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I, Erica R. Fissel, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Criminal Justice.

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Victimization of the 21st Century: An Examination of Cyberstalking Victimization Using a Target Congruence Approach

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Victimization of the 21st Century: An Examination of Cyberstalking Victimization Using a Target Congruence Approach

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by

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ABSTRACT

Research on cyberstalking victimization has experienced growth and refinement over the past several years, yet there are still many questions about this phenomenon that remain unanswered. Due to conceptual and methodological concerns that characterize the existing literature, it is difficult to draw conclusions regarding the prevalence of and predictors of cyberstalking victimization. Thus, the current study attempts to build upon previous studies and address the shortcomings evident in the existing literature. The purpose of this dissertation is four fold: (1) to estimate the prevalence of cyberstalking victimization among a general sample of individuals aged 18 to 25 years; (2) to extend the target congruence approach to cyberstalking victimization; (3) to determine if the target congruence approach is an empirically supported theoretical perspective for explaining cyberstalking victimization; and (4) to overcome some of the methodological limitations that characterize previous cyberstalking research. Using a sample of 1,500 Mechanical Turk workers and multiple binary logistic regression analyses, findings revealed moderate support for the application of the target congruence approach as an explanation for cyberstalking victimization. Specifically, multiple measures capturing each of the three target congruence elements (target vulnerability, target gratifiability, and target antagonism) consistently impacted risk of cyberstalking victimization across the multivariate models. Additionally, there is some evidence that suggests the pursued-pursuer relationship may moderate the relationship between the target congruence elements and cyberstalking victimization. Implications for theory, policy, prevention, and future research are provided based upon these findings.

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STATEMENT OF THE PROBLEM AND OVERVIEW OF CURRENT STUDY

Statement of the Problem

In modern society, almost everyone is connected to cyberspace at some point throughout the day. It is estimated that nearly 3.6 billion people across the globe access the Internet each day (International Telecommunication Union, 2017). Technology has an impact on virtually every aspect of life, ranging from work to school to entertainment to dating. Some individuals find it difficult to survive even short periods of time without being connected to technology. Society's reliance on cyberspace, and technology in general, has created a large collection of potential victims with whom cyber predators can interact. Not only does cyberspace produce a concentration of potential victims, but it also has no geographical or temporal boundaries. This means that cyber predators can access victims across the globe at any time of day. Even more troubling, cyberspace allows offenders to conceal their identities from victims and law enforcement. Thus, participation in criminal behavior via technology is associated with little to no fear of criminal sanctions.

Cybercrimes are considered relatively new phenomena, as the technological capabilities required for these offenses have not been around for long. These offenses have been defined as, "crimes committed through the use of computers and computer networks" (Ngo & Paternoster, 2011, p. 773). A wide variety of behaviors are classified as cybercrimes, including intentionally spreading computer viruses, online harassment, phishing, sexting, and unwanted exposure to pornographic materials, among others. While all of these offenses are committed through the use of computers or computer networks, they each have unique motivations, tactics, and opportunity structures, and thus, must be studied independently.

Some cybercrimes are categorized as offenses that can only be completed within cyberspace. These are referred to as cyber-dependent crimes (Wall, 2005). In other words, technological advances have allowed for the creation of new crimes whose direct analogue is not found in the physical world. Examples of this type of cybercrime include the spreading of computer viruses or wormholes, spamming, and phishing (Wall, 2005).

There is another group of cybercrimes, though, which have been referred to as computer-assisted crimes. These are traditional crimes that have been modified by technology (Clarke, 2004; Wall, 2005). To explain, cyberspace can be used to help facilitate the execution of traditional crimes (Wall, 2005). Examples include criminals using e-mail to communicate plans of an armed robbery with others, online fraud, virtual bank robbery, identity theft, and online harassment (Clarke, 2004; Wall, 2005).

Some offenses, however, may not clearly fit into either of these two categories. The focus of this current study, cyberstalking, is one example of this. There has been debate over whether cyberstalking is simply an extension of traditional stalking (also referred to as physical or offline stalking) or if it is a completely distinct phenomenon. This discussion is important because it influences how these behaviors are researched. If traditional stalking and cyberstalking are, in fact, separate types of criminal behavior, they must be measured and studied independently. This is necessary in order to accurately identify the predictors of each type of victimization, to understand the consequences victims experience, and to develop evidence-based prevention strategies.

On the one side of the debate, it has been suggested that cyberstalking is simply traditional stalking through high-tech mechanisms (i.e., a computer-assisted crime). Take Nobles and colleagues' (2014) research as an example. They presented three scenarios that could

represent the conceptualization of stalking and cyberstalking victimization. Figure 1.1 displays these three options. The first option suggests that stalking and cyberstalking are distinct, but there is some overlap. This means that some individuals experience only stalking victimization, some individuals only experience cyberstalking victimization, and some individuals experience both. The next option indicates that there is no conceptual overlap between traditional and online stalking. Finally, the third option suggests that cyberstalking is a variant of traditional stalking; those who are cyberstalked are also considered victims of traditional stalking. The scholars conclude that since being cyberstalked satisfies the legal criteria required for offline stalking, the third option is the most appropriate conceptualization (Nobles, Reyns, Fox, & Fisher, 2014).

In another effort to explore this issue thoroughly, Sheridan and Grant (2007) compared four types of stalkers: "pure cyberstalkers, cyberstalkers who cross over into off-line stalking, principally off-line stalkers who have employed the Internet as part of their stalking campaign, and purely off-line stalkers" (p. 630). The findings revealed that there were no significant differences between victim groups with regards to medical and psychological consequences and reporting behaviors (Sheridan & Grant, 2007). Thus, they concluded that cyberstalking is not a distinct form of unwanted pursuit behavior from offline stalking.

Despite these arguments, some believe that cyberstalking and traditional stalking should be viewed as separate crimes (Bocij, 2003; Bocij & McFarlane, 2002). One reason for this is that they have different opportunity structures (Reyns, Henson, & Fisher, 2012). Traditional stalking requires the stalker and victim to be located in the same geographical area. This is not necessary for cyberstalking. In fact, cyberstalking victims and offenders could be located in different cities, states, or even different countries. Thus, the opportunity structure required for stalking is vastly different from the opportunity structure required for cyberstalking (Reyns et al., 2012).

Relatedly, cyberstalking can occur without physical pursuit, which is an integral part of traditional stalking (Nobles et al., 2014).

In contrast to Sheridan and Grant's (2007) findings, research has found significant differences between the victims of traditional stalking and victims of cyberstalking (Nobles et al., 2014). Cyberstalking victims have been found to be younger, more educated, and have higher household incomes when compared to traditional stalking victims. Furthermore, cyberstalking victims reported more self-protective behaviors and greater financial costs as a result of the victimization compared to traditional stalking victims (Nobles et al., 2014). These findings suggest that those who were cyberstalked had different demographic characteristics, as well as different reactions and consequences as a result of the victimization compared to those who experienced traditional stalking victimization.

Based on the information presented above, along with the fact that there are many questions about cyberstalking left unanswered, it is important to treat traditional stalking and cyberstalking as separate crimes. This gives scholars the opportunity to study cyberstalking and understand this type of victimization better, which will then lead to a more informed decision on how to best conceptualize traditional and online stalking. Despite the fact that the current study explores cyberstalking victimization as a distinct behavior, it is acknowledged that offline and online stalking may be related.

The main goal of this dissertation is to better understand the extent and predictors of cyberstalking victimization. Therefore, the purpose of this study is four fold: (1) to estimate the prevalence of cyberstalking victimization among a general sample of Amazon's Mechanical Turk workers aged 18 to 25 years; (2) to extend the target congruence approach to cyberstalking victimization; (3) to determine if the target congruence approach is an empirically supported

theoretical perspective for explaining cyberstalking victimization; and (4) to overcome some of the methodological limitations that characterize previous cyberstalking research.

More specifically, the current study will address the following research questions. First, what is the extent of cyberstalking victimization among a sample of 18 to 25 year old Amazon's Mechanical Turk workers? Next, is there a relationship between target vulnerability and cyberstalking victimization? Third, is there a relationship between target gratifiability and cyberstalking victimization? Fourth, is there a relationship between target antagonism and cyberstalking victimization? And finally, does the pursued-pursuer relationship moderate the relationship between target congruence and cyberstalking victimization?

Importance of Research

As cyberstalking occurs in cyberspace where there is no physical contact between victim and offender, the seriousness of this type of victimization is often minimized as simply a nuisance or a relatively harmless experience (Reno, 1999). This perspective, however, is misguided as there are often grave consequences associated with cyberstalking victimization. Research indicates that some victims of cyberstalking experience serious psychological distress as a result of their experiences (Bocij, 2004). Specifically, some victims have experienced hyper vigilance, anxiety, post-traumatic stress disorder, helplessness, depression, modified eating patterns, and nightmares (Blaauw, Winkel, Arensman, Sheridan, & Freeve, 2002; Bocij, 2003; Dreßing, Bailer, Anders, Wagner, & Gallas, 2014; Worsley, Wheatcroft, Short, & Corcoran, 2017). Due to the psychological distress experienced, cyberstalking victims may restrict their daily activities, which can lead to a reduction in the quality of life.

These detrimental consequences may partially be due to the fact that the victim is unable to escape the offender, even in their own home (Kamphuis & Emmelkamp, 2000). Cyberstalkers

can contact their victim at any time of day through a variety of technologies, including social media sites, text messaging, e-mail, chat rooms, and Global Positioning Systems (Baum, Catalano, Rand, & Rose, 2009; Reyns, Henson, & Fisher, 2011). Furthermore, communications that occur through technology have a permanency that is not associated with face-to-face communication. For example, a text message can be read over and over again, causing the individual to relive the victimization.

In addition to psychological distress, cyberstalking victims may also experience serious financial costs (Nobles et al., 2014). The monetary cost associated with stalking, in the form of lost wages, medical care, and mental health services, has been estimated to be between $235 and $449 million annually (Max, Rice, Finkelstein, Bardwell, & Leadbetter, 2004). The economic cost of cyberstalking can be expected to be similar, if not greater, as research has indicated that cyberstalking victims experience greater financial costs than traditional stalking victims (Nobles et al., 2014). Additionally, some have suggested that cyberstalking victimization may even escalate to physical stalking or violence (Bocij, Griffiths, & McFarlane, 2002; Kraft & Wang, 2010; Lee, 1998). It is clear that there are serious consequences associated with this type of victimization, thus, it is imperative to identify those who are at an increased risk of being cyberstalked.

While the potential negative consequences are serious and detrimental, some may argue that too few individuals are impacted, and thus, it does not warrant dedicating more resources to study cyberstalking victimization further. Based on the prevalence rates (presented in the following chapter), and the fact that scholars have suggested that cyberstalking victimization may actually be more common than traditional stalking victimization (Reyns et al., 2012), it is safe to conclude that a significant portion of the population is at risk of being cyberstalked.

Overview of Current Study

While more legal, academic, and societal attention has been directed towards understanding cyberstalking victimization in recent years, there are still a substantial number of questions about this phenomenon that remain unanswered. Previous research has attempted to define cyberstalking victimization, along with estimate its prevalence, uncover victim and offender characteristics, and identify factors that increase one's risk of being cyberstalked. Unfortunately, the findings from the existing literature vary, for reasons discussed in upcoming chapters. Thus, additional research is necessary to more fully understand cyberstalking victimization. Applying the target congruence approach, as is done in the current study, will be a useful step in identifying the relevant predictors of cyberstalking victimization.

The current dissertation is organized into six chapters. Chapter 1 described the problem of cyberstalking and presented an overview of the current study. Chapter 2 will focus on presenting what is currently known about cyberstalking victimization, while also highlighting the methodological issues of prior research and how they are overcome in this dissertation. Chapter 3 will review the theoretical perspectives previously used to explain cyberstalking victimization, along with the associated findings. The chapter will continue by introducing the target congruence approach, followed by a review of the empirical support for this perspective. Chapter 3 concludes with an explanation of why target congruence is an appropriate approach for explaining cyberstalking victimization. Chapter 4 will describe the methodology utilized in this research, including the questionnaire development, sampling design, data collection, and measures created. Chapter 5 will then follow with a presentation of the results of the statistical analyses, focusing on the hypothesized predictors of cyberstalking victimization based on the

target congruence approach. Finally, Chapter 6 will offer a discussion of the findings, policy and theoretical implications, potential limitations of the research, and suggested future work.

CHAPTER 2

STALKING AND CYBERSTALKING

Overview

Given that traditional stalking and cyberstalking may be related (Bocij, 2003), information regarding the prevalence and nature of stalking provides the ground work for researching and understanding cyberstalking victimization. Therefore, this chapter begins by exploring what is known about stalking and cyberstalking victimization. A discussion regarding the methodological issues, which may be undermining the validity and reliability of what is known about these two types of victimization, of the existing literature is presented. This is followed by an explanation of how the current study is able to overcome some of these problematic methodological concerns.

Stalking Victimization

Defining Stalking

While incidents of stalking date back to at least the time of Shakespearian plays, stalking was not considered a criminal act until recent history. The first anti-stalking law was passed in the United States in 1990. By the end of the 1990s, all 50 states, the District of Columbia, the United States territories, and the federal government had implemented anti-stalking laws (Marks, 1997). These laws were passed largely due to highly publicized cases of stalking victimization, often involving celebrities or incidents resulting in physical violence or death (McAnaney, Curliss, & Abeyta-Price, 1993). While the legal definition of stalking varies across states, most definitions today include the following elements: (1) a course of conduct or behavior and (2) feelings of fear in the victim (e.g., Fox, Nobles, & Fisher, 2011; Tjaden, 2009).

To explain these elements further, a course of conduct refers to the repeated pursuit behaviors used by the stalker. Specifically, the Model Stalking Code developed by the United States Congress defines course of conduct as "…repeatedly maintaining a visual or physical proximity to a person, repeatedly conveying verbal or written threats or threats implied by conduct or a combination thereof directed at or toward a person" (National Criminal Justice Association, 1993, p. 43). Based on the National Crime Victimization Survey's (NCVS) Supplemental Victimization Survey (SVS), examples of these behaviors include: following or spying, unwanted letters, and waiting or showing up at places with no legitimate reason for being there.

