

ELECTRONIC MEDIA BULLYING EXPERIENCES
AMONG COLLEGE STUDENTS

by

Ashley Clark Estes

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Thesis Committee:

Aimee R. Holt, Ph.D., Chair

James O. Rust, Ph.D.,

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Abstract

The current study examined the prevalence of cyberbullying among college students as well as the relationship between types of attacks and the psychological consequences experienced by the victim. Support was found for hypothesis 1; among college students who report experiencing cyberbullying, flaming was the most frequently reported type of attack. Partial support was found for hypothesis 2. Specifically, those who reported cyber stalking reported higher rates of anxiety compared to those who did not report experiencing cyber stalking. Additionally, it was found that those who reported experiencing flaming reported higher rates of depression when compared to those who did not; however, those who experienced flaming reported higher rates of anxiety than they did depression. The highest means for the various psychological correlates were for those who experienced cyber stalking (negative impact on self-esteem $M = 2.6$, anxious $M = 2.5$).

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CHAPTER I

Introduction

Overview

Over the years, the use of technology has played an increasingly larger role in the social interactions among youth (Dılmaç, 2009). Research has shown that today's society in the United States has merged into the *communication revolution*, and people have embraced the heavy usage of electric forms of communication such as with mobile phones, text messaging, and social networking (Dılmaç, 2009). This availability of technology has provided more opportunities for people, especially students, to bully (Dick, Land, & Zhang, 2010). Cyberbullying has recently emerged as new type of bullying, harassment, and stalking (Slonje & Smith, 2008).

Definition of Cyberbullying

Cyberbullying does not have a universal definition (Vandebosch & Van Cleemput, 2008). The establishment of an agreed upon definition is complicated because techniques and methods used for defining cyberbullying are diverse (Cross, Dooley, & Pyżalski, 2009). Slonje and Smith (2008) note that cyberbullying is a new form of aggression, where the aggression takes place across multimedia electronic devices. Cyberbullying is not only an aggressive behavior, but it is a repetitive behavior that can be carried out by an individual or group against a victim (Topçu, Erdur-Baker, & Çapa-Aydin, 2008). The word cyber actually is a prefix that means of, or related to the computer (Cook, Guerra, Tuthill, & Williams, 2007). Several researchers have noted that the act of cyberbullying occurs in a non face-to-face cyber environment that supports a power imbalance and allows the bullying to be instantaneous with intent to do harm (e.g.,

Calmaestra, Ortega, Elipe, Mora-Merchán, & Vega, 2009; Cross et al., 2009). There are four major characteristics of cyberbullying: (a) the act must be aggressive; (b) the act possesses a power imbalance; (c) the act occurs repeatedly; and (d) the act must be intentional (e.g., Cross et al.).

Cyberbullying verses Traditional Bullying

There are many things about cyberbullying that are still not well researched. For example, less is known about the extent of the differences between cyberbullying and traditional forms of bullying (Cross et al., 2009). Traditional bullying has been defined as an act of aggression that is intentionally carried out by one or more individuals and repeatedly targeted toward an individual who cannot easily defend himself/herself (Cross et al.). The overall definitions of cyberbullying imply that the act is similar to traditional forms of bullying, but involving the use of new communication technologies (Menesini & Nocentini, 2009). Cross and colleagues have suggested that core components of traditional forms of bullying are the same factors to consider when examining cyberbullying. Stating that cyberbullying is just the electronic form of bullying, however, ignores the distinctness of the behaviors involved. To evaluate cyberbullying and traditional forms of bullying, it is necessary to examine and contrast bullying as separate behaviors performed by different people.

Similarities. Specially, Cross and colleagues (2009) noted that cyberbullying and traditional forms of bullying share three major components: (a) the act is intentional; (b) the act is repetitive; and (c) the act is often characterized by a power imbalance. Bullying, whether cyber or other traditional forms, occurs in many forms, but it is the repetitive

nature of the deliberate harmful behavior that has been found to be related to psychological correlates for many victims.

Differences. There are several attributes that differentiate cyberbullying from the traditional forms of bullying. Some of the attributes include the following: (a) the cyberbully avoids face to face contact with the victim, which can allow the bully's identification to be anonymous; (b) a larger audience can witness the act of cyberbullying; (c) the cyberbullying can occur anytime, anywhere and is not bound by certain times or activities; and (d) the actual act itself can result in the cyberbully not directly witnessing the actual consequence for the victim (Slonje & Smith, 2008). Allen, Cox, and Rodriguez (2009) also noted that cyberbullying can have a wide number of bystanders, whose identity is hidden like that of the bully. The anonymity of cyberbullying can encourage the bully to be more threatening; it also can increase the victim's fear, because he/she may not know how many people are witnessing the act (Allen et al.).

