

2016

# How personality effects victim's response to cyberbullying

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**How personality effects victim's response to cyberbullying**

by

**Nemisha Khosa**

A thesis submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Information Systems

Program of Study Committee:  
Marc H. Anderson, Co-Major Professor  
Anthony M. Townsend, Co-Major Professor  
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Ames, Iowa

2016

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## TABLE OF CONTENTS

	Page
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iv
ACKNOWLEDGMENTS .....	v
ABSTRACT.....	vi
CHAPTER 1 INTRODUCTION .....	1
CHAPTER 2 THEORY AND HYPOTHESES.....	6
Theory .....	6
Hypotheses .....	15
CHAPTER 3 METHOD.....	18
Procedure .....	18
Participants.....	20
CHAPTER 4 RESULTS.....	22
CHAPTER 5 DISCUSSION .....	25
REFERENCES .....	39
APPENDIX A .....	50
APPENDIX B .....	51

## LIST OF TABLES

	Page
Table 1 Descriptive Statistics and Correlation .....	32
Table 2 Cyberbullying Characteristics of Sample .....	33
Table 3 Individual Sample T-Test.....	35
Table 4 Logistic Regression for Victimization .....	35
Table 5 Linear Regression for Extent of Victimization.....	36
Table 6 Linear Regression for Responses to Cyberbullying.....	36
Table 7 Individual T Test for Early Responses and Late Responses.....	37

LIST OF FIGURES

Figure 1 Frequency Distribution showing the number of types of Cyberbullying attacks each participant experienced ..... 38

## ACKNOWLEDGMENTS

I would like to begin by thanking my committee chair, Dr. Marc H. Anderson, for his continuous guidance and advice throughout the course of this research; and especially for his class MGMT 572 which inspired my interest in Behavioral Science. I would also like to thank my committee members, Dr. Kevin Scheibe and Dr. Anthony Townsend, for their support. A special thanks to Dr. Nilakanta for stepping in at the last minute.

In addition, I would also like to the department faculty and staff for making my time at Iowa State University a wonderful experience. I really am grateful for their help in the various administrative processes from approvals to signing off different forms. I want to also offer my appreciation to those who were willing to participate in my surveys and observations, without whom, this thesis would not have been possible.

To end with, I would like to thank my mother Asha and my father Ramesh, two pillars who have gone far and beyond to raise me and managed to provide me with every opportunity. My love and gratitude to my mother: usually the sane voice in my chaotic world and my biggest supporter; and my father: my biggest cheerleader and comic relief. I would also like to thank my extended family (grandparents, uncles & aunts, cousins) for all their help, love and wishes. And last but not the least a heartfelt thank you to my friends for putting up with my rants and late night 'idea' calls.

## ABSTRACT

With the advent of mobile phone technology and the rise of different social media platforms (Facebook, 2004, Twitter, 2006, YouTube, 2005, et al), technology has boomed in last two decades and been on an upward slope ever since. The advancement in connectivity has made the internet a more central component of people's lives. As such, the internet has now become the "real life" for many individuals and they encounter real life problems online. The open portal of the internet has allowed individuals new, constant and almost invisible ways to harass or threaten others. This type of bullying on the internet or virtual level is called cyberbullying. With consequences as severe as depression, degrading physical health and even suicide, cyberbullying has become a focal issue of study in recent years. Although research has been done in the area of cyberbullying, little research has been done that focuses specifically on the victims of cyberbullying and how they differ from non-victims.

This study examines whether the six personality traits of the HEXACO model of personality predict whether college students have been victims of cyberbullying, and also whether these traits predict the extent of such bullying and the responses made by cyberbullying victims. The goal of the study is to find out whether an individual's personality trait can predict if they would be a victim of cyberbullying, to what extent and how their responses would differ based on said personality traits. Overall, the results showed that there were only a handful of statistically significant differences. People who were victims of flaming attacks scored lower on honesty-humility and agreeableness. People who were victims of online harassment attacks scored higher on emotionality. People who

were victims of outing attacks scored higher on openness to experience. The analysis found extraversion could significantly predict the extent of exclusion and conscientiousness significantly predicts the extent of outing. Emotionality was the most common predictor for responses by victims of cyberbullying.

## CHAPTER 1. INTRODUCTION

Studies suggest that between 30% and 50% of youth have reported being bullied (Berthold & Hoover, 2000; Haynie et al., 2001; Nansel et al., 2001). Olweus (1978, 1993) was one of the first researchers who studied bullying and he defined it as repeated, intentional harmful acts that are perpetrated by a more powerful person or group against a less powerful entity (Liu & Graves, 2011; Stewart, et al., 2014). This definition of traditional bullying does not take in account of instances that include teasing, playful fighting, sarcastic camaraderie or one-time aggression, but it does include indirect attacks, which can include social and relational bullying (Stassen Berger, 2007).

One important form of bullying is cyberbullying. Hinduja and Patchin (2009) defined cyberbullying as “willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices”. Socialization patterns among college students have evolved in the last decade. The second internet boom (mid 2000’s) has led to an ever-increasing growth of electronic communication technologies (e.g., Internet, cell phones and smartphones). In particular, many or most social interactions between college students have changed from being done face-to-face to using social networking sites beginning with Myspace and Yahoo chat rooms and progressing, to the now popular Facebook and multiple web platform chat rooms (Kowalski, Limber, & Agatston, 2012). This new and rapidly growing form of communication has given way to a new form of bullying that allows contact beyond direct, in-person encounters. These encounters have a tendency to flow into aggressive and unhealthy forms of communication. This has caused traditional bullying to evolve into cyberbullying. The percent of youth who have acknowledged to

being subjected to cyberbullying falls between 4% and 30% (Kowalski & Limber, 2007; Patchin & Hinduja, 2006; Wolak, Mitchell, & Finkelhor, 2007; Ybarra & Mitchell, 2004a). In addition to the above numbers, one study found that 55.3% of college students described being cyberbullying victims at least once in their lifetime (Dilmac, 2009).

Cyberbullying differs from traditional bullying in following ways: - (1) potentially greater anonymity of the perpetrator (i.e., the bully). With privacy and security upgrades, technology often allows bullies to be able to hide or mask (fake profiles) their identities behind a computer. This anonymity allows perpetrators to carry out their attacks against the victim with a reduced risk of being affected by the consequences. (2) The reach of the bully. Cyberbullying allows bullies to reach victims beyond the physical social setting and into their private space, homes, etc. (Stewart, et al., 2014). This distancing effect allows the offenders to say or do actions which are far crueler compared to traditional bullying. (3) The setting of attacks. Since attacks happens inside cyberspace, it becomes difficult for the victim to ignore (before taking any measures against the attack like blocking, etc.); as anything put into the Internet can easily go 'viral' and be circulated widely. This can be worse than traditional bullying because physical injuries can heal or the victim can escape from a physical bully. But, in the Internet, where the attack can rebound back to the victim just from a 'share' by an acquaintance or bullies who obsessively "cyber-stalk" their victims, it can become mentally exhausting and emotionally disturbing. The method of delivery of the attacks can range from cell-phone text messages, mean words on personal blogs, photos posted online to rumors that spread faster than ever because of e-mail, instant messengers (IMs), or any other such communication devices (Huang & Chou, 2010).

With the growing popularity of social-networking sites, instant messengers, and mobile technology, the risk and extent of cyberbullying cannot be taken too lightly (Juvonen & Gross, 2008).

Research in cyberbullying has gathered speed during the last decade. A lot of research has focused on understanding cyberbullying, the motivation behind it and its consequences. An important omission in existing works concerns the victims of cyberbullying, who often go through a lot of emotions and reactions such as frustration, anger, hopelessness, and sadness (Juvonen & Gross, 2008; Patchin & Hinduja, 2006). Therefore, it is no surprise that victims of cyberbullying have a higher level of depression and anxiety than those not experiencing cyberbullying, and they have lower self-esteem (Hay & Meldrum, 2010; Juvonen & Gross, 2008; Ybarra & Mitchell, 2004b). There are also recorded instances where face-to-face bullying victims are also likely to become perpetrators of cyberbullying (Jang, Song, & Kim, 2014) because it can be an anonymous form of retaliation towards their own aggressor (Beran & Li, 2007). In a recent study (Baroncelli & Ciucci, 2014), both traditional bullying and cyberbullying were positively correlated with the corresponding form of victimization, suggesting that students could be simultaneously involved in multiple roles. But regardless of whether the participants are victims, bullies, or witnesses, experiencing bullying or cyberbullying has reported to increase the possibility of other consequences of victimization, including child maltreatment, conventional crime, and psychological problems (Holt, Finkelhor, & Kantor, 2007a, 2007b).