The second core element of stalking definitions requires feelings of fear as a result of experiencing the repeated pursuit behaviors. The Model Stalking Code states that the fear requirement is met if the "…course of conduct directed at a specific person would cause a reasonable person to fear bodily injury to himself or herself or a member of his or her immediately family" (National Criminal Justice Association, 1993, p. 43).

When the term "stalking" was first added to the general public's vernacular in the 1980s, it was used to describe the intrusive or predatory behaviors of obsessed fans towards celebrities. Many of these obsessed fans, or stalkers, were thought to have psychological disorders (Maiuro, 2002). Not long after, though, stalking was also used to describe the repeated unwanted behaviors a person made towards a former intimate partner after the conclusion of a relationship (Maiuro, 2002). It was not until the mid to late 1990s when scholars began exploring the full extent and nature of stalking (Tjaden, 2009). At this time, scholars began to recognize that stalking can occur even if the perpetration was not committed by a former spouse or intimate partner. In other words, stalking could also occur between friends, family members, coworkers,

classmates, or even strangers. Additionally, stalking was expanded to refer to a wide range of repeated behaviors that are generally harassing or threatening in nature.

In the first national study of stalking in the United States, Tjaden and Thoennes (1998) used data from the National Violence Against Women Survey (NVAWS), which was a representative sample of 8,000 adult women and 8,000 adult men in the United States. The following definition, based on the Model Stalking Code, was used: "a course of conduct directed at a specific person that involves repeated visual or physical proximity; non-consensual communication; verbal, written, or implied threats; or a combination thereof that would cause fear in a reasonable person" (Tjaden & Thoennes, 1998, p. 13). Specifically, respondents were asked if anyone: (1) Followed or spied on you?; (2) Sent you unsolicited letters or written correspondence?; (3) Made unsolicited phone calls to you?; (4) Stood outside your home, school, or workplace?; (5) Showed up at places you were even though he or she had no business being there?; (6) Left unwanted items for you to find?; (7) Tried to communicate in other ways against your will?; or (8) Vandalized your property or destroyed something you loved? (Tjaden & Thoennes, 1998, p. 13).

Another national level study conducted several years later in 2006 was the Supplemental Victimization Survey (SVS) to the NCVS. For this study, stalking was defined as "a course of conduct directed at a specific person that would cause a reasonable person to feel fear" (Baum et al., 2009, p.1). The following stalking behaviors were measured: (1) making unwanted phone calls; (2) sending unsolicited or unwanted letters or e-mails; (3) following or spying on the victim; (4) showing up at places without a legitimate reason; (5) waiting at places for the victim; (6) leaving unwanted items, presents, or flowers; and (7) posting information or spreading rumors about the victim on the internet, in a public place, or by word of mouth (Baum et al.,

2009, p. 1). While lacking some of the specification of the NVAWS's definition, the SVS defined and measured stalking victimization in a very similar manner.

While these two definitions are fairly comparable, there are discrepancies across other studies related to both of the core elements of stalking definitions. First, regarding the course of conduct, studies vary in the frequency of behaviors required to label the experience stalking. Researchers generally agree that for stalking to occur, the behavior or contact needs to be experienced repeatedly, which means two or more times. However, some scholars operationalize this differently and require the pursuit behaviors to occur three or more times (e.g., Fisher et al., 2014) or even ten or more times (e.g., Mullen, Pathè, Murdell, & Stuart, 1999). Muddling the issue further, Fox and colleagues (2011) found that of the stalking victimization studies they examined, 34% did not explicitly define what *repeated* meant.

The second core element of stalking definitions, the fear requirement, has also been handled differently across stalking research. Some have argued that by requiring a victim to feel fear, prevalence rates are underestimated and, perhaps even more problematic, individuals are not considered or treated as a victim (Dietz & Martin, 2007). In fact, scholars have found that approximately one quarter of adult women who were "behaviorally" stalked (i.e., experienced repeated pursuit behaviors) did not feel fearful (Dietz & Martin, 2007). It is argued that different individuals may not experience fear the same way and the various types of stalking behaviors may illicit varying levels of fear (Dunn, 2002). For example, being physically followed may cause an individual to experience more fear than receiving unwanted letters would.

In more recent research, the fear requirement has been modified and expanded in an effort to address these concerns. To explain, in the redesign of the SVS, an experience is labeled stalking if the victim fears for their safety or the safety of someone close to them *or* feels

substantial emotional distress. Additionally, the Model Stalking Code was revised in 2007 to include, "fear for his or her safety of the safety of a third person or suffer emotional distress."

It is also important to note that some definitions of stalking require the fear (or emotional distress) to be felt by the actual individual who experienced the repeated pursuit behaviors. Others, however, simply state that a reasonable person must be fearful as a result of the repeated pursuit behaviors. As an example, Illinois's law defines a reasonable person as "…a person in the victim's circumstances, with the victim's knowledge of the defendant and the defendant's prior acts" (Stalking Resource Center, 2017).

Other variations in stalking definitions also exist. For example, some stalking definitions have also required there to be threats made (e.g., Fox, Gover, & Kaukinen, 2009) and required the victim to ask the perpetrator to stop. The variation across studies in defining stalking victimization is a difficult problem that plagues research on other types of crime as well, including sexual assault and bullying victimization. However, it is also a unique issue compared to most offenses, as scholars do not debate what behaviors constitute homicide or burglary as they do for stalking (Fox et al., 2011). Thus, as stalking research continues to evolve, scholars need to develop an agreed upon definition. Utilizing various definitions across studies influences estimates of victimization and perpetration prevalence rates, victim and offender characteristics, and impacts analyses aimed at identifying predictors of stalking victimization and perpetration.

Prevalence of Stalking Victimization

Since researchers first began studying stalking victimization over two decades ago, many have sought to estimate the extent of this type of victimization. Existing prevalence rates have been estimated from samples of adults, college students, high school students, and adolescents. It is important to note that prevalence rates of stalking victimization vary across studies due to

different definitions utilized (as was mentioned in the previous section) and the type of sample studied.

Nationally representative adult samples. As was previously mentioned, the first national study of stalking was conducted by Tjaden and Thoennes (1998) and used data from the NVAWS, which was funded by the National Institute of Justice (NIJ) and Centers for Disease Control and Prevention (CDC). Tjaden and Thoennes calculated prevalence estimates using two definitions of stalking, which varied only in the level of fear required. Stalking was defined as "a course of conduct directed at a specific person that involves repeated visual or physical proximity, nonconsensual communication, or verbal, written, or implied threats, or a combination thereof, that would cause a reasonable person fear" (Tjaden & Thoennes, 1998, p. 2). When using the definition with the high level of fear requirement, or the restrictive definition, 8% of women and 2% of men were identified as being stalked at some point in their lifetime (Tjaden & Thoennes, 1998). The 12-month estimates revealed that 1% of women and 0.4% of men were stalked in this time frame (Tjaden & Thoennes, 1998). When the less stringent definition was used, requiring victims to only feel somewhat or a little frightened, lifetime estimates increased to 12% of women and 4% of men being victims of stalking. In the 12-months prior, 6% of women and 1.5% of men were stalked based on the less stringent definition (Tjaden & Thoennes, 1998).

The Injury Control and Risk Survey (ICARIS-2) is another national-level study, which used a sample of 9,684 adults living in the United States collected via a random-digit-dial telephone survey. Respondents were asked, "Have you ever had someone besides bill collectors or sales people follow or spy on you, try to communicate with you against your will, or otherwise stalk you for more than one month?" (Basile, Swahn, Chen, & Saltzman, 2006, p.

173). Participants were then asked to indicate the seriousness of the experience, with answers of somewhat dangerous or life-threatening being identified as the criteria for stalking. Findings revealed that 4.5% of the sample reported being stalked in their lifetime (Basile et al., 2006). When exploring gender differences, it was found that 7% of women and 2% of men had been stalked at some time in their life (Basile et al., 2006). These findings are consistent with the prevalence rates estimated using Tjaden and Thoennes' (1998) restrictive definition.

The National Intimate Partner and Sexual Violence Survey (NISVS) also calculated both lifetime and 12-month estimates of stalking victimization among adults in the United States. Individuals were considered victims of stalking if they "experienced multiple stalking tactics or a single tactic multiple times by the same perpetrator and felt very fearful, or believed that they or someone close to them would be harmed or killed as a result of the perpetrator's behavior" (Black et al., 2011, p. 29). Findings revealed that nearly 1 out of every 6 women (16.2%) and 1 in 19 men (5.2%) were stalked at some point in their lifetime (Black et al., 2011). This translated into an estimated 19.3 million adult women and 5.9 million adult men in the United States experiencing stalking victimization in their lifetime (Black et al., 2011). When examining 12-month reports, 4.3% of women and 1.3% of men were stalked (Black et al., 2011).

The final national-level study that estimated prevalence rates of stalking victimization was the SVS of the NCVS. Participants were labeled stalking victims if they (1) experienced at least one of the harassing or unwanted behaviors on two or more occasions and (2) feared for their own safety or the safety of a family member; or experienced threatening behaviors that would illicit fear in a reasonable person (Baum et al., 2009). The data revealed that during a 12-month time frame, approximately 3.4 million adults in the United States were stalked (Baum et al., 2009). This number was calculated based on the finding that approximately 14 out of 1,000

participants in the sample were labeled as stalking victims (Baum et al., 2009).[1] When taking gender into consideration, the data revealed that 2.2% of females and 0.8% of males were stalked in the previous 12 months (Catalano, 2012).

College student samples. Numerous additional studies on stalking victimization have been conducted that utilize samples of college or university students. One of the largest studies that explored the stalking victimization of college students is The Association of American Universities' (AAU) Campus Climate Survey. Stalking victims were those who experienced more than one occurrence of the pursuit behaviors that made them fear for their personal safety (Cantor et al., 2015). The findings revealed that 4.2% of the sample had been a victim of stalking since first enrolling at their respective university (Cantor et al., 2015). Unlike the national-level studies, the AAU Campus Climate Survey explored stalking victimization rates for all gender identities. Results revealed that those at the highest risk of stalking victimization were the students who identified as a transgender woman or man, genderqueer, gender non-conforming, or questioning (Cantor et al., 2015).

The American College Health Association's National College Health Assessment II (ACHA-NCHA II) asked students to self-identify as a victim of stalking. Results revealed a stalking victimization estimate that was similar to the estimate reported in the AAU Campus Climate Survey, though the time frame in question was a bit longer. For this study of undergraduate students, 5% of students reported being stalked in a 12-month time period (ACHA, 2017).

[1] This initial report was found to have two errors. First, the sample was not limited to individuals 18 years of age and older as was indicated. The estimates presented were for 12-year olds and older. Additionally, some of the behaviors were erroneously labeled as stalking (Catalano, 2012). When these issues were rectified, the correct estimate of stalking victimization among adults in a 12-month period was 1.5% (compared to 1.4% in the original report) (Catalano, 2012).

One of the first studies of stalking victimization was Fisher and colleagues' (2002) nationally representative study of college women. Stalking was defined here as an individual engaging in repeated pursuit behavior that appeared obsessive and made the respondent fearful (Fisher, Cullen, & Turner, 2002). Their findings revealed that since the current school year began (on average, 7-months), 13.1% of the women in the sample were stalked (Fisher et al., 2002). Mustaine and Tewksbury (1999) also estimated the extent of stalking victimization among college women. Using a six-month time frame, results indicated that 10.5% of women had been stalked.

Overall, it appears that prevalence rates for stalking victimization are larger in college student samples than nationally representative adult samples (Brady, Nobles, & Bouffard, 2017). This may be due to the fact that those who are in the college age group are at the highest risk for stalking victimization. This postulation is supported by previous research that indicates that a large portion of individuals who are stalked are young adults (e.g., Catalano, 2012; Tjaden & Thoennes, 1998).

Adolescent samples. In addition to adult and college student samples, some scholars have utilized high school or adolescent samples to study stalking victimization. In a large study of 18,013 high school students from the state of Kentucky, Fisher and colleagues (2014) explored the extent of stalking victimization. Individuals were identified as stalking victims when they experienced one or more pursuit behaviors at least three times within the previous 12-months. Their findings revealed that 16.5% of the sample had been stalked within the previous 12-months. Focusing on gender differences, they found that 18.4% of female and 13.9% of male students were stalked (Fisher et al., 2014).

Fairly similar results were found in a study of sixth and ninth grade students enrolled in thirteen different schools. Using a 12-month time frame, it was found that 14% of females and 13% of males had been the victims of stalking (Reidy, Smith-Darden, & Kernsmith, 2016). In their definition of stalking, several behaviors were included that could be classified as cyberstalking (e.g., unwanted texts or voicemails).

Despite the range of stalking estimates, which vary due to numerous factors including the sample type, it is obvious that a significant number of people in the United States have been victims of stalking. This holds true even when focusing on the lowest prevalence rate estimated (1.4%), which was from the SVS. This translates into over 3.3 million adults in the United States being stalked each year (Catalano, 2012).

Victim and Perpetrator Characteristics

In addition to estimating the prevalence of stalking victimization across numerous samples, some scholars also have attempted to understand this type of victimization further by identifying victim and offender characteristics. It is important to identify victim characteristics because it helps with developing stalking prevention strategies and programs. Likewise, it is vital to gain more knowledge about who is stalking others so that potential victims are more aware of who they should be protecting themselves from.

Stalking victims. In the existing literature, there are some characteristics of stalking victims that have been consistently found. The most well-established finding is regarding gender, with stalking victims being primarily female (e.g., Basile et al., 2006; Baum et al., 2009; Black et al., 2011; Breiding, 2014; Cantor et al., 2017; Fisher et al., 2014; Menard & Cox, 2016; Tjaden & Thoennes, 1998). Next, as was highlighted in the prevalence section, young adults also appear

to be at an increased risk of stalking victimization (e.g., Baum et al., 2009; Black et al., 2011; Breiding, 2014; Nobles, Fox, Piquero, & Piquero, 2009; Tjaden & Thoennes, 1998).

