



A STUDY OF THE DIRECT AND INDIRECT RELATIONSHIPS BETWEEN ONLINE  
DISINHIBITION AND DEPRESSION AND STRESS BEING MEDIATED BY THE  
FREQUENCY OF CYBERBULLYING FROM VICTIM AND PERPETRATOR  
PERSPECTIVES

Arunee Charaschanya

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
MASTER OF SCIENCE IN COUNSELING PSYCHOLOGY

Graduate School of Psychology  
ASSUMPTION UNIVERSITY

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ARUNEE CHARASCHANYA

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The purpose of this study was to investigate the direct and indirect relationships between online disinhibition and depression and stress being mediated by the frequency of cyberbullying from victim and perpetrator perspectives

APPROVED:

ASSOC.PROF.DR.SUWATTANA EAMORAPHAN  
Chairperson

DR. JON NICHOLAS BLAUW  
Advisor

ASSOC. PROF.DR. ROBERT HO  
External Examiner

DR. REGINALD PAWLE  
Member

DR. ORLANDO GONZALEZ  
Member

## ABSTRACT

This study attempted to investigate the direct and indirect influences of online disinhibition effect on university students' reported levels of depression and stress, being mediated by their reported frequency of cyberbullying as a victim and as a perpetrator. A total of 217 students (male:  $n=102$ , 47%; female:  $n=115$ , 53%) willingly completed a survey questionnaire consisting of a researcher-constructed demographics section, the Online Disinhibition Scale (Udris, 2014) to measure benign online disinhibition and toxic online disinhibition, the Cyberbullying Scale (Patchin & Hinduja, 2010) to measure cyberbullying as a victim and perpetrator, and the Depression Anxiety, and Stress Scale (Lovibond & Lovibond, 1995) to measure depression and stress. Results revealed that the participants' reported mean score of benign online disinhibition (i.e., helpful and prosocial behaviors) was higher than that of toxic online disinhibition (i.e., hurtful and denigrating behaviors). Results of path analysis showed that the participants' reported level of toxic online disinhibition has both direct and indirect influences on their reported levels of depression and stress. In terms of direct influence, it was found that the higher the participants' reported level of toxic online disinhibition, the higher their reported levels of depression and stress. The results also showed that in terms of indirect influence, the higher the participants' reported level of toxic online disinhibition, the more they reported themselves as being victims of cyberbullying and, subsequently, the higher their reported levels of depression and stress. The participants' reported level of benign online disinhibition was not found to be significantly associated with their reported levels of depression and stress, either directly or indirectly.



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The watermark is a circular seal of Assumption University of Thailand. It features a central shield with a cross and the letters 'DS'. Above the shield is a crown. The shield is flanked by two figures. Below the shield is a banner with the text 'LABOR OMNIA VINCIT'. The outer ring of the seal contains the text 'ASSUMPTION UNIVERSITY OF THAILAND' at the top and 'มหาวิทยาลัยอัสสัมชัญ' at the bottom, with 'SINCE 1969' in the center of the bottom arc.

## CHAPTER I

### Introduction

#### Background of the Study

For the past two decades, the growth of Internet has been truly exponential (McKenna & Bargh, 2000). The information and communication technology via the Internet has seamlessly integrated the physical and virtual world, and has become embedded in people's daily lives. The Internet Safety Technical Task Force (ISTTF, 2008) reported that the voracious use of computers and smartphones among the youth has steadily increased over the years. According to the American Academy of Child and Adolescent Psychiatry (AACAP, 2015), the Internet, today, provides endless resources for information, knowledge seeking, communication, interaction, and entertainment. The Internet has integrated millions of computers and devices globally, and enabled collection and exchange of data from more than one billion Internet website users. Information can be accessed through different search engines and interlinked websites. Personal computers and smartphones have become user-friendly and a means of personal consumption for the youth (Madden et al., 2013).

The digital landscape has facilitated online communication and allowed youths to interact through numerous communication forms (Subrahmanyam & Greenfield, 2008). It has become an integral part of their daily lives, affecting their attitudes and orientations. According to Lenhart (2015), the availability of devices and convenient access has aided online communication among the youth to communicate more interpersonally through social networking sites. It has become a medium of expression where the youth use social networking sites to share personal information and shape their reputation (Madden et al.,



2013). Relationships and self-presentation have been dynamically influenced by the technological expansion of online communication. The speed of communication, online forum features, images, and portability of devices have had a great impact on how interactions are conducted and understood. Consequently, conducting relationships online also has an effect on how real life relationships are predominantly built upon, that is, verbal cues, bodily signals, engaging in conversations, activities, and conflicts (Scruton, 2010). Social media has institutionalized self-representation and socializing through social networking sites (Enli & Thumim, 2012). Social networking sites and technology have captured the essence of individuals' desire for control and communication (Enli & Syvertsen, 2007). These sites elicit responses and contributions from individuals participating in mediated interpersonal communication through self-representation, generating a hybrid space on the user to exercise deliberation on what is private or public context (Enli & Thumim, 2012).

A popular social networking site – Facebook – presents an example of this phenomenal interplay. Identity construction and self-representation on Facebook allows the user to create the desired self, simultaneously taking into account the perception and representation of others. The spheres on private and public aspects of communication are interlinked; that is to say, what is private is posted for public viewing. Consequently, in creating a generic online self through pictures and texts, structuring privacy settings, identification within groups of shared interests, negotiating the degree of intimacy through private and public spheres, users elicit responses of 'Like', externalize validation through increases in popularity of posts, and internalize online identity (Enli & Thumim, 2012). On a different note, however, Facebook usage is also associated with depression and loneliness (O'Dell, 2011) as well as high levels of stress and lack of control (Gabre & Kumar, 2012). Social media also allows users to display patterns of thinking and mood

that may be positive or negative. For example, those experiencing distress may share feelings of worthlessness, sadness, helplessness, and self-hatred (De Choudhury, Gamon, Counts, & Horvitz, 2013).

Social networking sites have become a platform for the extension of identity where profile construction exhibits visual and textual self-representation. Profile construction and global networking have been adopted beyond distinction among the youth (Boyd, 2006; Boyd & Ellison, 2007; Lenhart & Madden, 2007). The extensions of identity are the inherent and unconscious emotions that are expressed and given meaning through images and texts (Suler, 2010). The second self emerges through one's perceived traits and roles and the desired identity (Salimkhan, Manago, & Greenfield, 2010). Social media entangles the youth with choices, motivations, literacies in being able to construct a profile, read other people's profile, and weave a norm of social and personal meanings of contacts online that may also affect them offline.

Research suggests that the paradox of self-representation may be perplexing for the older generation but, for the youth, this has become a part of their ego identity that must evolve to gain social acceptance through autonomy that balances critical judgment, trust, and inner unity offline and online (Livingstone, 2008). The self-actualization process is perceived as a balance of opportunities and risks (Giddens, 1991). With the introduction of technology and social media, this has been attributed with opportunities for identity, intimacy, and sociability. The attributes of risk have been linked to privacy, misunderstanding, and abuse (Livingstone, 2008). With less adult surveillance and more peer interaction, self-representation presents an opportunity for risky behavior online. One of the repercussions that youths encounter due to age and inexperience is that self-representation online leads to an exposure of a diversified environment with regard to age and gender and, in turn, compromises privacy (Herring & Kapidzic, 2015). Therefore,

controlling what is private and public can provide protection of identity and space for intimacy (Livingstone, 2008).

The youth also uses social networking sites to maintain existing relationships and further enhance social connectedness (Valkenburg & Peter, 2009). Social ties and social support play a valuable role in enhancing mental well-being (Kawachi & Berkman, 2001). Positive mental health outcomes through social and relational support as well as social integration may serve as buffers between negative life events and experiences (Cohen & Wills, 1985). Furthermore, good peer relationships can help protect users from internalizing problems and even buffer between depression, anxiety, and stress (Aoyama, 2010). One interesting aspect of communication-oriented Internet sites is that they help individuals to become prosocial where they have difficulty in forging face-to-face relationships (McKenna, Green, & Gleason, 2002).

The most commonly adopted platforms for online communication are Facebook, Twitter, Instagram, Snapchat, Vine, Ask.fm, Yik Yak, Secret, Whisper, Kik, WhatsApp, Viber, and Voxel (Hinduja & Patchin, 2015). The choice of social media is usually dependent upon which communication tools serve particular needs (Duggan, 2015).

With computer-mediated communication acting as a filter, however, social media can present an opportunity for online deception, adoption of alternative moral standards, and decrease of inhibition as the social online environment is less constraining (Caspi & Gorsky, 2006). Another problem that may arise is *online disinhibition* where people may hide their identity when communicating online (Suler, 2004). Online forums allow strategic manipulation of status and profile (Mabry, 2002). Accreditation has been given to portrayed identity, playfulness characteristics of assigning names, or privacy concerns as motivations to deception (Utz, 2005), further giving rise to subtle ways of seeking revenge or paybacks (Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012). Online forums also

allow cyberbullying through the distribution of unsolicited texts and images that may be used to threaten or embarrass others (Mishna, Saini, & Solomon, 2009).

The global adoption of computers and the Internet has been the landmark on the educational scene. Indeed, one of the most prolific users of advanced technology has been the educational institutions. Many schools and colleges are now using technological resources to enhance education, promote collaborative environment, and facilitate communication between educators and students (Davis, 2014). The trend of using computer-mediated technologies to assist class work and homework has completely transformed the learning process (Purcell, Heaps, Buchanan, & Friedrich, 2013). The evolution of smartphones has transpired the use of phones from simply making calls to being utilized as a tool for taking notes, setting alarms and alerts, scheduling, and research (Reidel, 2014). While technological advances have promoted a web-based learning environment, students may become distracted and exploit class time for personal interactions (School Is Easy Tutoring, 2014). Therefore, this increases time spent on the Internet (Valkenburg & Peter, 2009). Not surprisingly, this increase has affected students academically, relationally, and psychologically (Jacobsen & Forste, 2011; Mesch, 2006; Shields & Kane, 2011).

In sum, it can be said that the use of the Internet and social media is associated with both positive and negative consequences. Benefits include access to information (Subrahmanyam, Smahel, & Greenfield, 2006), access to teaching and learning resources, and increased levels of social support (Amichai-Hamburger, Kingsbury, & Schneider, 2012). Sense of community and social connectedness are valued in most cultures; therefore, the use of social media applications such as Twitter and Facebook is popular (Enli & Thumim, 2012). Although use of the Internet and social media platforms is associated with clear benefits for individuals and communities, the ubiquity of the Internet



and social media is also associated with considerable negative implications such as unwanted exposure to sexual material (Finkelhor, Ormrod, Turner, & Hamby, 2005), cybercrime (Tokunaga, 2010), increased social anxiety (Juvonen & Gross, 2008), low self-esteem and *depression* (Campbell, Slee, Spears, Butler, & Kift, 2013), and *stress* (Nixon, 2014), among others.

### Statement of the Problem

The evolution of technology has provided adolescents with electronic devices as an interface to exchange and express ideas, communicate and interact interpersonally, make and sustain relationships, and use as a medium of entertainment. The double-edged nature of technology has given rise to bullying through misuse and abuse of devices, unrestrained behavioral issues, and diminishing levels in understanding other people's emotions. Subrahmanyam and Greenfield (2008) acknowledged that, as technology has evolved, bullying has proliferated. With the advent of the Internet, chat rooms soon followed. Online forums, thus, provided a communal breeding ground for youth to assault one another.

School bullying became the focus of research in the 1970s; however, a new form of bullying – cyberbullying or 'cyber-harassment' is now becoming known in the 21<sup>st</sup> century (Beran & Li, 2005). Rather than bully a peer only at school, students are beginning to use technology such as home computers and mobile phones to bully their peers. Few studies on cyberbullying have been published, and its similarity to school bullying is unknown (Donegan, 2012).

*Cyberbullying* has gained prevalence through the use of information and communication technologies. Past research had attempted to describe the phenomenon. It

is seen as a form of bullying or willful and repeated harm inflicted through the use of phone calls, instant messages, emails, chat rooms, websites, social networking sites, and blogs (Kowalski & Limber, 2007; Hinduja & Patchin, 2015). In a similar vein, cyberbullying is described as a form of aggressive, intentional act carried out by an individual or a group against victims who cannot easily defend themselves (Smith, Mahdavi, Carvalho, & Tippet, 2006), or an online social cruelty that involves the distribution of unsolicited text and photos to threaten, harass, embarrass, or socially exclude an individual (Mishna et al., 2009). There are no rules and boundaries on the virtual platform which make it difficult to moderate and monitor behavior, language, and psychological effects on youths.

An example of cyberbullying that gained widespread attention is the case of Megan Taylor Meier (Wikipedia, 2006). Megan was diagnosed with attention deficit disorder and depression, and had self-esteem problems regarding her weight. She committed suicide which was attributed to cyberbullying through the social networking site of MySpace. A neighborhood mother created a hoax account befriending the victim as a boyfriend and later posted hurtful statements which caused the victim to commit suicide. Another cyberbullying story is about the YouTube video of Amanda Todd who used flash cards to describe her cyberbullying experiences before committing suicide. The stalker had blackmailed her with her nude photo, circulating it over the Internet and befriended her again as she changed schools (NoBullying.com, 2016).

Although the embrace of technology has allowed youths to seek information, foster enduring relationships, and seek social benefit from the Internet, a significant problem arises when it is used for spreading rumors, text messages and videos, creating web pages and fake network profiles. It presents a unique challenge to the victim, who becomes vulnerable to the bullying that goes beyond the schoolyard. These victims can be targeted

at any place and any time (Tippett, Thompson, & Smith, 2014). The experience of victimization leaves the victims feeling angry, frustrated, and distressed (Ybarra & Mitchell, 2004; Smith et al., 2008).

Cyberbullying perpetrators send hurtful and denigrating messages to a victim, to third parties, or public forums (Hinduja & Patchin, 2008). The elements of anonymity, unsupervised online activities, free from social constraints, and lacking in inherent accountability contribute to perpetrators' audacious behavior. Though perpetrators view themselves as proficient web users, reports of psychosocial behaviors including depressive symptoms and behavioral problems linked to traditional bullying were implicated (Ybarra & Mitchell, 2004). Cyberbullying has an academic, emotional, behavioral, and psychological effect on victims and perpetrators (Suzuki, Asaga, Sourander, Hoven, & Mandell, 2012). It causes both victims and perpetrators to suffer from depression, loneliness, low socialization, low self-esteem, and anxiety (Patchin & Hinduja, 2006).

Online communication has presented a trajectory for social development where adolescents interact and communicate interpersonally with each other. One phenomenal attribute of online communication that has been continuously explored is *online disinhibition effect* which, according to Suler (2004), refers to 'diminished internal censorship' when communicating in cyberspace. Not surprisingly, the hidden realm of cyberspace allows people to abandon inhibitions and detach themselves from their actual identity in presenting an online persona. Suler (2004) posited that the virtual environment gives rise to unrestrained behaviors where people hide their real identity and act in a manner that they would not normally do offline. The online disinhibition effect, thus, presents a window of opportunity for self-disclosure where people reveal information about themselves and which allows expression of hidden desires, emotions, and fears, and reduces uncertainty in their interactions (Joinson, 2007). Research suggests that visual

anonymity, lack of eye-to-eye contact, and invisibility lowers accountability concerns over one's actions and, in turn, devalue moral obligations (Suler, 2004).

According to Suler (2004, 2005), online disinhibition effect can be expressed in various online interpersonal behaviors which can be positive or negative. The positive consequence of online disinhibition is *benign online disinhibition* which refers to behaviors aimed at improving self-understanding and personal development, assistance in resolving interpersonal and intrapersonal conflicts, or exploration of new emotional or experiential realms of one's identity (Lapidot-Lefler & Barak, 2015). Suler (2004, 2005) opined that this effect involves exhibiting unusual acts of kindness and generosity, as well as attempts to understand and explore dimensions of oneself. Lapidot-Lefler and Barak (2015) clarified that positive (or benign) online disinhibition effect can also have social ramifications such as philanthropic gestures, giving advice and emotional support, and greater self-disclosure. On a related note, the benign effect may enhance collaborative efforts and sharing of feelings with the absence of nonverbal communication cues (Kowalski & Limber, 2007) as well as help promote positive and genuine relationships (Heirman & Walrave, 2008).

The negative consequence of online disinhibition is *toxic online disinhibition* which Suler (2004, 2005) exemplified as underlying aggressive behaviors, rude language, and harsh criticisms in online communications, as well as the dark side of the Internet: crime, drugs, violence, and hate-groups. One example of toxic online disinhibition is the behavior of "flaming" on online forums which arises from a display of hostile intentions, intense hatred, insults, or profanity that causes severe distress and psychological disturbance (Alonzo & Aiken, 2004). Research also suggests that lack of eye contact contributes significantly to toxic online disinhibition (Lapidot-Lefler & Barak, 2012).



Consequently, concerns on physical and psychological health have also arisen due to cyberbullying experiences (D'Amato et al., 2012). The effects of cyberbullying experiences can range from minimal levels of distress and frustration to serious psychosocial and life problems (Tokunaga, 2010). According to Nixon (2014), cyberbullying experiences lead to effects on mental health and the internalizing and externalizing of problems. A major issue of internalizing problems from cyberbullying is depression (Aoyama, 2010). As suggested earlier, Internet and social media are associated with considerable negative implications, including depression and stress.

Depression is characterized by depressed mood, loss of interest in pleasurable activities, and sleep disturbances as well as other symptoms which significantly disrupt daily functioning (APA, 2000). Research suggests that cyberbullying and depression have a significant relationship (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2008; Wang, Nansel, & Iannotti, 2011; Wigderson & Lynch, 2013). Negative interactions on social networking sites have been reported to be associated with depressive symptoms (Davila et al., 2012). Moreover, it had been suggested that cyberbullying experiences can leave victims feeling isolated, lonely, hopeless, sad, and powerless (Brighi et al., 2012; Raskauskas & Stoltz, 2007).

Stress arises from any interaction between an individual and the environment when the individual perceives the situation as threatening, challenging or possibly damaging. In essence, the individual perceives that such a situation may exceed his/her resources to cope (Lazarus & Cohen, 1977). Cyberbullying could be a stressful experience for many individuals and, thereby, produce a number of negative and traumatic feelings (Beran & Li, 2005; Campfield, 2006; Dehue, Bolman & Vollink, 2008). Research suggests that both cyberbullying victims and perpetrators experience high level of stress which poses a concern towards their mental well-being (Campbell et al., 2013). On the other hand,

prosocial behaviors online can also help enhance resilience to stress. In addition, giving and receiving social support, and acting prosocially help to reduce stress (Raposa, Laws, & Ansell, 2015).

The proliferation of digital-mediated devices has equipped the audience on cyberspace to become visible with people articulating through images and text. The misuse of it has given rise to cyberbullying which has become prevalent in today's society, and where its nature of subtleness evokes a shift in personality, thereby, causing harm to both victim and perpetrator. The omnipresent nature of online interactions facilitates as a medium to intimidate and harass, as well as adopt different moral standards where anonymity, invisibility, and accountability present an unprecedented challenge. These experiences have an impact on mental health, physically and psychologically which, in turn, threatens the well-being of both the victim and perpetrator.

According to Donegan (2012), one of the most notable issues that need to be addressed is recognition of the problem itself. Many people, whether parents, teachers, or even law enforcement officers, do not know what the specific laws are with regard to cyberbullying. More importantly, the clinical repercussions that bullying and cyberbullying have on today's youth present the most troubling issue at hand. The fact that emotional responses to bullying in any form have been proven to escalate to the point of suicidal thoughts and violent response is the primary reason why this issue has become a matter of pressing public concern.

Most researches on cyberbullying have been carried out in Western countries. Apart from a significant literature on the related phenomenon of *ijime* in Japan and *wang-ta* in South Korea, there has been relatively little research in other non-Western countries, including Thailand (Sittichai & Smith, 2013). From the limited evidence available so far, a

few Thai-based studies on cyberbullying (e.g., Laeheem, Kuning, McNeil, & Besag, 2008; Musikaphan, Yongchin, & Chancharoen, 2011; Sittichai, 2014) demonstrated the seriousness of the cyberbullying problem in Thailand; thus, there is a strong case for more focused research on the topic. The current investigation hopes to be instrumental in addressing the aforementioned issues.

### **Purpose of the Study**

Cyberbullying has emerged as a new and serious form of bullying and harassment. As the portability and accessibility of technology increase daily, incidents of cyberbullying arise exponentially. Victims are reportedly attacked via chat rooms, websites, instant messages, blogs, or cellphones. Hinduja and Patchin (2007) reported that almost 30% of the adolescents in their study had been victims of cyberbullying. Wolak, Mitchell, and Finkelhor (2003) reported that 43% of the youth stated that they had experienced cyberbullying in the past year via the Internet, cell phone, or other technology. The current researcher saw the importance of this growing problem, with a view to expanding the knowledge base in her home country Thailand, in order for policy makers, mental health professionals, and school administrators to develop effective methods to decrease its impact on college campuses. Student input is, especially, germane in this process as student-led initiatives may increase awareness and gain support. Being the victim or perpetrator of cyberbullying can have a profound effect on the individual's academic achievement, emotional regulation, and relational development.

Internet and social media present many benefits and opportunities that empower and engage the youth endlessly on the digital platform. As suggested earlier, benign online disinhibition may lead to acts of generosity and self-understanding (Suler, 2004, 2005)

which may help promote positive and genuine relationships online (Heirman & Walrave, 2008). In addition, acts of receiving and providing social support help foster positive mental health (Raposa et al., 2015). On the other hand, as students gain more autonomy online along with unsupervised activities, differing levels of moral standards may be adopted while communicating on cyberspace. Toxic online disinhibition in the form of unrestrained behaviors, hostile intentions, hatred, or profanity used online is bound to cause severe distress and psychological disturbance, and can have a negative impact on interactions and relationships (Alonzo & Aiken, 2004).

Due to the paucity of statistically significant findings in support of the foregoing perspectives within the Thai context, this researcher deemed it necessary to investigate whether the typical university student in Thailand is more of a victim or perpetrator of cyberbullying. Furthermore, this study attempted to investigate the impact of both benign online disinhibition and toxic online disinhibition on the levels of depression and stress among university students who are vulnerable to cyberbullying, either as victim or perpetrator.

### **Significance of the Study**

The Internet has become an integral part of students' daily routine and communication process and its uses are incorporated into academic, social, and relational functioning and resources. The adoption of social networking sites is immensely popular among the youth, with various types of communication and forums for mediated interpersonal communication. This study will help students understand the impact of computer behaviors on their environment and cultivate positive attitudes in order to become responsible digital citizens.

This study would create greater awareness in faculty members, academic administrators, and school-based mental health practitioners including counselors and psychologists of current issues being faced by students, by presenting the opportunity for them to address appropriate guidelines and stress the importance of ethical computer behaviors among university students and their influence on mental health.

This study would be a significant contributor in introducing governmental cyberspace-related policies, campaigns, and programs to safeguard and promote the welfare of youth across the nation and beyond. More importantly, a more informed knowledge base for Thailand such as the current study can assist in the use and modification of relevant programs to help young Thai people who are experiencing or involved in cyberbullying.

Additionally, this study would be a valuable reference material for future researchers through its wide scope of theoretical perspectives and empirical findings, thus, contributing to local and foreign literature, with a view to exploring other directions within the same framework, provide implications and conclusions, and offer recommendations and avenues for further research.

## **Definition of Terms**

### **Cyberbullying.**

Cyberbullying refers to the willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices (Hinduja & Patchin, 2014). It describes the behavior pattern of an individual or group who repeatedly harasses, mistreats, or makes fun of another person online or while using electronic devices. In



addition, cyberbullying suggests aggressive, intentional acts (Smith et al., 2008) which may serve as a form of online social cruelty (Kowalski & Limber, 2007). According to Patchin and Hinduja (2010), cyberbullying comes in two forms: cyberbullying victimization and cyberbullying perpetration.

***Cyberbullying victim*** – is the individual who experiences cyberbullying.

Operationally, in this study, cyberbullying victimization was measured by means of the Cyberbullying Scale–Victimization, developed by Justin W. Patchin and Sameer Hinduja in 2010.