Although the subject of bullying has been around for several decades, studies on cyberbullying are relatively new, and studies focused on its victims are even rare. The topic of research in this area limits to the following: defining cyberbullying, describing the prevalence of cyberbullying victimization, profiling bullies, differences in the prevalence according to gender or age, practices that lead to victimization and the negative outcomes. Previous studies have identified several characteristics of cyberbullying victimization and its various psychological impacts (Kiriakidis & Kavoura, 2010; Ortega, Elipe, Monks, 2012; Na, 2014; Smith, 2015). Even though college students have come forward to acknowledge cyberbullying victimization, there have been few studies to investigate the psychological impacts of cyberbullying victimization on such students (Dilmac, 2009; Finn, 2004; Schenk, 2011). In addition, very few if any studies have attempted to explain how victims cope with cyberbullying as well as to determine their primary responses/reactions to the attacks or if the response was successful (Perren, et al., 2012). There is very visible gap in addressing victims and their responses to cyberbullying.

The study investigates the idea that personality traits (in this case HEXACO PI-R) will be able to predict whether an individual is a victim of cyberbullying or not. With lack of research about victim's response to cyberbullying attacks, I hope to shed more light about how victim's personality traits might affect the choices they make in response to an attack. The study also aims to find if personality traits predict who becomes a victim of cyberbullying attacks. Finding data that personality could predict cyberbullying victimization could be very useful in college settings. Individuals with a specific personality set could be enrolled in prevention strategic classes and therefore help them if not avoid at

the least cope with any future attacks. For example, victims who are high on emotionality could be enrolled in coping strategies which would place low emphasis on 'tough love' approach and be mindful of their sensitive nature.

## CHAPTER 2. THEORY AND HYPOTHESES

### *Theory*

#### *Defining and explaining cyberbullying*

Olweus and Limber (1999) defined the following features of bullying: “it is aggressive behavior or intentional ‘harm-doing’, which is carried out repeatedly and over time in an interpersonal relationship characterized by an imbalance of power” (p. 31). This definition showcases the key four features of bullying behaviors: they are harmful, repeated, intentional, and flourish in an imbalanced power structure. According to the work of Hinduja & Patchin (Bullying Beyond the Schoolyard, 2008), cyberbullying is defined as “the intentional and repeated harm of others through the use of computers, cell phones, and other electronic devices” (p. 5). This sentence from the above mentioned text shows that any difference between traditional bullying and cyberbullying are only the tools and methods used to perpetuate the attacks, the rest (harmful, intentional, and repeated nature) is the same. In fact, cyberbullying can be seen as an extension of bullying but with a complex and multifaceted nature. Due to the use of technology, cyberbullying goes beyond boundaries of personal and physical space (Amado, Matos, Pessoa, & Jäger, 2009). According to the study by Li, 2008, cyberbullying also crosses geographic boundaries spreading faster and broadly.

Research has shown that like traditional bullying, the foundation of cyberbullying is imbalance of power between the two parties, but this imbalance also points to the skills and knowledge in mastering technology (Amado et al., 2009; Dooley, Pyzalski, & Cross, 2009), which means the aggressor doesn’t need to be physically bigger or stronger than the

victim (Li, 2008). But according to Wolak, Mitchell, and Finkelhor (2006) a cyberbullied victim can also gain a position of power because they can easily dismiss the negative interactions (e.g. ignore the aggressor) or become the aggressor themselves. This means that world of internet offers coping tools that are not available for victims of face-to-face interactions (Price & Dalglish, 2010), which makes cyberbullying more difficult to study than traditional bullying. There is another power imbalanced structure in cyberbullying (Amado et al., 2009), where the victim can't escape in terms of space and time, since the attack could occur at any hour of the day and night (Dooley et al., 2009), and could also happen on or off school grounds. Cyberbullying offers "invisibility" (Slonje & Smith, 2008), i.e. it's very easy (free sign ups makes it easy to create multiple fake accounts) and possible to maintain the bully's anonymity (Kowalski & Limber, 2007). This anonymity also limits the victim's responses where they could stop or predict future attacks (David-Ferdon & Hertz, 2007).

Another difference between traditional bullying and cyberbullying is the repetition with which the attacks are conducted. Repetition means the number of times a message is sent, displayed and seen by another person regardless of the bully's actual intentions (Dooley et al., 2009; Slonje & Smith, 2008). The repetition in cyberbullying is complicated to control. One attack by the perpetrator could be repeated by others (e.g. forwarding a message or post, sharing a video), causing the victims to experience it many times over (Slonje, Smith, & Frisén, 2013). While in traditional bullying the frequency of attacks is easier to quantify, it's not that straight-forward when the attacks are through electronic

means. Attacks that are broadcasted to others could be considered one act or as part of a cycle of repeated acts (David-Ferdon & Hertz, 2007).

Willard (2005) presents eight different types of cyberbullying, and it is possible to categorize these cyberbullying types into two distinct forms: direct and indirect. Direct forms include the more aggressive types of attacks: flaming, online harassment, denigration and outing. Each of these attacks are directed straight at the victims i.e. direct messages, inappropriate texts, cruel comments, obsessive and malicious online following. Indirect includes: impersonating (masquerading) and exclusion. The attacks are subtle, a comment about the victim here and there, hacking into the victim's profile and posting online content as them. The victim doesn't immediately know that he/she has been targeted. Research has shown that males tend to be more engaged towards direct forms of cyberbullying than females (Olweus, 1993), while, women tend to be involved in indirect forms of attack more than men (Kowalski & Limber, 2007). Studies have also found that women are victimized more than men (Ortega, Elipe, Mora-Mérchan, Calmaestra, & Vega, 2009; Ortega, Elipe, & Calmaestra, 2009).

Research has shown that the consequences of cyberbullying can range anywhere from learning problems and absenteeism (Amado et al., 2009) to feelings of sadness, anger and loss of hope – feelings that negatively affect concentration, physical wellbeing and academic accomplishments (Beran & Li, 2005). A problem with cyberbullying (or even traditional bullying) is that often students do not reveal bullying incidents they have either experienced or observed (DeLara, 2008; Garbarino & DeLara, 2002; Mishna & Alaggio, 2005; Pepler, Jiang, Craig, & Connolly, 2008). A study by DeLara (2012) projected that

cyberbullying prevention programs often fail to work have a larger impact because most studies to date seem to focus mostly on the perceptions of adults (e.g. parents and teachers), rather than focus on the students' viewpoints. Some authors (Vannucci, Nocentini, Mazzoni, & Menesini, 2012) found that memory distortions of the situation were positively associated with cyberbullying. In many cases students don't report bullying incidents because they felt ashamed, helpless, or worried about the reactions of others (peers, adults, etc.) (DeLara, 2012).

### *Cyberbullying victimization*

Studies regarding cyberbullying have tended to focus on adolescents, and there are only a few studies of young adults between the ages of 18 and 25 (Wright & Li, 2013, Amado et al., 2009). There is a theory that aggression reaches its peak in adolescence due to abrupt and extreme biological and social changes experienced by them (Li, 2007). This has led many researchers to mainly focus on adolescence. But, these changes can also occur during the university years with young adults. The following researchers were among the first to study cyberbullying in college students Francisco, 2012; Akbulut & Eristi, 2011; Azevedo, 2013; Dilmaç, 2009; Finn, 2004; Kraft & Wang, 2010; Souza, 2011; Walker, Sockman, & Koehn, 2011. Cyberbullying can be prevalent in university population because students have easy access to the Internet and the wireless network in universities and facilities (in student residencies, libraries, etc.) (Finn, 2004). In 2010, 93% of young adults (ages 18-29) used the internet (in terms of using e-mail, blogs, social networking web sites, and instant messaging that act as the dominant methods of online communication (Pew

Internet & American Life Project, 2010). This makes cyberbullying a real threat to college students.