Regarding victim's race, there are inconsistent findings. American Indian and Alaskan Native women have been found to be at greatest risk of stalking victimization (Breiding, Chen, & Black, 2014[2]; Tjaden & Thoennes, 1998). Another study explored both gender and race, and similarly found that multiracial (30.6%) and Native Indian or Alaska Native (22.7%) women had the highest rates of stalking victimization (Black et al., 2011). Other research, however, found that White individuals had an increased risk of stalking victimization compared to other races (Basile et al., 2006).

Research has also revealed that the victim's relationship status at the time of their stalking victimization may be an important demographic characteristic to explore. In one study it was found that those who were either divorced or separated had the highest rate of stalking victimization (3.3%) compared to those who were married, never married, or widowed (Catalano, 2012). Another study revealed that individuals who were never married or were separated, widowed, or divorced were at a greater risk of being stalked than those who were married or had a partner (Basile et al., 2006).

Finally, some scholars have also explored the socioeconomic status of stalking victims. The existing research reveals that there appears to be an inverse relationship between household income and stalking victimization. Those individuals residing in households with higher incomes experienced a lower percentage of stalking victimization compared to lower income households (Catalano, 2012; Menard & Cox, 2015).

[2] This study only assessed stalking perpetrated by an intimate partner.

This information regarding the characteristics of individuals who are at greatest risk of stalking victimization is important because it helps identify those groups of individuals who should be selected for targeted prevention programs. For example, as young adults are at an increased risk of being stalked, colleges and universities can provide informational sessions and pamphlets for their students.

Stalking perpetrators. There have been fewer attempts to identify characteristics of those who commit the stalking behaviors, compared to those who experience the stalking behaviors. Nonetheless, there are some valuable findings related to the demographics of stalkers. While all gender identities perpetrate stalking, stalkers are most frequently male (e.g., Baum et al., 2009; Roberts, 2005; Tjaden & Thoennes, 1998). Next, it has been found that perpetrators generally stalk those who are similar to them in terms of age and race. Thus, stalking perpetrators are most commonly young adults and are often White (Baum et al., 2009).

Some research indicates that those who participate in stalking may suffer from mental illnesses or psychological distress at higher rates than the general population. This includes schizophrenia, mood disorders, and personality disorders (e.g., Mullen & Pathe, 1994).

There are also research findings that suggest the stalker is typically known to the victim (Fisher et al., 2002; Tjaden & Thoennes, 1998; Cantor et al., 2017). Specifically, stalkers are frequently current or former intimate partners (e.g., Baum et al., 2009; Black et al., 2011; Melton, 2007; Roberts, 2005; Spitzberg & Cupach, 2001; Tjaden & Thoennes, 1998). Studies that have specifically looked at identifying characteristics of former intimate partner stalkers yielded interesting findings. These stalkers were found to be more likely to suffer from a history of drug or alcohol abuse, violence, criminal involvement, mental health issues, and inappropriate emotional reactions within the context of the relationship (Roberts, 2005).

Not only does the information presented above aid in understanding more about the extent and nature of stalking, but it is also a starting point for those who have attempted to research cyberstalking victimization and perpetration. Given the potential conceptual overlap between stalking and cyberstalking, one may expect to uncover similar findings across these two types of victimization.

Cyberstalking Victimization

Defining Cyberstalking

Confusion surrounds the term *cyberstalking* in the general societal, legal, and academic communities. For the general population, *cyberstalking* has inaccurately been used interchangeably with *Facebook stalking*, which is a playful term for obsessively monitoring the online behaviors of Facebook friends (Lyndon, Bonds-Raacke, & Cratty, 2011). Moreover, the behaviors that are actually cyberstalking behaviors have become somewhat socially accepted, especially in the context of intimate partner relationships. Thus, if individuals were randomly selected off the street and asked to define cyberstalking, it is likely that no two answers would be the same.

In the legal community, there are also inconsistencies related to defining cyberstalking. While all 50 states have anti-stalking laws, few states have anti-cyberstalking laws. The limited number of states that have passed separate cyberstalking statutes include Illinois, Louisiana, North Carolina, and Washington (Goodno, 2007). Most states simply rely upon their existing stalking or harassment laws to cover cyberstalking victimization cases when they arise. Florida, for example, amended their stalking code in 2003 to cover incidents that include a course of conduct to communicate through electronic communication or mail that results in substantial emotional distress (Goodno, 2007). Table 2.1 provides an overview of existing state-level

stalking and cyberstalking statutes. It is important to note, however, that state-level statutes are not always useful, as the cyberstalker could be located across state, or even country, borders (Pittaro, 2007). At the federal level, there are three statutes that address cyberstalking, including the Interstate Communications Act, Federal Telephone Harassment Statute, and Federal Interstate Stalking Punishment and Prevention Act (Goodno, 2007). Though, all three have holes that do not fully cover cyberstalking.

For the states that have passed cyberstalking laws, there is variation in what is necessary for a behavior to be considered cyberstalking. As can be seen in Table 2.1, only eight states have passed specific cyberstalking laws. Of those eight states, four include the requirement of fear, two states also include emotional distress, however, the remaining four states do not require any sort of emotional response. It is important to note that while some of the states do not require the emotional responses, definitions include these elements as part of the cyberstalker's intent. To explain, North Carolina's law states that it is cyberstalking a "electronically mail or electronically communicate to another repeatedly, whether or not conversation ensues, for the purpose of abusing, annoying, threatening, terrifying, harassing, or embarrassing any person." Additionally, similarly to stalking, some definitions require the person who experienced the pursuit behaviors to experience fear or emotional distress, while other definitions state that a reasonable person must experience it.

Finally, the academic community has also attempted to define cyberstalking victimization, though no one definition has yet to be universally accepted. Thus, there are variations in cyberstalking definitions, with some scholars even arguing that cyberstalking, cyber harassment, and cyberbullying are all terms that can be used interchangeably (Maple, Short, & Brown, 2011; Paullet, Rota, & Swan, 2009; Philips & Morrissey, 2004).

Table 2.1: Stalking and Cyberstalking Laws and the Inclusion of Fear or Emotional Distress*

	Stalking				Cyberstalking		
	Law	**Covers Electronic Communication**	**Fear**	**Emotional Distress**	**Law**	**Fear**	**Emotional Distress**
Alabama	Yes	Yes	Yes	Yes	No	---	---
Alaska	Yes	Yes	Yes	No	No	---	---
Arizona	Yes	Yes	Yes	Yes	No	---	---
Arkansas	Yes	Yes	Yes	Yes	Yes	No	No
California	Yes	Yes	Yes	No	No	---	---
Colorado	Yes	Yes	Yes	Yes	No	---	---
Connecticut	Yes	Yes	Yes	Yes	Yes	Yes	No
Delaware	Yes	Yes	Yes	Yes	No	---	---
D.C.	Yes	Yes	Yes	Yes	No	---	---
Florida	Yes	Yes	Yes	Yes	No	---	---
Georgia	Yes	Yes	No	Yes	No	---	---
Hawaii	Yes	Yes	Yes	Yes	No	---	---
Idaho	Yes	Yes	Yes	Yes	No	---	---
Illinois	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Indiana	Yes	No	Yes	No	No	---	---
Iowa	Yes	Yes	Yes	No	No	---	---
Kansas	Yes	Yes	Yes	Yes	No	---	---
Kentucky	Yes	Yes	Yes	Yes	No	---	---
Louisiana	Yes	Yes	Yes	Yes	Yes	No	No
Maine	Yes	No	Yes	No	No	---	---
Maryland	Yes	Yes	Yes	Yes	No	---	---
Massachusetts	Yes	Yes	Yes	Yes	No	---	---
Michigan	Yes	Yes	Yes	No	No	---	---
Minnesota	Yes	Yes	Yes	No	No	---	---
Mississippi	Yes	No	Yes	Yes	Yes	Yes	No
Missouri	Yes	Yes	Yes	Yes	No	---	---
Montana	Yes	Yes	Yes	No	No	---	---
Nebraska	Yes	Yes	Yes	No	No	---	---
Nevada	Yes	Yes	Yes	No	No	---	---
New Hampshire	Yes	Yes	Yes	Yes	No	---	---
New Jersey	Yes	Yes	Yes	No	No	---	---
New Mexico	Yes	Yes	Yes	Yes	No	---	---
New York	Yes	Yes	Yes	Yes	No	---	---
North Carolina	Yes	Yes	Yes	No	Yes	No	No
North Dakota	Yes	Yes	Yes	Yes	No	---	---
Ohio	Yes	Yes	Yes	Yes	No	---	---
Oklahoma	Yes	Yes	Yes	No	No	---	---
Oregon	Yes	Yes	Yes	Yes	No	---	---
Pennsylvania	Yes	Yes	Yes	Yes	No	---	---
Rhode Island	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 2.1: Stalking and Cyberstalking Laws and the Inclusion of Fear or Emotional Distress*

	Stalking				Cyberstalking		
South Carolina	Yes	Yes	Yes	No	No	---	---
South Dakota	Yes	Yes	Yes	Yes	No	---	---
Tennessee	Yes	No	Yes	No	No	---	---
Texas	Yes	Yes	Yes	Yes	No	---	---
Utah	Yes	Yes	Yes	Yes	No	---	---
Vermont	Yes	No	Yes	No	No	---	---
Virginia	Yes	Yes	Yes	Yes	No	---	---
Washington	Yes	No	Yes	Yes	Yes	No	No
West Virginia	Yes	Yes	Yes	Yes	No	---	---
Wisconsin	Yes	Yes	No	Yes	No	---	---
Wyoming	Yes	Yes	Yes	Yes	No	---	---

*Information obtained from state and federal anti-stalking statutes as posted by the Stalking Resource Center (http://victimsofcrime.org/our-programs/stalking-resource-center/stalking-laws) – updated October 2017

When first developing the definition of cyberstalking, scholars relied upon the definition of stalking. Thus, cyberstalking was simply believed to be stalking that occurred through the Internet. Generally speaking, this is accurate, as cyberstalking definitions include the same two elements of stalking – repeated pursuit behavior and feelings of fear. However, for this type of victimization the pursuit behaviors must occur through communication technologies, and include behaviors such as threats of violence, unwanted sexual advances, and harassment (Reyns, et al., 2011).

In Reyns and colleagues' (2011) analysis of a sample of 974 undergraduate university students, cyberstalking was defined as "the repeated pursuit of an individual using electronic or Internet-capable devices" (p.1156). Respondents were classified as a cyberstalking victim if on two or more occasions they were "(a) repeatedly contacted online after asking the person to stop, (b) repeatedly harassed online, (c) the recipient of repeated and unwanted sexual advances, or (d) repeatedly threatened with violence while online" (Reyns et al., 2011, p.1156). While this definition may appear to be a fairly standard definition of cyberstalking victimization, there are

two unique elements. First, there is no mention of emotional harm (i.e., fear) experienced by the victim. Additionally, the definition requires the victim to ask the person to stop contacting them, which is uncommon among cyberstalking definitions.

Unlike the definition presented above, several scholars have included the emotional harm requirement in cyberstalking definitions. As an example, as part of the ECHO project, Maple and colleagues (2011, p. 4) defined cyberstalking victimization as "a course of action that involves more than one incident perpetrated through or utilizing electronic means, that causes distress/fear or alarm."

D'Ovidio and Doyle (2003) presented a definition of cyberstalking that is unique in that the pursuit behaviors do not have to be directed towards an individual. Specifically, they defined cyberstalked as "the repeated use of the Internet, e-mail, or related digital electronic communication devices to annoy, alarm, or threaten a specific individual or group of individuals" (D'Ovidio & Doyle, 2003, p. 10). In other words, they suggest that entire groups of people could be cyberstalked.

Cyberstalking research has only been conducted by a small number of scholars, thus, there are not many involved in the attempt to best conceptualize and operationalize this type of crime. As research on this type of victimization advances, developing a universal definition of cyberstalking – consistent across the legal and academic communities – is a priority. This is because using varying definitions impedes the ability to compare findings across studies and negatively impacts scholars' attempts to fully understand cyberstalking victimization and perpetration.

Prevalence of Cyberstalking Victimization

As was previously mentioned, cyberstalking victimization research is still in its infancy, with many questions about this phenomenon left unanswered. With that being said, multiple scholars have estimated the prevalence rate of cyberstalking victimization. Similar to stalking victimization studies, the extent of cyberstalking victimization has been estimated using adult and college student. Table 2.2 provides a summary of the known studies that have calculated the extent of cyberstalking victimization. Specifically, the table presents information on the type of sample studied, how cyberstalking victimization was defined and measured, and the estimated prevalence rate.

Nationally representative adult samples. The only national level study that has been conducted that can provide prevalence rates of cyberstalking victimization is the Supplemental Victimization Survey (SVS). The SVS found that of the 1.5% of adults who reported being stalked, 26.1% had also experienced cyberstalking victimization within the previous 12-months (Baum et al., 2009).

College student samples. Due to the difficulties associated with collecting nationally representative data, most of what is known about cyberstalking comes from college student samples. Research on cyberstalking victimization among college or university students reveals a wide range of prevalence estimates. On the lower end, in Reyns and colleagues' (2018) analysis of 1,987 female college students across two large universities, they found that 3.4% of students were victims of cyberstalking during the current academic year (Reyns, Fisher, & Randa, 2018). Individuals were identified as victims of cyberstalking if they repeatedly experienced harassment, unwanted sexual advances, or threats of harm online that caused them to worry about their personal safety (Reyns et al., 2018).

