actual emails either sent or received by the author or emails used as examples in other literature on flaming. The messages chosen ranged from negative to positive in tone as they relate to the characteristics included in the Message Invectives Scale. Six of the messages also contained all caps, profanity, emoticons, acronyms (such as LOL!), and other attributes listed in the literature to determine whether these characteristics are associated with the eight variables and/or the flaming variable. Other variables measured in the study were participant age, sex, and work experience.

Participants and Procedures

The sample for this study consisted of 196 students at a large Southeastern university. The first 155 subjects were undergraduate students taking one of two quantitative methods courses in the communication department. The sample consisted of 69% female ($n = 107$) and 27.1% male ($n = 42$) (six of the 155 subjects did not answer this question, which is why the numbers do not add up to 100%), with a mean age of 19.5 ($SD = 1.5$ years) and mean work experience of one year ($SD = .350$). The second group consisted of 41 students from graduate-level courses (Master's of Liberal Arts and Educational Leadership graduate students). This sample consisted of 60% female ($n = 24$) and 40% male ($n = 16$), with a mean age of 36 ($SD = 10$ years; ages ranged from 23 to 59) and mean work experience of three years ($SD = 1.1$). The surveys were administered during class time at the beginning of the class period. Participants read and agreed to the human subjects research consent form and then individually filled out the survey. Subjects were asked to read each of

the 20 sample emails in part one of the survey, to rate each according to the items in the semantic differential scale, and to answer the general questions in part two of the survey, which asked their age, sex, and work experience.

Statistical Tests

The Message Invectives Scale was submitted to a Principal Components Factor Analysis for each of the 20 situations to determine whether it was measuring a common construct. The next test conducted was a Pearson Product Moment Correlation between the Message Invective Scale and the flaming variable. The mean scores for the flaming variable were rank ordered from least flaming to most flaming and compared with the mean scores for the Message Invective Scale. Two univariate ANOVAs were run to test whether there was a significant difference between the answers from Group 1—the younger undergraduate students—and Group 2—the older graduate students. Last, an independent samples t-test was conducted to determine whether there was a significant difference between the males and females. To test for reliability, each of the 20 email message scales was tested individually, using Cronbach's Alpha coefficient for inter-item reliability. All of the items tested above $\alpha = .87$, $p < .05$.

Results

The criterion for extraction for the Factor Analyses was eigenvalue > 1 . For each of the 20 situations, in every case there was a one-factor solution that accounted for between 62% and 80% of the variance. Six of the eight items loaded on factor 1 at $+/- .40$ or higher, with no secondary loadings $> +/- .40$. The two items loading at less than $.40$, inhibited-uninhibited and sarcastic-not sarcastic, were removed from the scale for the next factor analysis. In the second analysis, no additional factor had more than two items loading at that level, evidence of a single factor solution. The analysis indicates that the six remaining items (hostility, aggression, intimidation, level of insult, offensiveness, and unfriendliness) are indeed measuring a common construct. This suggests a positive answer to RQ1, in that these six variables form a set. In addition, the rank-order correlations suggests a positive answer to RQ2, in that the scores in the set positively correlate with the flaming variable in both rank and intensity ($p < .01$). The graph in Appendix A demonstrates this correlation. The correlation among the remaining six items in the scale with the flaming variable indicates that the six items can be considered characteristic of flaming.

Of the 20 messages presented in the survey, six messages showed scores below 3.5, indicating the highest levels of flaming, and four of those contained profanity. The six items are listed below with their corresponding emails, their mean scores, and their standard deviations:

- **Message 8 ($M = 2.25$, $SD = 1.71$):** “Here’s the deal with this stupid fucking thing. We want the bottom half to be white instead of gray and reduce the

background words some. I will be so glad when this shit is over and done with!”

- **Message 17** ($M = 2.28$, $SD = 1.61$): “I don’t care. I just don’t have time for this @&#\$\$%! right now!”
- **Message 12** ($M = 2.58$, $SD = 1.64$): “I am on top of this. I am simply waiting for the goddamn quote. I will call the company again.”
- **Message 16** ($M = 3.06$, $SD = 1.71$): “Now how in the hell would I know that if nobody tells me??? GEEZ!:0”
- **Message 11** ($M = 3.22$, $SD = 1.73$): “CAN YOU PLEASE GIVE ME THE FINAL ON THIS AND DO YOU KNOW WHO WAS TO SEND THIS OUT?????????????????”
- **Message 15** ($M = 3.30$, $SD = 1.58$): “Do these guys actually know what the curriculum is or are they making it up as we go along?”