Types of Cyberbullying

According to Cook and colleagues (2007), cyberbullying can be classified into two types: (a) real world; and (b) cyberspace. The first type of cyberbullying uses computer technology to deliberately and repeatedly bully individuals or groups with the intention to harm within the *real world*. Whereas, the second type of cyberbullying uses computer technology but the bullying exists in *cyberspace* itself.

These authors note that *real world* cyberbullying includes the sending of threatening or offensive text messages, videos, emails, or other harmful information using technology. This can allow the bully to sometimes attack an individual or groups

anonymously without taking any responsibility or accountability for their personal behavior. Cook and colleagues point out that the bully is blind to the victim's feelings because there is no face-to-face contact, thus the bully maybe less restrained.

In the second type of cyberbullying, the bullying actually takes place in *cyberspace* in a cyber scenario (Cook et al., 2007). Through the internet, an individual or group has various opportunities to interact with others in cyber-communities using avatars, which are animated characters or aliases for an individual or groups. In cyber-communities, avatars actually become the bully and the victim. Avatars can be isolated, verbally attacked, or show aggression toward other avatars. Cook and colleagues point out that this second type of cyberbullying often occurs online in a gaming environment, but it can have real world consequences.

Types of medium. User friendly technology and an increase in online social networking have created new venues for cyberbullying (Koehn, Sockman, & Walker, 2011). Technology communication mediums, such as e-mails, chat rooms, blogs, texts or instant messages, online social websites, and role playing games offer innovative delivery techniques for cyberbullying. These mediums can be used to send harmful videos, pictures, and messages that specifically target an individual or group (Cook et al., 2007). In the cyber-world, harmful information can be posted on online social network sites for others to see with the intent to embarrass and annoy the victim (Koehn et al., 2011).

Types of attacks. According to Beran and Li (2005), cyberbullying attacks can take many different forms. Cyberbullying has six major forms of attacks: (a) flaming; (b) repeated harassment (c) cyber stalking; (d) denigration/ spreading information; (e) impersonation; (f) exclusion/ignoring; and (g) exposure/outing.

Flaming. In this form, the cyberbullying attack occurs between two or more individuals who do not have an imbalance of social power (Willard, 2007). Angry, vulgar, or rude messages are exchanged between these individuals. Flaming is a momentary event that usually occurs in public online communication environments such as chat rooms, games, or discussion boards; it can occur privately through e-mail or instant messaging (Willard). Willard explains that flaming can escalate from insults to actual threats of violence; when multiple exchanges occur it becomes known as a flame war. Dick and colleagues (2010) suggested that online gaming is characterized by aggressive behavior with a high amount of interaction with unknown identities, so it is possible that the culture itself supports flaming.

Harassment and cyber stalking. Online harassment is defined as repeatedly sending offensive messages using personal online communication such as email or text messages (Beran & Li, 2005). This form of attack is mostly one-sided but longer lived. Willard (2007) noted that in these types of attacks, the bully is the attacking protagonist and the victim is most likely trying to stop the communication. Beran and Li define cyber stalking as an attack that is very similar to harassment but involves the use of threats to create significant fear in the victim. These authors note that this type of attack is highly intimidating or extremely offensive. Cyber stalking has often been linked to two people that have shared a sexual relationship. Willard further points out that in cyber stalking, the bully may have access to personal intimate information or material, such as an explicit picture, that can be used to embarrass the victim within multimedia electronic communities. Finn (2004) suggested that as more people use the Internet, online harassment and cyber stalking may increase since participants feel a false sense of

intimacy within online communities. College students may become involved in cyber stalking because they live in close communities where students' online information is easy to locate and they are at the age where mate seeking is prevalent (Finn).

Denigration/spreading information. This type of attack involves spreading gossip or other information that is false, hateful, and spiteful (Beran & Li, 2005). These authors highlight that in this type of attack the bully's main purpose or goal is to damage or ruin the victim's reputation or relationships. Unlike the other forms of attacks, the target victim does not directly receive the material or rumors, the harmful material is sent to others. An example of denigration is sending a digitally altered sexually explicit image to people over text message or via email (Willard, 2007).

Impersonation. According to Willard (2007), impersonation happens when the bully has the ability to pretend or pose as the victim and can post material that reflects badly on the victim's reputation or friendships. This type of attack can occur in the victim's personal web page, on blog, in social network profile, or any form of online communication.

Exclusion. In this type of cyberbullying attack, the victim is often considered an *outcast* of a certain group (Willard, 2007). Beran and Li (2005) noted that exclusion is when the bully intentionally excludes an individual from an online group. The main mediums for exclusion are online gaming, group blogs, social networks, or other password protected online communications. Willard suggests that this type of attack can have a strong emotional impact on the victim.