Table 2.2: Summary of Cyberstalking Victimization Studies

Study Authors (date published)	Sample	Dependent Variable – Cyberstalking Victimization		Prevalence Rate
		Definition	Measurement	
Jerin & Dolinksy (2001)	Purposive sample of 134 female customers of three popular Internet dating services	Not provided	Receiving threatening email Receiving unsolicited obscene email Receiving a multitude of junk email (spamming) Experiencing verbal online verbal abuse (flaming) Receiving improper messages on message boards Receiving electronic viruses Being the subject of electronic identity theft	26.8%
Fisher, Cullen, & Turner (2002)	Nationally representative sample of 4,446 college women	Repeatedly emailed in a way that seemed obsessive or resulted in feelings of fear	Receiving email	24.7% (of those who were stalked)
Spitzberg & Hoobler (2002)[3]	Convenience sample of 235 undergraduate college students	Harassed or obsessively pursued through the computer or other electronic means	Sending exaggerated messages of affection Sending tokens of affection Sending excessively needy or demanding messages Sending excessively disclosive messages Sending sexually harassing messages Pretending to be someone she or he wasn't Directing others to you in threatening ways Meeting first online and then threatening you Meeting first online and then following you Attempting to disable your computer	< 31% (lifetime)

[3] The dependent variable was named cyber obsessive relational intrusion

Table 2.2: Summary of Cyberstalking Victimization Studies

Study Authors (date published)	Sample	Dependent Variable – Cyberstalking Victimization		Prevalence Rate
		Definition	Measurement	
			Taking over your electronic identity or persona Meeting first online and then intruding in your life Bugging your car, home, or office Sending threatening written messages Sending threatening pictures or images Sabotaging your private reputation First meeting you online and then stalking you Exposing private information about you to others Obtaining private information without permission Sabotaging work/school reputation Sending pornographic/obscene images or messages Altering your electronic identity or persona Meeting first online and then harming you Using your computer to get information on others	
Bocij (2003)	Snowball sample of 169 respondents	The behavior relies upon the use of ICT Two or more incidents must have taken place All incidents must have been	Sent you threatening or abuse e-mail messages Made threats or abusive comments via Instant Messaging software, such as MSN Made threats or abusive comments in chat rooms Post false information (e.g., rumors) about you to a bulletin board or chat room Impersonated you in e-mail messages to your friends, family, or work colleagues	21.9%

Table 2.2: Summary of Cyberstalking Victimization Studies

Study Authors (date published)	Sample	Dependent Variable – Cyberstalking Victimization		Prevalence Rate
		Definition	Measurement	
		perpetrated by the same person The incidents must have caused distress to the victim	Encouraged other users to harass, threaten, or insult you Ordered goods or services in your name, possibly charging items to your credit cards Attempted to damage your computer system by sending malicious programs to you, such as a computer virus Attempted to monitor your actions by inserting Trojan horse software (e.g., key logging programs) on your computer system Attempted to access confidential information stored on your computer, such as credit card numbers, e-mail messages, etc. Another other behavior you found distressing in any way	
D'Ovidio and Doyle (2003)	NYPD Data from the Computer Investigation & Technology Unit (1996-2000)	The repeated use of the Internet, email, or related digital electronic communication devices to annoy, alarm, or threaten a specific individual or group of individuals	N/A	42.8% (of cybercrimes)
Alexy, Burgess, Baker, & Smoyak (2005)	Convenience sample of 756 college students	Not provided.	Not provided	3.7%
Sheridan & Grant (2007)	1,051 self-defined	Repeated incidents (≥10 occasions) originated online	Received unsolicited e-mails Harassed via the Internet	7.2%

Table 2.2: Summary of Cyberstalking Victimization Studies

Study Authors (date published)	Sample	Dependent Variable – Cyberstalking Victimization		Prevalence Rate
		Definition	Measurement	
	stalking victims	and remained solely online for a minimum of four weeks		
Baum, Catalano, Rand, & Rose (2009)	Nationally representative sample of adults in the United States	Repeated behavior that caused the individual to fear for their safety or the safety of a family member	Unsolicited or unwanted e-mails	26.1% (of those who were stalked)
Paullet, Rota, & Swan (2009)	302 undergraduate and graduate students	Threatening behavior or unwanted advances direct at another using the Internet and other forms of online and computer communications	Self-identified	13%
Kraft & Wang (2010)	471 sophomores, juniors, seniors, and graduate students at a liberal arts college	Repeated harassment through the Internet, e-mail, or other electronic communication that causes the victim to fear for their safety. Technology is used to stalk the victim with the intention of annoying,	Not provided.	9%

Table 2.2: Summary of Cyberstalking Victimization Studies

Study Authors (date published)	Sample	Dependent Variable – Cyberstalking Victimization		Prevalence Rate
		Definition	Measurement	
		alarming, or threatening the victim		
Reyns, Henson, & Fisher (2011)[4]	Web-based survey of 974 college students	Repeated pursuit of an individual using electronic or Internet-capable devices	Repeatedly contacted online after asking the person to stop Repeatedly harassed online Repeatedly the recipient of unwanted sexual advances Repeatedly threatened with violence while online	40.8% (lifetime)
Dreßing, Bailer, Anders, Wagner, & Gallas (2014)	6,379 members of a popular German social network, StudiVZ	Unwanted Internet contacts/harassment that lasted longer than two weeks and caused fear	Repeatedly contacted you personally via the Internet although you did not want it Used the Internet in any way in order to harass you, insult you, and/or spread rumors/lies about you?	6.3% (lifetime)
Nobles, Reyns, Fox, & Fisher (2014)	3.388 stalking victims	Harassing or threatening communication from one or more Internet technologies	Harassing or threatening communication via email, instant messenger, chatrooms, blogs, message or bulletin boards, or other Internet sites	19% (of stalking victims)
Reyns, Fisher, & Randa (2018)	1987 college women	Repeated online pursuit behaviors that caused the individual to worry about their personal safety	Online harassment Unwanted sexual advances online Threats of physical harm online	3.4% (academic year)

[4] Numerous other studies used this same data set.

Kraft and Wang (2010) also reported a fairly low prevalence rate, with 9% of the sample being cyberstalked at some point during their lifetime. They used a definition of cyberstalking that was provided by the United States Department of Justice (2000), which stated that cyberstalking is the "repeated harassment through the Internet, e-mail, or other electronic communication that causes the victim to fear for their safety."

On the other end of the prevalence spectrum, however, Reyns and colleagues (2011) found that nearly 41% of students had been cyberstalked at some point in their life. It is important to note that the definition used in this study defined cyberstalking as the repeated pursuit behavior using electronic or Internet-capable devices. There is no mention of fear or emotional distress, which may be at least partially responsible for the high prevalence rate.

The prevalence rates of cyberstalking victimization vary widely across studies, making it difficult to pinpoint an accurate estimate. This is due to the varying definitions utilized, as explored above, and the fact that many of the estimates are produced from small populations instead of general, representative samples (Henson & Reyns, 2016). However, as can be seen from the estimates reviewed above, a large number of people experience cyberstalking victimization. In fact, some scholars have indicated that cyberstalking victimization is more common than traditional stalking victimization (Reyns et al., 2012).

Victim and Perpetrator Characteristics

In the limited research on cyberstalking, some scholars have been able to identify patterns in victim and offender characteristics. Some of these findings are consistent with those found about victims and perpetrators of stalking, while others are unique to cyberstalking.

Cyberstalking victims. Many characteristics of cyberstalking victims are comparable to those who have been victims of traditional stalking. First, findings again overwhelmingly reveal

that cyberstalking victims tend to be female (e.g., Bocij, 2003; D'Ovidio & Doyle, 2003; Hutton & Haantz, 2003; Kraft & Wang, 2010; Moriarty & Freiberger, 2008; Paullet et al., 2009; Sheridan & Grant, 2007; WHOA, 2009). Next, young individuals also appear to be more likely to be cyberstalked (e.g., Dreßing et al., 2014; Hutton & Haantz, 2003).

There appears to be mixed findings regarding the race of victims. Some research has revealed that Caucasian individuals were at greatest risk of cyberstalking victimization compared to other racial categories (Kraft & Wang, 2010; McFarlane & Bocij, 2003). Others have found, however, that non-Whites had significantly higher rates of cyberstalking victimization when compared to Caucasians (Reyns et al., 2012).

Additional victim characteristics that appear to be related to an increased risk of cyberstalking victimization includes being non-heterosexual (Reyns et al., 2012) and relationship status. Similar to stalking victimization, there is some discrepancy related to the victim's relationship status at the time of the victimization. Reyns and colleagues (2012) found that victims were generally involved in a romantic relationship, while Dreßing and associates (2014) found that cyberstalking victims were more often single.

Descriptive information regarding the victim characteristics that are presented above is important to know, as it provides a starting point for theoretical explanations of cyberstalking victimization. Cyberstalker characteristics, in combination with victim characteristics, are used to develop theories that can explain why individuals are victims or perpetrators of cyberstalking.

Cyberstalking perpetrators. Due to the ability to conceal one's true identity in cyberspace, there is not a great deal known about the characteristics of cyberstalkers. Nonetheless, research has revealed a few useful findings. Similar to stalkers, cyberstalking

perpetrators are most often male (e.g., Cavezza & McEwan, 2014; D'Ovidio & Doyle, 2003; Dreßing et al., 2014; Moriarty & Freiberger, 2008; WHOA, 2009).

Unlike with traditional stalking, there is mixed evidence regarding the victim-cyberstalker relationship. Some scholars have found that cyberstalkers are most often former intimate partners (Alexy et al., 2005; Cavezza & McEwan, 2014; Paullet et al., 2009; Short, Guppy, Hart, & Barnes, 2015). Others, however, have found that the cyberstalker and victim are usually strangers (Bocij, 2003; Reno, 1999; Philips & Morressey, 2004; Moriarty & Freiberger, 2008). It is important to note that a victim may indicate that their cyberstalker was a stranger when a more appropriate response would be that they could not identify the offender. To explain, an offender could actually be known to the victim, but was able to conceal their identity from the victim through cyberspace (Bocij, 2003). This could be part of the explanation for the inconsistent findings across studies.

Furthermore, cyberstalkers are more likely to be White (D'Ovidio & Doyle, 2003) and heterosexual (Reyns et al., 2012). Some research also indicates that cyberstalkers may have a prior criminal record, history of substance abuse, or a personality disorder (Cavezza & McEwan, 2014; Hutton & Haantz, 2003; Reno, 1999). Overall, not a great deal of scholarly attention has been spent on identifying the characteristics of cyberstalking victims and perpetrators. Future research needs to explore these characteristics further in order to develop prevention strategies and other cyberstalking resources.

Methodological Limitations of Prior Research

While the existing literature on cyberstalking victimization has produced information that can be used to help begin understanding this phenomenon, there are concerning limitations associated with this research that must be noted. These shortcomings include varying

conceptualizations and operationalizations, the use of college student samples, small sample sizes, and the lack of a theoretical foundation (Reyns et al., 2011; Reyns et al., 2012). It is important to recognize these limitations, as they interfere with the ability to compare findings across studies and generalize results to larger populations.

Arguably the most damaging shortcoming of the existing research is the inconsistency in how cyberstalking victimization has been operationalized and conceptualized. As was reviewed in the previous section, scholars have defined and measured cyberstalking victimization in a variety of ways. Specifically, there are variations related to both of the core elements of cyberstalking definitions, which includes the fear requirement and the repeated pursuit behavior requirement. Some scholars do not include a fear requirement (e.g., Nobles et al., 2014), while others require fear only (e.g., Kraft & Wang, 2010), while still others require fear or emotional distress (e.g., Maple et al., 2011). This inconsistency influences prevalence estimates and may also impact which factors predict cyberstalking victimization. To explain further, gender could be a significant predictor of cyberstalking victimization based on a definition requiring fear, but not a significant predictor of cyberstalking victimization based on a definition that does not include a fear or emotional distress requirement.

The requirement of repeated pursuit behaviors has also caused trouble in cyberstalking research. One reason this is problematic is because it is not clear what should be considered an individual incident. For example, one type of communication technology that can be used to cyberstalk someone is text messaging. The question then arises, should receiving three text messages in a five-minute time span be considered one incident of pursuit behavior (not cyberstalking victimization) or three separate pursuit behaviors (cyberstalking victimization)? This is also a concern for the behavior of monitoring someone's activities, which is another one

of the unwanted behaviors included in measures of cyberstalking victimization, because it is difficult to determine where one incident begins and ends.

Additionally, there has been variation related to the number of behaviors required for an experience to be labeled cyberstalking victimization. Some research considers two or more instances sufficient (e.g., Nobles et al., 2014), while others require ten or more (Sheridan & Grant, 2007). Too low of a threshold and experiences that are not cyberstalking are included in the measure, which results in inflated prevalence rates. On the other hand, if the threshold is too high, victims go unaccounted for, which leads to underestimated prevalence rates of cyberstalking victimization (Bocij, 2003).

Before determining how many times an individual must experience a behavior for it to be considered repeated pursuit behaviors, it is necessary to identify those behaviors that are considered cyberstalking behaviors or contacts. There are several behaviors that are consistently included in measures of cyberstalking victimization (e.g., unwanted contact or attempted contact). Some definitions, however, include behaviors that do not neatly fit into the pursuit behavior category. This includes behaviors such as impersonating the victim online, online identity theft, and ordering goods or services in the victim's name (e.g., Bocij, 2003; Jerin & Dolinsky, 2001; Sheridan & Grant, 2007).

One method of navigating around the issue of inconsistencies in which pursuit behaviors are included in cyberstalking victimization measures is to ask respondents to indicate, via a self-report questionnaire, if they had been cyberstalked. While this may seem simple, it is a problematic approach for measuring victimization. Respondents likely do not know what the definition of cyberstalking victimization is, and, thus, do not know what actually constitutes this type of victimization. Two individuals could have the exact same experiences with unwanted

pursuit behaviors, yet label them differently (i.e., one self-identifies as a victim and the other does not). Additionally, some individuals may believe there is a negative stigma attached to being a crime victim, leading them to lie about their experiences. Therefore, these studies do not truly capture cyberstalking victimization, instead, they only capture those who self-identify as a victim.

Even more problematic than differences in definitions and measures presented within the literature, some existing research fails to explicitly state how cyberstalking victimization is either defined or measured (e.g., Alexy et al., 2005). Similar to the previous shortcomings, this makes it impossible to know what is actually being measured. Thus, making accurate comparisons across studies, identifying relevant predictors, and developing prevention strategies are all seriously hindered.