In contrast, the messages that scored the lowest for flaming (had the highest scores on the scale) were:

- **Message 7** ($M = 6.40$, $SD = 1.21$): “Hi, everyone. I need to get an update from you on each of your funded projects ASAP. What I’m looking for is any progress you can report on the projects. We’re working on the annual report and we want to be able to include this information. Thanks!”
- **Message 20** ($M = 5.83$, $SD = 1.41$): “Jan and I want to have a meeting on Friday morning at 10:30. Please plan on being there. And let me know ASAP if you can’t make it. We want to do this on a weekly basis and this meeting is very important. Thanks.”
- **Message 9** ($M = 5.62$, $SD = 1.60$): “Hi, folks. What happened to the news release for the department name change?”
- **Message 4** ($M = 5.25$, $SD = 1.69$): “This is a really awkward request. I just don’t feel comfortable sharing my plan with you because I talk about key messages, our strengths and weaknesses, etc. I will do what I can to help you put yours together, but I have to decline sending you a copy of my plan.”
- **Message 13** ($M = 5.15$, $SD = 1.62$): “As it is now, it works well and it’s really not necessary. Tell “them” that I said no.:)”
- **Message 5** ($M = 4.93$, $SD = 1.74$): “Sally.... There is no posting of the RUL 01.25.1 - So the question is still moot.”
- **Message 19** ($M = 4.72$, $SD = 1.65$): “Man! That’s cheap for those awareness bracelets! And they don’t have to pay for the deboss charge? Damn!”

The remaining messages scored in the middle of the scale:

- **Message 1** ($M = 4.45$, $SD = 1.25$): “I am asking you to follow up with her and report to me. Thanks.”
- **Message 18** ($M = 4.25$, $SD = 1.78$): First email: “I have bad news. I will be at the beach on the 13th with my family”
Reply: “I so want to throw up. When will you be back??”

- **Message 3** ($M = 4.21$, $SD = 1.88$): “Damn! You’re not a lot of help today, are you? JUST KIDDING. LOL!”
- **Message 2** ($M = 4.17$, $SD = 1.89$): “John... You changed the language and placement in the panel with the overview... There is a problem with it... So, let’s talk...and yes, we need to make a change. Susan”
- **Message 6** ($M = 3.97$, $SD = 1.89$): “WE NEED YOUR INPUT BY TOMORROW! PLEASE!”
- **Message 14** ($M = 3.69$, $SD = 1.73$): “Shit! We need those umbrellas before that!”
- **Message 10** ($M = 3.58$, $SD = 1.82$): “I swear. I gave that to her with instructions on what you guys needed to do to get it finished. She obviously hasn’t followed up on any of it. What I wrote is in the folder of things I gave her before I left.”

The first ANOVA showed that there was no significant difference between the undergraduate and graduate groups as to how they ranked items according to the Message Invectives Scale ($F = .015$, $df = 19/3587$, $p < .05$, $\eta^2 = .000$). The second ANOVA, however, revealed a significant difference in the ratings of the flaming variable between groups ($F = 6.36$, $df = 19/3587$, $p < .05$, $\eta^2 = .002$), but only in terms of intensity. That is, both groups considered the same items to be flames, but the older graduate group ranked the flame variable as more intense than did the younger undergraduate group. The chart in Appendix B describes this effect. To be more specific, for Item 8, for example, which was ranked the highest flame by both groups, the mean score for the younger group was 2.41, whereas the mean score for the older group was 1.68. Similarly for item 17, the mean score for the younger group was 3.23, as opposed to a mean score of 1.76 for the older group. This indicates that age and work experience could be a factor in how someone will perceive a message and whether they will consider a particular message to be a flame.

Finally, the t-test revealed no significant difference between males and females as to whether they considered the items to be flames, $t(139) = 8.38$, $p < .05$.

Discussion

The purpose of this study was to explore how certain characteristics listed in the literature about email and conflict interrelate with each other, and whether those characteristics correlate with the construct called flaming in the previous research literature. The tests revealed that six of the original eight items form a common set and that this common set of variables correlates positively in both rank and intensity to the flaming variable. Since flaming is a main cause of conflict in email communication (Baruch, 2005; Cleary & Freeman, 2005; Landry, 2000), the study suggests that those messages scoring high on the Message Invectives Scale, and messages like them, will be more likely to cause conflict.