Exposing, outing and trickery. Beran and Li (2005) noted that outing occurs when a bully sends or posts material about a victim that exposes sensitive, personal, or

embarrassing information. The common mediums for outing are picture messages, emails, or text messages. Willard (2007) points out that like cyber stalking; this type of attack is often associated with two people that have had a sexual or intimate relationship. The most common form of outing is when one person in a relationship shares intimate information or a suggestive image with a partner, who in turns forwards that personal information to others (Willard). Willard views trickery as part of outing. Trickery would occur when the victim of the outing is deceived into believing that the initial personal communication is going be handled privately, but the cyberbully plans all along to share the information with others or to use it as a threat. Willard provided an example of trickery as a girl promising another girl that if information was disclosed it would be kept secret and the first girl's intention all along was to disseminate the information to others.

Prevalence

Since cyberbullying has recently emerged as a new type of bullying, limited research has been conducted on the prevalence of cyberbullying among college students (e.g., Beran & Li, 2005; Dılmaç, 2009; Finn, 2004). Dılmaç reported the occurrences of cyberbullying have regularly increased every year. This reported increase may in part be explained by the finding of Menesini and Nocentini (2009) that more research was being conducted on the prevalence of cyberbullying and its relationship between traditional bullying, so occurrences were perceived to also increase.

Research results on the prevalence of cyberbullying among young adults are varied. In a literature review by Dalglish and Price (2010), they reported that prevalence rates ranged from 9 % to 49%. They suggested that this wide range can in part be explained by the differences in research design as well as the types of technology

assessed in various studies. Dick and colleagues (2010) found that among college students in Wales, 62% of students reported experiencing cyberbullying in the previous year, while 40% of the sample reported engaging in cyberbullying activities. Hinduja and Patchin (2006) found that 40% of young adults in their sample reported witnessing acts of cyberbullying. The growth of technology and computer use by young adults has created many research opportunities into the different types and characteristics of cyberbullying (e.g., Kiriakidis & Kavoura, 2010; Slonje & Smith, 2008).

Prevalence by types of medium. Little is known about how often specific online medium technologies are used for cyberbullying (Hinduja & Patchin, 2006). Hinduja and Patchin found online harassment occurred 16% via mobile phone text messages, 7% via online chat rooms, and only 4% happening via e-mail among the participants in their sample. In a more recent study examining cyberbullying, Dalgleish and Price (2010) found among a sample of 10 - to 25 – year - olds the most common medium reported by the participants in their study was e-mail (21%). Participants also reported cyberbullying occurring in online social networking and chat rooms (20%). They found that cyberbullying using a mobile phone was reported by 19% of the participants. Cyberbullying was less frequently reported to occur through instant messaging (12%), websites (8%), and other forms of texting, like twitter (6%). Koehn, Sockman, and Walker (2011) surveyed only college students and found the majority of cyber bullying occurred using social networking with 56% reported being bullied on Facebook and 31% on MySpace. Cyberbullying via cell phone also was high in this older age group and 45% of participants reported it in regards to texts, video, and pictures. With this college sample, 19% of participants reported cyberbullying occurred via e-mail compared to

Dalgleish and Prices' sample statistic of 21%. One possible explanation for the reported differences between these studies can be attributed to the growth of technology in the last five years and the access granted to older participants.

Prevalence by types of attack.

Prevalence of flaming. Dick and colleagues (2010) reported, that among the college students in their sample, 21% reported receiving flaming messages via instant message while 17% reported receiving it via phone calls or text messages. They also found that 47% of college students who participated in online gaming reported receiving flaming messages more than two times per year.

Prevalence of harassment and cyber stalking. Finn (2004) reported that for college students who had experienced repeated instances of online harassment, 10% to 15% of the undergraduate students who participated in his study reported receiving repeated threatening, insulting, and harassing emails or instant messages from acquaintances, strangers, or a significant other. He also reported that the highest percentage of online harassment incidents came from strangers; 16.2% reported online harassment via e-mail, and 19.3% reported online harassment by instant message. Finn noted that 13-14% of undergraduate students reported they still received harassing messages even after asking the sender to stop sending messages. In comparison, Hinduja and Patchin (2006) found in their study of 511 internet users, predominantly ages 12 to 20, that 7.6% of participants reported online harassment occurred in chat rooms, 5.2 % reported being harassed through instant messaging and 1.8% reported being harassed by e-mail. Grant and Sheridan (2007) examined known victims of stalking and reported that

47.5% of those surveyed reported online harassment via the Internet. The average age of their sample was 32 years.