***Cyberbullying perpetrator*** – is the individual who engages in cyberbullying behaviors, or who inflicts harm on others online. In this study, cyberbullying perpetration was measured by means of the Cyberbullying Scale–Perpetration, developed by Justin W. Patchin and Sameer Hinduja in 2010.

### **Depression**

Depression is described as the loss of interest in pleasurable activities, accompanied by sleep disturbances as well as other symptoms which significantly disrupt daily functioning (APA, 2000). Major depressive disorder is characterized by episodes of all-encompassing low mood accompanied by low self-esteem and loss of interest or pleasure in normally enjoyable activities. Individuals who experience a major depressive disorder tend to focus their attention on unflattering information, interpret ambiguous information negatively, and harbor pessimistic beliefs pervasively (Kessler et al., 2003; Rude, Gortner, & Pennebaker, 2004). In this study, depression was measured by means of the Depression, Anxiety, and Stress Scale (DASS-21), developed by Sydney H. Lovibond and Peter F. Lovibond in 1995.

### **Online disinhibition effect.**

Online disinhibition effect refers to diminished internal censorship when communicating in cyberspace (Suler, 2004). Furthermore, it refers to the act of loosening up, feeling less restrained, and expressing oneself more openly than one would normally say or do face-to-face. Suler (2004, 2005) posited that online disinhibition effect comes in two forms: benign online disinhibition and toxic online disinhibition.

***Benign online disinhibition*** – refers to behaviors of exhibiting unusual acts of kindness and generosity, as well as attempts to understand oneself. In this study, benign online disinhibition was measured by means of the Benign Online Disinhibition subscale of the Online Disinhibition Scale, developed by Reinis Udris in 2014.

***Toxic online disinhibition*** – refers to underlying aggressive behavior, rude language, and harsh criticism on cyberspace. In this study, toxic online disinhibition is measured by means of the Toxic Online Disinhibition subscale of the Online Disinhibition Scale, developed by Reinis Udris in 2014.

### **Stress**

Stress arises from any interaction between an individual and the environment when the individual perceives a situation as threatening, challenging, or possibly damaging (Lazarus & Cohen, 1977). In essence, the individual perceives that such a situation may exceed his/her resources to cope. Alternatively, stress refers to a collection of feelings and circumstances including distress, depression, hardship, and misery (Goldstein, 1987). On a related note, it can also mean a stimulus that causes sadness, low self-confidence, and leads to a decreased health condition (Kanner, Feldman, Weinberger, & Ford, 1987). In this study, stress was measured by means of the Depression, Anxiety, and Stress Scale (DASS-21), developed by Sydney H. Lovibond and Peter F. Lovibond in 1995.

## **CHAPTER II**

### **Literature Review**

This chapter presents a review of theoretical perspectives, models, and salient information about the main variables of interest as well as relevant contemporary research findings aimed at providing an organized and in-depth review of relevant literature. The chapter is divided into four major sections. The first section comprises a thorough review of the literature on cyberbullying, incorporating salient information on many aspects of the phenomenon, including its consequences, relation to bullying, social networking sites, and demographics. The second section comprises information on online disinhibition effect and elaborates on its two facets of benign online disinhibition and toxic online disinhibition, and their relation to cyberbullying. The third section comprises a review of the literature on the negative states of depression and stress and their association with online experiences. After an in-depth literature review of the key variables of this study, the chapter presents the current investigation's conceptual framework, research questions, and research hypotheses generated from theoretical perspectives and results of related studies.

#### **Cyberbullying**

The emergence of digital-mediated communication devices, social networking sites, and the Internet have combined together to become a powerful instrument of the human race. However, the digital landscape is not bound to any rule or culture. It has, to some extent, become a platform for youths to mistreat one another, thus, hindering

productive learning, relationships, and interpersonal growth. This form of deviant behavior causes disruptions to daily life as well as psychological harm to individuals involved.

Cyberbullying is a pervasive issue that has proliferated among the youth. In the literature, cyberbullying had been defined in various contexts. For example, Hinduja and Patchin (2010) described cyberbullying as willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices. It had also been described as an aggressive, intentional act carried out by a group or individual, using electronic forms of contact repeatedly and over time against a victim who cannot easily defend him or herself (Smith et al., 2008). Alternatively, it is a form of online social cruelty that involves bullying through email, instant messaging, in a chat room, on a website, or through digital messages or images sent to a cellular phone (Kowalski & Limber, 2007). Furthermore, this electronic form of bullying involves a deliberate act done on purpose to cause emotional maltreatment and that, typically, it involves a pattern of repeated behavior and not merely the result of a single incident.

Many researchers have disputed over the terminology to define cyberbullying. Some have used “cyber victimization” (Law, Shapka, Hymel, Olson, & Waterhouse, 2011), “online harassment” (Hinduja & Patchin, 2010), “cyber-aggression” (Slonje, Smith, & Frisén, 2012a), “cyber-harassment” (Beran & Li, 2005), or “potentially offensive Internet and mobile phone practices or POP” (Vandebosch & Van Cleemput, 2008). Research across countries has illustrated different literatures to describe cyberbullying and how adolescents discriminate different criteria (Menesini et al., 2012). The expression depends upon three elements: (1) repetition, (2) intention, and (3) imbalance of power. The concept of *repetition* makes a distinction between a random or solitary attack and bullying. However, according to other studies, a sole aggressive attack can have a significant impact as repetitive aggressive attacks (Vandebosch & Van Cleemput, 2008; Ybarra, Diener-

West, & Leaf, 2007). A single uploading of image can be disseminated to a large number of audience (Heirman & Walrave, 2008), where the control of this form of electronic bullying lies in the hands of the perpetrator (Dooley, Pyżalski, & Cross, 2009). The single or repetitive act by others who further distribute the material and send it back to further bully the victim suggests that the victim experiences cyberbullying many times (Slonje, Smith, & Frisén, 2012b).

The behavior is described as being *intentional* due to the fact that it is purposeful rather than accidental or inadvertent (Hinduja & Patchin, 2010). The aspect of intent is asserted not only as an act carried out with a dirty mind, but it includes awareness on the part of perpetrators in their role of inflicting harm (Menesini & Nocentini, 2009). Additionally, the victim must also perceive the harm that is intended upon them (Naruskov, Luik, Nocentini, & Menesini, 2012).

The *imbalance of power* on the Internet refers to the technological proficiency, anonymity, and limited escape options (Heirman & Walrave, 2008; Slonje & Smith, 2008; Smith et al., 2008; Vandebosch & Van Cleemput, 2008). Being proficient makes the aggressor stay a few steps ahead of the victim (Smith et al., 2008). A study found that cyberbullies with high expertise on electronic media of communication rated themselves as highly proficient (Ybarra & Mitchell, 2004). The anonymity presents itself as a dangerous factor, where the victim may have no knowledge as to who the perpetrator might be. According to a study of 3,500 middle school children, 50% reported not knowing who the perpetrator was (Kowalski & Limber, 2007). In a study involving college students, 60% reported not knowing who the perpetrator was (Kowalski, Giumetti, Schroeder, & Reese, 2012). Mishna et al. (2009) reported that, sometimes, the victim comes to know later that it was a known perpetrator (e.g., classmate). However, in some cases, the fact that the perpetrator knows the victim rather than the victim knowing the perpetrator presents an



even more dangerous situation as it puts victims in a difficult position of defending themselves more effectively (Kowalski & Limber, 2007; Sevcikova & Smahel, 2009; Ybarra & Mitchell, 2004). There have been reports that, sometimes, victims know or think they know who the cyberbullying perpetrator is/was. It could be someone in their social circle or an old or former friend, and can be determined from the nature or content of the text or graphics sent. The psychological impact is different with someone you know, compared to one who is completely anonymous (Hinduja & Patchin, 2015). However, with advanced technology, it is possible to track addresses to or from the service provider for the account information, in an attempt to track down the perpetrator. Cyberbullying acts are textual or graphic which serve as evidence or digital footprints of the origin of attack, compared to traditional bullying reports that can have different versions of the story due to subjective viewpoints and bias (Hinduja & Patchin, 2015).

The imbalance of power can also include social exclusion (Slonje et al., 2012a). It is natural that people want to be included, to belong, to form and maintain relationships (Bastian & Haslam, 2010). Ostracism affects the fundamental needs of belonging, self-esteem, control, and meaningful existence (Williams, 2007). However, being excluded, ignored, or ostracized can have a paramount impact and lead people to become automatically sensitive to further acts of exclusion (Eisenberger, Lieberman, & Williams, 2003). It can lead people to interpret ambiguous situations in a more threatening manner, and recovery from it depends upon differing levels of social anxiety (Zadro, Boland, & Richardson, 2006). Some individuals who rely on the online environment and who may be lonely, shy, have social anxiety, or go online to gain confidence can be severely affected by online exclusion (e.g., being 'unfriended' on Facebook or deleted off a social networking site). Thus, being ostracized online can cause severe impairment on social interactions and lead to further psychological problems (Kassner, Wesselmann, Law, &

Williams, 2012). Kowalski and Limber (2007) demonstrated that some individuals who were ostracized would more readily join another group, and may use that group to help in retaliating back, thus, turning from a cyberbullying victim into a perpetrator.

Hinduja and Patchin (2015) have published many research articles and books about cyberbullying. To date, their surveys have covered over 15,000 students across the United States. The authors have correlated traditional bullying and cyberbullying with many factors such as computer proficiency, stressful life situations, self-esteem, and suicidal ideation. Their findings were documented directly and indirectly, as well as from youths' own words. In the process, survey instruments with sound psychometric properties were developed and utilized. The researchers reported that 25% of the students from their surveys reported being bullied at some point in their life, with 9% indicating that they were bullied more than 30 times prior to the survey, and 16% admitted to cyberbullying others at some point in their lives.

Patchin and Hinduja (2014) conducted a survey of 661 middle school children. The results revealed that 34.6% reported having been cyberbullied in the last 30 days, 4.2% admitted to cyberbullying other children in the last 30 days, 17% admitted that they had cyberbullied someone during their lifetime, and 11% reported being a victim and perpetrator at some point in their lives. The forms of cyberbullying reported involved posting mean and hurtful comments/pictures in websites, rumors and/or threats via mobile phones, and impersonating the victim online. Hinduja and Patchin (2013) accomplished a meta-analytic review of 74 published articles and revealed that 52 articles reported cyberbullying victimization rates of 2.3% to 72% and cyberbullying perpetration rates of 1.2% to 44.1%. It can, thus, be implied that one in five youths had been a cyberbullying victim and that one out of six had been a cyberbullying perpetrator.

### **Differences between bullying and cyberbullying.**

Bullying in schools became the focus of research in the 1970s; however, in the 21st century, attention turned towards a new form of bullying – cyberbullying (Beran & Li, 2005). The following section elaborates on the basic differences between the two phenomena.

**Bullying.** Bullying refers to repeated aggressive behavior in which there is an imbalance of power between the parties (Olweus, 1993). It can also be described as aggressive behavior that is intentional and that involves an imbalance of power or strength (Nansel et al., 2001; Olweus & Limber, 2010). It is a form of deviance where bullies may use physical strength or social popularity to harass people, or harm psychologically by spreading rumors or ostracizing people from a group (Nansel et al., 2001). Bullying can be either direct or indirect. *Direct bullying* usually involves physical confrontation such as hitting, kicking, or taking items by force. It may also involve verbal violence such as taunting, teasing, and threatening (Hawker & Boulton, 2000). *Indirect bullying*, on the other hand, involves more subtle, manipulative acts that include extorting, ostracizing, intimidating another person, or undermining another person's reputation (van der Wal, de Wit, & Hirasing, 2003; Juvonen, Graham, & Schuster, 2003).

For the past few years, this form of aggression has evolved with the propagation of technology and social media (Hinduja & Patchin, 2010). Prior research had shown that victims of bullying suffer from anxiety, loneliness, sadness, over-compliance, and insecurity (Frost, 1991; Hawker & Boulton, 2000; Olweus, 1989). It had also been demonstrated that victims externalized impulsive and hyperactive behaviors (Camodeca, Goossens, Schuengel, & Meerum Terwogt, 2003; Johnson et al., 2002; Zych, Ortega-Ruiz, & Del Rey, 2015). According to a cross-national profile of bullying and victimization

among adolescents in 40 countries, the prevalence rate of bullying ranges from 8.6% to 45.2% in boys and from 4.8% to 35.8% in girls, with higher perpetrator rates among boys and more victimization among girls in 70% of the countries (Craig et al., 2009). The same study also reported a decrease in age in about two thirds of the countries. A number of researches also reported that boys, as victims, are more likely to be physically bullied than girls (Finkelhor et al., 2005; Nansel et al., 2001; Olweus, 1993; Rigby, 2002), whereas girls are more likely to be involved in indirect forms of bullying, being victims or perpetrators of bullying (Nansel et al., 2001).

**Cyberbullying.** Cyberbullying has unique characteristics that distinguish it from bullying. For a start, cyberbullying involves anonymity, infinite audience, and it can follow someone around anytime and anyplace. This may involve the perpetrator possessing an image, video, or content and spreading it around using computers or other electronic devices, or ostracizing people from online groups on social networking sites (Willard, 2007). The perpetrator does not witness the reaction and has no awareness of the consequences and effects of their actions in the short-term (Slonje et al., 2012a). In cyberbullying, the audience is indefinite, and it is difficult to escape as there is no safe haven (Smith, 2012). The complexity of this form of bullying is that the victim does not know who the perpetrator is, what may happen, or when it may happen next. Where most forms of bullying are experienced in the school, cyberbullying are acts carried out in cyberspace and experienced at school, home, clubs, work settings, or other outdoor venues (Slonje et al., 2012b). The results of a systematic review reported that cyberbullying rates ranged from 6.5% (Ybarra & Mitchell, 2004) to 72% (Juvonen & Gross, 2008).

### **Overlap between bullying and cyberbullying.**

Although their characteristics are different, evidence from several studies indicated that bullying and cyberbullying overlap each other; that is, those who are involved in traditional forms of bullying may also be involved in cyberbullying (Kowalski & Limber, 2013; Raskauskas & Stoltz, 2007; Smith et al., 2008). In one study, it was suggested that some perpetrators may be traditional bullying victims who are afraid to retaliate face-to-face and, instead, use technological devices as a form of compensation for being bullied (Ybarra & Mitchell, 2004). In a related study, interviewed students claimed that many cyberbullying experiences start with face-to-face argument and, subsequently, result in receiving text messages of a hostile nature, or vice versa (Slonje et al., 2012b; Beran & Li, 2007). Other researchers (e.g., Espelage & Swearer, 2003; Pellegrini & Long, 2002) investigated the overlapping of bullying and cyberbullying using the social rank theory which states that peer groups become established in a hierarchy wherein dominant students use aggression as a means of gaining prestige, power, and access to resources. When the aggressor asserts power to instigate aggression, the victim feels fear and is threatened. These acts may persist for a long period and may even occur outside the school setting. A study suggested that victims may respond by bullying back via technology as a means of self-protection (Beran & Li, 2007). It can also be inferred that bullying is perceived by the perpetrator as a status symbol by showing power over others (Smith, 2012). Past studies had established that aggressive acts carried out in the form of bullying can be attributed to power play, and the repercussions that follow are cyberbullying by the victims themselves as an indirect form of retaliation. This suggests that the motives of retaliation are well-calculated, where harassing online can be planned and carefully executed to cause maximum harm. Fear of further retaliation will decrease for as long as the sender remains anonymous (Beran & Li, 2007). Furthermore, cyberbullying perpetrators who spend time



in both forms of aggression may be preoccupied with targeting victims who experience poor concentration. On a related note, a study found that 12.6% of the youth sample reported being bullied online and offline (Ybarra, Mitchell, Finkelhor, & Wolak, 2007), suggesting that there is a relationship between online victimization and offline perpetration (Kowalski & Limber, 2013; Raskauskas & Stoltz, 2007).

### **Cyberbullying and social networking sites.**

Engaging in social interactions across the Internet can present opportunities for growth and benefits. Social networking sites have become channels for extension of identity, online interactions, maintaining existing relationships, and enhancing connectedness (Herring & Kapidzic, 2015). These sites facilitate the fundamental drive of existence; that is, the need to belong (Baumeister & Leary, 1995). Thus, adopting social networking sites as a means of communication enhances peer acceptance and relationship development among the youth (Yu, Tian, Vogel, & Kwok, 2010), as well as boosts self-esteem (Gonzales & Hancock, 2011).

Self-representation on social media serves as a medium to express hidden aspects of the self which may be difficult to express in real life (Bargh, McKenna, & Fitzsimons, 2002). This illuminates the fact that self-presentation plays a role in identity development that derives from individuals' perceptions, social norms, and interactions (McAdams, 1999). As they transgress through the online environment, social networking site users co-construct a virtual environment that differentiates itself from externally created media environments (Subrahmanyam et al., 2006). Social networking sites are incorporated with features allowing self-representation in the form of images, texts, and links (Herring & Kapidzic, 2015). Research suggests that the online environment becomes a platform to experiment various aspects of the self which could include pretending to be someone

older, younger, or an entirely different personality (Greenfield, Gross, Subrahmanyam, Suzuki, & Tynes, 2006).

Cyberbullying on social networking sites involve ridiculing people with the malicious intent of threatening or causing embarrassment repeatedly. The perpetrator seeks pleasure or social benefits by inflicting psychological, emotional, or relational aggression on the victim (Hinduja & Patchin, 2015). For example, Facebook engages individuals to post photographs, “Like”, comment, or share contents. Harsh comments and trolling had been reported among users, with comments on selfies and digressing from topics to instigate a reaction and trigger emotional responses (Sanghani, 2013). A study showed that people were affected more by who ‘liked’ their posts than how many people ‘liked’ the posts, thus, serving as a social cue of acceptance and maintaining interpersonal relationship (Scissors, Burke, & Wengrovitz, 2016). Ask.fm was the most controversial social media a few years ago when it allowed individuals to create different profiles and open themselves up to anonymous and pseudonymous inquiries from those who visit their profile (Saul, 2013). This left the youths more vulnerable and open to cyberbullying. Other forums like Snapchats allowed users to post content that disappears within a short period of time. Not surprisingly, cyberbullying incidents were soon reported (Hinduja & Patchin, 2015).

The act of making fun of someone’s posts or profiles by posting hurtful comments can be a very overwhelming experience for the victim. The most reported medium for cyberbullying was text messaging, followed by email, and websites (Zalaquett & Chatters, 2014). As social networking sites are incorporated with features that allow users to store information received, the repeated reading of messages and viewing of images make the cyberbullying experience repeat itself indefinitely for the victim (Kowalski, Limber, & Agatston, 2008).

Research has shown that the risk of victimization by strangers is not as grave as being victimized by someone who knows the victim even a little bit (Finkelhor & Ormrod, 2000). This suggests that victimization is not completely random; usually, it arises from a known acquaintance. Therefore, by making any piece of information public, it may make the individual vulnerable, pose a threat, or be exploited to cause harm (Hinduja & Patchin, 2015).

### **Forms of cyberbullying behaviors.**

There are various forms and methods by which cyberbullying behaviors are carried out. These forms of cyberbullying behavior include online threats and harassment, flaming, denigration (put-downs), cyberstalking (persistent online intimidation), exclusion (from online group), impersonation, outing (sharing embarrassing information or images of someone), trickery, putting up false profiles or disturbing personal material against someone's wishes, sexting, masquerade, and cyberhacking (Smith, 2015; Kowalski et al., 2008; Willard, 2007, Beran & Li, 2007). Cyberbullying by proxy is another form of bullying where another individual is used to instigate or carry out the act, with or without the accomplice's knowledge. The perpetrator can also hack into another person's account in order to send malicious content to friends and family on the list, with the recipients assuming that it was sent by the original account holder. This causes the victims to lose friends, feel embarrassed, and lose trust. In addition, cyberbullying by proxy also involves changing passwords where victims cannot access their own account. There have been reports indicating that hackers post account details of vulnerable victims on molester chat rooms (Aftab, 2011). A survey of online harassment at a university campus revealed that approximately 10% to 15% of students reported receiving repeated email or instant messages that threatened, insulted, or harassed. It was also found that more than half of the

students received unwanted pornography. Additionally, a significant number of posts were from unknown people, acquaintances, and significant others (Finn, 2004).

Cyberstalking behaviors have also emerged to be a cause of concern. According to the National Center for Victims of Crime, it is a form of deviant behavior that deploys threatening or obscene email, spamming, live chat harassment, flaming, leaving improper messages on message boards or in guest books, sending electronic virus, sending unsolicited email, tracking another person's computer and Internet activity, and electronic identity theft (NCVC, 2010).

Cyberbullying in colleges and universities has been reported since 1995 (Harson, 1995). A university-based study investigated the issue of cyberstalking and cyberbullying. Complaints included being called a slut, false accusations, and matters involving sexuality, weight, and racism. Text messages, receiving harassing phone calls, emails, posts on Facebook, and unwanted pornography were the most reported types of cyberbullying (Kraft & Wang, 2010). In their study on the characteristics of college bullies, Schenk, Fremouw, and Keeland (2013) reported that cyberbullies and cyberbullying victims engaged in violent crimes and admitted to drug-related offenses. Dickerson (2005) established that college cyberbullies reported using websites, blogs, and/or instant messaging to malign professors and classmates on their character, physical attributes, and intellectual abilities. More reports on this type of behavior were found in a related research which showed behaviors of flaming on physical appearance, ethnicity, race, and sexual experiences (Kraft, 2010).

The emergence of smartphones brought along with it faster Internet access and numerous social networking sites and blogs. The double-edged sword of this technology has become a popular arena for the youth to send or post hostile messages and

compromising images or videos, engage people in unproductive conversations online, and psychologically dominate people. Furthermore, impersonating from disguised identities makes anonymity a contributing factor to cyberbullying. In the past year, ownership of smartphones among the youth increased significantly which gave them greater unsupervised access to social networking sites than ever before. According to an Ipsos Reid (Canadian market research) study conducted among online teens, 43% owned smartphones, up 18% points since last year. Bullying has since moved from face-to-face to cyber-bullying, to mobile-bullying. This emphasizes how important awareness and education about cyberbullying and how to stop it are to our youth (Pierzchala, 2013, as cited in Shaw, 2013).

### **Consequences of cyberbullying.**

The repercussions of cyberbullying on victims and perpetrators were found to have an effect on academic, emotional/behavioral, and psychological/consequences (Bauman, Toomey, & Walker, 2013; Tokunaga, 2010). The following section elaborates on the three types of consequences.

***Academic consequences.*** Cyberbullying can have a profound effect on the academic performance of youths, both as victim and perpetrator. Students reported being absent from school, having their grades affected, and leaving school due to illness associated with cyberbullying (Kowalski & Limber, 2013). Cyberbullying research had demonstrated that peer victimization and academic achievement have a negative association (Nakamoto & Schwartz, 2009). More studies reported that involvement in cyberbullying has an effect that leads to lower grades, dissatisfaction over examination results, and cheating on a test. Implications were also made that detention, suspension, skipping school, and carrying a weapon to school were reported by the victims (e.g.,



Hinduja & Patchin, 2007; Ybarra et al., 2007). Katzer, Fetchenhauer, and Belschak (2009) found an increase in truancy among the victims in that, due to the problems experienced, children decide to skip school to avoid facing bullies due to fear and having to deal with difficult situations. However, a related study reported that academic problems may have existed prior to the cyberbullying experience (Ryan & Curwen, 2013). This implies that direct and indirect influences on academic performance need to be studied further. An attempt was made by the authors to examine this influence on 365 adolescents. It was revealed that receiving disturbing text messages affected 9% of the sample. Furthermore, 50% reported that cyberbullying experiences affected their ability to concentrate. The authors acknowledged that more studies are needed to find a direct relationship between academic consequences and cyberbullying experiences.