One of the more interesting findings is that not all of the emails using profanity scored as flames, although previous definitions of flaming included the use of

profanity (Kayany, 1998; Thompson & Foulger, 1996). Item 3, for instance (“Damn! You’re not a lot of help today are you? JUST KIDDING. LOL!”) scored in the middle of the scale for the flaming variable. In this case, the capitalization and exclamation point at the end, along with the “laughing out loud” acronym, may have softened the message. Item 14 (“Shit! We need those umbrellas before that!”) also scored in the middle of the scale. Item 17, by contrast, did not contain actual profanity but instead used a symbol (@&#\$\$%) indicating profanity, yet it scored high for the flaming variable. This indicates that the overall tone of the message may be more important than the words or symbols used. In this case, the euphemistic symbol for profanity still implied hostility and aggression.

In addition, several emails included all caps and exclamation points, which Wallace (1999) and Extejt (1998) claim could be considered indicative of a flame, yet not all scored high as flames in this study. Item 11, for example (“CAN YOU PLEASE GIVE ME THE FINAL ON THIS AND DO YOU KNOW WHO WAS TO SEND THIS OUT????????????????????”), was rated high as a flame, but item 6 (“WE NEED YOUR INPUT BY TOMORROW! PLEASE!”) scored more towards the middle of the scale. This further indicates that tone is important in determining whether an email is a flame. However, as Krohn (2004) notes, “[a]nger and shouting are indicated by typing in all capital letters.” The fact that the participants rated these items as being flame-like on the survey indicates that using such tactics could potentially be problematic. Also, of the emails that included emoticons, one of them—item 16—was considered a flame. This particular emoticon, however, indicates confusion rather than an attempt to soften the message, as a smiley face might. Item 13, in contrast, carried a smiley face at the end, which may have been the reason that message was rated less like a flame than others containing emoticons.

According to the scores in this survey and the high correlations between flaming and the variables in the scale, the more an email shows high levels of these attributes, the more it will be considered a flame. This was the case even for emoticons and acronyms when they were used in different contextual situations. Attributes such as typing an email in all caps with exclamation points can also cause a message to be considered a flame. Moreover, there are indications in this study that age and work experience may be factors in a person’s reaction to an email message. This supports claims from other studies that age gaps can create problems when it comes to understanding email messages (Krohn, 2004).

This study did not, however, find gender to be a factor in people’s reactions to email messages, as the t-test revealed no significant difference between females and males. This was somewhat surprising, given that in Western culture, the “general belief is that women ‘don’t use bad language’” (Stapleton, 2003, p. 22). Moreover, Herring (1996) found in a study of academic discussions groups that women generally consider bad language and flaming to be unethical, at best. In Herring’s study, online exchanges among women showed “different interactional norms: little or no flaming and cooperative, polite exchanges,” whereas exchanges among men were largely adversarial (Herring, 1996, p. 3). The unexpected findings in the present case

may be related to the age of most of the subjects in the study—younger, undergraduate college students. Indeed, a study by Bayard and Krishnayya (2001) of university students' use of profanity showed that males only swear *slightly* more than females, and that there was very little difference as to the intensity of the profanity used by the two groups. This is nevertheless an interesting issue and one that calls for further study.

The Message Invectives Scale presented in this article could be used in further studies to help determine differences between generations and between genders as to what is considered a flame. The scale could also be used to test whether there are differences of opinion among people of different cultures and races when it comes to perceptions of flaming in email messages. That is, are people from different cultures more offended by certain behaviors? Knowing these differences could help members of organizations learn how to communicate effectively via email with different people on a number of different organizational levels. Finally, many scholars contend that the effect email has on organizational life depends on the organization's culture (Aiken & Waller, 2000; Hobman, Bordia, Irmer, & Chang, 2002; Mantovani, 1994). The scale could be used to test attitudes toward flaming at different organizations in which there may be organizational culture issues leading to bad behavior. For instance, someone working in an organization with a high degree of ongoing tension may take offence to emails more easily than someone working in an organization with a more positive culture.