Akbulut and Eristi (2011) studied cyberbullying and victimization at a state college of education (Turkish University). Their study found the number of different types of cyberbullying attacks like emails or instant messages (81.1%), cursing or slang language while using instant messaging programs (61.8%), obscene emails (61.8%) and so on. A study by Dilmaç (2009) found that although more men stepped forward to report cyberbullying incidents, women suffered a larger extent of cyberbullying victimization. This study also states that 22.5% of students had engaged in cyberbullying at least once and 55.3% acknowledged having been cyberbullied at least once. The percentage of victims recorded was larger as compared to that of the aggressors, which is consistent with other studies (Raskauskas & Stoltz, 2007).

A study by Kraft and Wang (2010) held at a college in New Jersey revealed that students below 25 years of age had experienced higher frequency of cyberbullying attacks than older students. These authors also discovered that there is a risk factor concerning the continuity of victimization from high school to college. Cyberbullying behaviors are becoming more visible in high school and college-aged populations (Hinduja & Patchin, 2009), and given that the high school population is the most studied, there is a need for research focusing on college students.

Studies have also shown that cyberbullying victimization differs according to gender, age, and experience of traditional bullying in adolescents. The study by Kowalski and Limber (2007) examined the occurrence of cyberbullying victimization among 3,767

middle school students. They found that more girls than boys reported being cyberbullied (15.1% vs. 7.0). An interesting fact was that there is a strong relationship between traditional bullying and cyberbullying (Vandebosch & Van Cleemput, 2009). The study by Hinduja and Patchin (2008) had a sample of 1,378 youth under the age of 18. The conclusion was that those who reported being affected by traditional bullying were 2.6 times more likely to have been victims online as well. The same was confirmed when 461 7th grade students from Canada and China were studied for victimization and although the number from their study was 2.5 times more likely (Li, 2007). This means there is a strong relation between traditional bullying victimization and cyberbullying victimization (Kowalski et al., 2012).

Although previous studies have discovered several features of cyberbullying victimization, most of them have been conducted with adolescents (under 18 years). Schenk (2011) conducted a study among 799 college students but found no significant difference in cyberbullying victimization according to age, gender, or frequency of internet use. Empirical studies like MacDonald and Robert-Pitmann (2010) that examined a college sample did find a smaller number of individuals who engaged in cyberbullying. One reason for this discrepancy was explained by the study conducted by Baldasare et al., (2010). Their research suggests that college students relate cyberbullying with adolescence and underreport cyberbullying incidents. This makes the rate of cyberbullying on college campuses unclear along with what other factors could characterize cyberbullying behavior and victimization (Konig et al., 2010, Gibbs and Devereux, 2014, Franciso et al., 2015, Peluchette, 2015). Recent studies have been performed to understand the mindset of the

aggressor, for example Koing et al (2010) conducted a study to determine if being a victim of traditional bully could be a contributing factor for the victims to become cyberbullies. However, few studies have been performed to study the victim. There is a gap of understanding about who might be at a risk of becoming a victim of cyberbullying. The few studies that have been done, used different personality models, traits and types to predict victimization (Peluchette, 2015, Pabian et al., 2014, Gibbs and Devereux, 2014, Tsitsika, et al., 2015) and have successful. There are personality traits that can predict if an individual will be subjected to cyberbullying victimization. Based on these studies, the aim of this current study is to investigate if HEXACO PI-R could significantly predict cyberbullying victimization.

#### *HEXACO personality model*

The current study uses the HEXACO PI-R model of personality traits to see whether traits are predictors of future cyberbullying victimization. When research into cyberbullying and personality traits picked up speed, the most common personality model utilized was Big Five model (Digman, 1990). Lee and Ashton, (2012) summarized that of all the many hundred types of personality characteristics that differentiates one person from the next, such as absent-minded, zestful, punctual, emotionally stabile, angry, etc., most could be classified into five large factors. But recent evidence suggests that the six-factor HEXACO model is a more complete model of personality Unlike the Big Five, the HEXACO personality model is “consistent with the cross-culturally replicated finding of a common six dimensional structure” (Ashton & Lee, 2007, p. 150). HEXACO is an acronym reflecting both the number of factors (i.e. six) and their names. The six factors are: Honesty-Humility

(H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O) (Ashton & Lee, 2007).

A brief description of HEXACO personality model factors (The H Factor of Personality, Ashton & Lee, (2008), <http://hexaco.org/scaledescriptions>):

Honesty-Humility: Persons with very high scores on the Honesty-Humility scale avoid manipulating others for personal gain, feel little temptation to break rules, are uninterested in lavish wealth and luxuries, and feel no special entitlement to elevated social status. Conversely, persons with very low scores on this scale will flatter others to get what they want, are inclined to break rules for personal profit, are motivated by material gain, and feel a strong sense of self-importance.

Emotionality: Persons with very high scores on the Emotionality scale experience fear of physical dangers, experience anxiety in response to life's stresses, feel a need for emotional support from others, and feel empathy and sentimental attachments with others. Conversely, persons with very low scores on this scale are not deterred by the prospect of physical harm, feel little worry even in stressful situations, have little need to share their concerns with others, and feel emotionally detached from others.

eXtraversion: Persons with very high scores on the Extraversion scale feel positively about themselves, feel confident when leading or addressing groups of people, enjoy social gatherings and interactions, and experience positive feelings of enthusiasm and energy. Conversely, persons with very low scores on this scale consider themselves unpopular, feel awkward when they are the center of social attention, are indifferent to social activities, and feel less lively and optimistic than others do.

Agreeableness (versus Anger): Persons with very high scores on the Agreeableness scale forgive the wrongs that they suffered, are lenient in judging others, are willing to compromise and cooperate with others, and can easily control their temper. Conversely, persons with very low scores on this scale hold grudges against those who have harmed them, are rather critical of others' shortcomings, are stubborn in defending their point of view, and feel anger readily in response to mistreatment.

Conscientiousness: Persons with very high scores on the Conscientiousness scale organize their time and their physical surroundings, work in a disciplined way toward their goals, strive for accuracy and perfection in their tasks, and deliberate carefully when making decisions. Conversely, persons with very low scores on this scale tend to be unconcerned with orderly surroundings or schedules, avoid difficult tasks or challenging goals, are satisfied with work that contains some errors, and take decisions on impulse or with little reflection.

Openness to Experience: Persons with very high scores on the Openness to Experience scale become absorbed in the beauty of art and nature, are inquisitive about various domains of knowledge, use their imagination freely in everyday life, and take an interest in unusual ideas or people. Conversely, persons with very low scores on this scale are rather unimpressed by most works of art, feel little intellectual curiosity, avoid creative pursuits, and feel little attraction toward ideas that may seem radical or unconventional.”

In comparing the HEXACO model to the Big Five model, three of the personality traits in the HEXACO and Big Five factors are essentially equivalent to one another (Extraversion, Conscientiousness and Openness). However, the HEXACO emotionality and agreeableness traits represent alternating variants of Big Five neuroticism and agreeableness. Specifically, HEXACO agreeableness includes elements of irritability and temper which usually falls under the Big Five Neuroticism (Ashton & Lee, 2007; Ashton & Lee, 2008). On the other hand, HEXACO emotionality includes elements of sentimentality and sensitivity, which are generally included within Big Five agreeableness (Lee & Ashton, 2004). Nevertheless, the most unique feature of the HEXACO model is the addition of a sixth dimension of personality, honesty-humility. It has no direct analog within the B5 factor space. The benefit of the honesty-humility factor in this study is its sole ability to predict deceptive and self-serving outcomes as compared to Big Five model (see Ashton &

Lee, 2008, for a review). Lower levels in honesty-humility have been associated with unethical decision making (Lee, Ashton, Morrison, Cordery, & Dunlop, 2008), et al.