In addition to measurement concerns, the samples that have been utilized in the existing literature have limitations. Many of the previous studies have included college or university students (e.g., Alexy et al., 2005; Lee, 1998; Spitzberg & Hoobler, 2002; Fisher et al., 2002). Youth and young adults have been found to be at an increased risk of cyberstalking victimization, which makes this age group valuable to study (Bossler & Holt, 2010). However, it is important to note that there may be crucial differences between college students and non-college students within the same age group that impact the risk of being cyberstalked. Additionally, to be able to generalize estimates of cyberstalking victimization to the entire United States population, the sample must be representative of the population, not just subgroups. Thus, it is necessary to study individuals outside of the traditional college or university student sample. Related, several studies only sample females (e.g., Fisher et al., 2002;

Reyns et al., 2018). It is important to study cyberstalking victimization across all genders and all groups of people to gain a true understanding of this phenomenon.

Another shortcoming associated with the samples utilized in the existing cyberstalking research is their small size. To explain, numerous studies have relied upon samples of a few hundred participants (e.g., Jerin & Dolinksy, 2001; Spitzberg & Hoobler, 2002). A small sample size likely does not accurately represent the entire population from which it was selected, in addition to the fact that small samples impact the ability to find statistically significant relationships between variables.

The final limitation associated with previous research on cyberstalking victimization is the absence of a theoretical foundation. Many of these existing studies explore the prevalence and nature of cyberstalking victimization and, thus, simply present descriptive data (Henson & Reyns, 2016). While estimating the prevalence of cyberstalking victimization is important to do in order to obtain a sense of the scope of the problem, it is also necessary to identify the relevant predictors to better understand how and why cyberstalking victimization occurs.

While the existing research on cyberstalking victimization has been useful in beginning to understand this type of victimization, the findings must be viewed with a grain of salt due to the methodological issues. Future studies, including the current project, can add important knowledge to the field and build upon the existing literature by addressing some of the associated limitations that were outlined above.

Addressing Prior Methodological Limitations in the Current Study

When developing the current study, the limitations associated with prior research were taken into consideration. Focus was centered primarily on how the dependent variable was defined and measured, in addition to characteristics of the sample selected.

While it is impossible to singlehandedly overcome the variation in the conceptualization and operationalization of cyberstalking victimization across studies, the current study uses a definition that is grounded in existing literature and legal statutes. The definition used also overcomes some of the limitations associated with individual definitions that were reviewed in the previous section.

In this study, the following definition of cyberstalking victimization is utilized: the repeated pursuit (2 or more times) by the same person of an individual using communication technologies[5] that causes the individual to experience a substantial emotional response or feel fear for their safety or the safety of someone close to them. This excludes contact from solicitors, debt collectors, and other sales people.

It is important to highlight several features of this definition that help overcome previous methodological issues. First, the definition refers to contacts and behaviors that occur through the use of communication technologies. This terminology was intentionally used instead of asking respondents about experiences with specific types of technologies, such as Facebook or text messaging. As technology evolves rapidly, a technological communication tool that is currently commonly used could become obsolete within a short period of time. This is problematic because it can have an impact on the estimates of cyberstalking victimization. For example, a definition of cyberstalking victimization could be the following: the repeated pursuit of an individual using Myspace that would cause a reasonable person to experience a substantial emotional response or feel fear for their safety or the safety of someone close to them. Myspace is not commonly used today. Thus, cyberstalking prevalence rates, based on this definition, would be extremely low and may incorrectly cause individuals to conclude that cyberstalking has

[5] Communication technologies are products that transmit or receive communication electronically.

been virtually eliminated. The definition proposed in the current study, using the term communication technologies, can continue to be used by the research community regardless of how technology progresses.

Next, the definition requires a respondent to have a substantial emotional response *or* feel fear, with the feelings of fear being for their own safety or the safety of someone close to them. This element of the definition takes into consideration some of the arguments outlined in the previous section regarding why fear should not be a requirement of stalking and cyberstalking victimization (Dietz & Martin, 2007). Individuals respond to victimization in different ways, ranging from fear to sadness to anger to annoyance. All substantial emotional responses, including fear, are detrimental to the victim. Thus, definitions of cyberstalking victimization need to include this element so that accurate prevalence rates can be estimated, and so that victims are treated as such and receive the resources they need to cope with their experiences.

The last element of the definition that is important to note is the section explaining that the behaviors or contacts from bill collectors, solicitors, and other sales people should not be included in the measure. This statement has been included in previous stalking and cyberstalking research (e.g., Fox, Nobles, & Fisher, 2016) and is important to include as it helps eliminate inaccurate counts of cyberstalking victimization, as only true cyberstalking experiences are measured.

To determine if an individual had experienced cyberstalking victimization, respondents were not directly asked if they had been cyberstalked in the past 12 months. Instead, they were asked a series of questions to determine if they met the cyberstalking requirements. First, respondents were asked to identify which, if any, of seven different pursuit behaviors they experienced. Follow-up questions were then asked to determine if the remaining criteria for

cyberstalking (i.e., repeated behaviors, fear, emotional distress) were met. This strategy is beneficial, as it avoids asking respondents to self-identify as a victim.

As was mentioned above, it is important to not only study the cyberstalking experiences of college students, but also other groups as well. Therefore, in the current study, a sample of respondents aged 18 to 25-years old was utilized. The current focus was still on the age group that is at greatest risk of being cyberstalked, but it also gathers information from individuals who are not currently college students, and those who may have never been college students. Additionally, the current study utilizes a larger and more diverse sample of 1,500 respondents. This helps overcome the shortcoming of previous studies where small sample sizes were used.

The final limitation of previous cyberstalking research that is addressed in the current study is the use of a theoretical framework. This study is grounded in the target congruence approach (explained in the following chapter) to explain how and why cyberstalking victimization occurs.

In summary, the current study improves upon the existing literature in three important ways. First, the definition and measurement of cyberstalking victimization are designed appropriately and are supported by previous research and legal statutes. Second, the size and type of sample are also more useful than what has been relied upon in the existing research. Finally, the current study is grounded in a specific theoretical foundation, which allows for a more detailed examination of cyberstalking victimization and its predictors.

Summary

This chapter provided an exploration of the current state of knowledge about stalking and cyberstalking victimization and perpetration. While the descriptive information presented in this chapter – prevalence estimates, and victim and offender characteristics – are necessary to begin

to understand this type of crime, more rigorous research into cyberstalking is needed to understand the associated risk factors. Chapter 3 presents the theoretical perspectives that have previously been applied to cyberstalking victimization and the associated findings based on these theories.

CHAPTER 3

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Overview

In addition to studying the prevalence rate of cyberstalking victimization, scholars have also attempted to identify the predictors that increase an individual's risk of being cyberstalked. Determining which factors impact the risk of cyberstalking victimization is crucial for understanding how and why it occurs, in addition to informing the development of prevention strategies and programs. This chapter begins by presenting the theoretical approaches that have been used to explain cyberstalking victimization in the existing literature. While there appears to be partial support for some of these theories, none are able to provide a full explanation for this type of victimization. Therefore, a theoretical approach that has yet to be applied to cyberstalking victimization is suggested. Thus, the chapter continues with a presentation of the target congruence approach, followed by a review of the existing empirical support for this theoretical approach across numerous types of victimization. Finally, the chapter concludes with an explanation as to why the target congruence approach is appropriate for explaining cyberstalking victimization.

Existing Theoretical Explanations of Cyberstalking Victimization

Research on cyberstalking victimization is still in its infancy, with a great deal of the existing literature being exploratory in nature and lacking a theoretical foundation. However, some scholars have empirically tested the applicability of criminological and victimological theoretical perspectives for explaining cyberstalking victimization. Specifically, lifestyle-routine activity theory, the general theory of crime, and control balance theory have been applied to this type of victimization and are reviewed below.

Lifestyle-Routine Activity Theory

Hindelang and colleagues (1978, p. 241) developed the lifestyle-exposure theory, which explored the connections between lifestyles, "routine daily activities, both vocational activities (work, school, keeping house, etc.) and leisure activities," and crime and how these activities account for differences in victimization risk. The lifestyle-exposure perspective suggests that crime is not evenly dispersed across the population. This is due to the belief that certain lifestyles differentially expose individuals to offenders, which then creates opportunities for crime to occur (Hindelang, Gottfredson, & Garofalo, 1978).

Around the same time, routine activity theory was developed as a way to explain the changes in crime trends that emerged in the United States post-World War II (Cohen & Felson, 1979). Cohen and Felson (1979) argued that societal changes, notably the increase in activities away from the household, were central to the crime trends that were observed. This is due to the fact that activities outside of the home created more crime opportunities. Routine activity theory specifically suggested that crime is likely to occur when three elements converge in time and space. These three elements required for crime are a motivated offender, a suitable target, and a lack of capable guardianship (Cohen & Felson, 1979). The absence of just one of these elements was argued to be enough to prevent direct-contact predatory crime from occurring (Cohen & Felson, 1979).

To test their ideas, Cohen and Felson created a household activity ratio, which was the sum of the number of married and the husband-present female labor force participants to the number of non-husband-wife households divided by the total number of households in the United States (Cohen & Felson, 1979). The findings revealed significant positive relationships between the household activity ratio and five crime types, including nonnegligent homicide,

forcible rape, aggravated assault, robbery, and burglary. Thus, it was concluded that routine activities away from the household likely created the opportunity for criminal activity to transpire (Cohen & Felson, 1979). Both lifestyle-exposure theory and routine activity theory were widely used to explain numerous types of criminal victimization.

Due to the similarities between lifestyle-exposure theory and routine activity theory (see Birkbeck & LaFree, 1993; Garofalo, 1987; Meier & Miethe, 1993; for discussion), the two perspectives have merged into what is known today as the lifestyle-routine activity theory (LRAT). This combined perspective attributes the risk of victimization to four factors: exposure to victimization risk, guardianship, proximity to motivated offenders, and target attractiveness (Cohen, Kluegel, & Land, 1981). Cohen and colleagues (1981) hypothesized that risk of victimization would increase with increases in exposure, proximity, and target attractiveness, and with a decrease in guardianship. Numerous empirical tests of lifestyle-routine activity theory revealed support for this perspective across several types of victimization, including stalking (e.g., Fisher et al., 2002; Mustaine & Tewksbury, 1999; Reyns, Henson, & Fisher, 2016; Reyns & Scherer, 2017).

Some scholars have utilized LRAT to explain various types of online victimization (e.g., Bossler & Holt, 2009; Marcum, Higgins, & Ricketts, 2010), however, despite the widespread empirical support for direct contact crimes, it has been argued that it is not an appropriate perspective for explaining crimes that occur in cyberspace. The main reason for this is because victims and offenders do not converge in time and space during a cybercrime incident, as they would in direct contact offenses (Yar, 2005).

However, instead of abandoning the ideas presented in the traditional lifestyle-routine activity approach, Reyns and colleagues (2011) developed the cyberlifestyle-routine activity

theory, which addressed the spatial and temporal divergence of victims and offenders. This perspective suggests that even though victims and offenders of cybercrimes do not converge in space in the traditional sense, they do interact through a cyber-network. Regarding the divergence in time, while victims and offenders do not interact in real time, there is an eventual overlap in time (Reyns et al., 2011).

Reyns and colleagues (2011) tested their modified cyberlifestyle-routine activity perspective, and found some empirical support. At least one variable capturing each of the cyberlifestyle-routine activity elements – exposure, proximity, guardianship, and target attractiveness – were found to be significantly related to cyberstalking victimization. The number of social network accounts an individual had (exposure), the use of AOL Instant Messenger (exposure), adding strangers online (proximity), using a profile tracker (guardianship), having deviant peers online (guardianship), and being female (target attractiveness) all significantly increased the risk of cyberstalking victimization (Reyns et al., 2011). These relationships were all in the expected direction, except for the guardianship measure of using a profile tracker. As this is considered a method of self-protection, it is expected to decrease cyberstalking victimization. This finding, however, may be due to temporal ordering issues. In other words, it is impossible to determine if experiencing cyberstalking victimization led to an individual implementing a profile tracker, or if the use of a profile tracker led to the cyberstalking victimization (Reyns et al., 2011).

One additional study on cyberstalking victimization utilized the lifestyle-routine activity approach, but focused only on the element of guardianship (Reyns et al., 2016). The scholars focused on exploring the impact of guardianship because the existing literature has produced inconsistent findings regarding its predictive ability. Measures of both offline and online

guardianship were included in the analysis. The findings revealed that offline guardianship was not effective at preventing cyberstalking victimization. In fact, those who lived with their parents (offline guardianship) were significantly more likely to experience cyberstalking victimization. Support was found, however, for online guardianship. Consistent with the previous study, having deviant peers online (online guardianship) was associated with an increased likelihood of being cyberstalked (Reyns et al., 2016).

General Theory of Crime

Gottfredson and Hirschi presented their General Theory of Crime in 1990, which argued that individuals with low self-control were at an increased likelihood of engaging in criminal behavior (Gottfredson & Hirschi, 1990). While this perspective was originally developed to explain criminal offending, Schreck (1999) reconceptualized the theory in order to explain victimization, as research has supported a correlation between low self-control and victimization. He argued that low self-control could be conceptualized as a vulnerability to victimization instead of a criminal propensity (Schreck, 1999).

Reyns and associates (2013) applied the general theory of crime to cyberstalking victimization. Using a sample of 974 university students, they explored the impact self-control had on cybervictimization. Specifically, the findings revealed that low self-control significantly impacted both the likelihood and the frequency of experiencing cyberstalking victimization. Students with low self-control were nearly two times more likely to report experiencing two of the cyberstalking behaviors and nearly three times more likely to report experiencing three or more, compared to those with high self-control (Reyns, Burek, Henson, & Fisher, 2013). Given the empirical support found by Reyns and colleagues (2013), and the current trend in

victimization research, it is argued that measures of self-control should be included in studies examining the predictors of cyberstalking victimization.

Multi-Theoretical Framework

In an effort to better explain cyberstalking victimization beyond the studies that utilize a single theoretical explanation, Reyns and colleagues (2018) decided to take a multi-theoretical approach, meaning they integrated several theories. Specifically, this study explored the direct and indirect effects of measures capturing self-control, opportunity, and control balance perspectives on cyberstalking victimization. Using data from 1,987 college women, findings revealed that college women who reported higher scores on the measure of opportunity (opportunity theory) and those who had a control deficit (control balance theory) had an increased risk of cyberstalking victimization. Additionally, the data showed indirect effects of low self-control on cyberstalking victimization through opportunity and control deficits (Reyns et al., 2018). These findings supported the authors' proposed paths models, and are promising, thus indicating that future studies may benefit from a multi-theoretical approach.