Grant and Sheridan (2007) stated that there was no reliable prevalence data for cyber stalking. They categorized study participants who had been stalked into four categories based on the degree of stalking. Only 7.2% of participants who reported online harassment were judged to be victims of cyber stalking. Among those who met the criteria for being cyber stalked, the stalking originated online and continued for at least 4 weeks.

Prevalence of denigration, impersonation, exclusion and exposure. Hinduja and Patchin (2006) found that participants of their study reported experiencing denigration/ spread information and exclusion/ ignoring. In the sample, 18.8 % of the participants, who had experienced cyberbullying in the form of denigration, (e.g., rumors were spread online). A majority of the participants (60.4%) indicated that they had been ignored or excluded by others while online. In another study, Dick and colleagues (2010) found that 17% of the participants in their study who had been victims of cyberbullying reported being outed/exposed information, and 8% had experienced a cyberbullying attack through impersonation.

Psychological Consequences of Cyberbullying

Previous research has reported victims of cyberbullying are negatively influenced by those experiences and are at a greater risk for developing psychological problems (Aricak, 2009; Baker & Tanrikulu, 2010; Hinduja & Patchin, 2006; Mitchell & Ybarra, 2004; Raskauskas & Stolz, 2007). In their study on cyberbullying victimization among adolescents, Mitchell and Ybarra found that 38% of the participants who were victims of

cyberbullying reported experiencing emotional distress and reported being very upset or afraid. Aricak found in their study sample that victims of cyberbullying developed social adjustment and psychological issues. In a study among young adults who self reported being victims of cyberbullying, Dagleish and Price (2010) found that 86% of their participants, ranging from 10 to 25 years of age, reported a negative impact to their self-confidence, self-esteem, academics, friendships, and family relationships. Aricak found that the most commonly reported psychological consequences of cyberbullying have been found to be the following: (a) depression; (b) social isolation; (c) anxiety/nervousness; (d) lower self-esteem; and (e) poor academic performance.

Social isolation. Willard (2007) defined social isolation as an individual's lack of public interactions and relationships with family and friends. She reported that victims of cyberbullying experience social isolation because they feel anxious and afraid in a group setting and have difficulty making new friends and forming relationships. Willard reported victims of cyberbullying were more likely to have social and emotional adjustment issues. Willard stated that the duration of the cyberbullying can affect the victim's self esteem and can increase the victim's social separation, resulting in depression, anxiety, and insecurity. In the literature reviews of cyberbullying, Willard did not provide citations for the previous statements. In a study among participants, ranging from 10 to 25 years of age, who self-reported being victims of cyberbullying, Dagleish and Price (2010) found that 42% of the participants in their study reported a negative impact was experienced in their friendships and that 19% reported the same occurring in their family relationships. In the literature review of cyberbullying, Feinburg

and Robey (2009) stated that when the victims of cyberbullying do not know the cyber attacker the victims are usually hyper-sensitive to social situations .

Depression and anxiety. In the review of cyberbullying literature, Aricak and colleagues (2008) stated that cyberbullying affected children's mental health and resulted in symptoms of depression. In a study concerning internalizing problems among cyberbullying victims, Aoyama, Saxon, and Fearon's (2011) reported that a relationship can exist between victims of cyberbullying and the development of higher depression symptoms and social anxiety. Drake, Price and Telljohan (2003) reported that victims of cyberbullying were 8 times more likely to be anxious or feel depressed compared to those who had not experienced cyberbullying.

The relationship between cyberbullying victimization and depression has been investigated. Iannotti, Nansel, Tonja, and Wang (2011) examined the association between depression and cyberbullying by examining self-reported survey results of American school – aged children. They measured depression by reviewing students' responses to specific questions. Students indicated, if, within the past 30 days, they (a) felt very sad; grouchy or irritable, or in a bad mood; (b) hopeless about the future; (c) felt like not eating or eating more than usual; (d) slept a lot more or a lot less than usual; and (e) had difficulty concentrating on their school work. Iannotti and colleagues reported that the victims of cyberbullying were at a higher risk for depression than students not involved in bullying or the bullies themselves. These findings were supported by Dagleish and Price (2010) who reported that among those who self-identified as cyberbully victims, ages 10- 25, the majority experienced symptoms of depression, such as, feelings of sadness (75%), anger (42%), and irritability (72%). These results are

somewhat higher to those reported by Hinduja and Patchin (2006), who found that middle school aged participants who experienced cyberbullying reported feeling sad (40%), and angry (27%). In a study of adolescents that examined traditional and electronic bullying, participants, many (57%) reported feeling hopeless, sad or depressed (Raskauskas & Stolz, 2007). These findings are limited because all victimization and psychological consequences were scored dichotomously (yes or no) and clinical measures were not used to determine depressive symptoms. Finkelhor, Mitchell, Turner, Wolak, & Ybarra (2011) conducted a national survey of adolescents who were victims of cyberbullying in the past year. Using the Trauma Symptoms Checklist for Children (TSCC) they found that 18% of victims of cyberbullying reported having five or more depressive symptoms.