### ***Hypothesis***

Only two studies have examined how HEXACO personality can relate to aggression, one on traditional bullying (Book et al., 2012) and the other on cyberbullying (Smith, 2015). A lot of emphasis is on studies regarding traditional bullying and personality traits in both adolescents (Bolle & Tackett, 2013; Book et al., 2012; Kodzopeljic, Smederevac, Mitrovic, Dinic, & Colovic, 2014; Tani et al., 2003) and adults (Baughman, Dearing, Giammarco, & Vernon, 2012; Persson et al., 2009). There are also studies that have researched the short and long-term effects of cyberbullying victimization (Slonje, Smith and Frisen, 2013). But a lot remains uncovered about how various personality traits could predict cyberbullying victimization. The dissertation by Smith (2015) tested for prediction of both victimization and perpetration from HEXACO PI-R. Emotionality, extraversion and conscientiousness were the three best predictors of cyberbullying victimization. These studies leads to the following hypothesis:

*H1: Victims of cyberbullying will differ in terms of personality trait from non-victims.*

*H2: Personality traits will predict the extent to which victims have experienced cyberbullying.*

Festl and Quandt (2013) examined cyberbullying and the influence of individual and structural attributes on victims and perpetrators. The Big Five personality model was used where conscientiousness and openness to experience were predictors of cyberbullying victimization (Festl & Quandt, 2013). Students who were categorized as both perpetrators

and victims of cyberbullying were significantly higher on extraversion and agreeableness (Festl & Quandt, 2013). Another personality model used to predict cyberbullying perpetrators and victims are the dark triad traits (Machiavellianism, Narcissism and Psychopathy). In the study by Gibbs and Devereux (2014), the focus was on what motivated cyberbullying behaviors; psychopathy (a personality disorder characterized by a cold and emotionally void personality as well as antisocial behavior (Paulhus and Williams, 2002)) was a leading factor. Pabian, et al (2014) conducted an empirical study to investigate the relation between dark triad and cyber-aggression, where again the focus was on the perpetrator (psychopathy was the major predictor). Another study regarding personality and cyberbullying was done by Brewer and Kerlake (2015), where self-esteem, empathy and loneliness was used to predict cyberbullying victimization and perpetuation (self-esteem was a found to be a significant predictor of cyberbullying victimization). Peluchette et al (2015) performed a study where impact of risky social network site practices and different personality traits (Big Five model) was used to predict the likelihood of cyberbullying victimization. The study showed that only extraversion and openness to experience were significant predictors of cyberbullying victimization.

The limited past research thus suggests that personality traits can be significant predictors of cyberbullying victimization. Aside from prediction and the consequences of cyberbullying victimization, research has yet to be done on how the responses of victims differs, and whether personality traits affect the types of responses that victims make. A systematic literature study done by Perren, Cowie, et al (2012) shows that although there have been studies that report the response by a victim, the responses focused on have been

either general prevention strategies or coping strategies. Furthermore, only few studies could predict the success of these responses. There has been no research done to study how the responses/reactions of victims can differ based on their personality. This study hopes to find such a relationship using the HEXACO personality model and proposes the following hypothesis:

*H3: Personality traits will predict the responses of those that were victimized by cyberbullying. The responses will differ for victims with different personality traits.*

## CHAPTER 3. METHOD

### *Procedures*

The study collected its data through an anonymous online questionnaire created in Qualtrics. The student's email list was provided by the Office of Registrar. Iowa State University solution center handles mass emailing requests. Once the IRB approval came in, the Office of Registrar passed on the email list to the solution center. They sent out a mass email, which had a short invitation and the web link to the survey, to the students that were either enrolled during spring 2016 or were currently enrolled in summer 2016. The email also emphasized that participation was completely voluntary. The estimated time required for the survey was 15 minutes. Of all the response (both completed and partial) 71.4% finished the survey in 15 minutes or less, while 28.7% took longer. The email was sent out during the month of June 2016 and collection was stopped by first week of July 2016.

The questionnaire had two parts. The first was the 60-item version of the HEXACO personality self-report test (HEXACO-60; Ashton & Lee, 2009). All items were answered on a 5-point scale (with scale anchors ranging from 1 = strongly disagree to 5 = strongly agree). All the personality traits were individually tested for scale reliability using Cronbach's alpha. On average, each of the HEXACO personality trait honesty-humility (0.78), emotionality (0.83), extraversion (0.80), agreeableness (0.78), conscientiousness (0.78) and openness to experience (0.77) were above 0.70. This means that the items in scale for each trait were consistent. The questions were scored and reverse-scored in Qualtrics so that the HEXACO scores were ready for analysis when the data was exported.

The second part of the questionnaire primarily contained questions that would measure cyberbullying and the responses by the victims. The questions measuring these items were collected from two major sources. The first was a cyberbullying survey from the Kent County School District, Kentucky. It had 48 questions that covered cyberbullying types and victim reactions (both emotional and physical). This survey was developed to create an intervention program for the school's students ([www.kenton.k12.ky.us/docs/Cyber](http://www.kenton.k12.ky.us/docs/Cyber), [link](#)). The second source was the research done by Brighi and Guarini (2009), which provided the questions regarding responses of cyberbullying victims. The survey in this study is called the European Questionnaire of Bullying and Cyberbullying, and was created to be used in an anti-victimization project led by the above researchers. The survey covered both bullying and cyberbullying, including questions about the environment and reactions to the attacks.

The resulting questionnaire included questions to measure if the participant had experienced seven forms of cyberbullying. Participants were asked to fill the survey based on their most recent experience. The extent to which they had experienced each of these forms of cyberbullying was also measured using a 4-point Likert Scale (with scale anchors ranging from 1 = rarely to 4 = very frequently). For each form of cyberbullying that respondents said they'd experienced, they were asked how they responded. The response options were classified in to 10 categories which included these options (Brighi and Guarini, 2009):

- (1) I ignored what was happening hoping it would stop
- (2) I turned my mobile off/ stopped using internet

- (3) I told a friend
- (4) I told a teacher
- (5) I told a parent/care-giver
- (6) I asked the person directly to stop bullying me
- (7) I blocked the texts/phone calls/internet communications
- (8) I changed my phone number/online profiles (closed email accounts, social media)
- (9) I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me
- (10) I tried to do to them what they had done to me.

To measure the how often each response was used against a cyberbullying attack, a 5-point Likert scale was included (ranging from 5 = very frequently to 1= never).

### ***Participants***

The target participants for this study are college students (graduate and undergraduate). The survey was sent in June (after university had closed for spring semester). A total of 22,151 emails were sent. Of these, 1281 emails were undeliverable, 12,354 emails were unopened, and 8516 emails were opened. A reminder email was sent out a week later to 22,145 students, and 7778 emails were opened (these data were provided by the ISU Solution Center). Out of the emails that were opened, 660 (8.1%) completed some or all of the survey. This gave a response rate of 5.4%. A total of 419 of those who participated to some extent finished the entire questionnaire. Of these 419, a total of 209 were male students (49.9 %) and 213 were female students (50.8%).

Almost one week after the initial email was sent requesting participation in the study, a second request was made. In order to examine whether non-response might be a problem, I compared early and late respondents on the six personality traits, gender and age. Responses collected from the first email to the date before the second email was sent out were categorized as early responses and the remaining were categorized as late responses. To avoid response bias, a t test was performed on early responses and late responses (Table 7). There were no major differences in the early and late responses except for agreeableness ( $t=-2.17$ ,  $p<0.05$ ) which was the only significant factor that showed a difference in individuals who responded early and late, with early responders showing higher scores on agreeableness.

## CHAPTER 4. RESULTS

I analyzed the data using SPSS version 24. Before the data analysis, I checked the data for accuracy and examined missing data and classified participants as victims or not victims. The process of data collection was slow because the questionnaires were sent out after the semester had ended (June, 2016). There would be a high frequency of participation on the day of the arrival of the email (containing the link to the questionnaire) and then responses would taper off drastically after that. This resulted in a smaller sample size, especially regarding questions about bullies. Due to a this, bully classification was left off, and the analysis was focused on victimization only.