As can be concluded by the findings reviewed above, there is at least partial support for the few theoretical perspectives that have been used to explain cyberstalking victimization in the existing literature. However, no single theory, or combination of theories, has received full empirical support. Due to the limited cyberstalking research that has a theoretical foundation, it is premature to conclude which perspective is the most appropriate for explaining cyberstalking victimization. Thus, it is suggested that an additional theoretical approach is extended and modified to explain cyberstalking victimization. Specifically, it is proposed that the target congruence approach can better explain cyberstalking victimization than the theoretical perspectives outlined above.

Target Congruence Approach

The lifestyle-routine activity theory has been popular and frequently used as an explanation for numerous types of victimization for several decades. Finkelhor and Asdigian (1996), however, argued that this theoretical perspective was not appropriate for every type of crime. Specifically, they suggested it could not explain youth victimization that is perpetrated by acquaintances and family members, as the child's routine activities cannot account for this type of victimization. Exposure to crime is often operationalized as amount of time away from the household, with more time out of the home being associated with an increased risk of victimization. However, when a parent or family member is the offender, time away from the household, and thus time away from the offender, would not increase the risk of victimization (Finkelhor & Asdigian, 1996). They continued by explaining that another concept of LRAT, guardianship, was not appropriate for youth victimizations. The presence of adult family members has been used as a measure of guardianship, which means that victimization is less likely when adults are present. This is problematic with certain youth victimizations because the guardians are actually the perpetrators (Finkelhor & Asdigian, 1996).

Due to the inability of lifestyle-routine activity theory to explain youth victimizations committed by acquaintances and family members, Finkelhor and Asdigian (1996) argued that the concepts needed to be modified. Specifically, they believed that the factors that influence risk of victimization should not be thought of as aspects of routine activities. Instead, they should be viewed as environmental factors (Finkelhor & Asdigian, 1996). To explain their ideas further, Finkelhor and Asdigian developed the target congruence approach. This perspective suggests that personal characteristics, net of routine activities, increase the risk of victimization because "these characteristics have some congruence with the needs, motives, or reactivities of

offenders" (Finkelhor & Asdigian, 1996, p. 6). Three elements of target congruence were identified: target vulnerability, target gratifiability, and target antagonism (Finkelhor & Asdigian, 1996).

Target vulnerability refers to victim characteristics that compromise an individual's ability to either resist or deter victimization, and thus, make an individual an easier target. For youth victimization, these characteristics could include small physical stature, physical weaknesses, or psychological problems (Finkelhor & Asdigian, 1996). Targets that are gratifiable have an increased risked because have characteristics that "are some quality, possession, skill, or attribute that an offender wants to obtain, use, have access to, or manipulate" (Finkelhor & Asdigian, 1996, p. 6). Gender is an example of a gratifiable characteristic for youth sexual assault victimization (Finkelhor & Asdigian, 1996). The final concept, target antagonism, refers to those characteristics that increase risk because they are "qualities, possessions, skills, or attributes that arouse anger, jealousy, or destructive impulses of the offender" (Finkelhor & Asdigian, 1996, p. 6). For parental assault on a child, risky behavior and physical limitations of the child are examples of antagonistic characteristics (Finkelhor & Asdigian, 1996). It is important to note that these concepts will vary across crime types, and possibly even offenders. For example, a characteristic could be considered a vulnerability for one type of crime, but gratifiable for another.

It is important to highlight that these target congruence concepts share some similarities with the lifestyle-routine activity's concepts, most notably the element of target attractiveness. Unfortunately, the term target attractiveness has been incorrectly interpreted by some as victim-blaming. This negative connotation, however, is avoided with the target congruence approach because the focus of this perspective is on "the predispositions, proclivities, and reactivities of

the offender" (Finkelhor & Asdigian, 1996, p. 6). In other words, the focus is not on the victim's behavior, but instead on the offender's perception of what makes someone a good target (Sween & Reyns, 2017).

Empirical Tests of Target Congruence

In Finkelhor and Asdigian's (1996) original presentation of the target congruence approach, they sought to explain several types of youth victimization, including nonfamily assault, sexual assault, and parental assault using a sample of youth from the National Youth Victimization Prevention Study. The findings revealed that the target congruence measures added predictive power, beyond the lifestyle-routine activity measures, for the three types of youth victimization (Finkelhor & Asdigian, 1996). In the nonfamily assault victimization model, three of the target vulnerability measures (psychological distress, failing grade, and age) and the target gratifiability variable (male) were found to have significant and positive relationships with this type of victimization (Finkelhor & Asdigian, 1996). This suggests that children with vulnerable and gratifiable characteristics have an increased risk of nonfamily assault victimization. For sexual assault victimization, two measures of target vulnerability (psychological distress and physical limitations) and two target gratifiability variables (age and male) were found to be positive and statistically significant (Finkelhor & Asdigian, 1996). Finally, four measures of target antagonism – physical limitations, risky behavior, step-parent family, and other family structure – were positively and statistically significantly related to parental assault victimization. None of the target vulnerability variables, however, were found to be significant predictors (Finkelhor & Asdigian, 1996).

It is important to note that some of the measures captured different target congruence concepts depending on the type of victimization analyzed. This was mentioned in the previous

section; a characteristic that is gratifiable for one crime may be considered antagonistic for another. As an example, for nonfamily assault victimization, age was treated as a measure of target vulnerability. However, for sexual assault victimization, age was a measure of target gratifiability (Finkelhor & Asdigian, 1996). In both cases, age had a significant and positive relationship with the dependent variables. Thus, the relationship remained the same, but age was capturing a different component of target congruence.

Even though Finkelhor and Asdigian published their original findings with some empirical support for the target congruence approach over two decades ago, there have been relatively few empirical attempts to examine the validity of this perspective explaining victimization outside of their original 1996 article. The research that has drawn from the target congruence perspective falls into two main categories. The first category includes those studies that focus solely on the impact of target congruence on victimization. The second group includes research that combines the target congruence concepts with other theoretical perspectives.

Waldner and Berg (2008), used the target congruence perspective to explain three types of antigay violence, including physical assault, sexual assault, and property damage, in a sample of 297 gay, lesbian, or bisexual individuals. Not only did respondents have to indicate if they experienced the victimization types, but also had to confirm it was because "others believed you are gay/lesbian/bisexual" (Waldner & Berg, 2008, p. 275). The predictors included in the analysis were gender, closet rating, urban/rural, gay organization contact, and intoxication frequency. They hypothesized that being intoxicated, open about their sexual orientation, and in contact with gay organizations were characteristics that would make a target vulnerable. The authors also believed that being open about their sexual orientation could be an antagonistic characteristic (Waldner & Berg, 2008).

For the physical victimization model, the findings revealed that closet rating, gay organization contact, and intoxication frequency were statistically significant. In other words, those who were open about their sexual orientation, had more contact with gay organizations, and drank frequently to the point of intoxication were at an increased risk of experiencing physical victimization, motivated by antigay perspectives (Waldner & Berg, 2008). Next, none of the variables were found to be significant predictors of sexual assault victimization (Waldner & Berg, 2008). Finally, in the property victimization model, closet rating and gay organization contact were significant predictors. Again, those who were open about their sexual orientation and those with more contact with gay organizations were at an increased risk of having their property damaged (Waldner & Berg, 2008).

Sween and Reyns (2017) used a sample of 1,452 female Canadian residents from the Canadian General Social Survey to test the applicability of the target congruence approach as an explanation for intimate partner violence (IPV). Specifically, participants indicated if they experienced physical or sexual victimization from a previous partner or spouse in the past five years (Sween & Reyns, 2017). To capture target vulnerability, four dichotomous variables were created based on the following items indicating if their ex-spouse or partner "(1) limited their contact with family or friends; (2) harmed or threatened to harm someone close to the victim; (3) demanded to know who the victim was with and where they were at all times; and (4) prevented the victim access to family income" (Sween & Reyns, 2017, p.66). Two dichotomous variables were created to measure target gratifiability based on responses to questions asking if the respondent's previous spouse or partner "(1) put them down or called them names to make them feel bad; and (2) damaged or destroyed their possessions or property" (Sween & Reyns, 2017, p. 66). Finally, one dichotomous variable captured target antagonism by asking respondents if their

previous spouse or partner was “jealous and against allowing the victim to talk to other men or women” (Sween & Reyns, 2017, p. 66).

To begin the analysis, Sween and Reyns (2017) estimated three separate models, one for each target congruence concept. Each of the target congruence measures were found to have statistically significant and positive relationships with IPV (Sween & Reyns, 2017). The scholars also estimated one additional model that included all three target congruence measures. This produced partial support for the target congruence approach. One of the target vulnerability variables, controlling family income, and both target gratifiability measures were significantly and positively related to intimate partner violence. The target antagonism variable, however, was found to not be a significant predictor of IPV in the full model (Sween & Reyns, 2017). Overall, the findings suggest that a gratifiable and vulnerable target is at greatest risk of intimate partner violence victimization, when compared to targets with antagonistic characteristics (Sween & Reyns, 2017).

Additional studies that have used the target congruence ideas have combined them with ideas from opportunity and lifestyle theories. Results from these studies suggest that target congruence measures are still significant even when including opportunity and lifestyle measures. For example, Augustine and colleagues (2002) studied both violent and property victimization that occurred at school using a sample of over 3,000 students from 40 Kentucky middle and high schools. In their models, they included measures capturing both exposure and proximity, in addition to target gratifiability, target vulnerability, and target antagonism. The results revealed moderate support for the target congruence elements of target antagonism and vulnerability. Measures of target vulnerability and target antagonism were found to be statistically significant for both violent and property victimization among high schools and

measures capturing target antagonism were also statistically significant for both violent and property victimization among middle schools. Target gratifiability was not found to be significant in any of the models (Augustine, Wilcox, Ousey, & Clayton, 2002).

Using data from over 4,100 teachers employed by 98 schools in Kentucky, O and Wilcox (2017) included measures capturing opportunity, target vulnerability, and target antagonism to explore the predictors of teacher victimization. Findings revealed that measures of target vulnerability and target antagonism were significant predictors of teacher victimization, even when considering lifestyle-routine activity measures (O & Wilcox, 2017).

Steiner and Wooldredge (2017) also used a multitheoretical approach in their study on prison officer safety using a sample of over 1,800 officers employed by 45 different prisons. Models included measures of lifestyles and routine activities, target vulnerability, and target antagonism. Prison officer safety was measured through three dependent variables: whether the officer had been a victim of assault; the number of threats the officer received in the last month; and the officer's perception of safety during their work shift. Regarding target vulnerability and target antagonism, the analyses revealed some empirical support. Several measures capturing target vulnerability were found to be significant in the threats and assaults models, while variables measuring target antagonism were found to be significant across all three models (Steiner & Wooldredge, 2017).

Most recently, Elvey and colleagues (2018) explored the impact of the target congruence approach and lifestyle-routine activity behaviors on offline stalking victimization using a sample of over 75,000 undergraduate students. The measures of target congruence were based on those that were presented by Finkelhor and Asdigian (1996) in the original presentation of the perspective. Analyses were estimated for the full sample of students, male college students, and

female college students. The findings revealed strong support for the target congruence perspective, as measures capturing each of the three target congruence elements were significantly related to stalking victimization across all three models (Elvey, Reyns, McNeeley, 2018).

Collectively, the findings reviewed above indicate that the target congruence approach has successfully explained, at least partially, numerous types of criminal victimization. Of most interest, the target congruence approach was found to significantly predict offline stalking victimization, net of routine activities (Elvey et al., 2018). As stalking and cyberstalking victimization may be related, this is an important finding and supports the choice to examine target congruence in relation to cyberstalking victimization. Overall, this collection of literature is an important starting place for exploring the explanatory power of the target congruence approach.

Target Congruence and Cyberstalking Victimization

While the research presented above provides partial support for the target congruence approach explaining several types of victimization, there have been no known empirical attempts to apply this perspective to cyberstalking victimization. Therefore, the purpose of the current study is to (1) estimate the prevalence of cyberstalking victimization among a sample of 18 to 25 year old workers from Amazon's Mechanical Turk; (2) extend the target congruence approach to cyberstalking victimization; (3) determine if the target congruence approach is an empirically supported theoretical perspective for explaining cyberstalking victimization; and (4) overcome some of the methodological limitations that characterize previous cyberstalking research.

To accomplish the second goal, the target congruence concepts must be modified in the current study to fit the cyber-based environment. For example, physical weakness may be a

characteristic that is considered a vulnerability with direct-contact offenses (Finkelhor & Asdigian, 1996), but is likely not a vulnerable characteristic for online victimization. Thus, the variables that capture each of the target congruence concepts are based on information about the individual that is shared via technology or an individual's online behaviors.

The target congruence approach may be appropriate for explaining cyberstalking victimization for some of the same reasons Finkelhor and Asdigian (1996) argued for the need to create a theoretical approach other than lifestyle-routine activity theory. Finkelhor and Asdigian (1996) suggested that the element of guardianship is problematic for youth victimizations (explained previously in this chapter). This is also true for crimes that occur in cyberspace. For example, one way online guardianship has been previously measured is through the number of friends an individual has on their online accounts, with the assumption that more guardians result in a lower risk of victimization. However, those "friends" are likely to be the ones perpetrating the cybercrimes. In other words, the boundaries between suitable targets, capable guardians, and offenders are blurred for cyberstalking victimization. Thus, the target congruence approach may be a more appropriate theory for explaining and predicting cyberstalking victimization than the perspectives reviewed earlier in this chapter. Thus, it is argued that applying the target congruence approach to cyberstalking victimization is the appropriate next step in the quest to learn more about this phenomenon.