A related dimension that had been investigated is the amount of time spent on the Internet. College students use electronic media simultaneously with other media. A study was carried out to investigate electronic media use among university students and found that it is negatively associated with grades, and that multitasking is a distraction (Jacobsen & Forste, 2011). On a related note, Kirschner and Karpinski (2010) attempted to examine the use of Facebook in relation to academic performance, GPA, and hours spent on social media per week. The results revealed that students who spend more hours on Facebook have lower GPA, compared to their counterparts. Although this has no indication of cyberbullying experiences, it can be inferred that excessive social media use can have an impact on academic performance.

***Emotional and behavioral consequences.*** A number of studies reported several emotional consequences of cyberbullying. There were reports of sadness, anger, frustration, fear, suspicion, or a combination of these emotions (Cassidy, Jackson, & Brown, 2009; Ortega, Elipe, Mora-Merchan, Calmaestra, & Vega, 2009; Hinduja &

Patchin, 2007; Raskauskas & Stoltz, 2007). The consequence of feeling fear had been associated with anonymity, as some victims reported that they did not know who the perpetrator was (Bauman, 2010). Some studies indicated that victims felt embarrassment, shame, and hurt (e.g., Price & Dalgleish, 2010). Female victims were reported to experience more loneliness and depression, whereas male victims reported feeling more aggressive due to cyberbullying experiences (Schultze-Krumbholz, Jäkel, Schultze, & Scheithauer, 2012).

Loneliness had been examined as a possible antecedent of cyberbullying. A study demonstrated that increased online activities help combat loneliness and regulate negative moods. However, what attracted users the most were online anonymity, lack of physical presence, and increased self-disclosure. Changes in self-presentation may lead the individual to become disinhibited and engage in risky online behavior (Morahan-Martin & Schumacher, 2003). The foregoing findings imply that loneliness may be a mediator to increased online aggression, thereby turning the individual into either a perpetrator or victim.

Past research had demonstrated that youths who experienced online aggression as a victim or perpetrator experienced depressive symptoms, decreased self-worth, hopelessness, loneliness, as well as thoughts and behaviors of committing suicide (e.g., Joiner & Rudd, 1996; Hawker & Boulton, 2000). There have been reports of cases that gained huge media attention about young adults and adolescents who committed suicide due to cyberbullying (NoBullying.com, 2016; Halligan, 2009; Wikipedia, 2006). The terminology associated with direct or indirect influence of cyberbullying that results in suicide is “*cyberbullicide*” (Hinduja & Patchin, 2010). In a study of 2,000 randomly selected middle-schoolers, 20% reported having suicidal ideation and 19% reported attempting suicide. Both the perpetrator and victim scored high on the suicidal scale.

Furthermore, cyberbullying victims reportedly have higher level of suicidal ideation, compared to those who were not victims of cyberbullying. Hinduja and Patchin (2010) found that some victims struggled with other issues at an early stage (e.g., low-self-esteem, academic or social weakness, special education needs due to some impairment, etc.). These factors exacerbate instability and hopelessness due to stressful conditions in life which may induce cyberbullying situations that may result in suicidal thoughts and/or behavior. As a side note, these factors were also present in victims of high profile cases of suicide due to cyberbullying (Halligan, 2009; Wikipedia, 2006). In light of these cases, recent research expanded to understand what might mediate the relationship between suicidal tendencies and cyberbullying and found that increased substance abuse and involvement in physical abuse can predict the tendency towards suicidal behavior related to cyberbullying (Litwiller & Brausch, 2013).

Interestingly, some studies reported that 35% to 43% of self-reported cyberbullying victims did not experience any emotional impact. It is possible that the victims may have had serious emotional experiences but did not want to report it or were not aware of it. It was suggested that the extent of the impact due to cyberbullying was not investigated (Patchin & Hinduja, 2006; Ortega et al., 2009; Hinduja & Patchin, 2007).

A study that investigated the frequency, characteristics, and practical implications of cyberbullying in college reported that cyberbullying experiences had students feeling angry, sad, with claims of increased stress level and loss of productivity (Zalaquett & Chatters, 2014). This evidence provides the insight that although college students are older and more mature, still, the effects of cyberbullying can cause profound disturbance in emotional regulation. Aseltine, Gore, and Gordon (2000) warned that cyberbullying can further contribute towards delinquency and interpersonal violence if its consequences are not addressed promptly and appropriately. This outcome is supported by a related study

which found that victims who were frightened due to cyberbullying experiences admitted carrying weapons to school (Ybarra et al., 2007).

***Psychological consequences.*** Psychological dysfunctions experienced by victims of cyberbullying experiences included depression, low self-esteem, anxiety, and loneliness (Bauman et al., 2013; Gamez-Guadix, Orue, Smith, & Calvete, 2013; Sahin, 2012; Patchin & Hinduja, 2010). Victims also reported suicidal and self-harming behaviors (Schneider, O'Donnell, Stueve, & Coulter, 2012). In addition, it was found that increased Internet usage may result in depression, obsessive compulsion, and anxiety (Kelleci & Inal, 2010).

Evidence of psychological consequences can be gleaned from some studies involving the popular social networking site Facebook. For example, it was found that Facebook is correlated with depression and loneliness (O'Dell, 2011), as well as high levels of stress and lack of control (Gabre & Kumar, 2012). One study found that Facebook itself is not sufficiently related to depression, anxiety, and stress, but time spent on Facebook increases the possibility of developing depression and anxiety (Labrague, 2014). According to Beck and Alford (2009), depression is related to other psychological, psychosocial, hereditary, evolutionary, and biological factors.

Several studies that explored the characteristics of college cyberbullies similarly reported that students involved in cyberbullying as aggressor or victim scored high in depression, hostility, interpersonal sensitivity, paranoia, phobic anxiety, and psychoticism. Furthermore, it was found that cyberbullying victims suffered from drug, alcohol, physical, or sexual abuse, along with delinquent and aggressive behaviors that led to problems at school, including student attrition (e.g., Beran & Li, 2007; Katzer et al., 2009; Raskauskas & Stoltz, 2007; Ybarra et al., 2007). Other studies documented that cyberbullying perpetrators, on the other hand, were more likely to be associated with proactive and

reactive aggression, property damage, and illegal acts (e.g., Schenk et al., 2013; Ybarra & Mitchell, 2004), have high levels of anxiety and depression due to cyberbullying experiences (Kowalski & Limber, 2013), endorsed suicidal behaviors and aggression (Schenk et al., 2013), and engaged in impulsive behavior which resulted in their being ostracized among peers and, subsequently, adopting drugs. In addition, cyberbullying perpetrators exhibited low levels of self-esteem, self-efficacy, safety at school, prosocial behavior, and perceived sense of belonging (Patchin & Hinduja, 2010; Sourander et al., 2010; Wong, Chan, & Cheng, 2014). The social problems of cyberbullying perpetrators had been attributed to low levels of empathy, weak bonds with caregivers, low parental monitoring, and increased use of punitive discipline (Schultze-Krumbholz & Scheithauer, 2009; Wong et al., 2014; Ybarra & Mitchell, 2004).

This segment presents a perplexing observation. As mentioned in the foregoing studies, cyberbullying perpetrators had been found to have low level of empathy. Empathy is defined as the ability to understand and share another's emotional state or context (Cohen & Strayer, 1996). Empathy had been demonstrated to have a negative relationship with cyberbullying (Ang & Goh, 2010; Schultze-Krumbholz & Scheithauer, 2009; Steffgen, König, Pfetsch, & Melzer, 2011). According to Gini, Pozzoli, and Hauser (2011), bullies are morally competent to judge actions but significantly deficient with respect to moral sentiments and caring, with high level of moral disengagement. A large-scale study across 25 different schools reported that the cyberbullying scores on 'harshness' and 'impact' of their behavior were lower than the victim's scores (Campbell et al., 2013). The outcome suggested that either cyberbullying perpetrators are not aware of the effects of their bullying, or that they deliberately ignore the effects (Gini et al, 2011). The diminished level of awareness with regard to harshness and impact of their aggression towards the victim can be attributed to the negative relationship between cyberbullying and empathy



(Campbell et al., 2013). This has been linked to the fact that cyberbullying perpetrators do not conform to accepted patterns of conduct, having an indifference or disregard for moral beliefs (Wilton & Campbell, 2011). The study also suggested that besides moral disengagement, the anonymity factor (Suler, 2005) contributes to the lack of connection and consequences as well as reduced social and contextual cues due to online behavior (Campbell et al., 2013). The aforementioned studies suggest that the perpetrator's perception of the victim's state of being, along with their state of morality and empathy, play a key role in defining their levels of psychological dysfunction.

The psychological construct of self-esteem is seen to play a key role in bullying behavior (Haynie et al., 2001; Juvonen et al., 2003; Nansel et al., 2001). It had been implied that victims of bullying have reduced self-esteem or that those with low self-esteem are targeted as victims (Egan & Perry, 1998). There is, however, some discrepancy with regard to bullying perpetrators' self-esteem. Some studies reported that bullying perpetrators have high self-esteem (Rigby & Slee, 1991a; Salmivalli, Kaukiainen, Kaistaniemi, & Lagerspetz, 1999;); others reported low self-esteem (Jankauskiene, Kardelis, Sukys, & Karedeliene, 2008; Yang, Kim, Shin, & Yoon, 2006), and, interestingly, others established that no association exists between self-esteem and bullying (e.g., Seals & Young, 2003). Nonetheless, it had been implied that, regardless of the direction, self-esteem is lower among perpetrators than victims. By the same token, Patchin and Hinduja (2010) employed their own Cyberbullying Scale and Rosenberg's (1965) Self-Esteem Scale in an attempt to establish the relationship between cyberbullying and self-esteem among students from 30 schools. The study reported that, on the whole, both perpetrator and victim experienced a significantly lower level of self-esteem after a cyberbullying experience. In a similar vein to the foregoing, a university-based study reported that pathological Internet users have lower self-esteem and are more socially

disinhibited. The researchers explained that due to low self-esteem and lack of social skills, the students used the Internet as an alternative method of communication to overcome shyness and gain confidence without having to be concerned about face-to-face interaction. The authors argued that self-esteem is the cause rather than the consequence of pathological use and disinhibition (Niemz, Griffiths, & Banyard, 2005). The aforementioned studies gave evidence to the effect that differing levels of self-esteem are dependent upon developmental changes in perceptions and acceptance of the changing self (Nixon, 2014). It can, thus, be said that in some cases, low self-esteem may lead to online aggression, and in other cases, online aggression may lead to low self-esteem.

To further explore the nature and dynamics of cyberbullying behavior, the following section presents empirical evidence of the relationship between cyberbullying and the demographic characteristics of age, gender, and ethnicity.

### **Cyberbullying and age.**

There have been many attempts to examine the phenomenon of cyberbullying particularly in schools across many countries as a function of age. For example, Cook, Williams, Guerra, Kim, and Sadek (2010) found that the relationship between age and cyberbullying perpetration is weak. A broad meta-analysis of 131 studies was conducted on risk and protective factors and outcomes of cyberbullying including age, among other variables, relative to perpetration and victimization (Kowalski Giumetti, Schroeder, & Lattanner, 2014). The analysis showed a weak correlation between cyberbullying perpetration and age, and a non-significant relationship between cyberbullying victimization and age. Some studies reported that cyberbullying tends to increase with age until 15 years (Kowalski et al., 2014; Tokunaga, 2010). Other studies suggested that age differences depend upon the method of cyberbullying. For example, it was observed that

text messaging, picture bullying, and instant messaging were more prevalent with older adolescents (Smith et al., 2008). Raskauskas (2010) found that victims aged between 12 and 14 years were mostly bullied via text messages and that, similarly, high school victims were mostly bullied through mobile phones via text messages, pictures, and phone calls. Hinduja and Patchin (2008) found that older students reported more about being cyberbullied than their younger counterparts.

In recent years, however, research conducted in colleges yielded new and interesting facts. One study found that 30% of students' first experiences of cyberbullying occurred in college (Kowalski et al., 2012). Another study examined the trajectory of bullying (being a bully or bully-victim) from elementary school through college of 119 undergraduates. The study reported significant positive correlations between being a bully in college, high school, and elementary school, and being bullied in college, high school, and elementary school, and between being a bully and victim in elementary school, high school, and college (Chapell et al., 2006). The study presented the implication that cyberbullying behavior can persist throughout childhood and adulthood. By the same token, Kraft and Wang (2010) gave supporting evidence of cyberbullying participation in high school as well as risk factors for later experience of cyberbullying in college.

### **Cyberbullying and gender.**

There have been conflicting reports on the prevalence rate of cyberbullying based on gender. A meta-analysis of gender differences in cyberbullying behavior involving 109 studies revealed that cyberbullying perpetration is more common in boys than in girls, that cyberbullying is more prevalent among girls in younger samples, and among boys in older samples, and that countries and continents were found to be significant moderators as well (Barlett & Coyne, 2014). Another broad meta-analysis of 153 studies on individual and

contextual predictors found that boys were more involved in perpetration than girls. While the findings in some individual studies showed that no discrimination existed as a function of gender (Slonje & Smith, 2008; Hinduja & Patchin, 2008; Smith et al., 2008), there is more evidence to the contrary. For example, Li (2006) reported that cyberbullying perpetration by boys is higher than perpetration by girls, although no gender differences in victimization rates were found between the sexes. It had been suggested that gender differences depend upon the venue in which cyberbullying occurs, such that girls are targeted via email more frequently than boys (Hinduja & Patchin, 2008), and boys are bullied through text messages more than girls (Juvonen & Gross, 2008; Slonje & Smith, 2008; Smith et al., 2008).

According to a study by Ortega et al. (2009), males are more involved in traditional bullying whereas females are more associated with electronic forms of bullying through mobiles and the Internet. The study implies that males have the tendency to engage in physical forms of bullying more than females who, on the other hand, tend to get involved in emotional and psychological forms of bullying more than males (Cassidy et al., 2009; Patchin & Hinduja, 2006; Raskauskas, 2010). This outcome is consistent with that of Hinduja and Patchin (2015) who found that girls are cyberbullied via Instagram and Ask.fm more than boys. A related study documented that 45.8% of cyberbullying victims are being ignored, 42.9% are being disrespected, 11.2% have received threats, and 6.2% are scared for their safety (Burgess-Proctor, Patchin, & Hinduja, 2009).

The aforementioned outcomes can be attributed to the fact that bullying involves physical strength; hence, boys are more inclined to engage in bullying. Girls, on the other hand, are more inclined to engage in reputation damage which can be accomplished in a subtle way through cyberbullying (Whittaker & Kowalski, 2015) as well as in forms of social sabotage that are more emotional and psychological in nature (Wiseman, 2002;

Underwood, Galen, & Paquette, 2001). Kowalski and Limber (2007) posited that girls are also involved in cyberbullying as victims as well as perpetrators. This behavior can be attributed to the fact that some cultures are socially constraining; however, being online means those social constraints do not bind (Zahn-Waxler, 2000; Underwood, 2003).

### **Cyberbullying and ethnicity.**

A meta-analysis of 105 studies examined ethnic differences in peer victimization and found no difference in peer victimization between majority and minority groups (Vitoroulis & Vaillancourt, 2015). Interestingly, moderator analyses showed that majority groups exhibited more peer victimization than minority groups in the U.S., whereas in the U.K., the opposite was true, but with rather small size effects.

Zalaquett and Chatters (2014) explored the prevalence of cyberbullying among college students from diverse backgrounds as well as the relationship between cyberbullying in high school and college. The results revealed that out of 613 college students, 19% experienced cyberbullying victimization in college and 31% in high school; of those who were cyberbullied, 15.5% were females and 3.6% were males. It was reported that European Americans were the most cyberbullied, whereas Asian Americans were four times more cyberbullied than other minorities. In partial support for the latter findings, a related study established that white students had a higher probability of being bullied and of engaging in cyberbullying activities than their Hispanic counterparts (Kupczynski, Mundy, Green, & Uriegas, 2013). In contrast to the foregoing findings, a study involving English secondary schools found no ethnicity differences in cyberbullying experience (Smith, Thompson, & Bhatti, 2012).



### **Other factors influencing cyberbullying.**

In their critical review and meta-analysis of cyberbullying research among the youth, Kowalski and associates (2014) explained that many factors come into play in a cyberbullying situation such as personality traits, attitudes, temperament, motives, gender, beliefs, values, long-term goals, experiences, background, behavioral scripts, and other consistent characteristics. The personality traits of empathy, narcissism, social intelligence, competitiveness, dominance, and emotional stability also play a role when an individual witnesses or experiences a cyberbullying situation either as perpetrator, victim, or bystander. Furthermore, the authors reported that high moral disengagement is significantly and positively related to cyberbullying perpetration while social anxiety and frequency of use are closely related to cyberbullying victimization.

Smith (2015) conducted a cross-national study involving 25 European countries in which a number of predictor variables were examined, namely: cyberbullying perpetration, time spent with digital devices, advanced Internet skills, online disinhibition, moral disengagement, and low empathy, all of which were found to have significant relationship with cyberbullying behavior. The author posited that the youths' interactions in the real world and the cyber world are intertwined and that these interactions entail different moral standards. There are no rules and cultures on the Internet. Likewise, there are no guidelines on the boundaries of appropriate and inappropriate behavior. Furthermore, the use of technology may result in disengagement of personal control, where justified acts may be considered unjust under different circumstances (Bandura, 1999, as cited in Smith, 2015).

### **Cyberbullying in Thailand.**

It is clear from a few Thai-based studies on cyberbullying that bullying-like behaviors are not infrequent in Thailand. Particularly regrettable, however, is the absence

of studies on cyberbullying, with only three out of eight studies in the last six years. Given the seriousness of the cyberbullying problem in Thailand from the limited evidence available so far, there is a strong case for a more focused research program on the subject (Sittichai & Smith, 2013). The following section presents the results of a few empirical investigations on cyberbullying behavior and experience within the Thai setting.

Sittichai and Smith (2015) presented interesting facts on bullying behaviors within the South East Asian context. The authors documented different cultural and educational characteristics associated with cyberbullying experiences and behaviors and pointed out that the most extensive studies were conducted in Singapore, compared to other South-East Asians countries, with structured investigations, inventories, and reports about cyberbullying.

In Thailand, researches were conducted mostly among children and adolescents aged between 7 and 19 years. Measures used were self-reports by active or passive bystanders, essays, self-administered questionnaires, and in-depth interviews. Findings generally indicated associations between bullying and peer pressure, reactive and proactive aggression, school type and family abuse, as well as understanding of bullying prevalence based on LGBT impact and coping. One of the earliest documented Thai-based studies on bullying reported that boys were bullied more than girls, and that most victims reported the bully to their friends (56%), parents (37%), teachers (32%), and siblings (29%) (Tapanya, 2006).

A Southern Thailand-based study investigated the prevalence, location, and association between bullying and entertainment choices. The study found that 32% of children were bullying others mostly in the classroom, being the most frequent venue; that bullying is more frequent in older children; that children prefer action-based cartoons to

comedy/mystery, having seen their parents fight; and that association with gender (more frequent in boys) is not significant (Laeheem et al., 2008). In the following year, a study by the same team was conducted on the same sample. The results revealed a reduction of bullying incidents to 20.9% (from 32% in the previous year), and that non-Muslim boys who witnessed parental physical abuse still preferred to watch action cartoons (Laeheem, Kuning, & McNeil, 2009). In the same year, Boonoon (2009, as cited in Sittichai & Smith, 2013), in the online newspaper 'The Nation', discussed findings from a survey conducted by a private organization concerned about the welfare of Thai children. It was found that 43% of students (mostly high school) had been threatened over the Internet. Most declined to disclose details, but were upset by the cyberbullying experience and, particularly, by attempts to lure them into offline meetings. Few reported the matter to their parents or teachers.

A medical doctor (Buttabote, 2011) attempted to examine the relationship between bullying behavior and self-esteem in attention deficit/hyperactivity disorder (ADHD) patients. Of the 102 ADHD patients, about half of them (53%) reported being in the bully-victim group. The victims reported being made fun of and teased in a hurtful way. The perpetrators reported behaviors of hitting, kicking, pushing, and placing someone under arrest. The findings suggested that self-esteem is related to bullying behavior in ADHD patients, especially for those being victimized.

Musikaphan (2009) provided comparative data on cyberbullying in Thailand and Japan using both quantitative and qualitative approaches. It was revealed that in Thailand, 59% of respondents reported being cyberbullied, while in Japan, reports of cyberbullying were very low in frequency, with more than half claiming to have never faced or received information about cyberbullying. Interestingly, 35% of Thai students believed cyberbullying to be 'acceptable behavior' whereas 68% of students in Japan perceived it to

be ‘bad behavior’. In their analysis of the latter study, Sittichai and Smith (2015) suggested that differences in culture, philosophy of living, problem solving, and policy implementation between countries may impact on people’s perceptions of cyberbullying.

Sittichai (2014) examined the incidence and predictors of cyber-victimization in three southern provinces of Thailand, using an adaptation of a UK-based questionnaire using both strict and lenient criteria. It was found that cyberbullying victimization was at 3.7% under strict criteria and 14.9% under lenient criteria. Furthermore, it was found that victims were mostly male with highly-educated parents. In the same year, a UNESCO-sponsored study was conducted to examine the prevalence, impact, motivation, and preventive measures relative to the bullying of secondary school students who are or are perceived to be transgender or same-sex attracted in five provinces in Thailand. The study concluded that more than half (55%) of self-identified LGBT students reported having been victims of physical, verbal, social, and sexual abuse forms of bullying (UNESCO Bangkok Office, 2014).

It can, thus, be concluded from the cited studies that bullying and cyberbullying are, indeed, prevalent in Thailand. It is unfortunate that societal norms do not consider this to be a serious matter, with some perceiving it to be a rite of passage to adulthood (NoBullying.com, 2015). While some schools have started to implement programs and take action, there are reports that teachers and parents ignore the matter. For example, it had been observed that when bullying occurs on campus, many teachers and bystanders do not even attempt to stop the bullying act. An important observation was made in the LGBT bullying report in that many students are bullied due to their sexual orientation or gender identity/expression. According to NoBullying.com (2015), a study on cyberbullying reported that out of 2,500 students aged between 12 and 24 years, 43% experienced being cyberbullied. Most of the perpetrators have divorced parents or come from broken

families, and turn to the Internet to annoy others. The study also reported that high school children were being lured to meet offline.

Aggression arises due to different perceptions and adoption of behaviors around us. It can be attributed to the fact that where there is no inherent authority and accountability perceived, anti-social behaviors emerge. However, societal differences also play a key role in which individualism, collectivism, or hierarchy can have an impact on prosocial behavior or abuse of power (Sittichai & Smith, 2013).

In conclusion, cyberbullying has proliferated across the world, seeping into the lives of individuals and communities. Numerous studies have examined the prevalence of cyberbullying as well as its overlap with bullying. Interestingly, in some cases, the victim of bullying becomes the perpetrator of cyberbullying. Studies have also been conducted from the victim's as well as the perpetrator's perspective. Victims reportedly suffer from lack of emotional regulation, low self-esteem, anxiety, and susceptibility to peer pressure. Perpetrators, on the other hand, lack emotional control, are indifferent to the impact of their behavior, and unable to foresee the long-term consequences of their actions. Research has also reported on the effects of cyberbullying on the academic, emotional, relational, and social trajectory of the youth. Some reports imply that cyberbullying does not end in high school; it progresses through college. The infiltration of cyberbullying among college students has presented challenges amidst the autonomy and ubiquitous nature of the Internet.

### **Online Disinhibition Effect**

Cyberspace is not only an arena for learning, communication, and entertainment; it presents opportunities for developing the ability to exercise self-control, tolerance, and



respect towards others' viewpoint, express and share opinions in an appropriate manner, and engage in critical thinking and decision making (Patchin & Hinduja, 2012). The sole purpose of using the Internet, for many people, is for online communication (Kraut, Mukhopadhyay, Szczypula, Kiesler, & Scherlis, 2000). Online communication has presented opportunities for developing more interpersonal and intrapersonal relationships. Self-disclosure is a key component in developing and sustaining relationships (Collins & Miller, 1994). One study demonstrated that computer-mediated interactions increased self-disclosure due to anonymity and reduced public awareness (Joinson, 2001). Another study proved that self-disclosure increases with the motivation to reduce uncertainty and increase predictability (Tidwell & Walther, 2002). Self-disclosure and intimacy are accelerated as people claim that one's inner self surfaces online, thus, facilitating genuine relationships (Suler, 2015). However, privacy and trust become key concerns in terms of costs and benefits by controlling information and behavior disclosure (Joinson, Reips, Buchanan, & Schofield, 2010).