Table 1 presents the descriptive statistics (means, standard deviations, and correlations between all the study variables). Of the 660 completed and partial responses, more than two-thirds of the sample reported being victimized by one or the other form of cyberbullying (70.6%,  $N=466$ ,  $M=1.44$ ,  $SD=0.5$ ). Figure 1 is a histogram that shows the frequency distribution of the number of types of cyberbullying attacks a participant reported experiencing. The number of participant who experienced cyberbullying attacks at least once is 20.6%. Table 2 and 3 show that flaming (36.9%), online harassment (20.8%) and denigration (24.2%) had the highest frequency in terms of the type of cyberbullying attacks. From the ten categorized responses to cyberbullying attacks the most commonly used one was "I ignored what was happening hoping it would stop" ( $N=266$ , 57.1%) and "I asked the person directly to stop bullying me" was the lowest response ( $N=244$ , 52.4%). There was a negative correlation ( $r=-0.11$ ) between

emotionality and being a victim to cyberbullying. The analysis also showed a moderately positive correlation with agreeableness ( $r=0.11$ ).

In order to test whether the means were different between the individuals who were and weren't victims in terms of the six HEXACO personality traits, I used independent sample t-tests. These were done for each of the seven types of cyberbullying: (1) Flaming, (2) Online Harassment, (3) Cyberstalking, (4) Denigration, (5) Masquerade, (6) Outing and (7) Exclusion. The results showed that there were only a handful of statistically significant differences. People who were victims of flaming attacks scored lower on honesty-humility (mean of 3.31 vs 3.49). People who were victims of flaming attacks scored low on agreeableness (mean of 3.09 vs 3.23) People who were victims of online harassment attacks scored high on emotionality (mean of 3.32 vs 3.07). People who were victims of outing attacks scored high on openness to experience (mean of 3.09 vs 3.23).

I used logistic regression to predict victimization based on the six personality traits. The analysis showed that few HEXACO traits predicted victimization. Emotionality predicted flaming (Beta=-0.33,  $p>0.05$ ) and online harassment (Beta=-0.45,  $p<0.05$ ). Openness to experience had small significant relation with outing (Beta=-0.77,  $p<0.05$ ). Linear regression was used to predict the extent of each type of cyberbullying based on the HEXACO personality traits. There weren't many regression relationships between the dependent variables of the extent of each cyberbullying type and the personality traits independent variables (HEXACO PI-R). But, it seems extraversion could significantly predict exclusion (Beta=-0.5,  $p<0.05$ ) and conscientiousness significantly predicts outing (Beta=0.55,  $p<0.05$ ).

I used linear regression to predict whether each response type that would be picked by an individual would be different based on the HEXACO personality traits. Agreeableness was the most significant predictor of the response “I ignored what was happening hoping it would stop” [R1] (Beta=0.60,  $p<0.001$ ). For the response “I turned my mobile off/ stopped using internet” [R2] (Beta=0.28,  $p<0.05$ ), emotionality was found to be a significant predictor. The response “I told a friend” [R3] could be predicted by both emotionality (Beta=0.69,  $p<0.001$ ) and conscientiousness (Beta=0.31,  $p<0.05$ ). Emotionality (Beta=0.22,  $p<0.01$ ) and extraversion (Beta=0.17,  $p<0.05$ ) significantly predicted “I told a teacher” [R4]. Emotionality (Beta=0.66,  $p<0.001$ ), extraversion (Beta=0.46,  $p<0.001$ ) and conscientiousness (Beta=0.32,  $p<0.05$ ) were very significant predictors for “I told a parent/care-giver” [R5]. Emotionality (Beta=0.31,  $p<0.05$ ) and extraversion (Beta=0.34,  $p<0.05$ ) are significant predictors of “I asked the person directly to stop bullying me” [R6]. Emotionality was the only significant predictor for “I blocked the texts/phone calls/internet communications” [R7] (Beta=0.46,  $p<0.001$ ) and “I changed my phone number/online profiles (closed email accounts, social media)” [R8] (Beta=0.25,  $p<0.001$ ). There were no significant predictors of “I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me” [R9] and honesty-humility was the only significant predictor for “I tried to do to them what they had done to me” [R10] (Beta=-0.51,  $p<0.001$ ).

## CHAPTER 5. DISCUSSION

The literature review presented in this paper establishes a need for research on cyberbullying among college-aged students, and the findings of this study show that cyberbullying victimization does indeed occur at the college level. More than two-thirds of the sample (70.6%) admitted to being victims of cyberbullying attacks. Many studies have shown that personality traits to be a significant predictors of victimization. Self-esteem (Brewer and Kerlake, 2015), the Big Five traits (Francisco, et al., 2015), and the “Dark Triad” traits (Gibb and Devereux, 2014) are all different personality traits that have been used to predict cyberbullying victimization by different researchers. Cyberbullying victimization findings and conclusions from these studies were usually byproducts and not the primary focus, but they nevertheless have provided data that can help guide future studies for research regarding cyberbullying victimization and personality traits (like this current study)

The results from the current study found that only a few personality traits showed correlations with certain forms of cyberbullying. The only study ever to use HEXACO model to predict victimization was Smith (2015). The current study was able to support that personality can be a significant predictor of cyberbullying. Emotionality was one of the key predictors from Smith (2015). However, results from the current study challenges this, because instead of high emotionality, this study found that low emotionality predicted cyberbullying victimization. One explanation for these contradictory findings is the difference in the data samples (Smith (2015) conducted the study on students ages 14-15) and the survey used was different, the current study used materials from Brighi and

Guarini (2009) and K12 Kent county school district cyberbullying survey, while Smith (2015) used Cyberbullying and Online Aggression Survey Instrument (Patchin, Hinduja, 2012). Individuals with low emotionality scores are usually self-dependent, separate from others and are not open to sharing their concerns with everyone. Since this question only establishes if an individual has been victimized or not, it could be that they experienced the attack but either ignored it or handled it on their own. It should be noted that emotionality was a significant predictor for only flaming and online harassment (both direct forms of cyberbullying attacks (Willard, 2005)). The only other predictor was openness to experience for outing cyberbullying attacks. Individuals with low scores on the openness to experience trait were more likely to be victimized by outing.

The second hypothesis tested whether personality traits predicted the extent of cyberbullying (i.e., the frequency of experiencing the attacks). Although the results of the t-tests failed to support this hypothesis, in the regression models both conscientiousness and extraversion were found to be predictors of certain types of cyberbullying. Individuals with low scores on extraversion were more likely to experience exclusion at a higher frequency. This makes sense as individuals with lower extraversion scores feel unpopular and awkward, avoid social activities, etc. This could mean either they are victimized because of their unique tastes or they exclude themselves knowingly by not interacting with the surrounding peer group and yet feel as though they were victimized. Individuals with higher scores on conscientiousness are more likely to experience higher frequency of cyberbullying victimization by outing attacks (where sensitive, embarrassing, and personal information is shared without the consent of the individual). For a self-controlled

individual who likes order and strives to perfectionism, a good way to 'hurt' them is by disrupting their routines. Attacks like outing are something that is out of their control. The loss of control along with personal information being shared with everyone is cruel and thus causes distress to victim with high conscientiousness scores.

The third hypothesis predicted that there would be differences in individual responses to cyberbullying based on personality traits. The responses were classified into ten types. Emotionality was the most common and significant predictor of a response being selected by a victim (it was significant for seven of the ten response types - from R2 to R8). For example, for individuals with higher emotionality scores, being subjected to cyberbullying attacks may make them anxious, causing them to pick drastic responses like closing down online accounts, changing numbers, basically complete withdrawal from any type of healthy online social interaction. High emotionality can make individuals pick risky actions like confronting the bully directly. Since the bully is mostly anonymous in such cases, the victim can land in to further danger which could turn into life threatening (cyberstalking attacks). On the other hand, although low emotionality scores were a significant predictor of cyberbullying victimization, the study didn't investigate whether the individual's response to cyberbullying (as per Table 6 with lower emotionality scores victims were more likely to remain calm and rational and most of the time to simply ignore the attacks) were successful.

Cyberbullying is like a hydra, in the fact, the bullies keep coming up all over internet. A study by Li (2008) shows that victims of traditional bullying become bullies in cyber space, as no high measure of physical strength is required. The results from the current

study provides some information as to why in some cases certain victims become bullies themselves. Table 6 shows a negative relation between honesty-humility and “I tried to do to them what they had done to me” [R10]. It could be that individuals with low honesty-humility scores have a stronger sense of self-importance (i.e., narcissism) and are more aggravated or insulted by the attack, and thus do the same in return.