Target Congruence and Pursued-Pursuer Relationship

Finkelhor and Asdigian (1996) stated that the target congruence approach may not be appropriate for impersonal street crimes where victims are selected based on proximity and not on personal characteristics. Yet, they argued, that this approach is an appropriate explanation for more personal types of crimes where "the congruence of the personal characteristics of the

victim with the motives or reactivities of the offender provide a virtually complete explanation of victim choice" (Finkelhor & Asdigian, 1996, p. 7). They provided an example of stalking crimes as a type of victimization that would be appropriately explained using target congruence. Thus, it would make sense to conclude that cyberstalking victimization would also be appropriate for the target congruence approach.

Given the findings that cyberstalking may be most commonly perpetrated by someone known to the victim (e.g., Alexy et al., 2005; Cavezza & McEwan, 2014; Short et al., 2015), it is also possible that this type of victimization can be explained and predicted using the target congruence approach, while taking into consideration the victim-pursuer relationship. Since target congruence was argued to be applicable for interpersonal forms of victimization, the pursued-pursuer relationship may moderate the relationship between the target congruence elements and cyberstalking victimization. In other words, the target congruence perspective may best explain cyberstalking victimization when the pursuer is known to the victim. Many personal characteristics or online behaviors that are congruent with the needs or motives of an offender are unknown to a stranger.

Given the nature of the types of victimization (i.e., single incidents) previously studied with a target congruence framework, it has not been possible to explore how the victim-offender relationship may impact the applicability of the theoretical approach. As cyberstalking victimization involves criteria of repeated pursuit behaviors and an emotional response by the target, it is possible to collect information regarding the identity of the individual responsible for the unwanted pursuit behaviors that do not meet the requirements to be considered cyberstalking. In other words, individuals who experience pursuit behavior(s) but are not repeatedly pursued or do not experience an emotional response (i.e., not victims) can be compared to those who do

meet the cyberstalking victim threshold. Thus, it is possible to examine if the relationship between the pursued[6] and pursuer[7] impacts the applicability of the target congruence approach.

Summary

While limited, existing research has explored the predictive ability of theoretical perspectives for explaining cyberstalking victimization, including lifestyle-routine activity theory, the general theory of crime, and control balance theory. Unfortunately, these theories have not received overwhelming empirical support in studies on cyberstalking victimization. Therefore, it is argued than an appropriate next step would be to test a new approach that has received moderate empirical support for a variety of victimization types. To date, no known empirical study has tested the applicability of the target congruence approach as an explanation for cyberstalking victimization. The current study will partially address this gap in the cyberstalking victimization literature by exploring the impact of the three target congruence concepts independently and simultaneously. Understanding the characteristics that increase an individual's risk of cyberstalking victimization is necessary for informing the development of effective strategies for preventing this type of victimization from occurring. Thus, the main purpose of this current research is to identify predictors of cyberstalking victimization, based on the target congruence approach, among a sample of Mechanical Turk workers.

[6] Someone has been pursued if they experienced at least one of the pursuit behaviors via communication technologies.
[7] Someone is a pursuer in this study if they perpetrate at least one of the pursuit behaviors via communication technologies.

CHAPTER 4

RESEARCH METHODOLOGY

Present Study: Goals and Objectives

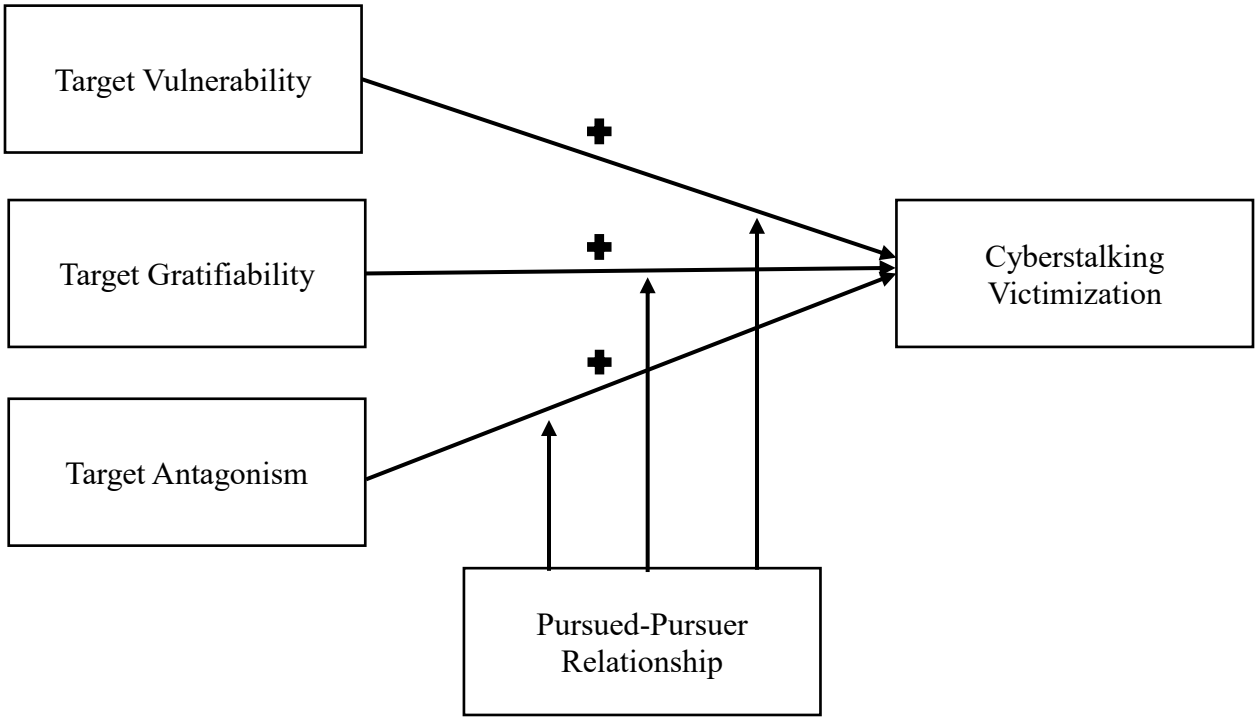
As was previously mentioned, the purpose of the current study is four fold: (1) to estimate the prevalence of cyberstalking victimization among a general sample of Amazon's Mechanical Turk "workers" age 18 to 25 years; (2) to extend the target congruence approach to cyberstalking victimization; (3) to determine if the target congruence approach is an empirically supported theoretical perspective for explaining cyberstalking victimization; and (4) to overcome some of the methodological limitations that characterize previous cyberstalking research.

This study will address several research questions. First, what is the extent of cyberstalking victimization among a sample of 18 to 25 year old Amazon's Mechanical Turk workers? Next, is there a relationship between target vulnerability and cyberstalking victimization? Third, is there a relationship between target gratifiability and cyberstalking victimization? Fourth, is there a relationship between target antagonism and cyberstalking victimization? In short, does the target congruence perspective predict and explain cyberstalking victimization? Lastly, does the pursued-pursuer relationship moderate the relationship between the concepts of target congruence and cyberstalking victimization?

It is hypothesized that each of the three target congruence elements will have a significant and positive relationship with cyberstalking victimization. In other words, those who are characterized as more vulnerable, gratifiable, or antagonistic will have a greater risk of cyberstalking victimization. Additionally, it is predicted that the victim-pursuer relationship will moderate the relationships between target congruence and cyberstalking victimization. Figure 4.1

shows the hypothesized relationships between the three target congruence concepts and cyberstalking victimization.

Figure 4.1: Hypothesized Relationships



Questionnaire Development

The data analyzed for this study were collected via an online self-report questionnaire that was administered to respondents through Qualtrics. The survey instrument was developed over the span of several months during 2017. Formatting, content, and structure decisions were made based on survey design research (Dillman, Smyth, & Christian, 2014) and consultations of other questionnaires measuring various related types of victimization.[8] Since this was a web-

[8] AAU Climate Survey of Sexual Assault and Sexual Misconduct (Cantor et al., 2015), NCVS SVS redesign, American College Health Association National College Health Assessment II (American College Health Association, 2017), Brad Reyns & Billy Henson's Cyberstalking Survey Instrument (Henson, 2011; Reyns, 2010), Retrospective Bully Questionnaire (Schäfer et al., 2004), Harassment in Abusive Relationships: A Self-Report Scale (HARASS) (Sheridan, 2001).

based questionnaire, special attention was given to ensure that screen design was compatible across devices (e.g., laptop computer, tablet, cell phone). Terms including *cyberstalking*, *victimization*, and *crime* were purposefully avoided in the victimization questions within the questionnaire in order to avoid triggering negative emotional responses in the participants as well as to avoid leading the respondents to provide responses that may not actually be accurate.

The final draft of the survey instrument included 58 questions that covered several distinct topical areas. The sections of the questionnaire were: (1) demographic characteristics; (2) use of communication technologies and online presence; (3) experiences with unwanted contacts or behaviors via communication technologies; (4) help seeking and protective behaviors resulting from experiences with unwanted contacts or behaviors; (5) other forms of online and offline deviance; (6) self-control; and (7) perceptions of online behaviors. Skip patterns were built into the questionnaire to ask respondents follow-up questions when specific responses were given. For example, if a participant indicated that they were currently enrolled as a student, they were asked the follow-up questions regarding type of degree being sought, enrollment status, and cumulative grade point average. Those who indicated that they were not students were not asked these additional questions. Thus, not all respondents were presented with every question on the survey instrument. The length of time it took to complete the questionnaire varied across respondents due to the number of questions presented, but it was expected to take, on average, 15 minutes.[9]

As part of the development of the survey instrument, a focus group and a pilot test were conducted. These were done after the questionnaire had been edited numerous times. The

[9] This number was based on an algorithm within Qualtrics.com that calculated the estimated response time of the questionnaire.

purpose of the focus group and pilot test were to collect feedback from participants on the length of the questionnaire and the wording and comprehension of questions.

Focus Group

First, during Fall semester 2017, an undergraduate victimology class at the University of Cincinnati was used as a focus group during two class periods. As these students were the same age group as those who would participate in final data collection, their interpretation of and feedback on questions were insightful.

During the first class period on September 26, I gave a presentation to the students that covered definitions and prevalence rates of both stalking and cyberstalking victimization. We also discussed some of the methodological issues associated with researching these types of victimization. Additionally, an overview of the research and theoretical perspectives applied to stalking and cyberstalking victimization was provided. To conclude the class, students were presented with an explanation of the target congruence perspective, which is the theoretical approach utilized in the current study.

The second class, on September 28, was focused on reviewing select questions from the survey instrument. The first survey item that students were asked about was: "Please indicate your current cumulative grade point average using a 4.0 scale." We discussed if this should be presented as an open-ended or a multiple-choice question. The class unanimously agreed it would be easier to identify their GPA by selecting a range of scores (i.e., multiple-choice format) versus having to recall the specific number (i.e., open-ended format).

The class also had a discussion of the question, "What is your current primary relationship status?" The main concern regarding this question was that individuals could fit into multiple response categories (e.g., divorced and casually dating), thus, the response options were

not mutually exclusive. While students noted that an individual could technically fall within more than one relationship category, they argued that it was unlikely for this age group. Moreover, they indicated that the phrasing 'current primary relationship status' would provide an accurate response and would be most useful in predicting current cyberstalking victimization experiences.

Students were asked to brainstorm additional behaviors or contacts that should be included in the cyberstalking victimization measure, motivations a cyberstalker may have, and variables capturing the target congruence concepts. No additional ideas were brought up in these discussions. However, the class did provide suggestions for protective behaviors a victim could engage in (e.g., delete online accounts) and types of communication technologies (e.g., voicemail, video sharing sites) that were not already included in the questionnaire. These additions were included in the final survey instrument.

One of the target congruence measures, trolling, has not been widely studied empirically. The limited research spans numerous disciplines and varies in how trolling is measured (Buckels, Trapnell, & Paulhus, 2014). Thus, I presented the class with the two questions I developed to measure trolling and asked them to identify what behavior they thought was being measured. They correctly identified the behavior and indicated that they were good measures of what constitutes online trolling behavior.

The final two questions students were asked to discuss were: (1) "Does the number of times the unwanted contacts or behaviors occur matter? (In other words, is two times no big deal but five, 10, 20, etc. times a serious problem?) Explain." and (2) "Does the frequency (how often) the unwanted contacts or behaviors occur matter? (In other words, is five times in one day different from five times in a week or month?) Explain." The consensus based on the students'

discussions is that it depends on each victim and experience. For example, they suggested that for some victims the repeated contact confined to one day could illicit a strong emotional or fearful response, yet others may get that same level of response if the repeated contact spanned numerous days, weeks, or months.

The discussions that occurred during the focus group helped reinforce some of the question formatting and wording that had been previously questioned during edits to the questionnaire. Furthermore, the undergraduate students' input helped inform changes and additions to several questions on the survey instrument (i.e., motivations and types of communication technologies).

Pilot Test

The pilot test was conducted using Amazon's Mechanical Turk (MTurk). This was done to test the online survey platform, Qualtrics, and the online survey process prior to final data collection. Additionally, this pilot test allowed for feedback from members of the specific population that would be utilized for final data collection. For the pilot test, respondents completed the entire questionnaire. Additionally, a section was added at the end to give participants an opportunity to provide feedback on the difficulty of questions, length of questionnaire, and emotional responses they experienced due to the content of the questions asked.

The questionnaire was posted on Amazon's Mechanical Turk on October 27, 2017. Fifty MTurk workers completed the questionnaire, with all responses submitted by October 28, 2017. The average time to complete the questionnaire was 16 minutes. Those who completed the full questionnaire were paid $0.35. In addition to the 50 individuals who completed the questionnaire, 10 others began it but did not complete the entire survey instrument. I identified

the questions where these 10 respondents dropped out and there were no visual patterns. In other words, the 10 individuals chose to stop participating at random points within the questionnaire. Thus, I concluded that the drop off was not due to features of the questionnaire itself.

Five respondents (10%) indicated that the questions were slightly or extremely difficult to understand. The large majority (78%), however, indicated that the questions were slightly, moderately, or extremely easy to understand. In a follow-up question, participants were asked to identify the questions on the survey instrument that were difficult and why. While many respondents reiterated that none of the questions were difficult, some did indicate where changes could be made. Specifically, several mentioned that a few of the questions needed a "not applicable" response option.