Online disinhibition refers to diminished internal censorship when communicating in cyberspace (Suler, 2004). Past research had established that people are less inhibited and behave differently online. Anonymity is a key factor that gives rise to disinhibited behavior (Joinson, 2003). The cyberspace arena is characterized by the apparent reduction in concern for self-presentation and judgment by others (Joinson, 2007). According to Kowalski and Limber (2007), people pursue other behaviors online because their identity is hidden. This can be referred to as a cowardly form of bullying (Belsey, 2006). By being anonymous, people wear a cloak of invisibility and feel that they cannot be accountable for their actions and face repercussions (Sourander et al., 2010).

Online disinhibition, however, is not only the key factor that allows people to self-disclose. Personality also plays a vital role. Within the structure of personality, defenses,

resistance, superficial roles, aggressive and sexual tendencies are basic components.

Research claims that the self does not exist separately from the environment in which that self is expressed, regardless of different situational contexts or modalities of online communication. The digital landscape presents an interesting arena for people to express, develop, or restrain different constellations of self-structure (Suler, 2004).

### **Factors associated with online disinhibition.**

According to Suler (2004), online disinhibition effect refers to the act of loosening up, feeling less restrained, and expressing oneself more openly than one would normally say or do face-to-face. The author proposed six factors that interact and intersect with each other to cause online disinhibition, namely: dissociative anonymity, invisibility, asynchronicity, solipsistic introjection, dissociative imagination, and minimization of status and authority.

*Dissociative anonymity* is the principal factor of online disinhibition. It refers to the fact that people are anonymous online, where profiles or interactions only reveal selective information. It creates opportunities for people to disconnect and avert responsibilities and moral obligations over their actions online. *Invisibility* suggests that online environments have infinite users utilizing various resources online, but are not physically present to witness facial expressions and bodily cues, causing people to become disinhibited.

*Asynchronicity* refers to the fact that people can interact, respond, or suspend interactions with each other on real time according to their own preference. In sending and receiving responses, time lapse allows deeper reflections and self-disclosure that can be reinforced or suspended, paving the way for disinhibition. *Solipsistic introjection* refers to the creation of an internal representation of online companions where people assimilate or introject characteristics, assign visual images of appearance, sounds, and behaviors, and incorporate

similarities in characteristics of people whom they interact with in real life, or from a film or novel. *Dissociative imagination* refers to the combination of opportunities to escape the online world and create an imaginary character that one can disengage from and relinquish responsibility once offline. *Minimization of status and authority* refers to the absence of visual authorities that are, otherwise, present in the real world, with equal opportunity to voice oneself, with no one to reprimand negative behaviors (Suler, 2004).

### **Benign online disinhibition.**

Online disinhibition has two opposing facets: benign online disinhibition and toxic online disinhibition. *Benign online disinhibition* encompasses self-disclosure of desires, emotions, and fear, unusual acts of kindness, generosity, and helping others. This effect presents an opportunity for one to explore, better understand, and develop oneself. Benign online disinhibition can also refer to philanthropic gestures, advice, emotional support, and greater self-disclosure (Suler, 2004).

Self-disclosure refers to the act of revealing personal information to others (Archer, 1980). It allows people to express opinions, develop mutual understanding, and enhance bonds of trust to strengthen relationships in order to gain online acceptance (Joinson & Paine, 2009). According to past research, people have a tendency to self-disclose more intimately on the Internet (Rosson, 1999) which leads to more information disclosure about oneself while online (Joinson, 1999; Locke & Gilbert, 1995). It can, thus, be said that self-disclosure increases with anonymity and, thereby, reduces public self-awareness where a person cannot be identified and be held accountable (Schlenker, 1980).

Another dimension of this effect can be explored in the dynamics of reciprocity in group discussions that may facilitate gaining empathic responses and support through self-depreciation when disclosing negative behaviors online (Joinson & Paine, 2009). This

implication can be presented as evidence to the encouragement of online disclosure and the impact of anonymity. Wright and Li (2011) investigated online prosocial behaviors through social networking sites among young adults who use online communications to keep in touch offline and offer support.

Prosocial behaviors are actions that are voluntary with the intention of benefiting another (Eisenberg, Fabes, & Spinrad, 2007). It involves acts that are attributed to helping, sharing, donating, volunteering, cooperating, obeying rules, and conforming to socially accepted behaviors (Baumeister & Bushman, 2007). Prosocial behaviors are found to benefit other people and society, motivated by empathy and concern for other people's welfare and rights (Twenge, Ciarocco, Baumeister, DeWall, & Bartels, 2007; Santrock, 2002). Another perspective is that these behaviors are motivated by egoistic or practical concerns which are directed towards one's reputation, in the hope of direct and indirect reciprocation, or in accordance with one's perceived system of fairness (Eisenberg et al., 2007). Motivation in prosocial behavior is focused on altruism, but it had been disputed that these acts are more philosophical and less psychological (Wilson, 2015).

Wentzel and Filisetti (2007) reported that prosocial behaviors are also motivated by a complex set of self-processes, contextual cues, and goal pursuits. *Self-processes* are associated with reasons for behaviors, empathy, perspective taking, depressive affect, and perceived competence. *Contextual cues* encompass expectations from peers and teachers. *Goal pursuits*, in turn, predict prosocial behavior and are stimulated by internal justification, external focus, and other factors. Personal goals and reasons for engaging in prosocial behaviors explain the interplay in processes such as seeking approval, sharing, helping others, cooperating, or following rules in classrooms (Dweck, 1991; Ryan & Deci, 2000; Wentzel, 1991). External reasoning can be associated with fear of punishment, desire to comply, or avoid negative feelings of guilt or shame. Depressive affect had been

found to have negative relations with prosocial behavior (Chen, Li, Li, Li, & Lui, 2000; Wentzel & McNamara, 1999). Additionally, high level of depression was found to be associated with compliance and concern towards receiving positive evaluations from others (Keenan & Hipwell, 2005).

The social effect of benign online disinhibition involves helping other people, a behavior that can be found in online support groups, philanthropy, volunteering, and e-mentoring (Morahan-Martin & Schumacher, 2003; Panopoulos & Sarri, 2013; Shim, Cappella, & Han, 2011; Wright & Li, 2011). There are also implications that those contemplating suicide or are in need of urgent emotional support can benefit from online disinhibition where interpersonal relationships can be established more quickly due to increased self-disclosure (Barak & Suler, 2008; Suler, 2008).

Lapidot-Lefler and Barak (2015) attempted to investigate whether situational factors could induce self-disclosure and prosocial behaviors by means of the benign online disinhibition effect. The study reported that disclosure of emotions was higher when anonymity was combined with invisibility. It was also reported that invisibility and lack of eye contact have a significant effect on the inducement of first words. The study also found that non-anonymity combined with invisibility led people to be more helpful, compared to the condition of anonymity with presence or absence of visibility that has no effect on the intent to help. The study disputed previous research findings that were based more on anonymity as a major factor that induces online disinhibition, but did not take much into account the other factors of invisibility and lack of eye contact that may have more effect.

According to the results of a research conducted in America and China, natural culture interacts with communication mode and relationship type to affect the extent of



self-disclosure (Zhao, Hinds, & Gao, 2012). Online members and communities within the social networking sites may determine the norm of social acceptance and boundaries of interactions (Castella, Abad, Alonso, & Silla, 2000).

Invisibility had been reported to foster social presence online; for example, profile pictures present an image of the user, thus, reducing stereotypes and prejudices and inducing online disinhibition (Joinson, 2001, 2007; Suler, 2004). Hollenbaugh and Everett (2013) demonstrated that personal pictures increase the level of self-disclosure and lead to more intimate, less superficial relationships. On the other hand, Tourangeau, Couper, and Steiger (2003) reported that images decrease the willingness to respond to sensitive questions. Conflicting findings such as these suggest that more research is needed to achieve more definitive conclusions on the interaction effects of anonymity and invisibility.

In the real world, people modulate their behaviors according to the situation and are able to see how their behaviors affect other people. In the online environment, however, people cannot see the reactions of others. Through offline visibility, people can gauge the boundary of interactions and judge intentions but, in cyberspace, online users can neither see the emotional reactions nor discern the intentions of others. This can lead to misinterpretation and miscommunication which may account for the initiation of cyberbullying victimization and perpetration (Kowalski & Limber, 2007; Kruger, Epley, Parker, & Ng, 2005).

Another effect of benign online disinhibition behaviors can be seen when people online defend other users against cyberbullying perpetrators (Amichai-Hamburger et al., 2012). This suggests that some people become benign online as they witness others being bullied and, consequently, attempt to defend or help the victims. According to Thornberg

and colleagues (2012), this ‘bystander’ role is quite complex within the arena of cyberbullying. It is influenced by the context of the situation and by the interaction of age, sex, culture, and social relationships of the people involved. It is also influenced by the interpretation of harm, emotional reactions, social evaluation, moral evaluation, and the intervention of self-efficacy. On a related note, the constructs of empathy and social self-efficacy in the bystander also plays a role in helping the victim (Gini, Albiero, Benelli, & Altoe, 2008). In some cases, however, bystanders may be willing or unwilling participants. In supporting the victim, they can help by comforting, defending, or stopping the perpetrator from causing further harm. But if they remain silent online, it can be perceived by the cyberbullying perpetrator as a sign of support; to the victim, it can amplify the humiliation (Kowalski & Limber, 2007).

Jiang, Bazarova, and Hancock (2013) posited that online communication facilitates the reduction of uncertainty compared to face-to-face interaction. Online, behavioral boundaries are unseen and there is less inhibition due to anonymity. It is an environment where self-disclosure gives rise to more intimate interactions due to reciprocity and strengthened relationships. It had been suggested that online anonymity and unidentifiability reduce inhibitions of self-awareness and social anxiety which have a positive effect on increased interactions and closer relationships (Bareket-Bojmel & Shahrar, 2011). The perception of control over interaction may represent the degree of disclosure while communicating online, suggesting that benign online disinhibition has a negative relationship with cyberbullying. Additionally, benign online disinhibition had been shown to produce positive results for those with introverted or neurotic personality (Amichai-Hamburger, Wainapel, & Fox, 2002), social phobia (Carlbring et al., 2007), or those with hearing impairments (Barak, Hen, Boniel-Nissim, & Shapira, 2008).

Udris (2014) developed and validated a scale for online disinhibition. In the process of refining the item statements of the scale, the author pointed out that benign online disinhibition could be a predictor of cyberbullying in an overall timeframe. It was reported that the student respondents taking the test may have been influenced by disinhibition, but were not aware of it. Thus, it was inferred that the positive behavior of disinhibition may have negative consequences. The study measured invisibility by means of the scale item, "It is easier to write things online that would be hard to say in real life, because you don't see the other's face". According to the author, this item suggests no eye contact. It was found that this particular statement incited the respondents 2.29 times more to cyberbully others. According to Suler (2004), invisibility refers to the fact that people may be aware of the other person's background, habits, and other details. When the other user's identity is known, but cannot see and respond to physical cues, this can cause inhibitions to be lowered. This can be further simplified in that when one cannot physically see the other person, the concern for appearance and tone of voice is lowered and sometimes absent. This supports other findings regarding invisibility as a factor that induces benign online disinhibition. It can, thus, be inferred that benign online disinhibition can have a direct influence on cyberbullying, and that invisibility can predict online benign online disinhibition in both victim and bully.

### **Toxic online disinhibition.**

Online disinhibition can lead to the negative behaviors of flaming and threatening, and can be carried out in the offline world in the form of physical assault or stalking (Cyber-stalking.net., 2002). This other opposing facet of online disinhibition is *toxic online disinhibition*. Toxic online disinhibition involves the use of rude language, harsh criticisms, flaming, trolling, expressions of hatred, threats of violence, or surfing sites of pornography, crime, and violence (Suler, 2004).

Flaming and trolling are behaviors often linked to toxic online disinhibition.

*Flaming* behavior involves the use of hostile expressions toward others on social networking sites. These aggressive behaviors can be witnessed on various blogs, gaming sites, comments on websites, and online communication forums. Aiken and Waller (2000) posited that flaming are comments intended to offend others which may include obscenities and other inappropriate comments. The authors examined flaming between two groups while maintaining anonymity. Regardless of the topic of discussion, it was evident that individual attributes were the antecedents of flaming. This form of uninhibited behavior is fueled by anonymity. However, the lack of nonverbal signals may cause emotions to be overestimated or underestimated, leading to escalation of conflicts (Derks, Fischer, & Bos, 2007). Alonzo and Aiken (2004) suggested that escaping from reality, passing time, entertainment, and relaxation were motives for flaming behaviors. From this assertion, it can be inferred that toxic online disinhibition is related to a person's level of extroversion and familiarity within the group (Smolensky, Carmody, & Halcomb, 1990). The related behavior of *trolling* on the Internet occurs through aggressive antisocial behaviors online that intentionally cause harm, disruption, or instigate and aggravate conversations or reactions. This is achieved through the anonymity factor of using user names or pseudonyms to hide the real identity of one who lacks moral obligations and rejects responsibility over his/her actions (Suler, 2004). A case in point is when someone posts a creative piece of writing in the hope of being encouraged by others but, instead, receives feedback that is cruel and unproductive (Hinduja & Patchin, 2015).

Past research has attributed the factor of toxic online disinhibition to anonymity, invisibility, asynchronicity, textuality, and personality-related factors (e.g., Joinson, 2003; Joinson, 2007; Suler, 2004). In a study on anonymity and roles associated with aggressive posts in an online forum, anonymity of forum posts (with no identification) was identified

as a criterion to distinguish between attackers and defenders (Moore, Nakano, Enomoto, & Suda, 2012).

Lack of social, contextual, and affective signs online can foster insensitive and remorseful feelings and behaviors (Mason, 2008). The real social environment encourages individuals to conform to norms, but the online world lets loose that commitment (Waskul, Douglass, & Edgley, 2000). According to Joinson (2007), disinhibition on the Internet is characterized by the apparent reduction in concern for self-presentation and judgment of others. Cyberbullying perpetrators do not seek social approval, and do not see the suffering of their victims (Willard, 2007). As a result, people may become more toxic and difficult to control (Hinduja & Patchin, 2008).

A study was conducted to examine the effects of anonymity, invisibility, and the lack of eye contact on toxic online disinhibition. Lack of eye-to-eye contact was found to be the strongest contributing factor to toxic online disinhibition (Lapidot-Lefler & Barak, 2012). The absence of eye contact can promote online communications in some individuals. While they are able to speak their minds and feel less embarrassed, it can also promote flaming behaviors. This may be because lack of eye contact leads individuals to feel less exposed and anonymous, thereby increasing flaming behavior and cyberbullying. An alternative view proposes that in terms of nonverbal cues being reduced, the perpetrator does not perceive the impact of their actions; therefore, the perpetrator is deprived of the chance to empathize and alter their behavior (Bauman & Taylor, 2015).

Wang and Shih (2014) examined the factors influencing university students' online disinhibition behavior with the moderating effects of deterrence and social identity. It was reported that inappropriate behavior is linked with the controllability of anonymity, and that the behavior decreases with the certainty and severity of punishment. This presents the



valuable insight that with the presence of authority, repercussions may follow which have an impact on students' online behavior. The study can be compared to a Thai-based investigation in which strict and lenient criteria were applied in order to see their differences in cyberbullying. The report revealed that under strict criteria, cyberbullying rates are lower (Sittichai, 2014).

A number of studies explored the direct link between online disinhibition and cyberbullying in inducing deviant behavior (Udris, 2014; Brown, Jackson, & Cassidy, 2006; Hinduja & Patchin, 2015; Kowalski et al., 2008). Disputes focused on the nature of online disinhibition and its relation to cyberbullying as a function of anonymity, lack of immediate consequences, and absence of authority or rules (Kowalski et al., 2008; Hinduja & Patchin, 2008; Vandebosch & Van Cleemput, 2008). Görzig and Ólafsson (2013) investigated the link between cyberbullying and online disinhibition by exploring the nature of self-representation and lack of supervision. The study which sought to correlate benign online disinhibition and toxic online disinhibition to anonymity and cyberbullying was conducted on 1,000 Internet-using 9 to 16-year-old children via face-to-face interview in their homes, with one parent present. The scale used to measure online persona was composed of three items: "I find it easier to be myself on the Internet than while I am with people face-to-face"; "I talk about different things on the Internet than I do when speaking to people face-to-face"; and "On the Internet, I talk about private things which I do not share with people face-to-face". The rating options ranged from 'not true' to 'very true'. For the second measure to test online disinhibition due to lack of social control, the participants were assessed through a question on whether they used the Internet on their mobile device and/or from a private room at home. A scale that measured anonymity was also used. The results revealed that children who spend much time online, engage in risky activities, have high online persona, and have strong beliefs in themselves are likely to

bully on the Internet or mobile phone. The results further indicated that the progression of bullying to cyberbullying is related to time spent online, risky activities, and the ability to see oneself in the absence of social control. Interestingly, these characteristics were higher in girls. The study also found that disinhibited self-representation online is significantly related to increased cyberbullying, while lack of supervision is not. Furthermore, anonymity was found to play a role in both benign online disinhibition and toxic online disinhibition. A related study reported that, likewise, anonymity is related to self-disclosure of personal information, and that individuals seek advice online because they are less confident when in the outside world (Livingstone & Helsper, 2007). With regard to lack of supervision, another related study claimed that perceived increase in authority reduces cyberbullying (Wang & Shih, 2014).

Using a sample of high school students, Udris (2014) developed an 11-item online disinhibition scale that aimed to measure both facets of online disinhibition. More specifically, the scale consisted of seven items to measure benign online disinhibition and four items to measure toxic online disinhibition. The scale also measured the prevalence of cyberbullying experiences, time spent on the Internet, and the uses of Internet. The results revealed that cyberbullies are most disinhibited while using the Internet, irrespective of gender and age. It was also implied that those who score higher on online disinhibition are more likely to cyberbully even though they have not cyberbullied, regardless of the amount of time spent on the Internet. It was found that the most significant predictor of cyberbullying is the invisibility factor which is measured by the statement, "It's easier to write things online that would be hard to say in real life because you do not see the other's face" (no eye contact). Parallel to this finding is that of another study that measured anonymity and invisibility which revealed that invisibility with lack of eye contact is the most significant predictor of toxic online disinhibition (Lapidot-Lefler & Barak, 2012).

Another predictor of toxic online disinhibition is the factor of minimization of authority. According to Hinduja and Patchin (2008), disinhibition is present when repercussions of behavior are unforeseen. The authors posited that deviant behavior is present where punishment and repercussions are deemed unlikely. This outcome can also be linked to another study where deviant behavior decreases with punishment certainty and severity of punishment (Wang & Shih, 2014). It can, thus, be gleaned from the foregoing studies that toxic online disinhibition predicts cyberbullying and that positive aspects of benign online disinhibition can have negative consequences (Udris, 2014).

## **Depression**

### **Depression and other negative consequences of online interactions.**

Online interactions can have a major impact on mental health. Strickland (2014) proposed that this impact can be categorized into individual and social perspectives. The individual perspectives are attributed to personality traits and behaviors. The sedentary behaviors on social media are associated with using electronic devices to pass the time (e.g., sitting in a car or waiting in line), which may lead to various physical health problems. Increase in sedentary behaviors can also lead to lack of face-to-face interactions and social withdrawal. In addition, the overuse of social media can paralyze one's social support system and lead to isolation. Such behaviors may affect mental health and increase the risk of developing depression (Kraut et al., 2002). Turkle (2012) proposed that social perspectives can be influenced by the attraction of social media as it allows the illusion of companionship without the demands of friendship. The interplay is associated with social comparison, constant connectivity, relationship privacy, and fear of missing out. The

entanglement of these factors exacerbates lower self-esteem, anxiety, feelings of inadequacy and victimization and, thus, leads to depression (Strickland, 2014).

Depression is characterized by loss of interest in pleasurable activities, sleep disturbances, as well as other symptoms which significantly disrupt daily functioning (APA, 2000). Major depressive disorder is characterized by episodes of all-encompassing low mood accompanied by low self-esteem and loss of interest or pleasure in normally enjoyable activities. Individuals who experience major depressive disorder tend to focus their attention on unflattering information, interpret ambiguous information negatively, and harbor pervasively pessimistic beliefs (Kessler et al., 2003; Rude et al., 2004).

### **Depression and cyberbullying.**

Negative mental health outcomes of depression have been examined in relation to traditional forms of bullying (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000; Pellegrini, 1998). It was found that there are negative short-term and long-term consequences of bullying on the victim (Perren, Dooley, Shaw, & Cross, 2010). Some studies reported that perpetrators possess similar levels of depressive symptoms as their victims (Forero, McLellan, Rissel, & Bauman, 1999; Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999).

There have been reports that traditional bullies and victims have psychosocial problems (Juvonen et al., 2003). Kochenderfer and Ladd (1996) reported that facing rejection among peers and victims leads to lack of acceptance, loneliness, and ostracism, resulting in social dissatisfaction and social withdrawal. According to Hawker and Boulton (2000), peer victimization and psychosocial maladjustment are associated with depressive symptoms. While bullies tend to be psychologically stronger and possess a higher social standing (Juvonen et al., 2003), past research had documented, however, that maladaptive

behaviors develop in perpetrators as well, inasmuch as they are unable to interact and communicate with peers and older people. Later on, these behaviors heighten the risk of serious injuries, alcohol dependency, delinquency, depression, and suicidal ideation (Haynie et al., 2001; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004; Pickett et al., 2002). Not surprisingly, victims reported being emotionally distressed and socially marginalized. Further reports revealed that victimization is associated with poor social functioning, depression, anxiety, insecurity, low self-esteem, and being cautious, sensitive, and quiet (Craig, 1998; Haynie et al., 2001; Olweus, 1995; Rigby & Slee, 1991a). More studies reported that poor family relationships and conflicts pose as risk factors for violence, bullying, physical aggression, and anti-social behaviors (Farrington & Ttofi, 2011; Hawkins et al., 2000; Hemphill et al., 2009; Herrenkohl et al., 2000).

Past research had documented reports on bully-victims of traditional forms of bullying. Studies have shown that indirect and direct bully-victims have similar internalization of problems and peer relation problems. It was suggested that these groups exhibit anti-social behaviors and have less parental monitoring (Marini, Dane, Bosacki, & Ylc-Cura, 2006; Pellerini, 1998). Some other studies reported that bully-victims experience high levels of depression and aggression, low prosocial behaviors, low self-control, lack of social acceptance and self-esteem, and are less academically competent (Hanish & Guerra, 2004; Nansel et al., 2000, 2004; Schwartz, 2000).

Research suggests that bullying and cyberbullying may have similar levels of physical and psychological consequences. Perren et al. (2010) conducted a study to investigate bullying, cyberbullying, and their impact on mental health on 1,320 students in Australia and Switzerland, using the 14-item Depression, Anxiety, and Stress Scale (DASS) by Lovibond and Lovibond (1995). The result showed that cyberbullying victims reported higher level of depressive symptoms than traditional bullying victims. This



finding suggested that the anonymity of the perpetrator and the ease of accessibility to the victim in cyberspace posed a significant challenge (Dooley, Cross, Hearn, & Treyvaud, 2009). The latter finding is supported by that of Wang et al., (2011) who, likewise, reported that the anonymity factor contributed towards the cyberbullying victim's high level of depression. Being harassed by an anonymous cyberbullying perpetrator can elevate feelings of fear and anxiety on the victim (Kowalski & Limber, 2007). A study found that the perpetrator disseminates information or fabricated photos of the victim on online forums which could lead the victim to experience feelings of isolation, dehumanization, or helplessness (Smith et al., 2008). Not unexpectedly, victims feel powerless in these situations (Dooley et al., 2009), causing them to have negative mental health outcomes (Perren et al., 2010).