### ***Limitations***

This study and its results need to be interpreted with caution given certain limitations. One limitation concerns the low response rate, which is likely due to the timing of the data collection. The questionnaires were sent out after the spring semester had ended, during summer (June, 2016). Because of this, although the email was sent out to a very large number of students, the number of completed responses was low. The concern this raises is whether these results are truly generalizable to the entire college population (at this university, as well as similar universities). A second limitation is that since a self-report instrument was used, there may be instances of false reporting and socially desirable responding that further biased my results. These factors might have made students more likely to give random or inaccurate responses. Although the survey was anonymous, and thus respondents should be more likely to give truthful responses, the sensitive nature of the topic may still have led some to be less than 100% honest. (Logan, Claar, & Scharff, 2008). The participants view of cyberbullying is also subjected to misinterpretation. They might mistake the tone of online communication (e.g. a joke or sarcastic comment) and under or over report cyberbully victimization. One other limitation is that I did not specifically ask when the participant had experienced a cyberbullying

attack, and thus it is not clear whether the cyberbullying that students reported had happened at the college-level or earlier when they were high school students. The question was presented as “recall your most recent experience”. This uncertainty prevents me from being able to confidently state that there is a high rate of cyberbullying in college-aged students.

### ***Future Research***

There is a great need for future research on the topic of cyberbullying victimization. Various studies in the past decade (Konig et al., 2010, Gibbs and Devereux, 2014, Franciso et al., 2015, Peluchette, 2015, Brewer and Kerslake, 2015, Slonje, Smith, 2013, et al) have shown that personality clearly has a significant relationship with cyberbullying victimization. There are many avenues that future research on this topic could take. The current study didn't factor age, gender, diversity or socio-economic status while using HEXACO PI-R to predict cyberbullying victimization; this could be a future topic. Research could be done to better understand cases where cyberbullying attacks lead to victims turning into bullies themselves.

There also needs to be research focused on the responses of victims to cyberbullying. The project could be measuring the success rate of responses used by victims against cyberbullying, in terms of enabling the victim to overcome any trauma from the cyberbullying, and in terms of them being less likely to become victims in the future. The current study was able to find differences in responses to cyberbullying based on the HEXACO personality traits, but it could not determine if the responses selected had helped the victim against the particular type of cyberbullying attack (flaming, denigration, online

harassment, et al.). Studies could also be conducted about the effectiveness of prevention strategies, either regarding reducing risks to victims or teaching specific and effective response policies to victims, bystanders, parents and teachers. A study by Kumazaki, Suzuki, Katsura, Sakamoto, and Kashibuchi (2011) tried to find a relationship between internet etiquette and reduced cyberbullying risks, but they found no relationship between these variables. This prompts the need for research to find what measures could either help lower or increase cyberbullying risks.

The current study found an inverse relation between honesty-humility and the response “I tried to do what they had done to me”. This means that victims with low honesty-humility scores were more likely to use cyberbullying attacks in retaliation. This can be the topic for a future project. Studies could be performed to investigate other reasons or characteristics that would make a victim into a bully. Such situations have a high risk factor to turn into never-ending cycles and research is needed to explore if such cycles occur, and if so, how to prevent or break them. Another research topic could be the motivation behind cyberbullying attacks (both by bullies and victims). Although studies have found the characteristics or personality traits of an individual (bully or victim) can predict their cyber-aggressive actions, the motivation behind them has yet to be studied. There could be reasons aside from personal vendetta, cruelty or feeling superior, a last resort or a psychological break due to the mental strain caused by other factors.

A problem faced by any research done in cyberbullying is the use of self-report methodologies. Theoretically, research on cyberbullying victimization could be performed using measures other than self-observed measures, thereby reducing or eliminating the

possibility of random, false, or misinterpreted data. One enormous obstacle that future researchers would likely face though would be the willingness of individuals to provide access to all of their personal online information, so this may be impractical.

In conclusion, the results in this study has tried to contribute to the growing literature regarding cyberbullying victimization and HEXACO personality traits. It is important to understand cyberbullying victimization, especially at the college level, as college students are at a higher risk of psychiatric problems and dropping out of college (Baldasare et al., 2012). Cyberbullying could also affect student learning, as bullied students might prefer to skip classes and online class discussions due to the fear of being attacked. Such consequences can shape an individual's future. Since colleges all over have been upgrading to new technologies and moving the learning process further in to the digital realm, this may make cyberbullying victimization an even more important and immediate threat.

Table 1. Descriptive Statistics and Correlation

	<i>Mea n</i>	<i>St. Dev</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Honesty-Humility	3.43	0.66	1																
2 Emotionality	3.13	0.71	0.02	1															
3 Extraversion	3.23	0.65	-0.06	-.22**	1														
4 Agreeableness	3.17	0.61	.24**	-.11*	0.09	1													
5 Conscientiousness	3.69	0.57	.20**	0.03	.16**	0	1												
6 Openness to Experience	3.55	0.63	0.09	-.10*	0.02	0.06	-0.03	1											
7 Victimization	1.44	0.50	0.04	-.11*	0.00	.11*	0.04	-0.04	1										
8 R1	3.1	1.24	0.09	-0.01	-0.07	.29**	-0.01	-0.03	0.06	1									
9 R2	1.8	1.03	0.07	.17**	0.07	0.10	0.04	0.03	.14*	.20**	1								
10 R3	2.9	1.43	0.02	.34**	0.03	-0.09	.17**	0.03	-.16*	-0.09	.16*	1							
11 R4	1.39	0.85	-0.03	.16*	0.09	0.04	0.05	-0.01	-.15*	-0.02	.22**	.31**	1						
12 R5	1.87	1.31	0.00	.33**	.15*	-0.04	.19**	-0.05	-.17**	-0.11	.14*	.48**	.54**	1					
13 R6	2.39	1.40	0.04	.13*	0.12	-0.08	0.07	0.11	-0.02	-0.11	.13*	.41**	.28**	.35**	1				
14 R7	2.48	1.44	0.04	.22**	-0.01	-0.05	0.00	0.04	0.09	0.06	.32**	.35**	.33**	.32**	.32**	1			
15 R8	1.32	0.81	-0.03	.22**	-0.05	0.04	-0.04	-0.07	-0.10	0.07	.28**	.20**	.51**	.32**	.26**	.40**	1		
16 R9	1.35	0.85	-0.05	0.01	0.05	0.03	-0.01	0.08	-0.03	0	.15*	.22**	.32**	.20**	.28**	.27**	.33**	1	
17 R10	1.6	1.01	-.37**	-0.04	-0.10	-.20**	-0.12	-0.02	-0.03	-.15*	-0.04	-0.01	0.04	-0.06	0.05	-0.02	0.06	.15*	1

\*\* Correlation is significant at the 0.01 level (2-tailed), \* Correlation is significant at the 0.05 level (2-tailed) N= 468 (1-4), 469(5,6), 466(7)

Victimization=Has the participant experienced cyberbullying?

R1=I ignored what was happening, hoping it would stop (N=266)

R2=I turned my mobile off/ stopped using internet (N=247)

R3=I told a friend (N=264)

R4=I told a teacher (N=264)

R5=I told a parent/care-giver (N=261)

R6=I asked the person directly to stop bullying me (N=244)

R7=I blocked the texts/phone calls/internet communications (N=260)

R8=I changed my phone number/online profiles (closed email accounts, social media) (N=260)

R9=I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me (N=259)

R10=I tried to do to them what they had done to me (N=260)