Summary

Cyberbullying has over the last few of years emerged as a new type of bullying (Slonje & Smith, 2008). This global phenomenon does not have a universal definition (Vandebosch & Van Cleemput, 2008). The establishment of an agreed upon definition is complicated because research techniques and methods used for defining and studying cyberbullying are diverse (Cross et al., 2009). Cyberbullying is a broad label used to define forms of bullying that use electronic forms such as the internet and mobile devices to deliberately harm someone (Dalglish & Price, 2010). Although the definition is still not universally agreed upon, most researchers are of the opinion that cyberbullying is a repeated, aggressive, and deliberate act performed by a group or individual, using electronic media (e.g., Cross et al., 2009; Dalglish & Price, 2010).

There are many things about cyberbullying that are still not well researched.

Cyberbullying can be classified into two types: (a) real world; and (b) cyberspace (e.g., Cook, Guerra, Tuthill, & Williams, 2007), prevalence by types of cyberbullying is not well researched. There are several types of technology mediums through which cyberbullying occurs; such as e-mails, chat rooms, blogs, texts or instant messages, online social websites, and role playing games (Cook et al., 2007). Across several studies the types of attacks have been categorized into a variety of forms (e.g., Beran & Li, 2005; Dick et al, 2010; Willard, 2007) (a) flaming; (b) harassment; (c) cyber stalking; (d) denigration/spreading information; (e) impersonation; (f) exclusion/ignoring; and (g) outing/exposing, but less is known about how these types of attacks are experienced by college students.

Although cyberbullying arises among all age groups in varying degrees, a large majority of the research has been targeted at children and teens (Tokunaga, 2010). Dalglish and Price (2010) reported that cyberbullying prevalence rates ranged from 9 % to 49%. They stated this wide range can in part be explained by the differences in research design as well as the types of technology assessed in various studies. Few studies regarding prevalence have focused exclusively on the college population (e.g., Beran & Li, 2005; Dick et al, 2010, Dilmaç, 2009; Finn, 2004). While some limited research has been conducted on the prevalence of cyberbullying among college students (e.g., Beran & Li, 2005; Dilmaç, 2009; Finn, 2004), the psychological consequences related to experiencing these events has not been thoroughly investigated. Studies of cyberbullying that examined psychological consequences have primarily focused on adolescents (e.g., Iannotti et al., 2011; Gross & Juvonen, 2008). While some research

has been conducted on psychological consequences, even less is known about the relationship between types of attacks and specific psychological consequences.

Purpose of the Current Study. The purpose of this study was to examine and better understand the prevalence of cyberbullying among college students. The current study also examined the relationship between types of attacks and the psychological consequences experienced by the victim.

Hypothesis 1. It was predicted that among college students who report experiencing cyberbullying, flaming would be the most frequent reported type of attack.

Hypothesis 2. It was predicted that those who report cyber stalking would report higher rates of anxiety compared to those who did not report experiencing cyber stalking. It also was predicted that those who report experiencing flaming would report higher rates depression when compared to those who did not report experiencing flaming.

CHAPTER II

Methods

Participants

The participants were 103 undergraduate students of Middle Tennessee State University. Participants were recruited through the SONA system from the psychology department research subject pool. The majority of the sample were women (58%, $n = 60$); 42 % ($n = 43$) of the students were men. The majority of the participants reported that they were 18 - 19 years-old (60%); 34% reported they were 20 – 22 years-old, and 6% reported being older than 22 years-old. The majority of the sample reported being freshman (56%); 34% of the participants reported being sophomores, while 6% reported being juniors, and 4% reported being seniors. A majority of the participants in the sample self-identified as Caucasian (54%). Additionally, 34% reported being African American, and 12% of the students reported being of other ethnicities.

Measures

Demographic questions. The survey began with the following five demographic questions: (a) age; (b) gender; (c) class/year; (d) ethnic background; and (e) sexual orientation.

Cyberbullying questions. Part 2 of the survey consisted of 49 categories of questions. They addressed the seven different types of cyber attaches (i.e., flaming, harassment, stalking, denigration/information spread, impersonation/ pretending or posing, excluding/ignoring, exposing sensitive, personal, or embarrassing information). Each type of attach was assessed by seven different type of electronic medium used in the attack (i.e., email, text message, instant message, chat room, during a role playing game,

online social website, or blog). For each of the 49 categories, participants rated how often it had occurred on a 5 point Likert scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*, 5 = *very often*) and how well they knew the other person involved (1 = *not at all*, 2 = *somewhat*, 3 = *very well*).