Findings from a Romanian sample of 92 university students who self-administered the DASS-21 revealed interesting relationships among bullying, cyberbullying, depression, anxiety, and stress. Instrumentation also included other measures including socio-demographic information, bullying information, and the Strength and Difficulties Questionnaire (SDQ) to measure positive and negative attributes (i.e., emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior). The results showed cyberbullying victimization at 8.7% and cyberbullying perpetration 2.2% within the year; 32.6% reported knowing someone who had been bullied; and 6.5% both cyberbullied and bullied face-to-face. Moreover, there is a significant relationship among bullying, cyberbullying, and anxiety (Tomsa, Jenaro, Campbell, & Neacsu, 2013). The latter finding was found to be consistent with that of another study (Juvonen & Gross, 2008).

Researches conducted in different countries found correlations between cyberbullying experiences and internalization of issues such as development of affective

disorder, loneliness, anxiety, depression, suicidal ideation, and somatic symptoms.

Evidence of a significant relationship between cyberbullying victimization and depression had been documented in a number of studies (Fredstrom, Adams, & Gilman, 2011; Klomek et al., 2008; Perren et al., 2010; Price & Dalgleish, 2010; Wang et al., 2011; Wigderson & Lynch, 2013). Nixon (2014) reviewed multiple studies worldwide and reported that victims' negative mental health outcomes were related to increased depressive affect, anxiety, loneliness, suicidal behavior, and somatic symptoms from cyberbullying experiences. Furthermore, cyberbullying perpetrators reported increase in substance abuse, aggression, and delinquent behaviors.

It had been established that cyberbullying experiences have an effect on the individual, physically and psychologically. For example, Tokunaga (2010) asserted that the act of cyberbullying involving repetitive and intentional behavior can endorse psychological torment. The effect ranges from minimal levels of distress and frustration to serious psychosocial and life problems. The impacts of these experiences are associated with the frequency, length, and severity of the malicious acts. Tokunaga also pointed out that some implications of cyberbullying experiences are derived from cross-sectional data which do not provide necessary evidence for causality and, thus, it can be said that psychosocial problems could also be an antecedent of cyberbullying. For example, Ybarra (2004) reported that individuals with depressive symptoms are more likely to perceive online situations as threatening and, therefore, the chance of further emotional distress is increased. This evidence is congruent with the results of a study where 54% of people with depressive symptomology reported emotional distress from cyberbullying. In comparison, 35% who reported cyberbullying had few or no symptoms of depression. Therefore, individuals who are currently experiencing depressive symptoms and are unable to identify

social cues could be at a disadvantage as online communications require individuals to interpret and respond to online interactions (Kazdin & Marciano, 1998; Ybarra, 2004).

Infrequent cyberbullying experiences may have less impact on the long-term, compared to incidents that are in the form of ongoing harassment. Furthermore, severe forms of cyberbullying are associated with higher levels of negative mental health and social problems than those involving less threatening behaviors. For example, the effects of heavy cyberbullying may become evident when academic levels drop or when quality of family relationships diminish (Beran & Li, 2007), or when psychosocial problems or signs of affective disorders are exhibited (Didden et al., 2009; Juvonen & Gross, 2008). Additionally, victims also face subsequent problems of social anxiety and depreciated levels of self-esteem (Didden et al., 2009; Katzer et al., 2009), emotional distress, anger, sadness towards the perpetrator, and the experience of being cyberbullied (Patchin & Hinduja, 2006; Topcu, Erdur-Baker, Capa-Aydin, 2008; Ybarra, 2004). Many negative psychological outcomes lead to further problems such as detachment, externalized hostility, and delinquency. This can compel individuals to internalize problems, feel unhappy, and be unable to participate in prosocial activities and behaviors (Tokunaga, 2010). Moreover, cyberbullying experiences can affect young people's dating, peer relationships, and parental relationships (Spears, Slee, Owens, & Johnson, 2009). It can be gleaned from the aforementioned perspectives and findings that cyberbullying is strongly linked with physical, psychosocial, and psychological problems, including depression. It had also been pointed out that depressive symptomology is an antecedent of cyberbullying experiences and that these types of experiences negatively affect the mental health of both the perpetrator and the victim.

### **Coping with depression and other positive consequences of online interactions.**

On the brighter side, there is much evidence to the effect that psychological well-being can be enhanced by online interactions. For example, online communication was found to have a positive social effect on individuals, groups, organizations, and communities (McKenna & Bargh, 2000; McKenna et al., 2002; Sproull & Keilser, 1991; Wellman, Quan, Witte, & Hampton, 2001). The effect of social support on mental health is a well-known fact (Cohen & Wills, 1985; Ozbay et al., 2007). Prosocial online behaviors including giving and receiving social and emotional support decrease vulnerability towards rejection and bullying and, thereby, allows individuals to express and share their feelings more (Tanis, 2007). The author suggested that expressed inherent needs and expectations can generate personal empowerment and buffer against negative life experiences.

Another positive influence of cyberspace or online communication involves individuals with introverted or neurotic personality (Amchai-Hamburger et al., 2002). The authors found that people with introverted personality are able to express the 'real me' through online interactions. McKenna et al. (2002) demonstrated that relationships on the Internet provide a significant hope for individuals who have difficulty in building social connections, and are usually lonely. Online communications enable people to find like-minded people. Additionally, it is also beneficial for those whose identity carries a stigma (McKenna & Bargh, 1998). It is possible that individuals with physical impairments, poor social skills, or who might carry a stigma may benefit from online interactions as they may believe that they would not experience virtual bullying as they would in real life. Furthermore, sharing hardships online can reduce the chance of rejection or distancing as experienced in real-life situations (Barak et al., 2008). To many Internet and networking site users, being anonymous online has its advantages. For example, individuals do not have to physically reveal themselves; there are no requirements of proximity; there is

control over how much information people want to reveal about themselves online; they are able to log on and off at will or whenever it is convenient; and can write and rewrite messages at their discretion (McKenna & Bargh, 2000).

According to Eysenck, Eysenck, and Barrett (1985), people who are unable to express themselves may suffer from serious psychological disorders. In light of this, it is possible that prosocial behaviors and self-expressions through virtual interactions can help reduce incidence or level of psychological problems, including depression. Online disinhibition effect allows individuals and group members to reveal personal information without directly exposing themselves to the public. It follows, then, that with regard to the anonymity factor, online individuals and groups may feel much safer and may self-disclose freely, knowing that their real identity is protected online. And through the invisibility factor, people can hide their physical appearance and conceal their facial and body expressions, even though their identity may be known. Moreover, users or members need not worry about their looks or the sound of their voice. Indeed, these advantages have proven to be beneficial, especially for those with physical defects (Barak, Boniel-Nissim, & Suler, 2008). For instance, individuals with hearing impairments can conceal their handicap, gain a sense of security and equality, and feel empowered through online communications (Barak et al., 2008).

The asynchronous factor of online disinhibition entitles Internet users or members to reply at will, express superficial or deep sentiments, or leave the discussion at one's discretion. The solipsistic introjection factor allows members to feel that their minds have merged with other group members and this connection may facilitate in revealing one's expectations, wishes, and needs. According to research, this factor allows group members to enhance empathy, bonding, and identifying with other group members and, in some cases, transference distortions may occur. Moreover, a sense of equality and respect is



gained from communicating skills and ideas which may be more important online, compared to real life where status, wealth, power, or gender can have greater influence. This is viewed as an important component of group support where self-disclosure is important and where the status of members is neutralized. Group support is, thus, viewed more as peer-to-peer assistance rather than reliance on professionals or higher authorities (Barak et al., 2008).

Positive online groups that do not advocate bullying are, by nature, supportive and allow emotions to be conveyed and understood. It facilitates the development of social relationships and cohesiveness (Barak et al., 2008). People with similar problems can come together to discuss and share similar problems, provide information and advice, and seek emotional support online (Griffiths, Calcar, & Banfield, 2009). In some cases, social support can lead to changes in perceptions, attitudes, and coping in group discussions (Lloyd & Brugha, 1995). Furthermore, it fosters personal empowerment for those experiencing distress which could bring emotional relief, create emotional bonding, and enhance self-confidence, thereby reducing social isolation and loneliness (Barak et al., 2008). It can, thus, be gleaned from the aforementioned discussions that online communication can generate increase in mental/psychological well-being.

## **Stress**

### **Stress and other negative consequences of online interactions.**

Stress refers to a collection of feelings and circumstances including distress, depression, hardship, and misery (Goldstein, 1987). Stress arises from any interaction between an individual and the environment when the individual perceives the situation as threatening, challenging, or possibly damaging. In essence, the individual perceives that

such a situation may exceed the individual's resources to cope (Lazarus & Cohen, 1977). In addition, stress is a stimulus that causes sadness, low self-confidence, and leads to decreased health condition (Kanner et al., 1987).

Some consider bullying to be a normal experience in the trajectory of development, and some consider it to be an important cause of stress as well as physical and emotional problems (Neary & Joseph, 1994; Olweus, 1993; Rigby, 1998). Social forms of bullying such as relationship aggression creates a barrier for opportunities to develop supportive peer relationships (Crick et al., 2001; Coie, Dodge, & Kupersmidt, 1990), and have a negative impact on mental health (Crick & Zahn-Waxler, 2003).

Through the developmental trajectory and mental well-being of youths, they seek support not only from close family but also from peers and other relationships for belongingness and acceptance. They also develop coping skills and social competence (Prinstein, Boergers, & Vernberg, 2001; Yoon, Barton, & Taiariol, 2004). Forming close, mutual and positive relationships is crucial for identity formation, development of social skills and autonomy, and increase in well-being and interpersonal competence (Sarason, Pierce, & Sarason, 1990). Close relationship allows individuals to self-disclose personal issues (Maccoby, 1998). Disclosure among group members also creates bonds of trust and group identity (Joinson & Paine, 2009; Joiner, 1997). It can, thus, be said that feelings of connectedness and social support can buffer individuals from the influence of stressful events (Cohen & Wills, 1985; Joiner, 1997).

In contrast, a poor sense of connectedness due to lack of close friends and peer rejection has a negative effect on mental well-being (Joiner, 1997). In addition, small social network groups in which there are few close relationships and inadequate social support can lead to the development of depressive symptoms (Barnett & Gotlieb, 1985).

The ‘vulnerability-stress’ depression model by Beck and Clark (1998) had been used to explain the interplay of social isolation, rejection experiences, loneliness, low self-esteem, and depressed feelings.

### **Stress and cyberbullying.**

According to Boulton and Underwood (1992), peer victimization is a salient stressor for youths. Relational aggression and victimization can damage and manipulate the victim’s relationship with other peers (Crick et al., 2001; Crick, Casas, & Nelson, 2002). While forming and maintaining cliques within groups and creating social support, youths may face many challenges such as being rejected or marginalized (Rodkin & Hodges, 2003; Underwood, 2003). Examples include situations in which individuals could be more careful in discussing topics that may jeopardize their status or avoid being rejected (Parker & Gottman, 1989).

Bullying experiences can elicit coping responses that may be adaptive or maladaptive to relieve and manage stress. According to Lazarus and Folkman (1984), coping strategies are associated with an individual’s cognitive, behavioral, and emotional responses. Coping serves to eliminate or modify a problem by neutralizing its negative character, which helps individuals to regulate their emotional response. Coping also helps to protect people from being psychologically harmed due to negative social experiences (Pearlin & Schooler, 1978).

Some coping strategies of bullying and cyberbullying are different and cannot be applied to either forms of bullying. For example, victims of traditional bullying know the identity of the perpetrator and can stand up to the perpetrator. In contrast, the cyberbullying victim may not know who the perpetrator is. Therefore, cyberbullying victims might employ other methods. For example, blocking the perpetrator’s account or

reporting the incident to higher authorities from the digital footprints of the perpetrator (Perren et al., 2010).

Research had shown that cyberbullying perpetrators experience high levels of stress and peer relationship problems. A study by Campbell et al. (2013) measured bullying, cyberbullying, and depression, anxiety, and stress using the DASS-21 on 3,107 students from 29 Australian schools. The results reported that 8.9% of the students reported having cyberbullied others. The results indicated that cyberbullying perpetrators scored highest on the stress subscale, followed by scores on the depression and anxiety subscales. Cyberbullying perpetrators also scored high in hyperactivity, peer relationship, and emotional problems. Not surprisingly, those who were not involved in cyberbullying experiences reported high scores on prosocial behaviors. An interesting aspect of the latter study was the report on the perceptions of the effects of cyberbullying experiences by victims and perpetrators. It was found that 66.4% of cyberbullying victims rated their perceptions of the effects of cyberbullying experiences more on the response of 'harsh' to 'very harsh'. In contrast, 43.6% of cyberbullying perpetrators perceived their behavior to be 'harsh' and 'very harsh'. Interestingly, it was reported that 74% of cyberbullying perpetrators did not know that their behavior had an impact on the cyberbullying victim's life. The study concluded that lack of empathy and moral disengagement were the main reasons that gave rise to cyberbullying behaviors. Furthermore, the behavior of cyberbullying perpetrators was associated with deliberately ignoring the effect of their behavior or they were completely unaware of the effect of their behavior (Gini et al., 2011). Moral disengagement can also lead cyberbullying perpetrators to be induced by the online disinhibition effect with anonymity factor and reduced social and contextual cues (Ang & Goh, 2010; Suler, 2005). The foregoing results indicated that cyberbullying perpetrators lack empathy and this has led to the experience of social difficulties and peer

relationship problems. Their emotional problems suggest low coping skills and this has led them to have high levels of stress and mental health problems. In contrast, those who were not involved in cyberbullying experiences reported high scores on prosocial behaviors and lower scores on stress (Campbell et al., 2013). That being the case, it is possible that their characteristics of being empathic and prosocial have led them to be less negatively disinhibited online and report lower levels of stress.

A study of cyberbullying reported that moderate effects of peer relationships could buffer between depression, anxiety, and stress. Aoyama (2010) conducted a study and categorized youth into cyberbullying perpetrators, cyberbullying victims, cyberbullying perpetrator-victim and those who are not involved in cyberbullying. The study examined group differences in internalizing problems among 463 students. The study utilized the widely-used DASS-21 (Lovibond & Lovibond, 1995), along with measures of cyberbullying experiences, self-esteem, and moderator effects of peer relationships and gender. The four internalizing problems studied were self-esteem, depression, anxiety, and stress. The results revealed that 2.3% were cyberbullying victims, 2.0% were cyberbullying perpetrators, 10.9% were cyberbullying perpetrator-victims, and 84.9% were not involved in cyberbullying experiences. Among the three constructs of the measure, stress was the most affected. It was concluded that cyberbullying is a stressful experience for those who were involved. Not unexpectedly, the group that was not involved in cyberbullying experiences scored the highest on self-esteem and peer relationships, and lowest in depression, anxiety, and stress. The cyberbullying perpetrator-victim group scored highest on aggression, anxiety, and stress, and lower self-esteem than other groups. Aoyama's (2010) study also reported that there were moderator effects of peer relationships between the cyberbullying perpetrator-victim group and depression, anxiety, and stress but effect sizes were small. It was suggested that those who were



involved in cyberbullying may have poor peer relationships. For example, cyberbullying victims who do not know the identity of the cyberbullying perpetrator may lead to doubting their peers. Having poor relationships and being skeptical about their peers posed a challenge for the cyberbullied victim to reach out and look for emotional support. It is also important to note that individuals feel embarrassed when texts or their images get distributed to an infinite number of audiences. In contrast, victims of the traditional form of bullying could turn to someone who is not involved with the bullying groups and ask for help and support (Woods, Done, & Kalsi, 2009). Aoyama (2010) suggested that poor peer relationships may not be able to protect cyberbullying victims. Furthermore, this type of situation could increase the risk of social anxiety and developing depression (Flanagan, Erath, & Bierman 2008; La Greca & Harrison, 2005; Woods et al., 2009). Aoyama (2010) further suggested that the status of being a cyberbullying perpetrator and cyberbullying victim can be easily be switched. For example, a cyberbullied victim could seek revenge on those perpetrators who had cyberbullied them. Thus, the cyberbullying perpetrator becomes a cyberbullying victim.

A similar study was conducted to examine the frequency of cyberbullying among adolescents (Mishna et al., 2012). Students were grouped into cyberbullying victims, cyberbullying perpetrators, cyberbullying perpetrator-victim, and those who were not involved in cyberbullying experiences. The results reported that 25.7% of the sample were cyberbullying perpetrator-victims. This group reported sharing passwords, acting violently in school settings, and needed higher parental and guardian controls. The study concluded that lack of face-to-face interaction and associated social cues, increased use and accessibility of computer-mediated communications, and motives in the form of revenge or payback contributed to the negative online behaviors of cyberbullying perpetrator-victims (Mishna et al., 2012).

### **Coping with stress and other positive consequences of online interactions.**

Empathy is an important construct of prosocial behaviors and moral development (Jolliffe & Farrington, 2006). Furthermore, helpful behaviors enhance psychosocial benefits and, in turn, lead to health benefits (Poulin, Brown, Dillard, & Smith, 2013). According to House, Kahn, McLeod, and Williams (1985), social support is a social network's provision of psychological and material resources intended to benefit an individual with the ability to cope with stress. Thus, positive social support can enhance resilience to stress (Southwick, Vythilingam, & Charney, 2005). With the proliferation of technology, the development of social support online can also help eliminate stress (Dietrich, 2010). However, Kawachi and Berkman (2001) suggested that the influence of social ties on mental health that may be difficult to classify is an antecedent or a concomitant to psychological distress.

Based on the results of the aforementioned studies, cyberbullying is a stressful experience. Lack of empathy and moral disengagement hinder individuals in developing a strong social support system which, in turn, lead to negative mental problems. In contrast, those who are not involved in cyberbullying experiences were found to exhibit prosocial behaviors, high self-esteem, better peer relations and mental health. In other words, good social support and peer relationships may help buffer between the negative effects of cyberbullying experiences.

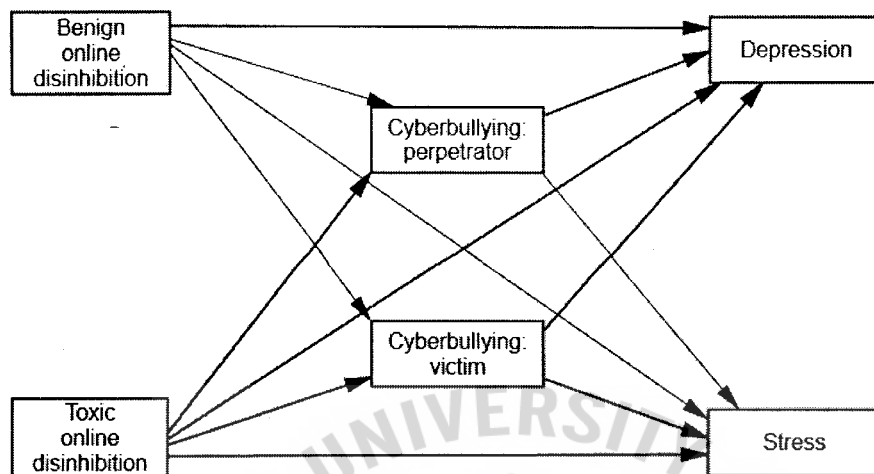
There is a possibility that these individuals have better coping skills to manage environmental stressors. According to Lazarus and Folkman (1984), reactions to stressors are influenced by two types of cognitive appraisal in which we evaluate an event to determine whether it would facilitate one's well-being. Benign-positive appraisal appears in situations that are interpreted as positive, and it maintains and enhances well-being. This

appraisal brings about excitement, love, happiness, excitement, joy, or peacefulness. However, it is possible that some degree of uneasiness can appear as there is the perceived possibility that something wrong might arise and create anxiety. The second type of appraisal is stress appraisal that generates more anxiety. This type of appraisal involves the assessment that potential harm, loss, or threat as a stressor is present. This is perceived as having an impact on the individual, although events have not yet taken place but are anticipated to occur. However, in the event that a threatening situation may occur, one associates pessimistic outcomes related to that event. In some cases, threat can be positive as it motivates one to cope up with the anticipation or work through some difficulties in advance (Lazarus & Folkman, 1984).

Many studies established that helping other people has a positive influence on physical and mental health as well as well-being (Brown, Nesse, Vinokur, & Smith, 2003; Schwartz, Sprangers, Carey, & Reed, 2004). Raposa et al. (2015) sought to find out whether individuals who are stressed could seek out opportunities to affiliate and nurture others to prevent or mitigate the negative effects of stress. The results of the study reported that affiliate behaviors help to cope with stress, and that participating in prosocial behaviors helps to reduce stress. In other words, it is not only being at the receiving end of support that can reduce stress, but providing social support or acting prosocially can also help reduce stress (Soghom, 2016).

## The Current Investigation

### Conceptual framework.



*Figure 1.* Path model showing direct and indirect influences of online disinhibition effect on depression and stress, being mediated by the frequency of cyberbullying as a victim and perpetrator.

In this model, benign online disinhibition and toxic online disinhibition are hypothesized to have both direct and indirect influences on the participants' reported levels of depression and stress, being mediated by their reported frequency of cyberbullying as a victim and as a perpetrator.

### Research Questions

Based on the literature review and conceptual framework of the study, the research question is:

1. Are there direct and indirect relationships between benign online disinhibition and toxic online disinhibition with depression and stress, being mediated by the participants' reported levels of being a victim and perpetrator of cyberbullying?

## Research Hypotheses

In an attempt to answer the research questions, the following hypotheses were generated for testing:

- H1:** Benign online disinhibition and toxic online disinhibition have direct influences on the participants' level of depression and stress such that (1) the stronger the reported experience of benign online disinhibition, the lower the reported levels of depression and stress, and (2) the stronger the experience of toxic online disinhibition, the higher the reported levels of depression and stress.
- H2:** Benign online disinhibition and toxic online disinhibition have indirect influences on the participants' levels of depression and stress, being mediated by their reported experiences of being a victim and a perpetrator of cyberbullying such that (1) the stronger their reported experience of benign online disinhibition, the lower their reported levels of being a victim and perpetrator of cyberbullying and, subsequently, the lower their reported levels of depression and stress; and (2) the stronger their reported experience of toxic online disinhibition, the higher their reported levels of being a victim and perpetrator of cyberbullying and, subsequently, the higher their reported levels of depression and stress.



## CHAPTER III

### Methodology

The current study attempted to investigate the relationship between online disinhibition effect and the levels of depression and stress, being mediated by cyberbullying among university students in Bangkok. Through a path analytic approach, the study explored the influences of benign online disinhibition and toxic online disinhibition on the targeted students' levels of depression and stress, being mediated by the frequency of cyberbullying as a victim and as a perpetrator.

This chapter describes in detail the methodological framework that was applied in the conduct of the study. More specifically, the chapter explores the following aspects: research design, participants of the study, research instrumentation, data collection procedure, and data analysis.

#### Research Design

To meet its objectives, this quantitative study employed a correlational research design via path analysis and investigated the relationship between online disinhibition, cyberbullying, depression, and stress. The current investigation utilized a survey questionnaire for the purpose of gathering data for statistical analysis.

#### Participants of the Study

The participants of the study consisted of students from Assumption University, Bangkok who were recruited through convenience sampling. As the proposed path model was tested via multiple regression analysis, the sample size required was determined by both the power of the statistical test, the effect size of the predictor variables, and the

number of predictor variables in the model. Power in multiple regression analysis refers to the probability of detecting as statistically significant a specific level of *R*-square, or a regression coefficient at a specified significance level (Hair, Anderson, Tatham, & Black, 1997). Effect size is defined as the probability that the predictor variables in the regression model do have a real effect in predicting the dependent variable; i.e., the sensitivity of the predictor variables. The statistical program G\*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) was employed to determine the required sample size. Setting the significance level at .05, power at .95, and effect size at .15 (medium) for a total of four predictor variables, the required minimum sample size was determined to be 129. However, in order to enhance the stability of the obtained findings, it was decided to increase the sample size to approximately 200 respondents. Finally, a total of 217 respondents completed the survey questionnaire.