Table 2 Cyberbullying Characteristics of Sample

	Flaming		Online Harassment		Cyberstalking		Denigration		
	Male	Female	Male	Female	Male	Female	Male	Female	
Have you experienced it?	87 (38.5%)	84 (35.4%)	35 (16.1%)	61(26.3%)	14 (6.6%)	19 (8.2%)	59 (28%)	54 (23.9%)	
How often have you experienced it?	Very Frequently	3 (4.2%)	1 (1.3%)	0 (0.0%)	1 (1.8%)	1 (9.1%)	0 (0.0%)	3 (6.8%)	0 (0.0%)
	Frequently	9 (12.5%)	5 (6.4%)	1 (4.6%)	5 (8.9%)	0 (0.0%)	1 (6.3%)	5 (11.4%)	4 (8.9%)
	Occasionally	30 (41.7%)	26 (33.3%)	12 (54.6%)	26 (46.4%)	4 (36.4%)	5 (31.3%)	11 (25.0%)	24 (53.3%)
	Rarely	30 (41.7%)	46 (59.0%)	9 (40.9%)	24 (42.9%)	6 (54.6%)	10 (62.5%)	25 (56.8%)	17 (37.8%)
I ignored what was happening, hoping it would stop	66 (83.6%)	69 (85.2%)	25 (80.6%)	52 (86.7%)	11 (78.6%)	15 (79.0%)	51 (86.4%)	45 (83.3%)	
I turned my mobile off/ stopped using internet	26(33.3%)	42(53.2%)	12(38.7%)	33(55.9%)	6(42.9%)	11(57.9%)	20(33.9%)	31(57.4%)	
I told a friend	44(56.4%)	73(92.4%)	20(64.5%)	54(90.0%)	9(64.3%)	16(84.2%)	31(52.5%)	46(85.2%)	
I told a teacher	12(15.4%)	32(40.5%)	4(12.9%)	24(40.0%)	1(7.1%)	5(26.3%)	3(5.1%)	18(33.3%)	
I told a parent/care-giver	19(24.7%)	46(58.2%)	7(23.3%)	33(55.0%)	1(7.1%)	10(52.6%)	6(10.3%)	25(47.2%)	
I asked the person directly to stop bullying me	35(45.5%)	54(69.2%)	17(54.8%)	45(75.0%)	7(50.0%)	15(79.0%)	24(42.1%)	36(69.2%)	
I blocked the texts/phone calls/internet communications	33(43.4%)	57(72.2%)	18(58.1%)	46(76.7%)	9(64.3%)	17(89.5%)	24(41.4%)	35(66.0%)	
I changed my phone number/online profiles (closed email accounts, social media)	6(7.8%)	21(26.9%)	1(3.2%)	19(31.7%)	4(28.6%)	8(42.1%)	4(6.9%)	9(17.0%)	
I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me	12(15.6%)	13(16.7%)	5(16.1%)	13(21.7%)	3(23.1%)	3(15.8%)	8(13.8%)	10(19.2%)	
I tried to do to them what they had done to me	40(52.0%)	25(32.1%)	12(38.7%)	17(28.3%)	5(35.7%)	1(5.3%)	23(39.7%)	21(39.6%)	

Table 2. contd.

		Masquerade		Outing		Exclusion	
		Male	Female	Male	Female	Male	Female
Have you experienced it?		16 (7.6%)	10 (4.41%)	10 (4.7%)	12 (5.3%)	17 (8.0%)	33 (14.5%)
How often have you experienced it?	Very Frequently	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	2(7.4%)
	Frequently	0(0.0%)	2(25.0%)	0(0.0%)	0(0.0%)	2(15.4%)	4(14.8%)
	Occasionally	3(21.4%)	3(37.5%)	1(12.5%)	3(23.1%)	7(53.9%)	12(44.4%)
	Rarely	11(78.6%)	3(37.5%)	7(87.5%)	10(76.9%)	4(30.8%)	9(33.3%)
I ignored what was happening, hoping it would stop		10(62.5%)	5(55.6%)	9(90.0%)	9(64.3%)	15(93.8%)	26(83.9%)
I turned my mobile off/ stopped using internet		3(18.8%)	2(20.0%)	5(55.6%)	4(28.6%)	5(31.3%)	13(40.6%)
I told a friend		11(68.8%)	7(70.0%)	4(44.4%)	10(71.4%)	10(62.5%)	25(78.1%)
I told a teacher		2(12.5%)	2(20.0%)	2(22.2%)	2(14.3%)	1(6.3%)	4(12.5%)
I told a parent/care-giver		4(25.0%)	5(50.0%)	2(22.2%)	4(28.6%)	3(18.8%)	17(53.1%)
I asked the person directly to stop bullying me		9(56.3%)	7(77.8%)	7(77.8%)	8(57.1%)	7(43.8%)	15(46.9%)
I blocked the texts/phone calls/internet communications		9(56.3%)	8(80.0%)	4(44.4%)	7(50.0%)	5(31.3%)	13(41.9%)
I changed my phone number/online profiles (closed email accounts, social media)		1(6.3%)	2(20.0%)	2(22.2%)	2(14.3%)	2(12.5%)	2(6.3%)
I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me		5(31.3%)	3(30.0%)	1(11.1%)	2(14.3%)	3(18.8%)	3(9.4%)
I tried to do to them what they had done to me		2(12.5%)	2(20.0%)	1(11.1%)	2(14.3%)	8(50.0%)	6(18.8%)

Table 3. Individual Sample T-Tests Between Means of the Personality Traits Between Victims and Non-Victims

	Flaming				Online Harassment				Cyberstalking			
	Yes	No	t	p	Yes	No	t	p	Yes	No	t	p
Honesty Humility	3.31	3.49	-2.93***	0.00	3.34	3.47	-1.66	0.10	3.41	3.45	-0.31	0.76
Emotionality	3.2	3.08	1.68	0.09	3.32	3.07	3.08***	0.00	3.29	3.12	1.32	0.19
Extraversion	3.21	3.24	-0.43	0.67	3.26	3.21	0.58	0.56	3.11	3.23	-1.02	0.31
Agreeableness	3.09	3.23	-2.39*	0.02	3.08	3.19	-1.66	0.10	2.96	3.18	-1.97	0.05
Conscientiousness	3.64	3.71	-1.33	0.19	3.63	3.7	-1.08	0.28	3.81	3.68	1.28	0.20
Openness	3.55	3.55	-0.01	0.99	3.59	3.54	0.64	0.52	3.67	3.55	1.11	0.27

Table 3. contd.

	Denigration				Masquerade				Outing				Exclusion			
	Yes	No	t	p	Yes	No	t	p	Yes	No	t	p	Yes	No	t	p
Honesty Humility	3.37	3.47	-1.49	0.14	3.56	3.44	0.90	0.37	3.33	3.45	-0.79	0.43	3.39	3.45	-0.65	0.52
Emotionality	3.18	3.1	0.99	0.32	3.08	3.12	-0.29	0.77	3.05	3.13	-0.49	0.62	3.26	3.10	1.51	0.13
Extraversion	3.14	3.26	-1.70	0.09	3.25	3.23	0.14	0.89	3.3	3.23	0.50	0.62	3.11	3.24	-1.38	0.17
Agreeableness	3.07	3.2	-1.95	0.05	3.13	3.17	-0.32	0.75	2.94	3.18	-1.72	0.09	3.23	3.16	0.74	0.46
Conscientiousness	3.64	3.71	-1.10	0.27	3.69	3.7	-0.04	0.97	3.79	3.69	0.73	0.46	3.70	3.70	-0.01	0.99
Openness	3.58	3.55	0.49	0.62	3.72	3.54	1.41	0.16	3.82	3.54	2.02*	0.04	3.61	3.55	0.63	0.53

Table 4. Logistic Regression for Victimization

	Flaming	Online Harassment	Cyberstalking	Denigration	Masquerade	Outing	Exclusion
Honesty Humility	0.30	0.27	0.08	0.14	-0.41	0.25	0.39
Emotionality	-0.33*	-0.45*	-0.27	-0.20	-0.21	0.21	-0.06
Extraversion	-0.04	-0.25	0.23	0.21	-0.12	-0.11	0.34
Agreeableness	0.25	0.17	0.53	0.30	0.26	0.58	-0.37
Conscientiousness	0.13	0.25	-0.51	0.12	0.03	-0.34	-0.05
Openness to Experience	-0.06	0.18	-0.41	-0.14	-0.47	-0.77*	-0.19
Gender	0.27	-0.47	0.04	0.30	0.81	-0.33	-0.81*