Recommendations

Although certain attributes in email as a communication medium will lead to misinterpretation and potential flaming (Friedman & Currall, 2003), occasions will arise when misunderstandings occur, regardless of how carefully one crafts a message. As O'Sullivan and Flanagan (2003) point out, the majority of messages in an organization are understood within the framework of its specific norms and culture. If an email is misunderstood, it could be that issues within the organization's culture are contributing to the problem. In effect, one cannot always blame the technology for the problems that arise in email exchanges.

Technology can mistakenly be given the blame for wrong-doing when it is in fact just the conduit for wrong-doing through which acts are carried out, with the potential for exacerbating unethical behaviour [sic] because of the speed, synchronicity, reach, and anonymity which it facilitates...In the end the answer to the abuse of technology is not more technology, it is more responsible use of the technology we have. (Spence, 2002)

The best approach is to be as polite as possible over email or to speak to the other person face-to-face or via telephone to avoid any misunderstandings. Using proper etiquette could help alleviate conflict issues in the workplace. In fact, Baruch (2005) claims that a lack of "netiquette" is a key factor in workplace email bullying:

Rational, legal-minded thinking would conclude that email communication should be free from bullying because it is documented and can serve as evidence in case of doubt. However, the lack of “netiquette” (net etiquette) may cause people of different views and backgrounds to misinterpret other’s communication. (p. 363)

Furthermore, Friedman and Currall (2003) claim that email can exacerbate conflict. They note that email becomes a much more dangerous tool once conflict has been created. For this reason, the medium should not be used to settle disputes or engage in arguments with another party. Those matters are better handled face-to-face.

Perhaps the best approach organizations can take is to create email training programs for management and staff to establish rules of “netiquette.” Standards such as never sending messages that contain profanity, all capital letters, or excessive punctuation should be included. In addition, it should be established that if there is any misunderstanding whatsoever about the meaning or intent of an email message, the parties should ideally discuss it in person or on the telephone, or at the very least, they should not respond in the same manner as (the receiver perceived) the original message was written. That could lead to the spiraling conflict effect mentioned above. Senders should read over emails before they send them to ensure that the messages are polite or at least neutral in tone. “At the very least, taking some time out before hitting the reply button can help to ensure you do not write something in the heat of the moment that you later regret” (Cleary & Freeman, 2005).

Whatever the case, it may not actually matter so much whether someone calls an email a “flame,” as whether she or he considers an email to be hostile, aggressive, insulting, offensive, etc. These characteristics are what give the emails their negative qualities and what lead to conflict. However, as this study has shown, flaming can be a useful construct in identifying email characteristics that may lead to conflict.

Limitations and Suggestions for Further Study

This study has several limitations. The first is that the survey participants were students. While some of those students had previously or currently worked in organizations, the majority of them were undergraduates with little work experience; thus, they may not have had the opportunity in their short careers to have experienced flames in the workplace. Nevertheless, the study has shown that the Message Invectives Scale is effective at gauging whether a person considers an email a flame. As such, the survey can and should be distributed in actual organizations to further test the scale’s ability to identify flaming behavior. Further survey studies should also include open-ended qualitative questions related to what issues people consider are better handled via email or face-to-face; whether or not they have received flames at work; and what kinds of emails they consider will cause conflict. Finally, as research has shown, factors such as a person’s psychological state may play into whether or

not an email is considered a flame (Wallace, 1999). These issues are difficult to nail down on an individual basis and therefore are beyond the scope of this study. Future research should address how factors such as organizational culture can affect employees' psychological states, as some states have been shown to lead to flaming behaviors and conflict.