### **Research Instrumentation**

The research instrument employed in this study was a self-administered six-part survey questionnaire (see Appendices B, C, D, E, and F). As the participants were students of an international university in which English is the medium of instruction, it was not necessary to translate the survey questionnaire into another language.

The following section provides more details on each part of the survey questionnaire.

#### **Part I. Informed Consent.**

The informed consent section contained basic information about the study, including its purpose, what was required from the participants, and how the information obtained from the questionnaires will be used. It also includes confidentiality clauses, consent to participate, as well as contact details of the researcher (see Appendix A).

## Part II. Personal Information

This part of the questionnaire is a researcher-constructed section written to tap the participants' gender, age, nationality, university year level, hours spent on the Internet, and means of using the Internet (see Appendix B).

## Part III. Cyberbullying Scale-Victimization

The Cyberbullying Scale was developed by Justin W. Patchin and Sameer Hinduja in 2010. This scale comprises two subscales and measures the respondent's experience with cyberbullying both as a victim and as a perpetrator. The subscales are known as the Cyberbullying Scale- Victimization and the Cyberbullying Scale-Perpetration. These subscales were developed and refined over the course of two years to ensure that they were carefully worded, well defined, and capable of capturing the most relevant behaviors. In addition to the strong internal consistency reported in this sample, similar reliability coefficients were found in the pretest (Cronbach's  $\alpha = .74$  and  $.87$  for the victimization and perpetration, respectively). Factor analysis was used (principal components extraction with oblique rotation) to establish construct validity and found that all victimization items loaded on 1 factor (loadings ranged from  $.504$  to  $.599$ ; eigenvalue =  $2.92$ ), and all perpetration items also loaded on 1 factor (loadings ranged from  $.615$  to  $.800$ ; eigenvalue =  $2.62$ ).

The Cyberbullying Scale-Victimization represents the respondent's experience in the previous 30 days with nine different forms of online aggression. The measure includes a variety of behaviors ranging from minor ("receiving upsetting email from someone you do not know") to more serious ("something posted online about you that you did not want others to see"). The response set for these questions ranged from *Never*, *Once or twice*, *A few times*, *Many times*, to *Everyday*. The nine-item summary scale ranges from 0 to 36 (mean =  $1.59$ ; standard deviation =  $3.05$ ) with higher values representing more experience

as a cyberbullying victim (Cronbach's  $\alpha = .736$ ). The researcher made a change on question number 3: "Had something posted on your Myspace that made you upset", to "Had something posted on social media that made you upset". The researcher considered that some respondents may not be aware of the social networking site Myspace, and would affiliate their online interactions with other social media instead (see Appendix C).

#### **Part IV. Cyberbullying Scale-Perpetration**

The Cyberbullying Scale-Perpetration represents the respondent's participation in the previous 30 days with five different forms of online aggression. The response set for these questions ranged from *Never*, *Once or twice*, *A few times*, *Many times*, and *Everyday*. The five-item summary scale ranges from 0 to 20 (mean = 1.18; standard deviation = 2.59) with higher values representing more participation in cyberbullying perpetration behaviors (Cronbach's  $\alpha = .761$ ) (see Appendix D).

#### **Part V. The Online Disinhibition Scale**

The 11-item Online Disinhibition Scale was developed by Reinis Udris in 2014 to measure online disinhibition effect. The questionnaire includes general questions about student usage of cellular phones and computers. Suler's (2004) theoretical framework was used to develop the scale ranging from 11 to 44 (11 items) which consisted of two subscales: "benign online disinhibition" (7 items) and "toxic online disinhibition" (4 items). The validity of the subscales was addressed by conducting an exploratory factor analysis within the oblimin rotation of all the eleven items which yielded two distinct factors of benign online disinhibition and toxic online disinhibition, as theorized. Both subscales showed adequate reliability with Cronbach's  $\alpha > 0.8$  for each subscale. The response set ranged from *Disagree*, *Somewhat disagree*, *Somewhat agree*, to *Agree*. For the subscale of benign online disinhibition of 7 items, Cronbach's  $\alpha = 0.81$ . For the subscale of toxic online disinhibition of 4 items, Cronbach's  $\alpha = 0.85$  (see Appendix E).

## Part VI. Depression, Anxiety, and Stress Scale

The 21-item Depression, Anxiety, and Stress Scale (DASS-21) was developed by Sydney H. Lovibond and Peter F. Lovibond in 1995 to measure the levels of depression, anxiety, and stress. The DASS-21 consists of three self-report subscales designed to provide relatively pure measures of the three related negative affective states of depression, anxiety, and stress (Lovibond & Lovibond, 1995). Each subscale is composed of seven items written to reflect negative affective symptoms experienced over the last week. Each item is scored on a four-point Likert-type scale ranging from 0 = *Did not apply to me at all*, 1 = *Applied to me to some degree, or some of the time*, 2 = *Applied to me to a considerable degree, or a good part of me*, to 3 = *Applied to me very much, or most of the time*. The DASS-21 was developed and normed on a sample of 2,914 adults and the means and standard deviations of the depression, anxiety, and stress subscales were 6.34(6.97), 4.7(4.91) and 10.11(7.91), respectively. A clinical sample reported means and standard deviations of 10.65(9.3), 10.90(8.12), and 21.1(11.15). From a clinical sample of 437 participants, the DASS-21 showed excellent internal consistency: .96, .89, and .93 for depression, anxiety, and stress respectively. Test-retest reliability coefficients over a two-week period were .71, .79, and .81 (Lovibond & Lovibond, 1995). For the purposes of this study, only the subscales of depression and stress were utilized (see Appendix F).

### Data Collection Procedure

The following procedural steps were taken during the data collection process.

1. The researcher obtained a letter from the Dean of the Graduate School of Human Sciences certifying that the data can be collected from Assumption University students.
2. The researcher proceeded to conduct the study after receiving the permission.



3. The informed consent section was presented to the participants and those who agreed were given the survey questionnaire to fill out.
4. After the collection of completed questionnaires, the researcher individually inspected the questionnaires to check for possible errors for exclusion. Only valid completed questionnaires were subjected to statistical analysis.

### **Data Analysis**

Data analysis was accomplished through descriptive statistical analysis. The study applied frequency and percentage distributions in analyzing the data obtained from the respondents. The analysis of the respondents' scores was conducted using means and standard deviations.

Path analysis via multiple regression analysis was employed to test the hypothesized university students' direct and indirect relationship between online disinhibition and depression and stress, being mediated by the frequency of cyberbullying as a victim and a perpetrator.

## CHAPTER IV

### Results

This chapter presents the results of the analyses conducted to test the hypotheses generated from the path model (Figure 1) presented in Chapter II. Information regarding the sample's demographic characteristics is also presented. The analyses conducted and the results obtained are presented in the following sequence:

- 1) Demographic profile of respondents.
- 2) Reliability test of items that represent the factors of cyberbullying-victim, cyberbullying-perpetrator, benign online disinhibition, toxic online disinhibition, depression, and stress.
- 3) Means and standard deviations of the factors of cyberbullying-victim, cyberbullying-perpetrator, benign online disinhibition, toxic online disinhibition, depression, and stress.
- 4) Path analysis via regression analysis to test the hypothesized path model (Figure 1).

#### Demographic Profile of the Respondents

The sample consisted of 217 participants of whom 102 (47%) were males and 115 (53%) were females. Their ages ranged from 17 years to 42 years, with a mean age of 22.16 years. In terms of their educational status, 76 participants (35%) were first year university students, 34 participants (15.7%) were second year university students, 33 participants (15.2%) were third year university students, 31 participants (14.3%) were fourth year university students, and 43 participants (19.8%) were master's level students. In terms of the number of hours spent using the Internet per day, the majority of the

participants ( $n=148$ , 68.2%) reported that they spent at least 4 hours per day, 49 participants (22.6%) reported that they spent at least 3 to 4 hours per day, and 20 participants (9.2%) reported that they spent between 1 to 2 hours per day. A total of 71 participants (32.7%) reported that they use their mobile phone to access the Internet, a total of 8 participants (3.7%) reported that they use their home computer to access the Internet, and a total of 136 participants (62.7%) reported that they use both their mobile phone and home computer to access the Internet (see Appendix G).

**Reliability Analysis of Scales Employed**

Reliability analysis was conducted on the six scales of cyberbullying-victim, cyberbullying-perpetrator, benign online disinhibition, toxic online disinhibition, depression, and stress. The purpose of the reliability analysis was to maximize the internal consistency of the five measures by identifying those items that are internally consistent (i.e., reliable), and to discard those items that are not. Two criteria were used to eliminate items from these scales. First, an item was eliminated if the inclusion of that item resulted in a substantial lowering of Cronbach’s alpha (Walsh & Betz, 1985). Second, an item was considered to have an acceptable level of internal consistency if its corrected item-total (I-T) correlation was equal to or greater than 0.33 (Hair et al., 1997). Table 1 presents the items for the six scales together with their I-T coefficients and Cronbach’s alphas (see Appendix H).

Table 1

*Scale Items Together With Their Corrected Item-Total Correlations and Cronbach’s Alphas*

Cyberbullying - Victim

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<ul style="list-style-type: none"> <li>Received an upsetting email from someone you know. (v1)</li> <li>Received an instant message that made you upset. (v2)</li> <li>Had something posted on social media that made you upset. (v3)</li> <li>Been made fun of in a chat room. (v4)</li> <li>Received an upsetting email from someone you did not know (spam). (v5)</li> <li>Had something posted about you on another Webpage that made you upset. (v6)</li> <li>Something has been posted online that you did not want others to see. (v7)</li> <li>Been picked on or bullied online. (v8)</li> <li>Been afraid to go on the computer. (v9)</li> <li>At least one of the above, 2 or more times. (v10)</li> </ul>	.585 .600 .397 .552 .508 .696 .673 .738 .570 .627	.860 .859 .873 .864 .867 .851 .853 .849 .861 .857

Cronbach’s Alpha = 0.872

Cyberbullying - Perpetrator

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<ul style="list-style-type: none"> <li>Posted something online about another person to make others laugh. (p1)</li> <li>Sent someone a computer text message to make them angry or to make fun of them. (p2)</li> <li>Took a picture of someone and posted it online without their permission. (p3)</li> <li>Posted something on social media or a similar site to make them angry or to make fun of them. (p4)</li> <li>Sent someone an email to make them angry or to make fun of them. (p5)</li> </ul>	.605 .685 .652 .805 .689	.871 .857 .864 .838 .857

• At least 1 of the above, 2 or more times. (p6)	.692	.857
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Cronbach’s Alpha = 0.878

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Benign online disinhibition

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
• It is easier to connect with people through ICTs than talking in person. (d1)	.499	.710
• The Internet is anonymous, so it is easier for me to express my true feelings and thoughts. (d2)	.560	.697
• It is easier to write things online that would be hard to say in real life because you don’t see the other’s face. (d3)	.542	.700
• It is easier to communicate online because you can reply anytime you like. (d4)	.494	.712
• I have the image of the other person in my head while I read their email or messages online. (d5)	.437	.724
• I feel like a different person online. (d6)	.310	.754
• I feel that online I can communicate on the same level with others who are older or have higher status than me. (d)7	.425	.726

Cronbach’s Alpha = 0.748

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Toxic online disinhibition

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<ul style="list-style-type: none"><li>I don't mind writing insulting things about others online, because it is anonymous. (d8)</li></ul>	.695	.711
<ul style="list-style-type: none"><li>It is easy to write insulting things online because there are no repercussions. (d9)</li></ul>	.581	.768
<ul style="list-style-type: none"><li>There are no rules online; therefore, you can do whatever you want. (d10)</li></ul>	.610	.754
<ul style="list-style-type: none"><li>Writing things online is not bullying. (d11)</li></ul>	.576	.770

Cronbach's Alpha = 0.802

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Depression

Item-Total Statistics		
	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<ul style="list-style-type: none"><li>I was aware of the dryness in my mouth. (da2)</li></ul>	.404	.804
<ul style="list-style-type: none"><li>I tend to over-react to situations. (da6)</li></ul>	.511	.783
<ul style="list-style-type: none"><li>I felt that I was using a lot of nervous energy. (da8)</li></ul>	.505	.785
<ul style="list-style-type: none"><li>I felt down-hearted and blue. (da13)</li></ul>	.608	.767
<ul style="list-style-type: none"><li>I felt close to panic. (da15)</li></ul>	.595	.769
<ul style="list-style-type: none"><li>I felt I was not worth much as a person. (da17)</li></ul>	.633	.760
<ul style="list-style-type: none"><li>I felt that life was meaningless. (da21)</li></ul>	.520	.782

Cronbach's Alpha = 0.804

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Stress

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
<ul style="list-style-type: none"><li>• I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion). (da4)</li></ul>	.569	.776
<ul style="list-style-type: none"><li>• I found it difficult to work up the initiative to do things. (da5)</li></ul>	.550	.780
<ul style="list-style-type: none"><li>• I experienced trembling (e.g., in the hands). (da7)</li></ul>	.568	.776
<ul style="list-style-type: none"><li>• I was worried about situations in which I might panic and make a fool of myself. (da9)</li></ul>	.412	.803
<ul style="list-style-type: none"><li>• I found myself getting agitated. (da11)</li></ul>	.568	.776
<ul style="list-style-type: none"><li>• I was unable to become enthusiastic about anything. (da16)</li></ul>	.554	.779
<ul style="list-style-type: none"><li>• I felt I was rather touchy. (da18)</li></ul>	.562	.777

Cronbach’s Alpha = 0.807

The reliability analysis indicated that all the six scales’ items met the criteria of internal consistency and were, therefore, retained. Thus, the factor of cyberbullying-victim is represented by 10 items, the factor of cyberbullying-perpetrator is represented by 6 items, the factor of benign online disinhibition is represented by 7 items, the factor of toxic online disinhibition is represented by 4 items, the factor of depression is represented by 7 items, and the factor of stress is represented by 7 items. The computed Cronbach’s alpha coefficients for all six scales were adequate and ranged from .748 to .878. Each of the six factors of cyberbullying-victim, cyberbullying-perpetrator, benign online disinhibition,

toxic online disinhibition, depression, and stress was, then, computed by summing across the items that make up that factor and their means calculated.

### Means and Standard Deviations for the Computed Factors

The following Table 2 presents the means and standard deviations for the six computed factors (see Appendix I).

Table 2

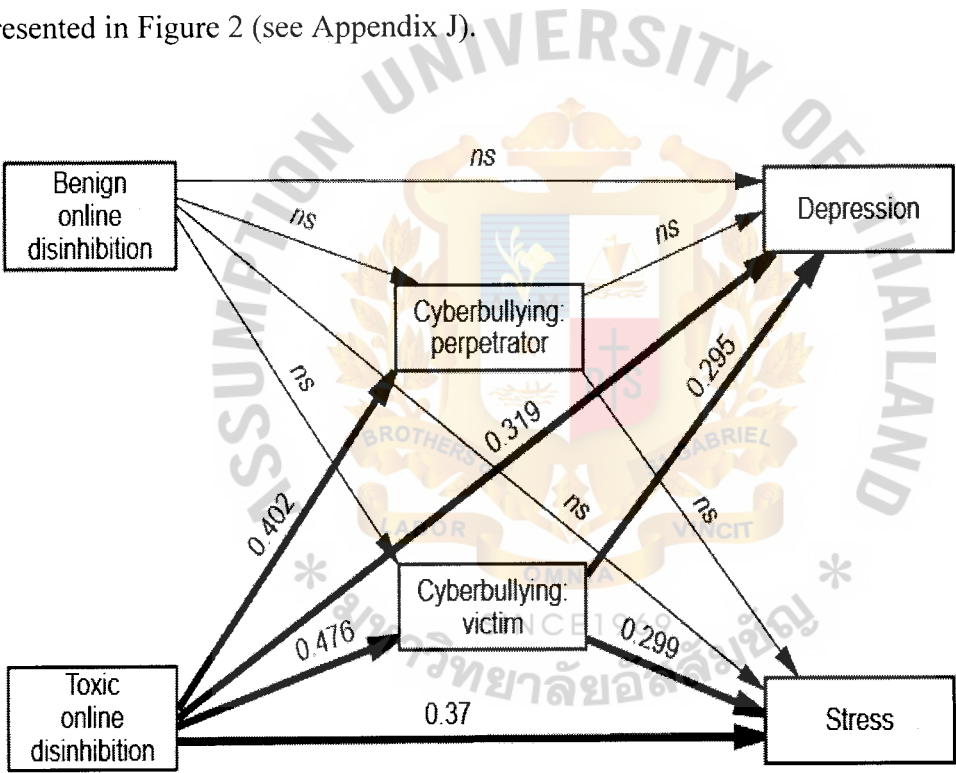
*Means and Standard Deviations for the Computed Factors of Cyberbullying-Victim, Cyberbullying-Perpetrator, Benign Online Disinhibition, Toxic Online Disinhibition, Depression, and Stress*

	<u>Mean</u>	<u>SD</u>	<u>Mid-point</u>
• Cyberbullying-victim	2.312	.755	3.00
• Cyberbullying-perpetrator	2.076	.837	3.00
• Benign online disinhibition	2.748	.533	2.50
• Toxic online disinhibition	2.040	.747	2.50
• Depression	1.043	.566	1.50
• Stress	1.109	.573	1.50

As can be seen from Table 2, the factors of ‘cyberbullying-victim’ and ‘cyberbullying-perpetrator’ were rated below the mid-point on their respective scales, the factor of ‘benign online disinhibition’ was rated above the mid-point on its scale, the factor of ‘toxic online disinhibition’ was rated below the mid-point on its scale, and the factors of ‘depression’, and ‘stress’ were, likewise, rated below the mid-point on their respective scales. Thus, overall, the participants perceived themselves as low in being both a victim and perpetrator of cyberbullying, were more likely to experience benign online disinhibition than toxic online disinhibition when they are online, and reported experiencing lower levels of depression and stress.

Path Analysis

In order to test the hypothesized direct and indirect relationships represented by the path model depicted in Figure 1, path analysis via regression analysis was conducted. The analysis involved: (1) regressing the dependent variables of depression and stress on the predictor variables of benign online disinhibition, toxic online disinhibition, cyberbullying-victim, and cyberbullying-perpetrator; and (2) regressing the mediator variables of cyberbullying-victim and cyberbullying-perpetrator on the predictor variables of benign online disinhibition and toxic online disinhibition. The results of this path analysis are presented in Figure 2 (see Appendix J).



(ns = non-significant,  $p > .05$ )

Figure 2. Path model of participants' levels of depression and stress as a function of the direct and indirect influences (being mediated by their experiences of being both victims and perpetrators of cyberbullying) of their reported levels of benign and toxic online disinhibition.

The results showed that for the study's participants, their reported level of toxic online disinhibition has both direct and indirect influences on their reported levels of depression and stress. In terms of the direct influence, the higher the participants' reported level of toxic online disinhibition, the higher their reported levels of depression (Beta=.319) and stress (Beta=.37). In terms of the indirect influences, the higher the participants' reported level of toxic online disinhibition, the more frequent they reported themselves as being victims of cyberbullying (Beta=.476) and, subsequently, the higher their reported levels of depression (Beta=.295) and stress (Beta=.299). The participants' reported level of benign online disinhibition was not found to be significantly associated with their reported levels of depression and stress, either directly or indirectly ( $p>.05$ ).





## CHAPTER V

### Discussion

#### Overview of the Study

The current study aimed to investigate online disinhibition effect and levels of depression and stress among university students. More specifically, this study examined the direct and indirect influences of benign online disinhibition and toxic online disinhibition on the psychological variables of depression and stress, being mediated by the frequency of cyberbullying as a victim and as a perpetrator. A total of 217 students who were enrolled in different programs at the Assumption University of Thailand participated in the study by filling in a survey questionnaire designed to measure the mediator variables of cyberbullying victimization and cyberbullying perpetration, the predictor variables of benign online disinhibition and toxic online disinhibition, and the criterion variables of depression and stress. As presented in Chapter II, the main research question posed in this study comprised the following:

1. Are there direct and indirect relationships between benign online disinhibition and toxic online disinhibition with depression and stress, being mediated by the participants' reported levels of being a victim and perpetrator of cyberbullying?

The final chapter presents five discussion sections in the following order of appearance: (a) summary and discussion of findings, (b) limitations of the study, (c) implications of the findings, (d) recommendations, and (e) conclusions and avenues for future research.

## Summary and Discussion of Findings

### Means and standard deviations.

The current findings demonstrated that only the factor of benign online disinhibition was rated above the mid-point on its scale, while all other factors (i.e., toxic online disinhibition, cyberbullying-victimization, cyberbullying-perpetration, depression, and stress) were rated below the mid-point on their respective scales. These results suggest that the students reportedly rated themselves as having high level of benign online disinhibition, which means that their predominant online behaviors reflect unusual acts of kindness, generosity, helping others, joining online support groups, philanthropy, volunteering, and suchlike, as suggested by many researchers (e.g., Morahan-Martin & Schumacher, 2003; Panopoulos & Sarri, 2013; Shim, Cappella, & Han, 2011; Wright & Li, 2011). Another effect of benign online disinhibition behaviors can be seen when people online defend other users against cyberbullying perpetrators (Amichai-Hamburger et al., 2012). Thus, it can be gleaned from this perspective that most of the students in this study become benign online as they witness others being bullied and, consequently, attempt to defend or help the victims.

Not unexpectedly, the same group of students rated themselves as being low in terms of online behaviors that reflect harsh criticizing, flaming, trolling, expressing hatred, and threatened violence. According to Waskul et al. (2000), the real social environment encourages individuals to conform to norms, but the online world lets loose that commitment. However in the case of the students who participated in this study, it can be said that their low level of toxic online disinhibition ensures that their concern for self-presentation and judgment of others is not compromised, as suggested by Joinson (2007).

It appears that the students exhibited what Suler (2004) described as online disinhibition effect characterized as acts of loosening up, feeling less restrained, and

expressing oneself more freely than what one would do face-to-face. The students also apparently engaged in self-disclosure online which facilitates their being able to express opinions, develop mutual understanding, enhance bonds of trust, and gain empathic responses, as pointed out by Joinson and Paine (2009). Bareket-Bojmel and Shahar (2011) proposed that self-disclosure gives rise to more intimate interactions due to reciprocity and strong relationships. Lapidot-Lefler and Barak (2015) proposed that situational factors could induce self-disclosure and prosocial behaviors by means of the benign online disinhibition effect. It can be inferred that through the combination of the anonymity and invisibility factors, disclosure of emotions online is high and unrestricted. With regard to the current outcome, it is possible that the students' reported high level of benign online disinhibition may be manifested in more disclosure of emotions. After all, self-disclosure is a key component in developing and sustaining relationships (Collins & Miller, 1994). It can also be said that students who reported higher levels of benign online disinhibition may actually know other online users and may have offline relationships with them; thus, they are prone to be helpful towards others online. Another consideration could be that the bystanders' role in online interactions could become influenced through benign online disinhibition, to comfort, help, defend or stop perpetrators from online aggression due to their characteristics of empathy and social self-efficacy. It is, thus, possible that the student participants who reported higher levels of benign online disinhibition could also play the bystander's role by being kind, prosocial, generous, and helpful to other people online.

This study found that the students rated themselves below the mid-point in terms of being cyberbullying victims and cyberbullying perpetrators. Thus, the student participants reported perceiving themselves less as a cyberbullying victim and less as a cyberbullying perpetrator. These findings could reflect the positive consequences of benign online disinhibition on the lower levels of cyberbullying victims and cyberbullying perpetrators,

despite the non-significant relationships uncovered in the present study. Similarly, the study's findings showed that the student participants rated the factors of depression and stress below the mid-point on their respective scales. Thus, the student participants reported generally low levels of depression and stress. These finding could once again reflect the positive consequences of benign online disinhibition on psychological outcomes. However, this suggestion is equivocal since the study's findings revealed no significant relationship between benign online disinhibition and depression and stress. Further research is needed to investigate these important relationships.