Psychological correlates. In part 3 of the survey, participants were asked five questions addressed psychological and academic issues they might be experiencing. Specifically, participants were asked if the following had occurred: (a) felt depressed; (b) felt socially isolated; (c) felt anxious/nervous; (d) self-esteem had been negatively impacted; and (e) academic performance had been negatively impacted. The participants rated these questions on a 5 point Likert-scale (e.g. 1 = *not at all*, 2 = *a little bit*, 3 = *moderately*, 4 = *quite a bit*, 5 = *a lot*).

Procedure

After obtaining IRB approval (see Appendix A), participants were administered the surveys in small groups. During each session, participants first completed the Informed Consent. Then, the participants were provided the survey to complete. When they completed the survey, the participants were given a debriefing sheet. Participants received 1 credit through the SONA for their participation.

CHAPTER III.

Results

Hypothesis 1

It was predicted that among college students who report experiencing cyberbullying, flaming will be the most frequent reported type of attack. As can be seen in Table 1, flaming (79%) was the most frequently reported type of attack reported experienced by participants. Ignored (74%) was the second most commonly reported type of attack followed by denigration/ information spread.

Table 1.

Frequency by Types of Attack

Variable	Yes % (n)	No % (n)
Flaming	77 (79)	23 (24)
Harassment	49 (50)	51 (52)
Stalking	39 (40)	61 (63)
Denigration	70 (72)	30 (31)
Impersonation	39 (40)	61 (62)
Ignored	74 (76)	26 (27)
Exposed	51 (52)	50 (51)

Note. 1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = a lot.

Hypothesis 2

It was predicted that those who report cyber stalking would report higher rates of anxiety compared to those who did not report experiencing cyber stalking. It also was predicted that those who report experiencing flaming would report higher rates of depression when compared to those who did not report experiencing flaming. This hypothesis was analyzed through series of AVOVAs. As can be seen in Table 2, the means for reporting any psychological correlates were low. Therefore, only partial support was found for hypothesis 2. Although there was a statistically significant difference in the anxiety levels reported, the mean for those who had reported experiencing stalking was between *a little bit* and *moderately* ($M = 2.5$). Again, although there was a statistically significant difference in the depression levels reported, the mean for those who had reported experiencing flaming was only approaching *a little bit* ($M = 1.9$). The means for experiencing anxiety were higher than depression in all seven types of attacks for those who reported experiencing them.

Additional Analysis

As can be seen in Table 3, the level of familiarity with the person(s) engaging in the attacks varied by type of attack. For example, participants experienced flaming by someone they did *not know* more often during gaming or in chat rooms, while stalking occurred more frequently with someone they knew *somewhat* on social media websites. Experiencing having sensitive, personal or embarrassing information about you exposed was more likely to happen by someone the participant knew *very well* through text messages and on social media websites.

Table 2.

Psychological Correlated by Type of Attack

Variable	Experienced <i>M (SD)</i>	Not Experienced <i>M (SD)</i>	<i>F</i>	<i>p</i>
Flaming				
Depression	1.86 (1.12)	1.25 (0.60)	6.55	.012
Socially Isolated	1.95 (1.14)	1.33 (0.64)	6.35	.013
Anxious/nervous	2.09 (1.26)	1.29 (0.75)	8.60	.004
Self-esteem	2.08 (1.34)	1.38 (0.77)	5.96	.016
Academic problems	1.62 (1.08)	1.29 (0.75)	1.94	.167
Stalking				
Depression	2.33 (1.21)	1.33 (0.72)	27.37	.000
Socially Isolated	2.35 (1.19)	1.46 (0.84)	19.81	.000
Anxious/nervous	2.50 (1.28)	1.52 (0.99)	18.73	.000
Self-esteem	2.60 (1.39)	1.48 (0.95)	23.77	.000
Academic problems	2.05 (1.26)	1.22 (0.66)	19.07	.000
Harassment				
Depression	2.12 (1.22)	1.33 (0.68)	16.57	.000
Socially Isolated	2.14 (1.21)	1.48 (0.83)	10.35	.002
Anxious/nervous	2.36 (1.34)	1.44 (0.87)	16.99	.000
Self-esteem	2.42 (1.43)	1.42 (0.85)	18.51	.000
Academic problems	1.84 (1.25)	1.23 (0.58)	10.07	.002