Estimates are Unstandardized Regression Coefficients

\*p<0.05, \*\*p<0.01, \*\*\*p<0.001

Table 5. Linear Regression for Extent of Victimization

	Flaming	Online Harassment	Cyberstalking	Denigration	Masquerade	Outing	Exclusion
Honesty Humility	-0.10	0.22	0.08	-0.01	0.00	-0.28	-0.47
Emotionality	-0.15	-0.01	-0.26	-0.10	0.36	-0.01	0.17
Extraversion	-0.11	-0.11	-0.02	-0.10	-0.26	-0.03	-0.50*
Agreeableness	0.01	-0.09	0.13	0.01	0.02	0.07	0.13
Conscientiousness	0.05	-0.18	0.01	-0.05	-0.01	0.55*	0.35
Openness to Experience	0.08	-0.10	-0.30	-0.06	0.19	-0.31	-0.21
Gender	-0.15	0.06	0.27	0.10	0.24	0.26	0.43

Estimates are Unstandardized Regression Coefficients

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 6. Linear Regression for Responses to Cyberbullying

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Honesty Humility	0.03	0.06	0.00	-0.08	-0.06	0.11	0.11	-0.03	-0.09	-0.51***
Emotionality	-0.02	0.28**	0.69***	0.22***	0.66***	0.31*	0.48***	0.25***	0.03	-0.08
Extraversion	-0.18	0.17	0.22	0.17*	0.46***	0.34*	0.10	0.00	0.06	-0.17
Agreeableness	0.60***	0.16	-0.15	0.08	-0.03*	-0.21	-0.13	0.07	0.05	-0.19
Conscientiousness	0.05	0.01	0.31*	0.05	0.32	0.03	-0.13	-0.07	0.00	-0.08
Openness to Experience	-0.09	0.03	0.08	0.00	-0.10	0.23	0.10	-0.07	0.11	0.06

Estimates are Unstandardized Regression Coefficients

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

N=266, R1=I ignored what was happening, hoping it would stop

N=247, R2=I turned my mobile off/ stopped using internet

N=264, R3=I told a friend

N=264, R4=I told a teacher

N=261, R5=I told a parent/care-giver

N=244, R6=I asked the person directly to stop bullying me

N=260, R7=I blocked the texts/phone calls/internet communications

N=260, R8=I changed my phone number/online profiles (closed email accounts, social media)

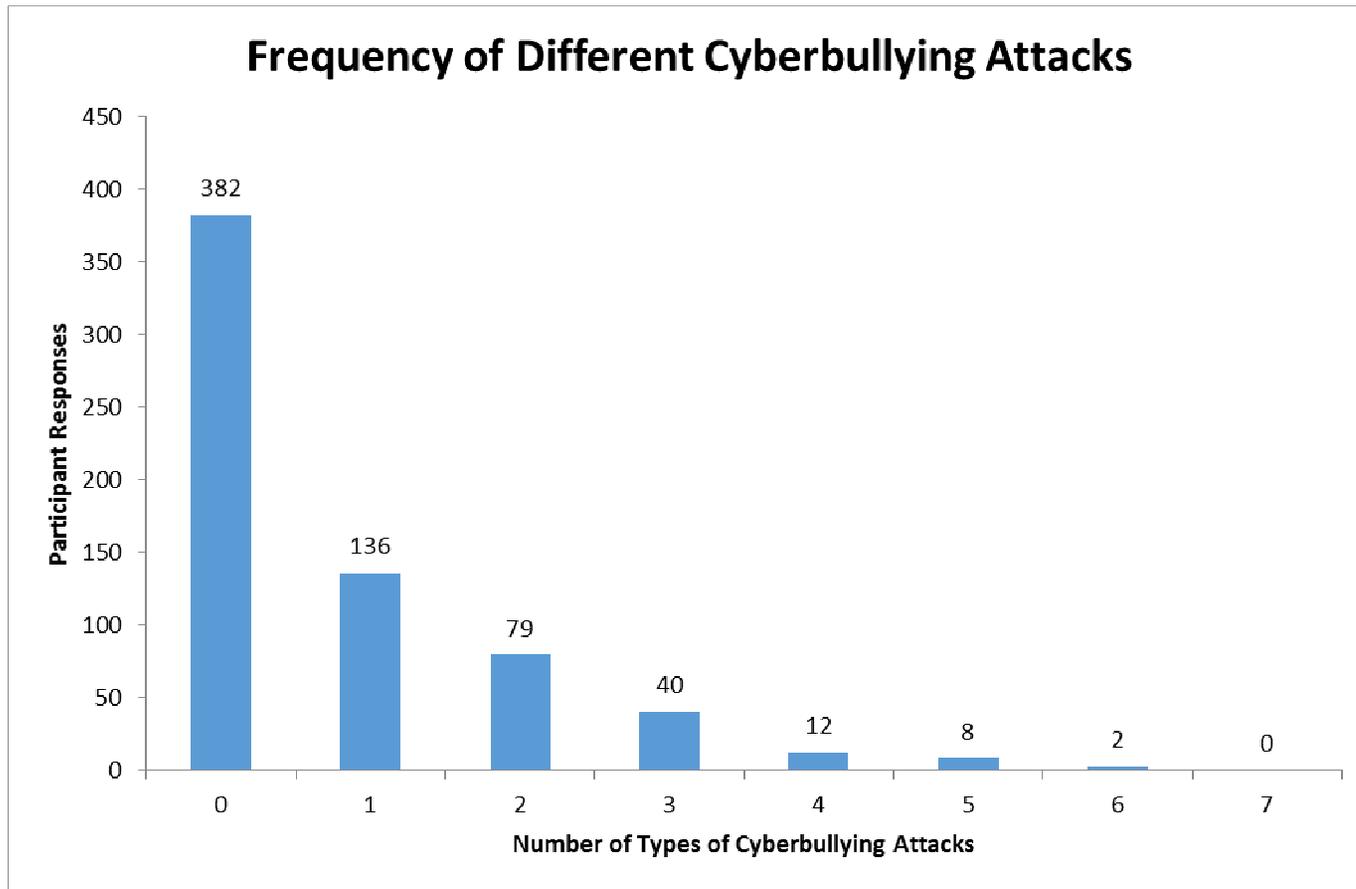
N=259, R9=I reported the bullying to the phone company/internet service provider and got them to trace the person bullying me

N=260, R10=I tried to do to them what they had done to me

Table 7. Individual T Test for Early Responses and Late Responses

	Responses			
	Early Responses (<June 20 <sup>th</sup> , 2016)	Late Responses (>June 20 <sup>th</sup> , 2016)	t	p
Honesty Humility	3.44	3.42	0.349	0.727
Emotionality	3.16	3.09	1.066	0.287
Extraversion	3.21	3.25	-0.609	0.543
Agreeableness	3.12	3.24	-2.171*	0.03
Conscientiousness	3.69	3.67	0.397	0.692
Openness to Experience	3.55	3.54	0.087	0.931
Gender	1.54	1.47	1.513	0.131

Figure 1. Frequency Distribution showing the number of types of Cyberbullying attacks each participant experienced



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## APPENDIX A. IRB APPROVAL

IOWA STATE UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

Institutional Review Board  
Office for Responsible Research  
Vice President for Research  
1138 Pearson Hall  
Ames, Iowa 50011-2207  
515-294-4500  
FAX 515-294-4207

**Date:** 5/31/2016

**To:** Nemisha Khosa  
1216 Walton Dr, Apt 101  
Ames, IA 50014

**CC:** Dr. Marc H Anderson  
2350 Gerding Business Bldg

**From:** Office for Responsible Research

**Title:** How personality effects victim's response to cyberbullying

**IRB ID:** 16-182

**Study Review Date:** 5/31/2016

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
  - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
  - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

**Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form.** A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.**

Please be aware that **approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

## APPENDIX B. SOURCE OF SURVEY QUESTIONS

1. HEXACO PI-R short 60: [hexaco.org/downloads/English\\_self60.doc](http://hexaco.org/downloads/English_self60.doc)
2. Kent county school district:  
[www.kenton.k12.ky.us/docs/Cyberbullying%20Survey.docx](http://www.kenton.k12.ky.us/docs/Cyberbullying%20Survey.docx)
3. Brighi, Guarini (2009), European Questionnaire Bullying and Cyberbullying:  
[http://www.bullyingandcyber.net/media/cms\\_page\\_media/44/Questionario%20EQCB%20english\\_4.pdf](http://www.bullyingandcyber.net/media/cms_page_media/44/Questionario%20EQCB%20english_4.pdf)