### **Path analysis.**

The results of path analysis showed that the students' reported level of toxic online disinhibition had both direct and indirect influences on their reported levels of depression and stress. In terms of direct influences, the results reported that the higher the participants' reported level of toxic online disinhibition, the higher their reported levels of depression and stress. Alonzo and Aiken (2004) proposed that toxic online disinhibition reflects forms of unrestrained behaviors, hostile intentions, hatred or profanity used online that causes severe distress and psychological disturbance and, consequently, has a negative impact on interactions and relationships. The study does not report directly as to who is distressed and psychologically disturbed, nor does it fully describe the nature and extent to which type of interactions or relationships are affected. With regard to the result of the study that toxic online disinhibition has a direct influence on depression and stress, it is equivocal since there are no research findings on what are the facets of distress and psychological disturbances due to toxic online disinhibition. It could be possible that when toxic online disinhibition behaviors occur online, it is hard to discern or observe their behaviors. In addition, it is possible that due to the factors of online disinhibition effect, especially the anonymity factor, that the emotions and behaviors of individuals engaging in

toxic online disinhibition cannot be directly seen by other people. Therefore, it could be difficult to analyze and evaluate the psychological processes and outcomes going on within the individual while engaging in toxic online disinhibition. However, this finding appears to run contrary to other research findings which suggest that toxic online behaviors that cause distress and psychological disturbances have become a prevalent issue. Toxic online disinhibition reflects behaviors of flaming, trolling, harsh criticisms, profanity, expressions of hatred and threats of violence (Alonzo & Aiken, 2004; Suler, 2004). It is similar to cyberbullying, based on Hinduja and Patchin's (2008) proposition that cyberbullying perpetrators are those who send hurtful and denigrating messages to a victim, a third party, or online forum. Thus, it is possible that those who have toxic online disinhibition are inclined to be cyberbullying perpetrators. However, more research is needed in order to make more definitive conclusions.

Further analysis of the results showed that in terms of indirect influences, the higher the participants' reported level of toxic online disinhibition, the more they reported themselves as being victims as well as perpetrators of cyberbullying and, subsequently, the higher their reported levels of depression and stress, as hypothesized earlier. This finding is in line with Udris's (2014) statement that toxic online disinhibition is a predictor of cyberbullying. However, apart from the finding of Udris, there has been no research focused on toxic online disinhibition and cyberbullying victimization in which sufferers face aggressive and intentional acts such as unsolicited text and photos that threaten, harass, embarrass, or involve social exclusion via email, social networking sites, and other computer-mediated communications forms.

On a different note, it is interesting to see that cyberbullying perpetration and cyberbullying victimization moderately correlate with toxic online disinhibition (see Figure 2). Cyberbullying perpetrators are those who send hurtful and denigrating texts and



images with emails, text messages and other forms of online communication. Whereas it was shown that there is a significant moderate relationship between toxic online disinhibition and cyberbullying perpetration, this study's findings revealed no significant relationship between cyberbullying perpetration and the negative states of depression and stress. Thus, it was revealed that cyberbullying perpetration is not a moderator between toxic online disinhibition and the dependent variables of depression and stress. This could mean that cyberbullying perpetrators are unaware of the harm they cause or that they deliberately ignore the issue. This may imply that perpetrators are morally competent to judge actions but significantly deficient with respect to moral sentiments and caring (Gini et al., 2011). In addition, cyberbullying perpetrators have low levels of empathy. Thus, it can be suggested that their indifferent attitude towards the victim's sentiment may not cause any untoward effect to their mental health. Campbell et al. (2013) showed that cyberbullying perpetrators' perception of harshness in their actions is lower than their victims' perception of harshness and that they reported high levels of stress.

With regard to the hypothesized indirect influences, it was revealed that the higher the participants' reported level of toxic online disinhibition, the more they reported themselves as being victims or perpetrators of cyberbullying and, subsequently, the higher their reported levels of depression and stress. This is in line with Aoyama's (2010) finding that cyberbullying perpetrator-victims scored the highest in depression, anxiety, and stress. Thus, it can be inferred that, in this study, students who scored high on levels of toxic online disinhibition and frequency of cyberbullying as victim or perpetrator, subsequently experienced high levels of depression and stress.

Past research had demonstrated situations in which individuals can experience both cyberbullying perpetration and victimization. For example, Chapell et al. (2006) examined the trajectory of bullying (being a bully or bully-victim) among undergraduates and

reported a significant positive correlation between being a bully and victim in elementary school, high school, and college. This was explained by other researchers who posited that those who reported having higher level of toxic online disinhibition and who were cyberbullying victims when they were younger may have become cyberbullies in high school (Kowalski et al., 2012; Kraft & Wang, 2010). In considering the motives that could be associated with the cyberbullying perpetrator-victim group, Aoyama (2010) proposed that the status of being a perpetrator and a victim can be easily switched and, in some cases, is associated with other victims who might seek revenge on these individuals who cyberbullied them. In addition, Mishna et al. (2012) also proposed that revenge or paybacks are motives for cyberbullying. Thus, it is possible that cyberbullying perpetrators-victims also become victimized by other bullying victims who wish to seek revenge.

Alonzo and Aiken (2004) proposed that the motive for those involved in toxic online disinhibition for the specific act of flaming are escaping from reality, passing the time, or engaging in flaming for entertainment and relaxation. These behaviors are reflected in Finn's (2004) survey of online harassment in a university study which showed that students reportedly received threatening and insulting emails and messages as well as unwanted pornography. Zalaquett and Chatters (2014) opined that making fun of someone's posts or profiles by posting hurtful comments can cause emotional disturbances. Gini et al. (2011) reported that cyberbullying perpetrators are sometimes unaware of the degree of harm inflicted upon others or, sometimes, they deliberately ignore the effects. This suggests that cyberbullying perpetrators may find it entertaining to make fun of people through texts and images which could lead to emotional disturbance in the victims. In being emotionally disturbed, the victim him/herself may seek revenge upon those who cyberbullied them, especially in cases where the identity of the cyberbullying

perpetrator is known. Through self-representations online, social networking sites, or within groups of shared interest, the identity of the cyberbullying perpetrator can be made known through their visual and textual self-representations or digital footprints. Past reports indicated that in some cases, victims know or think they know who the cyberbullying perpetrator is, and it could be someone in their social circle or an old or former friend. This can also be determined from the nature or content of the text or graphics sent. Mishna et al. (2009) reported that, sometimes, the victim comes to know later that it was a known perpetrator (e.g., classmate). Tomsa et al. (2013) indicated in their study that university students also reported knowing who the cyberbullying perpetrator was. In another scenario, cyberbullying perpetrators may be ostracized from groups due to their toxic online disinhibition behavior (Hinduja & Patchin, 2010). Furthermore, victims can create another account or use pseudonyms to hide their identity, in order to escape from further retaliation. Other methods could be cyberbullying by proxy, which involves hacking into the perpetrator's account and sending malicious content to family and friends on the list, with the recipients assuming that it was sent by the original account holder (Aftab, 2011). Not surprisingly, some victims could be induced by the anonymity factor and seek revenge upon cyberbullying perpetrators.

In another scenario, Kowalski and Limber (2007) demonstrated that some individuals who were ostracized would more readily join another group, and may use that group to help in retaliating back, thus, turning a cyberbullying victim into a perpetrator. Relative to psychological outcomes, peer victimization is a salient stressor for youth, and being ostracized is associated with the outcomes of lack of acceptance, loneliness, social dissatisfaction, and social withdrawal which can further lead to having a profound negative effect on victims' social support system and mental health. Williams (2007) suggested that ostracism affects the fundamental needs of belonging, self-esteem, control, and meaningful

existence. Aoyama (2010) reported that there are moderator effects of peer relationships between the cyberbullying perpetrator-victim group and depression, anxiety, and stress as well as reports of lower levels of self-esteem. Peer victimization also has an effect on academic performance, according to Nakamoto and Schwartz (2009). More specifically, cyberbullying experiences may lead to lower grades, dissatisfaction over examination results, and cheating on a test.

Woods et al. (2009) reported that good peer relationships help and protect individuals from internalizing problems. Joiner (1997) proposed that a poor sense of connectedness due to lack of close friends and peer rejection decreases mental well-being. Beck and Clark (1988) explained that there is interplay among social isolation, rejection experiences, loneliness, low self-esteem, and depressed feelings. Cyberbullying perpetrators who face peer victimization or ostracism may result in a diminished social support system and, thereby, have an effect on mental health that could increase the risk of developing depression and stress. It had been shown in the literature that cyberbullying perpetrators can have a negative mental health profile due to being associated with negative online experiences. It can, thus, be said that being involved in cyberbullying experiences both as a victim and as a bully can lead to an even higher levels of depression and stress.

Another situation that may lead a cyberbullying perpetrator into becoming a victim is when the deviant behavior of the cyberbullying perpetrator comes under the light of higher authority, fear of punishment, or fear of being reported by the victim. Wang and Shih (2014) proposed that students' online disinhibition of inappropriate behavior decreases with the certainty and severity of punishment, where inappropriate behavior is linked to the anonymity factor of online disinhibition. This finding is line with that of Joinson (2003) who indicated that anonymity is a key factor that gives rise to disinhibited

behavior. Suler (2004) reported that people hide their identity and act in a manner that they would not normally do offline. Suler (2004) further reported that visual anonymity, lack of eye-to-eye contact, and the invisibility factor lower the accountability concerns over one's actions which, in turn, devalues moral obligations. Thus, by being anonymous and devoid of eye contact, students are more likely to engage in negative online behaviors where they know they will not be held accountable for their actions. This is consistent with Mishna et al.'s (2012) finding that cyberbullying perpetrator-victim behavior can be attributed to lack of face-to-face interaction and associated social cues. Wang and Shih (2014) indicated in their study that disinhibited behavior is reduced with the certainty and severity of punishment due to the presence of authority and also where their identity is known. In addition, cyberbullying perpetrators may become victims of their own crime when they are held accountable for their actions. Furthermore, when the identity of the perpetrator comes to light, victims may seek revenge over the harm inflicted upon them.

It had been established that perpetrators may develop maladaptive behaviors that could lead them to being unable to interact and communicate with older people (Haynie et al., 2001; Nansel et al., 2004; Pickett et al., 2002). For example, new cyberbullied victims may find it difficult to report being victimized due to their poor relationship or lack of communication channels with higher authorities. In the case where the cyberbullying perpetrator faces victimization among peers who are influenced with the anonymity factor of online disinhibition, it may cause the new victims to doubt their peers and be unable to reach out for emotional and social support due to their lack of social skills and poor peer relationships. It is also important to note that the role of the cyberbullying victim can switch to that of a cyberbullying perpetrator. Past research had shown that the characteristics of victims include low self-esteem, sadness, depression, stress, powerlessness, and hopelessness. Therefore, it can be perplexing to see how some victims



have risen up and avenged those who cyberbullied them. It could be that victims may resort to coping skills in a maladaptive form (Lazarus & Folkman, 1984). However, as mentioned in the literature, cyberbullying experiences range from minimal distress and frustration to more serious psychosocial and life problems, and each psychological outcome may come in differing levels (Tokunaga, 2010). Thus, it can be said that individuals possess differing levels of emotional and psychological outcomes. This prompts an area for future research.

With regard to the current result that the higher the students' level of toxic online disinhibition, the more they reported being victims or perpetrators of cyberbullying and, subsequently, the higher their reported levels of depression and stress, there are psychological consequences of cyberbullying experiences on perpetrators and victims. This finding is consistent with that of Aoyama (2010). In a related study on cyberbullying that included experiencing cyberbullying perpetration-victimization among adolescents, there was no indication of psychological outcomes. Another study proposed that higher parental control is needed (Mishna et al., 2012). From another angle, Perren et al. (2010) proposed that bullying and cyberbullying experiences may have similar physical and psychological consequences. Studies have been conducted on bully-victims who were involved in traditional forms of bullying and it was shown that indirect bully-victims and victims had similar internalization of problems, peer relational problems, and displayed antisocial behavior. This group was found to have higher levels of depression and aggression, low prosocial behaviors, self-control, social acceptance, self-esteem, and academic competence (Marini et al., 2006; Pellerini, 1998). In light of the foregoing findings, it can be surmised that cyberbullying perpetrators and victims experience similar levels of negative psychological outcomes.

There is a wealth of information on the psychological consequences of cyberbullying experiences among perpetrators and victims. In combining negative consequences and characteristics, it could indicate that cyberbullying perpetrator-victims are highly disturbed. However, it is imperative to consider other factors. Most importantly, Tokunaga (2010) reported that cyberbullying experiences range from minimal distress and frustration to serious psychosocial and life problems. The impact of these experiences is associated with the frequency, length, and severity of the malicious acts. One example could be the need to be constantly connected online for fear of missing out. This could be one of the reasons that justify why outcomes of distress and disturbances prove to be inconsequential for some individuals (Turkle, 2012). In contrast, the repeated experience of cyberbullying can cause severe psychological problems, as in the high profile case of Amanda Todd who repeatedly experienced cyberbullying by an unknown perpetrator. The perpetrator circulated her nude pictures around the Internet, and she was traumatized further, even though she moved schools. The experience was too much for her that it led her to commit suicide.

There are other factors to consider. It is possible that after experiencing cyberbullying, each emotional, behavioral, and psychological outcome may be at differing levels. For example, self-esteem was found to be low, high, or with no association to bullying and cyberbullying behaviors. In this case, it could be that self-esteem may have already been of a low level prior to being cyberbullied. Alternatively, it may have started from a high level and, subsequently, decreased due to cyberbullying. Nixon (2014) proposed that the differing levels of self-esteem are dependent upon developmental changes in perceptions and acceptance of the changing self. Niemz et al. (2005) argued that self-esteem is the cause rather than the consequence of pathological use of Internet and disinhibition.

It is also important to consider that some psychological factors may be antecedents of cyberbullying experiences. Ybarra (2004) demonstrated that individuals with depressive symptoms are more likely to perceive online situations as threatening and, therefore, may elevate the chances of further emotional distress, indicating that people may have exhibited previous symptoms of depression. Individuals with depressive disorder tend to focus their attention on unhappy and unflattering information, interpret ambiguous information negatively, and harbor pervasively pessimistic beliefs (Kessler et al., 2003; Rude et al., 2004).

According to Kawachi and Berkman (2001), the influence of social ties on mental health may be difficult to classify in terms of whether lack of social ties is an antecedent or concomitant to psychological distress. It could be that cyberbullying perpetrators and victims may have a positive or negative social support system before or after the cyberbullying experience. For example, cyberbullying victims could gain emotional and social support from bystanders during the cyberbullying experience.

Individuals also apply differing levels of coping strategies to cope with stress and these may be related to cognitive, behavioral, and emotional responses (Lazarus & Folkman, 1984). Other factors to consider are physical impairments or health problems in the form of sedentary behaviors of individuals prior to the cyberbullying experience.

Individual attributes people bring to the online arena should also be examined. As mentioned earlier, Kowalski et al. (2014) pointed out that many factors come into play in a cyberbullying situation. These factors include: personality traits, attitudes, temperament, motives, gender, beliefs, values, long-term goals, experiences, background, behavioral scripts, and other consistent characteristics. The personality traits of empathy, narcissism, social intelligence, competitiveness, dominance, and emotional stability also play a role in

cyberspace. Furthermore, social media facilitates the extension of identity through which inherent and unconscious emotions are expressed and given meaning through images and texts (Suler, 2010), and the second self emerges through one's perceived traits, roles, and desired identity (Salimkhan et al., 2010). Sittichai and Smith (2015) suggested that differences in culture, philosophy of living, problem solving, and policy implementation between countries also have an impact on people's perceptions of cyberbullying. Moreover, what one brings into the arena of cyberspace further interacts with other users who bring a different set of diverse characteristics with them. Overall, it is possible that toxic online disinhibition and cyberbullying victims possess differing degrees of developmental, emotional, behavioral, academic, and psychological factors as well as a diverse set of individual attributes and social structure. Further research is imperative in order to establish more concrete conclusions.

Path analysis results of this study showed that the participants' reported level of benign online disinhibition is not significantly related to the reported levels of depression and stress, both directly and indirectly. In addition, benign online disinhibition is not significantly related to cyberbullying victimization and cyberbullying perpetration. Alternatively, the benign online disinhibition behaviors of kindness, generosity, self-disclosure, prosocial behavior, empathy, conformity to socially accepted behaviors, and behaviors that benefit others and society have no relationship with the frequency of cyberbullying as a perpetrator and victim, as well as with levels of depression and stress.

### **Limitations of the Study**

There are limitations in any empirical study and this present investigation is no exception. Nonetheless, it is acknowledged that limitations may have detracted from the

overall impact of the study. Firstly, the present study involved only one university in Bangkok. Thus, the findings may not generalize to other university students in Bangkok or in other geographical locations in the country. A related issue is the selection method of convenience sampling. Random sampling in which time and cost are restricted for the researcher may have affected the results in some way. Recruiting participants across Thailand and other institutions would have yielded a more representative sample. Thus, convenience sampling may have resulted in a less representative sample in which subjects might have been more biased through response sets such as social acquiescence.

A second limitation is that the measures of this study were written in the English language. Although Assumption University uses English as its medium of instruction, it cannot be assumed that all the participants of the study equally understood the measures and were proficient in English. In addition, participants may have disclosed more in their first language. Often, people do not disclose emotionally-laden feelings in their second language, thus, introducing a possible bias.

The psychosocial variables examined in this study have been widely used in other studies across many countries but have not been investigated in combination in a single study. In particular, the measures of online disinhibition, cyberbullying, depression, and stress have not been tested together. Therefore, there is no comparative data to support the results of this study.

It could also be considered a limitation that the present study employed path analysis which is correlational and not experimental (i.e., the study did not manipulate the main variables). Therefore, the design of the study is only explained in terms of the relationships between the variables rather than on a cause and effect basis.



Furthermore, the participants were requested to respond to all questions in the research instrument. As the veracity of responses could not be validated in the survey, this meant that the researcher had to accept the responses at face value and assume that the respondents replied to the questions honestly. There is also the problem of social desirability which occurs when participants respond to the study's questionnaire items in a way that puts them in a positive light, in order to project a more positive image to observers, considering that the sensitive issues of cyberbullying, online disinhibition, depression, and stress were being tested. Answering in a way they think questions should be answered instead of responding truthfully can introduce bias into the study. Furthermore, self-reported studies have validity problems. Respondents may either exaggerate their thoughts and feelings in order to make their situations seem worse, or they may under-report the severity or frequency of these thoughts and feelings in order to minimize their problems.

The findings of the current study should be interpreted with some caution because of some intervening or limiting factors beyond the scope of this study. Nonetheless, despite some identified limitations, it is anticipated that this study would provide valuable knowledge and data for a number of individuals and groups who are involved or interested in investigating the interrelationship between the core variables. The contribution of this study towards expansion of the literature cannot be overemphasized.

### **Implications of the Findings**

Despite a number of limitations, the current findings carry some important implications. From a clinical perspective, the significant direct relationship found between toxic online disinhibition, depression, and stress provides important evidence that negative

online behaviors have an impact on the psychological outcomes of depression and stress. Therefore, helping professionals, educational and mental health providers including teachers, school administrators, and counselors who play a significant role in helping affected students can utilize appropriate interventions that would benefit students with high levels of depression and stress to cultivate positive online behaviors in order to improve their mental health. Furthermore, the significance of the indirect relationship found among toxic online disinhibition, cyberbullying victimization and perpetration, and the negative states of depression and stress provide important evidence that online behaviors need to be monitored, with the cooperation of parents and other vital members of the community. This area prompts the importance of further research in order to implement strategies for prevention and intervention and responses to curtail cyberbullying experiences effectively. Furthermore, given the fact that benign online disinhibition can enhance social support and well-being, students can counter their toxic online behaviors by refining their behaviors in order to cultivate appropriate “netiquette” and empathic skills which would lead to supportive social ties and positive mental health.

## Recommendations

The boundaries between the real world and the virtual world can become vague as youth switch back and forth between them, and this has highlighted the need for Internet safety. Online interactions can influence youth in their trajectory of development and in their emotions and behaviors, psychologically, academically, and physically. Therefore, it is imperative that university administrators, faculty members, advisers, students, and parents should help in the process of prevention, intervention, and responding to problems arising from cyberbullying, and establish guidelines and equip students with resources for

a healthy and respectful netiquette, towards a more dignified digital citizenship. Within the context and scope of the present study, the administrators, lecturers, supervisors, and staff of Assumption University should create, collaborate, and implement a unified awareness campaign and formal strategies toward promoting appropriate and respectful online and offline environments with a view to fostering a healthy university climate. The university should introduce a set of guidelines, prohibitions, and penalties for appropriate and inappropriate online behaviors. In addition, workshops and seminars will help introduce strategies that are needed to be continuously monitored and updated in dealing with situations regarding cyberbullying and appropriate online behaviors. Concerned individuals and groups should further articulate, disseminate, and implement these strategies with students in order for them to be reminded about the importance of healthy online behaviors, and highlight how healthy and unhealthy online behaviors can promote and disrupt the university climate. The consequences of inappropriate online behaviors should be emphasized in order for students to be dissuaded from cyberbullying other students. It is also important for the university authorities and education providers to be role models online, as social media is an open arena for everyone to gain access. Self-presentations and ideal online activities can have an impact on students and on the image and reputation of the university.

University students should also be involved in promoting appropriate netiquette literacy and behaviors in order to create a unified healthy online climate among the students. Students should encourage and motivate each other to minimize the frequency of cyberbullying and, in due course, put a stop to cyberbullying altogether. The student council should initiate workshops where students can share, learn, and develop good values and attitudes. This could serve to promote empathy among students and dissuade other students from cyberbullying others. The student council should also create a center

for reporting cyberbullying incidents. The counseling center should also play an active role in promoting appropriate online behaviors and educate students, especially the vulnerable ones, on the inherent dangers of cyberbullying and help counsel and guide those who have been affected by cyberbullying experiences.

The parental role is extremely vital in enforcing and monitoring appropriate online behaviors. Parents should continuously keep themselves updated with the fast-paced and advanced technology as well as popular social networking sites. Parents should show interest and model appropriate online behaviors. As university students are older, it might be difficult to discipline their speech or behavior online, or go through their phone and laptops. However, the university should have workshops and websites to guide parents on how to approach their children regarding their online activities. Further information on how to keep up with technology and how to observe and report the changes in their children's behavior should be presented (e.g., increased sensitivity, violent behaviors, psychological problems, or diminished levels of family relationships). Also, other behaviors to be promoted could include encouraging students to use their phones and laptops wisely and sparingly, except for academic achievement and success. It is also important to look out for vital signs that indicate that their children may be engaging in cyberbullying perpetration or suffering the consequences of victimization.

Most importantly, students should learn and practice empathy and respect for the rights of others online and offline by stopping to think carefully and with consideration before posting anything online. Being considerate reduces miscommunication, decreases internalization issues, and reduce psychosocial problems. Internalizing good habits and attitudes will help to foster healthy and respectful relationships among peers and school authorities, and facilitate beneficial social support system and positive mental health. Given the seriousness of the cyberbullying problem in Thailand and other countries, from

the limited evidence available so far, there is a strong case for a more focused research program on the topic. Prevention efforts on bullying and cyberbullying are gathering pace internationally, thus, a more informed knowledge base for Thailand can assist in the use and modification of such programs to help young people experiencing or engaged in cyberbullying and online disinhibition. Moving beyond the academe, nowadays, even companies and organizations take note of employees' social networking profiles and activities before recruitment. It is important to incorporate appropriate netiquette behaviors and have an exemplary profile for purposes of employment and to sustain a dignified occupation.

### **Conclusions and Avenues for Future Research**

The present findings highlight the importance of positive online behaviors. The benign online disinhibition effect illuminates the fact that kindness, generosity, and other prosocial behaviors create a healthy climate online and offline, strengthen social support systems, and promote psychological well-being. Despite benign online disinhibition having shown higher means indicating that the targeted university students were generally kind and prosocial, the path model did not verify any such relationships. Thus, it can be proposed that the current study is still far from being conclusive. More research must be undertaken which would improve our understanding concerning the relationship between benign online disinhibition, toxic online disinhibition, cyberbullying victimization and cyberbullying perpetration, depression, and stress.