Table 2. *Continued*

Variable	Experienced <i>M (SD)</i>	Not Experienced <i>M (SD)</i>	<i>F</i>	<i>p</i>
Denigration/Information Spread				
Depression	1.97 (1.14)	1.13 (0.43)	15.97	.000
Socially Isolated	2.03 (1.16)	1.29 (0.59)	11.19	.001
Anxious/nervous	2.22 (1.29)	1.16 (0.45)	19.77	.000
Self-esteem	2.19 (1.37)	1.26 (0.58)	13.40	.000
Academic problems	1.72 (1.14)	1.13 (0.43)	7.86	.006
Impersonation				
Depression	2.12 (1.22)	1.33 (0.43)	16.57	.000
Socially Isolated	2.14 (1.21)	1.48 (0.59)	10.35	.002
Anxious/nervous	2.36 (1.34)	1.44 (0.45)	16.99	.000
Self-esteem	2.42 (1.43)	1.42 (0.58)	18.51	.000
Academic problems	1.84 (1.25)	1.23 (0.43)	10.07	.002
Excluded/Ignored				
Depression	2.10 (1.19)	1.47 (0.88)	9.43	.003
Socially Isolated	2.22 (1.16)	1.55 (0.95)	9.58	.003
Anxious/nervous	2.38 (1.25)	1.58 (1.08)	11.58	.001
Self-esteem	2.35 (1.44)	1.63 (1.06)	8.45	.004
Academic problems	1.73 (1.06)	1.40 (0.97)	2.50	.117

Table 2. *Continued*

Variable	Experienced <i>M (SD)</i>	Not Experienced <i>M (SD)</i>	<i>F</i>	<i>p</i>
Excluded/Ignored				
Depression	1.89 (1.14)	1.22 (0.51)	8.77	.004
Socially Isolated	2.04 (1.14)	1.15 (0.46)	15.62	.000
Anxious/nervous	2.18 (1.27)	1.11 (0.42)	18.38	.000
Self-esteem	2.18 (1.34)	1.15 (0.46)	15.34	.000
Academic problems	1.70 (1.12)	1.11 (0.42)	7.01	.009
Exposed/Outed				
Depression	2.21 (1.23)	1.22 (0.46)	29.54	.000
Socially Isolated	2.35 (1.22)	1.25 (0.48)	35.41	.000
Anxious/nervous	2.52 (1.35)	1.27 (0.57)	36.92	.000
Self-esteem	2.54 (1.46)	1.27 (0.49)	34.31	.000
Academic problems	1.93 (1.25)	1.16 (0.46)	16.88	.000

N = 103-102. *df* = 1, 102 for Flaming, Stalking, Denigration, Excluded, and Exposed. *df* = 1, 101 for Harassment, Impersonation.

Note. 1 = *not at all*, 2 = *a little bit*, 3 = *moderately*, 4 = *quite a bit*, 5 = *a lot*.

Table 3.

Type of Attack by Different Electronic Media Devices.

Variable	Not at all % (n)	Somewhat % (n)	Very Well % (n)
Flaming			
By email	4 (1)	60 (15)	36 (9)
By text	5 (3)	48 (30)	47 (29)
By IM	10 (3)	58 (18)	32 (10)
In chat room	53 (8)	33 (5)	13 (2)
While gaming	53 (16)	30 (9)	17 (5)
Through social media	17 (9)	52 (28)	32 (17)
On a blog	46 (6)	54 (7)	-----
Harassment			
By email	21 (3)	57 (8)	21 (3)
By text	19 (7)	51 (19)	30 (11)
By IM	19 (3)	75 (12)	6 (1)
In chat room	38 (3)	50 (4)	13 (1)
While gaming	40 (6)	33 (5)	27 (4)
Through social media	23 (6)	58 (15)	19 (5)
On a blog	57 (4)	29 (2)	14 (1)
Stalking			
By email	31 (5)	56 (9)	12 (2)
By text	26 (6)	57 (13)	17 (4)

Table 3. *Continued.*

Variable	Not at all % (n)	Somewhat % (n)	Very Well % (n)
Stalking			
By IM	47 (7)	40 (6)	13 (2)
In chat room	57 (4)	29 (2)	14 (1)
While gaming	33 (4)	16 (2)	50 (6)
Through social media	31 (10)	59 (19)	9 (3)
On a blog	22 (2)	44 (4)	33 (3)
Denigration/Information Spread			
By email	18 (5)	64 (18)	18 (5)
By text	14 (9)	48 (29)	38 (23)
By IM	22 (5)	44 (10)	35 (8)
In chat room	50 (5)	40 (4)	10 (1)
While gaming	29 (5)	53 (9)	18 (3)
Through social media	14 (7)	54 (28)	33 (17)
On a blog	31 (4)	46 (6)	23 (3)
Impersonation			
By email	21 (3)	43 (6)	36 (5)
By text	15 (4)	37 (10)	48 (13)
By IM	25 (4)	36 (9)	19 (3)
In chat room	28 (2)	57 (4)	14 (1)
While gaming	60 (12)	30 (6)	10 (2)