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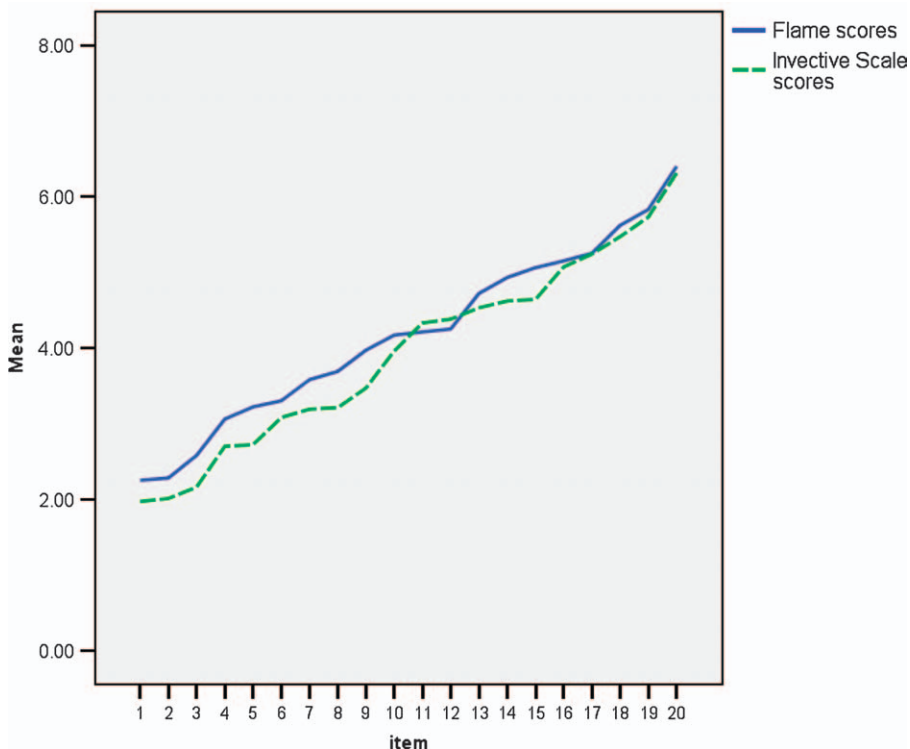
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Appendices

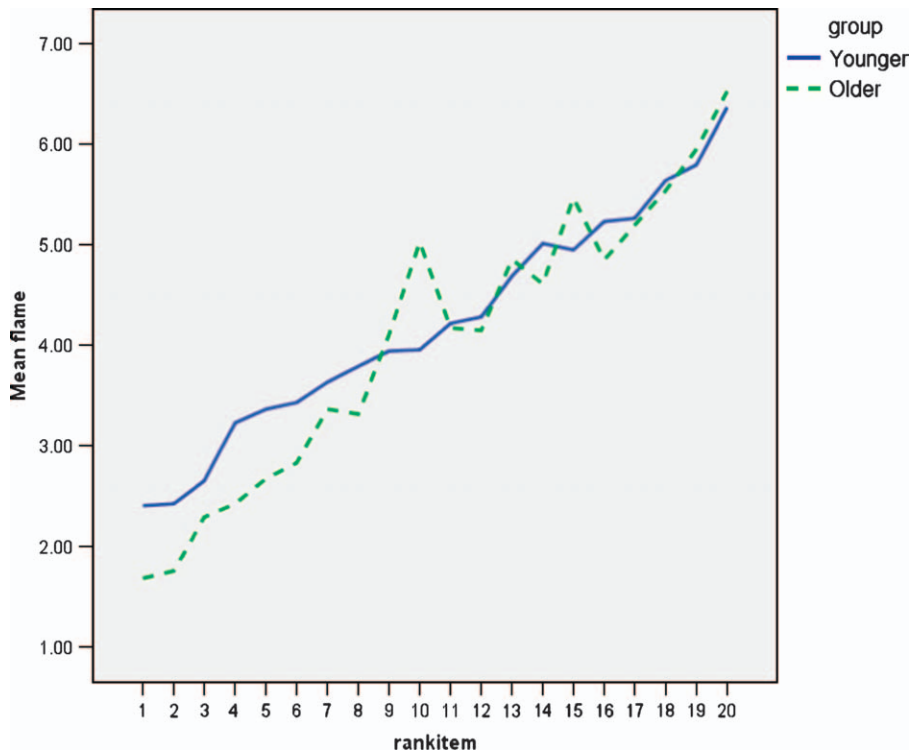
Appendix A

The chart in Appendix A shows the correlation of the invective scale with the flaming variable. “Flame scores” (the solid blue line) represents the flame scores ranked from highest to lowest, and “Invective Scale scores” (the dotted green line) represents the scores for the invective scale ranked from highest to lowest.



Appendix B

The chart below shows the difference between the younger undergraduate group and the older graduate student group in reference to the intensity of flaming for each message. The solid blue line represents the younger group, and the dotted green line represents the older students. In looking at the bottom left hand portion of the graph, where the flame scores are highest, it is clear that the older group scored the same emails as higher in flaming than did the younger group.



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