Replication of this type of study should be conducted in schools, universities, organizations, and other institutions where cyberbullying is prevalent. For a better understanding of online behaviors, different variables should be examined using more



reliable approaches such as experimental, qualitative, and longitudinal studies. The biggest struggle for cyberbullying prevention in the future is matching the fast pace of technological innovation with effective preventative techniques. In addition, the online disinhibition effect itself is still a relatively little studied subject and its causes and effects should be examined in more detail in a wider spectrum of virtual communities and other forms of computer-mediated communication and interaction such as online gaming.



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## APPENDIX A

### Part I. Informed Consent

Dear Participant,

My name is Ms. Arunee Charaschanya. I am a master's student in counseling psychology here at Assumption University (AU). Currently, I am conducting a study about online experiences and attitudes among AU students. In this connection, I would like to invite you to participate in my research by filling in the survey questionnaire attached. The following information is provided to help you make an informed decision whether or not to participate. It is important that you read and understand the following statements prior to participation.

Participation in this research is voluntary. You will be asked to fill in a set of questionnaires which will take approximately 5-10 minutes to complete. The questions in this study do not pose any harm to you as a participant. All information collected will be kept confidential and secure. No names will be recorded and you may withdraw from filling in the questionnaire at any time, without penalty. The data collected will be used exclusively for the purpose of this study and accessed only by myself and my advisor, Dr. Jon Nicholas Blauw from the AU Graduate School of Counseling Psychology.

By voluntarily filling in this questionnaire, it will be assumed that you have consented to participate in this research. If you have any questions regarding this study, please contact me at my e-mail address: c.arunee@gmail.com.

Thank you for your cooperation.

APPENDIX B

Part II. Personal Information

Directions: Please check (√) the appropriate box or fill in the blank to indicate your answer.

1. Gender:

Male	Female

2. Age: \_\_\_\_\_

3. Nationality: \_\_\_\_\_

4. University year level: \_\_\_\_\_

5. How many hours do you spend using the Internet (per day)?

Less than an hour	1 to 2 hours	3 to 4 hours	More than 4 hours

6. Means of using the Internet

Mobile phone	Home computer	Mobile phone and home computer

## APPENDIX C

### Part III. Cyberbullying Scale-Victimization

**In the past 30 days, how many times have you...**

	Never	Once or Twice	A Few Times	Many Times	Everyday
1. Received an upsetting email from someone you know.					
2. Received an instant message that made you upset.					
3. Had something posted on social media that made you upset.					
4. Been made fun of in a chat room.					
5. Received an upsetting email from someone you did not know (spam).					
6. Had something posted about you on another Webpage that made you upset.					
7. Something has been posted online that you did not want others to see.					
8. Been picked on or bullied online.					
9. Been afraid to go on the computer.					
10. At least one of the above, 2 or more times.					

APPENDIX D

Part IV. Cyberbullying Scale-Perpetration

In the past 30 days how many times have you...

	Never	Once or Twice	A Few Times	Many Times	Everyday
1. Posted something online about another person to make others laugh.					
2. Sent someone a computer text message to make them angry or to make fun of them.					
3. Took a picture of someone and posted it online without their permission.					
4. Posted something on social media or a similar site to make them angry or to make fun of them.					
5. Sent someone an email to make them angry or to make fun of them.					
6. At least 1 of the above, 2 or more times.					

APPENDIX E

Part V. Online Disinhibition Scale.

**Directions:** Please check (√) the appropriate box to indicate the degree to which the following statements apply to you, using the given scale.

	Disagree	Somewhat Disagree	Somewhat Agree	Agree
1. It is easier to connect with people through ICTs than talking in person.				
2. The Internet is anonymous, so it is easier for me to express my true feelings and thoughts.				
3. It is easier to write things online that would be hard to say in real life because you don't see the other's face.				
4. It is easier to communicate online because you can reply anytime you like.				
5. I have the image of the other person in my head while I read their email or messages online.				
6. I feel like a different person online.				
7. I feel that online I can communicate on the same level with others who are older or have higher status than me.				
8. I don't mind writing insulting things about others online, because it is anonymous.				
9. It is easy to write insulting things online because there are no repercussions.				
10. There are no rules online; therefore, you can do whatever you want.				
11. Writing things online is not bullying.				



APPENDIX F

Part VI. Depression, Anxiety, and Stress Scale (DASS-21)

**Directions:** Please consider each of the statements listed below and then decide how often the situation described in that statement applies to you. Using the rating scale below, please check (✓) the number that best reflects your opinion. There are no right or wrong answers.

- 0 = Did not apply to me at all
- 1 = Applied to me to some degree, or some of the time
- 2 = Applied to me to a considerable degree, or a good part of the time
- 3 = Applied to me very much, or most of the time

	0	1	2	3
1. I find it hard to wind down.				
2. I was aware of the dryness in my mouth.				
3. I couldn't seem to experience any positive feeling at all.				
4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).				
5. I found it difficult to work up the initiative to do things.				
6. I tend to over-react to situations.				
7. I experienced trembling (e.g., in the hands).				
8. I felt that I was using a lot of nervous energy.				
9. I was worried about situations in which I might panic and make a fool of myself.				
10. I felt that I had nothing to look forward to.				

11. I found myself getting agitated.				
12. I found myself difficult to relax.				
13. I felt down-hearted and blue.				
14. I was intolerant of anything that kept me from getting on with what I was doing.				
15. I felt close to panic.				
16. I was unable to become enthusiastic about anything.				
17. I felt I was not worth much as a person.				
18. I felt I was rather touchy.				
19. I was aware of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).				
20. I felt scared without any reason.				
21. I felt that life was meaningless.				

**THANK YOU FOR YOUR PARTICIPATION**

APPENDIX G

Demographic Profile of Respondents.

Frequencies of Demographics

Statistics						
		gender	age in years	uni_level	Hours using the internet per day	Means of using internet
N	Valid	217	217	217	217	215
	Missing	0	0	0	0	2
Mean		1.5300	22.1613	2.6820	3.5484	2.3023
Median		2.0000	22.0000	2.0000	4.0000	3.0000
Std. Deviation		.50026	3.81357	1.55018	.77502	.93566

Frequency Table

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	102	47.0	47.0	47.0
female	115	53.0	53.0	100.0
Total	217	100.0	100.0	

Age in years				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 17.00	4	1.8	1.8	1.8
18.00	37	17.1	17.1	18.9
19.00	25	11.5	11.5	30.4
20.00	14	6.5	6.5	36.9
21.00	17	7.8	7.8	44.7
22.00	26	12.0	12.0	56.7
23.00	28	12.9	12.9	69.6
24.00	21	9.7	9.7	79.3

25.00	15	6.9	6.9	86.2
26.00	9	4.1	4.1	90.3
27.00	8	3.7	3.7	94.0
28.00	1	.5	.5	94.5
29.00	3	1.4	1.4	95.9
30.00	2	.9	.9	96.8
31.00	2	.9	.9	97.7
32.00	2	.9	.9	98.6
35.00	1	.5	.5	99.1
40.00	1	.5	.5	99.5
42.00	1	.5	.5	100.0
Total	217	100.0	100.0	

University level

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1st year of study	76	35.0	35.0	35.0
2nd year of study	34	15.7	15.7	50.7
3rd year of study	33	15.2	15.2	65.9
4th year of study	31	14.3	14.3	80.2
Master	43	19.8	19.8	100.0
Total	217	100.0	100.0	

Hours using the internet per day

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	9	4.1	4.1	4.1
2.00	11	5.1	5.1	9.2
3.00	49	22.6	22.6	31.8
4.00	148	68.2	68.2	100.0
Total	217	100.0	100.0	

Means of using internet

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid mobile phone	71	32.7	33.0	33.0
home computer	8	3.7	3.7	36.7
mobile phone and home computer	136	62.7	63.3	100.0
Total	215	99.1	100.0	
Missing System	2	.9		
Total	217	100.0		



APPENDIX H

Reliability Analysis of the Scales Employed.

Scale: Victim

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.872	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
v1	20.7551	45.591	.585	.860
v2	20.7194	47.218	.600	.859
v3	20.5000	50.374	.397	.873
v4	20.0816	45.706	.552	.864
v5	20.9286	47.082	.508	.867
v6	21.1429	45.046	.696	.851
v7	20.7704	45.665	.673	.853
v8	21.2551	45.750	.738	.849
v9	21.5714	48.595	.570	.861
v10	21.1122	46.695	.627	.857

Reliability

Scale: Perpetrator

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.878	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
p1	9.9439	17.602	.605	.871
p2	10.2092	17.182	.685	.857
p3	10.3520	17.029	.652	.864
p4	10.4796	16.661	.805	.838
p5	10.6633	17.342	.689	.857
p6	10.5204	17.933	.692	.857

Reliability

Scale: Benign online disinhibition

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.748	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d1	16.4082	10.756	.499	.710
d2	16.5765	10.686	.560	.697
d3	16.3724	10.655	.542	.700
d4	16.0255	11.143	.494	.712
d5	16.3418	11.170	.437	.724
d6	17.0255	11.625	.310	.754
d7	16.7194	11.464	.425	.726

Reliability

Scale: Toxic online disinhibition

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.802	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
d8	6.7908	4.925	.695	.711
d9	6.6429	5.379	.581	.768
d10	6.6224	5.262	.610	.754
d11	6.7755	5.621	.576	.770

Reliability

Scale: Depression

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.804	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
da2	6.1582	12.329	.404	.804
da6	6.2755	12.098	.511	.783
da8	6.1633	12.127	.505	.785
da13	6.4541	11.685	.608	.767
da15	6.4235	11.651	.595	.769
da17	6.5510	11.110	.633	.760
da21	6.6378	11.637	.520	.782



Reliability

Scale: Stress

Case Processing Summary

		N	%
Cases	Valid	196	90.3
	Excluded <sup>a</sup>	21	9.7
	Total	217	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.807	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
da4	6.8878	11.710	.569	.776
da5	6.6735	11.893	.550	.780
da7	6.7449	11.781	.568	.776
da9	6.8367	12.783	.412	.803
da11	6.8469	11.946	.568	.776
da16	6.9592	11.855	.554	.779
da18	6.8673	11.931	.562	.777

APPENDIX I

Means and Standard Deviations for the Computed Factors of Cyberbullying-Victim, Cyberbullying Perpetrator, Benign Online Disinhibition, Toxic Online Disinhibition, Depression and Stress.

Frequencies

		Statistics					
		victim	perpetrator	Benign online disinhibition	Toxic online Disinhibition	depression	stress
N	Valid	217	217	217	217	217	217
	Missing	0	0	0	0	0	0
Mean		2.3118	2.0756	2.7480	2.2043	1.0431	1.1094
Median		2.3000	2.0000	2.7143	2.2500	1.0000	1.1429
Std. Deviation		.75497	.83714	.53348	.74669	.56632	.57331

Frequency Table

		Victim			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	7	3.2	3.2	3.2
	1.10	3	1.4	1.4	4.6
	1.11	1	.5	.5	5.1
	1.20	4	1.8	1.8	6.9
	1.30	7	3.2	3.2	10.1
	1.40	11	5.1	5.1	15.2
	1.50	9	4.1	4.1	19.4
	1.56	1	.5	.5	19.8
	1.60	8	3.7	3.7	23.5
	1.70	8	3.7	3.7	27.2
	1.80	8	3.7	3.7	30.9
	1.89	1	.5	.5	31.3
	1.90	7	3.2	3.2	34.6
	2.00	14	6.5	6.5	41.0
	2.10	9	4.1	4.1	45.2

2.20	4	1.8	1.8	47.0
2.30	8	3.7	3.7	50.7
2.40	8	3.7	3.7	54.4
2.50	13	6.0	6.0	60.4
2.56	1	.5	.5	60.8
2.60	11	5.1	5.1	65.9
2.70	11	5.1	5.1	71.0
2.75	1	.5	.5	71.4
2.80	12	5.5	5.5	77.0
2.90	9	4.1	4.1	81.1
3.00	4	1.8	1.8	82.9
3.10	6	2.8	2.8	85.7
3.20	4	1.8	1.8	87.6
3.30	3	1.4	1.4	88.9
3.40	5	2.3	2.3	91.2
3.50	6	2.8	2.8	94.0
3.60	4	1.8	1.8	95.9
3.70	2	.9	.9	96.8
3.80	3	1.4	1.4	98.2
3.90	1	.5	.5	98.6
4.00	2	.9	.9	99.5
4.40	1	.5	.5	100.0
Total	217	100.0	100.0	

Perpetrator

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	28	12.9	12.9	12.9
1.17	18	8.3	8.3	21.2
1.20	2	.9	.9	22.1
1.33	16	7.4	7.4	29.5
1.50	10	4.6	4.6	34.1
1.67	19	8.8	8.8	42.9
1.83	8	3.7	3.7	46.5
2.00	17	7.8	7.8	54.4
2.17	10	4.6	4.6	59.0
2.33	16	7.4	7.4	66.4

2.50	13	6.0	6.0	72.4
2.67	8	3.7	3.7	76.0
2.83	11	5.1	5.1	81.1
3.00	14	6.5	6.5	87.6
3.17	3	1.4	1.4	88.9
3.33	8	3.7	3.7	92.6
3.50	2	.9	.9	93.5
3.67	8	3.7	3.7	97.2
3.83	1	.5	.5	97.7
4.00	5	2.3	2.3	100.0
Total	217	100.0	100.0	

### Benign online disinhibition

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	2	.9	.9	.9
1.29	2	.9	.9	1.8
1.57	3	1.4	1.4	3.2
1.71	2	.9	.9	4.1
1.86	2	.9	.9	5.1
2.00	6	2.8	2.8	7.8
2.14	8	3.7	3.7	11.5
2.29	18	8.3	8.3	19.8
2.33	1	.5	.5	20.3
2.43	25	11.5	11.5	31.8
2.50	2	.9	.9	32.7
2.57	18	8.3	8.3	41.0
2.71	28	12.9	12.9	53.9
2.83	1	.5	.5	54.4
2.86	23	10.6	10.6	65.0
3.00	20	9.2	9.2	74.2
3.14	23	10.6	10.6	84.8
3.29	3	1.4	1.4	86.2
3.43	9	4.1	4.1	90.3
3.57	9	4.1	4.1	94.5
3.71	7	3.2	3.2	97.7
3.86	3	1.4	1.4	99.1

4.00	2	.9	.9	100.0
Total	217	100.0	100.0	

**Toxic online disinhibition**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1.00	24	11.1	11.1	11.1
1.25	17	7.8	7.8	18.9
1.50	10	4.6	4.6	23.5
1.75	16	7.4	7.4	30.9
2.00	32	14.7	14.7	45.6
2.25	24	11.1	11.1	56.7
2.33	1	.5	.5	57.1
2.50	30	13.8	13.8	71.0
2.75	19	8.8	8.8	79.7
3.00	25	11.5	11.5	91.2
3.25	8	3.7	3.7	94.9
3.50	4	1.8	1.8	96.8
3.75	2	.9	.9	97.7
4.00	5	2.3	2.3	100.0
Total	217	100.0	100.0	

**Depression**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	9	4.1	4.1	4.1
.14	6	2.8	2.8	6.9
.29	14	6.5	6.5	13.4
.43	15	6.9	6.9	20.3
.57	12	5.5	5.5	25.8
.71	17	7.8	7.8	33.6
.83	1	.5	.5	34.1
.86	14	6.5	6.5	40.6
1.00	24	11.1	11.1	51.6
1.14	24	11.1	11.1	62.7
1.29	19	8.8	8.8	71.4
1.33	2	.9	.9	72.4



1.43	12	5.5	5.5	77.9
1.57	16	7.4	7.4	85.3
1.71	9	4.1	4.1	89.4
1.86	9	4.1	4.1	93.5
2.00	6	2.8	2.8	96.3
2.14	4	1.8	1.8	98.2
2.29	1	.5	.5	98.6
2.43	2	.9	.9	99.5
2.57	1	.5	.5	100.0
Total	217	100.0	100.0	

Stress				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid .00	7	3.2	3.2	3.2
.14	11	5.1	5.1	8.3
.17	1	.5	.5	8.8
.29	8	3.7	3.7	12.4
.43	9	4.1	4.1	16.6
.57	13	6.0	6.0	22.6
.71	17	7.8	7.8	30.4
.86	15	6.9	6.9	37.3
1.00	14	6.5	6.5	43.8
1.14	19	8.8	8.8	52.5
1.29	23	10.6	10.6	63.1
1.43	24	11.1	11.1	74.2
1.57	21	9.7	9.7	83.9
1.71	13	6.0	6.0	89.9
1.86	9	4.1	4.1	94.0
2.00	6	2.8	2.8	96.8
2.29	2	.9	.9	97.7
2.43	4	1.8	1.8	99.5
2.57	1	.5	.5	100.0
Total	217	100.0	100.0	

APPENDIX J

Path Analysis of Direct and Indirect Relationships Between Online Disinhibition, Depression, and Stress, Being Mediated by the Frequency of Cyberbullying as Victim and Perpetrator.

Regression

Dependent Variable: Depression

Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	Toxic online disinhibition		Forward (Criterion: Probability-of-F-to-enter <= .050)
2	Victim		Forward (Criterion: Probability-of-F-to-enter <= .050)

a. Dependent Variable: depression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.459 <sup>a</sup>	.211	.207	.50422	.211	57.481	1	215	.000
2	.527 <sup>b</sup>	.278	.271	.48337	.067	19.952	1	214	.000

a. Predictors: (Constant), toxic online disinhibition

b. Predictors: (Constant), toxic online disinhibition, victim

ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14.614	1	14.614	57.481	.000 <sup>b</sup>
	Residual	54.661	215	.254		
	Total	69.275	216			
2	Regression	19.275	2	9.638	41.249	.000 <sup>c</sup>
	Residual	50.000	214	.234		
	Total	69.275	216			

a. Dependent Variable: depression

- b. Predictors: (Constant), toxic online disinhibition
- c. Predictors: (Constant), toxic online disinhibition, victim

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.275	.107		2.575	.011	.065	.486		
Toxic online disinhibition	.348	.046	.459	7.582	.000	.258	.439	1.000	1.000
2 (Constant)	-.002	.120		-.013	.990	-.238	.235		
Toxic online Disinhibition	.242	.050	.319	4.828	.000	.143	.341	.773	1.293
Victim	.221	.050	.295	4.467	.000	.124	.319	.773	1.293

a. Dependent Variable: depression

Excluded Variables<sup>a</sup>

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Benign online disinhibition	-.028 <sup>b</sup>	-.431	.667	-.029	.894	1.119	.894
	Victim	.295 <sup>b</sup>	4.467	.000	.292	.773	1.293	.773
	perpetrator	.228 <sup>b</sup>	3.530	.001	.235	.839	1.192	.839
2	Benign online disinhibition	-.018 <sup>c</sup>	-.285	.776	-.020	.893	1.120	.701
	perpetrator	.110 <sup>c</sup>	1.478	.141	.101	.610	1.639	.563

- a. Dependent Variable: depression
- b. Predictors in the Model: (Constant), toxic online disinhibition
- c. Predictors in the Model: (Constant), toxic online disinhibition, victim

Collinearity Diagnostics<sup>a</sup>

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Toxic online disinhibition	victim
1	1	1.947	1.000	.03	.03	
	2	.053	6.082	.97	.97	
2	1	2.897	1.000	.01	.01	.01
	2	.053	7.366	.31	.98	.17
	3	.049	7.677	.69	.01	.82

a. Dependent Variable: depression

Dependent Variable: Stress

Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	Toxic online disinhibition		Forward (Criterion: Probability-of-F-to-enter <= .050)
2	victim		Forward (Criterion: Probability-of-F-to-enter <= .050)

a. Dependent Variable: stress

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.512 <sup>a</sup>	.262	.259	.49366	.262	76.325	1	215	.000
2	.575 <sup>b</sup>	.331	.325	.47114	.069	22.043	1	214	.000

a. Predictors: (Constant), toxic online disinhibition

b. Predictors: (Constant), toxic online disinhibition, victim

ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.600	1	18.600	76.325	.000 <sup>b</sup>
	Residual	52.395	215	.244		
	Total	70.996	216			
2	Regression	23.493	2	11.747	52.919	.000 <sup>c</sup>
	Residual	47.502	214	.222		
	Total	70.996	216			

- a. Dependent Variable: stress
- b. Predictors: (Constant), toxic online disinhibition
- c. Predictors: (Constant), toxic online disinhibition, victim

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	.243	.105		2.323	.021	.037	.449		
Toxic online disinhibition	.393	.045	.512	8.736	.000	.304	.482	1.000	1.000
(Constant)	-.040	.117		-.346	.729	-.271	.190		
Toxic online Disinhibition	.284	.049	.370	5.815	.000	.188	.380	.773	1.293
Victim	.227	.048	.299	4.695	.000	.132	.322	.773	1.293

a. Dependent Variable: stress

**Excluded Variables<sup>a</sup>**

Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Benign online disinhibition	-.015 <sup>b</sup>	-.248	.804	-.017	.894	1.119	.894
	victim	.299 <sup>b</sup>	4.695	.000	.306	.773	1.293	.773
	perpetrator	.192 <sup>b</sup>	3.063	.002	.205	.839	1.192	.839
2	Benign online disinhibition	-.005 <sup>c</sup>	-.086	.931	-.006	.893	1.120	.701
	perpetrator	.059 <sup>c</sup>	.818	.414	.056	.610	1.639	.563

a. Dependent Variable: stress

b. Predictors in the Model: (Constant), toxic online disinhibition

c. Predictors in the Model: (Constant), toxic online disinhibition, victim

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Toxic online disinhibition	victim
1	1	1.947	1.000	.03	.03	
	2	.053	6.082	.97	.97	
2	1	2.897	1.000	.01	.01	.01
	2	.053	7.366	.31	.98	.17
	3	.049	7.677	.69	.01	.82

a. Dependent Variable: stress



## Regression

Dependent Variable: Victim

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	Toxic online Disinhibition		Forward (Criterion: Probability-of-F-to-enter <= .050)

a. Dependent Variable: victim

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.476 <sup>a</sup>	.227	.223	.66546	.227	63.013	1	215	.000

a. Predictors: (Constant), toxic online disinhibition

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.904	1	27.904	63.013	.000 <sup>b</sup>
	Residual	95.210	215	.443		
	Total	123.114	216			

a. Dependent Variable: victim

b. Predictors: (Constant), toxic online disinhibition

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	1.251	.141		8.864	.000	.973	1.529		
Toxic online disinhibition	.481	.061	.476	7.938	.000	.362	.601	1.000	1.000

a. Dependent Variable: victim

**Excluded Variables<sup>a</sup>**

Model	Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Benign online disinhibition	-.034 <sup>b</sup>	-.543	.588	-.037	.894	1.119	.894

a. Dependent Variable: victim

b. Predictors in the Model: (Constant), toxic online disinhibition

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Toxic online disinhibition
1	1	1.947	1.000	.03	.03
	2	.053	6.082	.97	.97

a. Dependent Variable: victim

**Dependent Variable: Perpetrator****Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	Toxic online disinhibition		Forward (Criterion: Probability-of-F-to-enter $\leq .050$ )

a. Dependent Variable: perpetrator

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.402 <sup>a</sup>	.161	.157	.76843	.161	41.356	1	215	.000

a. Predictors: (Constant), toxic online disinhibition

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.420	1	24.420	41.356	.000 <sup>b</sup>
	Residual	126.954	215	.590		
	Total	151.374	216			

a. Dependent Variable: perpetrator

b. Predictors: (Constant), toxic online disinhibition

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	1.083	.163		6.647	.000	.762	1.404		
Toxic online disinhibition	.450	.070	.402	6.431	.000	.312	.588	1.000	1.000

a. Dependent Variable: perpetrator

**Excluded Variables<sup>a</sup>**

Model	Beta In	T	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Benign online disinhibition	.032 <sup>b</sup>	.483	.630	.033	.894	1.119	.894

a. Dependent Variable: perpetrator

b. Predictors in the Model: (Constant), toxic online disinhibition

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	Toxic online disinhibition
1	1	1.947	1.000	.03	.03
	2	.053	6.082	.97	.97

a. Dependent Variable: perpetrator