Table 3. *Continued.*

Variable	Not at all % (n)	Somewhat % (n)	Very Well % (n)
Impersonation			
Through social media	30 (7)	39 (9)	30 (7)
On a blog	33 (3)	56 (5)	11 (1)
Excluded/Ignored			
By email	31 (8)	44 (14)	15 (4)
By text	6 (4)	30 (20)	64 (42)
By IM	10 (3)	52 (15)	38 (11)
In chat room	30 (3)	60 (6)	10 (1)
While gaming	32 (6)	53 (10)	16 (3)
Through social media	9 (4)	57 (26)	35 (16)
On a blog	38 (3)	62 (5)	-----
Exposed/Outed			
By email	31 (5)	25 (4)	44 (7)
By text	15 (6)	33 (13)	51 (20)
By IM	17 (3)	33 (6)	50 (9)
In chat room	50 (3)	50 (3)	-----
While gaming	31 (5)	63 (10)	1 (1)
Through social media	10 (3)	35 (10)	52 (16)
On a blog	29 (2)	57 (4)	14 (1)

Note: 1 = *not at all*, 2 = *somewhat*, 3 = *very well*

CHAPTER IV

Discussion

As predicted in hypothesis 1, flaming was the most frequent type of attack reported by participants in the current study. While Dick and colleagues (2010), found among their college sample that flaming most likely occurred during gaming followed by instant message, the most common types of media used for flaming in the current study were text messages followed by social media websites and then gaming.

Only partial support was found for hypothesis 2. Those that reported stalking did report higher rates of anxiety, however, unlike what had been predicted those experiencing flaming also reported higher rates of anxiety than they did depression. Additionally, it should be noted that the means for reporting any psychological correlates were low. The largest mean reported was 2.6 which is between *a little bit* and *moderately*. The highest means for the various psychological correlates were for those who experienced stalking (self-esteem $M = 2.6$, anxious $M = 2.5$) and having sensitive, personal, or embarrassing information exposed (self-esteem $M = 2.5$, anxious $M = 2.5$).

Limitations

This study has several limitations. The first limitation is sample size. The sample size consisted of approximately 103 participants. As can be seen in Table 3, there were only a few participants that reported some of the types of attacks by specific types of electronic media. A larger sample size might alter the findings in the current study. The second limitation is also related to the sample. Participants only came from one

university in middle Tennessee. Both of these limitations impact the generalizability of the current study.

Future Directions

Further research should focus on prevalence of the type of cyberbullying attacks within college age populations. Prior to this study, no research has been conducted on the psychological consequences based on the types of cyberbullying attacks. More research should be conducted in this area. Additionally, continued research is needed to further refine the definition of cyberbullying (e.g., Vandebosch & Van Cleemput, 2008).

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Appendix

Appendix A

IRB Approval Letter



October 16, 2013

Aimee R. Holt, Ashley Estes, Ashante Givens
Psychology
Aimee.Holt@mtsu.edu

Protocol Title: "Electronic Media Experiences Among College Students"

Protocol Number: 14-101

Dear Investigator(s),

The MTSU Institutional Review Board, or a representative of the IRB, has reviewed the research proposal identified above. The MTSU IRB or its representative has determined that the study poses minimal risk to participants and qualifies for an expedited review under 45 CFR 46.110 and 21 CFR 56.110, and you have satisfactorily addressed all of the points brought up during the review.

Approval is granted for one (1) year from the date of this letter for 300 participants.

Please note that any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918. Any change to the protocol must be submitted to the IRB before implementing this change.

You will need to submit an end-of-project form to the Office of Compliance upon completion of your research located on the IRB website. Complete research means that you have finished collecting and analyzing data. **Should you not finish your research within the one (1) year period, you must submit a Progress Report and request a continuation prior to the expiration date.** Please allow time for review and requested revisions. Failure to submit a Progress Report and request for continuation will automatically result in cancellation of your research study. Therefore, you will not be able to use any data and/or collect any data. Your study expires **October 16, 2014.**

According to MTSU Policy, a researcher is defined as anyone who works with data or has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to complete the required training. **If you add researchers to an approved project, please forward an updated list of researchers to the Office of Compliance before they begin to work on the project.**

All research materials must be retained by the PI or faculty advisor (if the PI is a student) for at least three (3) years after study completion and then destroyed in a manner that maintains confidentiality and anonymity.

Sincerely,

Kellie Hilker
Compliance Officer/ MTSU Institutional Review Board Member