In addition to the difficulty of the questionnaire, the length it took to complete was of great interest. Longer surveys result in fatigue and inaccurate responses. Thus, respondents were asked to give their opinion on the length of the questionnaire. Most (86%) indicated that the length was either "just right" or "a little long, but doable."

The last question from the pilot test feedback that was of interest was: "How distressing was it to answer questions about your personal experiences?" Thirty-one participants indicated it was not at all distressing, 11 found it a little distressing, seven were somewhat distressed, and one found the questions very distressing. This information was important to know because while the questions that needed to be ask were sensitive in nature, it is crucial to minimize harm to the participants.

Based on the respondents' feedback, "none" or "not applicable" response options were added to a few questions. Additionally, the pilot test allowed me to identify a problem with one

of the skip patterns and the wording of a few questions. Overall, the feedback was positive with several participants indicating it was a "great study" and "interesting questionnaire."

The feedback from the focus group and pilot test was useful in improving the questionnaire and eliminating the logistic and wording issues. The consent document provided before respondents completed the questionnaire for the pilot test and final data collection can be found in Appendix A and the final version of the questionnaire can be found in Appendix B.

Institutional Review Board Approval Process

The Institutional Review Board (IRB) at the University of Cincinnati is responsible for reviewing proposals for research that involves human subjects. The main purpose of IRB is to protect the rights and safety of study participants. The questionnaire, accompanied by the research protocol, was submitted to IRB in August 2017. Original IRB approval was given in September 2017. After modifications to the questionnaire were made based on the focus group and pilot test, two amendments were submitted for IRB approval. Final IRB approval for this study was given in November 2017.

Sampling Design

Crowdsourcing, which is when a job is outsourced in the form of an open call to an undefined group of people (Howe, 2006), has become a popular tool for data collection. One of the most popular online crowdsourcing platforms is Amazon's Mechanical Turk (MTurk) (Mason & Suri, 2012). On MTurk, "requesters" post various types of Human Intelligence Tasks (HITs) and "workers" select which tasks they want to complete for a small monetary reward. All activity on MTurk is voluntary.

For the current study, data were collected from a sample of Amazon's Mechanical Turk workers. The study population includes individuals with an active MTurk worker account, who

lived in the United States, and were between 18 and 25 years old at the time of the study. To obtain a worker account, an individual must (1) provide evidence that they are at least 18 years of age (e.g., a state issued license) and (2) provide access to a personal bank account.

Mechanical Turk tasks are generally able to be completed in a few minutes and workers receive payments (or rewards) in cents rather than in dollars (Paolacci & Chandler, 2014). These rewards can be as low as $0.01 per HIT and are rarely larger than $1.00 (Paolacci, Chandler, & Ipeirotis, 2010). HITs can include transcribing text, recording videos, playing games, and even completing surveys for academic research. At any given moment, there are several hundred thousand HITs available on MTurk. Some HITs, however, are only visible to workers who meet predefined criteria selected by the requester. For example, requesters can require workers to be a certain age, be fluent in a foreign language, reside in a specific country, have a high ratio of approved tasks, and many more.

Additionally, workers are only paid upon successful completion of a task. In other words, requesters do not have to pay a worker unless they produce a high-quality submission. The quality of a submission is subjective and is determined solely by the requester, though requester expectations are often included in the directions. Reasons for rejecting work could include missing attention checks, incorrect or missing survey completion code, or completing a HIT too quickly (Kees, Berry, Burton, & Sheehan, 2017; Sheehan, 2018).

Mechanical Turk has recently become a popular method of collecting data in the academic community. Nearly one third of HITs on MTurk are for academic research projects (Hitlin, 2016). Scholars across many disciplines, including economics (Chen & Horton, 2016; Horton & Chilton, 2010), psychology (e.g., Ratner, Dotsch, Wigboldus, van Knippenberg, & Amodio, 2014; Stern, West, Jost, & Rule, 2014), sociology (e.g., Hart, 2014; Hunzaker, 2014;

Kuwabara & Sheldon, 2012) and political science (e.g., Dowling & Wichowsky, 2014) have utilized Mechanical Turk samples.

Of even greater interest, MTurk samples have been used in numerous criminal justice-related studies ranging from mock juror perceptions in an ex-intimate stalking case (Magyarics, Lynch, Golding, & Lippert, 2015) to heuristics and biases in decision making and perceptions of sanction risk (Pogarsky, Roche, & Pickett, 2017) to pedophilia (Wurtele, Simons, & Moreno, 2014). Furthermore, scholars researching victimization have collected data from Mechanical Turk (e.g., Crane, 2018; Krieger, DiBello, & Neighbors, 2017; Papp, Liss, Erchull, Godfrey, & Waaland-Kreutzer, 2017).

Benefits of Mechanical Turk

There are numerous benefits associated with using Mechanical Turk as a source of data for academic research. One of the most valuable benefits is that MTurk has a large subject pool. In 2014, there were over 500,000 Mechanical Turk workers from 190 different countries (Paolacci & Chandler, 2014). As workers are able to complete HITs simultaneously, data can be collected from a large sample relatively quickly.

Related to the size of the subject pool is the next advantage – the diversity of MTurk workers (Mason & Suri, 2012). Mechanical Turk samples are at least as representative of the United States population when compared to traditional pools and even slightly more diverse than traditional Internet samples (Buhrmester, Kwang, & Gosling, 2011; Paolacci et al., 2010). For example, Buhrmester and colleagues (2011) compared a sample of 3,006 MTurk workers to a large Internet sample of 361,703 participants. The Mechanical Turk sample had a greater percentage of non-White respondents. Additionally, the MTurk workers tended to be older and there was greater variation in age (Buhrmester et al., 2011).

Comparisons also reveal that Mechanical Turk samples are significantly more diverse than typical American college student samples (Berinsky, Huber, & Lenz, 2012; Buhrmester et al., 2011; Hitlin, 2016; Huff & Tingley, 2015; Paolacci et al., 2010; Paolacci & Chandler, 2014; Sheehan & Pittman, 2016). Berinksy and colleagues (2012) examined all publications in three top political science journals from 2005 to 2010 and compiled respondent characteristics for those that used student samples. They then compared these to characteristics of MTurk workers. Compared to the college samples, the MTurk sample was older and had more non-White respondents (Berinksy et al., 2012).

Another benefit associated with Mechanical Turk is the relatively low monetary cost to researchers (Mason & Suri, 2012). Requesters pay workers in cents, allowing a large number of responses to be collected for a small percentage of the cost compared to other sampling methods. To explain, Dillman and colleagues (2014) suggest that a reasonable incentive amount for the offline surveying of most populations is between $1 and $5. Utilizing MTurk can save researchers hundreds, or even thousands, of dollars while still collecting data from large samples. Related, the payment process is simple for both requesters and workers (Paolacci et al., 2010). This process is completed through Amazon's Payments. Requesters can pay workers with one click of the computer mouse and the workers do not share personal information with requesters in order to be paid.

Mechanical Turk is also unique because workers and requesters are anonymous to one another. In other words, the requester is unable to link responses to a specific individual (Paolacci et al., 2010). This can increase the likelihood that respondents will answer questions honestly and accurately. Additionally, this is a substantial benefit for academic researchers

because it reduces the potential for harm to human subjects, which is an important concern for Institutional Review Boards.

Researchers also are able to easily conduct longitudinal studies on Mechanical Turk, while still allowing the survey participants to remain anonymous. MTurk automatically compiles an anonymous list of all workers who complete a specific task posted by a requester. Using this list, requesters can then simply invite these workers, whose identity remains unknown, to participate in follow-up studies by sending a message through the website. Requesters also can set up follow-up HITs to be "invite only" so that workers who did not participate in the first task could not complete the subsequent task(s).

On Mechanical Turk, requesters can recruit hard to reach populations in multiple ways that are not available through other means of data collection. First, each task has a title and associated key words that workers can search for (e.g., veterans, retirees, etc.) (Shank, 2016). Additionally, the qualifications requesters can require workers to meet can help reach populations that are difficult to specifically target. This can include people who vacation every month, iPhone owners, individuals who have stock investments, those who are bloggers, and many more.

Finally, it has also been noted that Mechanical Turk samples can strengthen internal validity because this sampling method helps avoid experimental bias, subject cross talk, and reactance. This is because workers do not interact with the researchers and, in some instances, may not even be aware they are participating in a research study (Paolacci et al., 2010). Additionally, non-response error is less of an issue for MTurk samples than other Internet convenience samples. When compared to one Internet convenience sample from online discussion forums, MTurk was found to have a larger percentage of people who accessed the

survey to actually complete it (approximately 67% compared to nearly 92%, respectively) (Paolacci et al., 2010).

Limitations of Mechanical Turk

While there are numerous benefits associated with using Mechanical Turk, there are also limitations that must be noted. First, MTurk samples are not representative of the entire United States population. Specifically, Mechanical Turk workers appear to be younger, better educated, more politically liberal, and more often Caucasian when compared to the United States population (Berinksy et al., 2012; Hitlin, 2016; Paolacci et al., 2010). This is partially due to the fact that Internet users and non-Internet users differ (Paolacci & Chandler, 2014). However, since the focus of the current study is on cyber behaviors, experiences, and interactions, this is not considered a limitation.

The next downfall associated with Mechanical Turk is also problematic for all web-based survey research. Participants that are unsupervised are found to be less attentive than those who are supervised by a researcher (Oppenheimer, Meyvis, & Davidenko, 2009). One way that requesters can overcome this shortcoming is to include "attention checks" randomly throughout the task to ensure the participant is paying attention. An example of an attention check is for a requester to include the following statement embedded within the questionnaire: "Please disregard the question above and select 'Strongly Agree' to show that you are paying attention to the task."

Given that all work on MTurk is voluntary and workers select which HITs they complete, self-selection bias is a concern. Those individuals who choose to participate in a HIT may be different than those who do not, thus, leading to biased and unrepresentative data. Requesters can

help reduce self-selection bias concerns by not including too much information about the topic of their study in the title, keywords, and description associated with the HIT.

Finally, it is difficult to know the exact demographic composition of Mechanical Turk's worker pool at any given moment. This is because a worker can easily switch from being active to inactive and vice versa. To explain, someone may complete HITs for a month and then choose to not complete any for two weeks before going active again. A study in 2011 estimated that there were between 5,059 and 42,912 active workers (Fort, Adda, & Cohen, 2011). More recently, it has been estimated that there were half a million workers registered on Mechanical Turk (Kuek et al., 2015; Paolacci & Chandler, 2014). While half a million workers may be registered on MTurk, it is unknown how many are active workers at any one point in time.

Quality of Mechanical Turk Data

Despite the fact that research across many scholarly disciplines utilize Mechanical Turk samples, it is necessary to determine the quality of data provided by workers. One method of assessing the quality of data scholars have used is to conduct research across different sources of data and compare the findings. These studies generally demonstrate that findings from MTurk samples are comparable to the findings from other samples (e.g., Berinksy et al., 2012; Casler, Bickel, & Hackett, 2013; Dworkin, Hessel, Gliske, & Rudi, 2016; Kees, Berry, Burton, & Sheehan, 2017).

As an example, Paolacci and colleagues (2010) compared data from respondents collected from three sources. This included a student sample of 141 students in a subject pool from a large public university, a sample from online discussion boards that host psychology experiments online, and a MTurk sample. Each participant, regardless of the source, completed three classic tasks that have been well-documented in the heuristics and biases literature

(Paolacci et al., 2010). The results did not significantly vary across the different subject pools, meaning that the same findings were produced regardless of the type of sample utilized (Paolacci et al., 2010).

Another method used to determine the quality of data is through the replication of well-documented findings using a sample from MTurk. This has been done across several academic disciplines (e.g., Berinsky et al., 2012; Brandt, IJzerman, & Blanken, 2014). As an example, Berinksy and colleagues (2012) attempted to replicate three political science experiments that have been previously conducted and published. One specific example was a classic framing experiment called the "Asian Disease Problem," which had been replicated with numerous samples (Berinksy et al., 2012). The MTurk sample produced results that were similar to the already established findings.

One final strategy used to investigate the reliability of Mechanical Turk data was to use a test-retest procedure. Holden and colleagues (2013) administered a 120-item measure of personality to workers on MTurk at two time points that were three weeks apart. The findings revealed no statistically significant differences between administration dates (Holden, Dennie, & Hicks, 2013). All of these findings indicate that researchers can confidently use MTurk samples and obtain results that are not significantly different from samples collected from more traditional designs.

Overall, Mechanical Turk can be used to minimize the costs associated with data collection, increase speed of recruitment and data collection, and improve validity (Paolacci et al., 2010). Furthermore, as reviewed above, the quality of data produced by MTurk workers is comparable to other widely utilized traditional data collection methods. Based on all of this

information, it was concluded that a sample of Mechanical Turk workers is appropriate to use for the current study.

Data Collection

On the morning of November 19, 2017, the task (questionnaire) was posted on Amazon's Mechanical Turk website and made visible to workers.[10] Those who selected to participate in the task were redirected to the online questionnaire on Qualtrics. All 1,500 responses were collected within eight weeks. The average time it took to complete the entire questionnaire was approximately 12 minutes and respondents were paid $0.35.

To ensure that each respondent completed the entire questionnaire, a "secret" code was displayed on the final screen. Workers were required to enter this code on MTurk before submitting the task. Those who did not submit the correct code were not paid and their responses were not saved. Fortunately, this only occurred on three occasions. Additionally, to prevent an individual from completing the questionnaire multiple times, settings were made on Qualtrics that allowed only one completion of the online questionnaire per user.[11] Finally, as respondents had to answer each question prior to proceeding to the next page, there are no issues with missing data.

Sample Characteristics

For this study, 1,500 participants were recruited from Amazon's Mechanical Turk. The sample was restricted to participants who had an active Mechanical Turk worker account, were English speaking, were between 18 and 25 years old, and were residing in the United States at the time of the study. Table 4.1 provides demographic characteristics for the sample. The sample

[10] One batch of 1,500 was originally posted on Mechanical Turk. However, since MTurk workers sort HITs based on date posted, the large batch was canceled and smaller batches were posted numerous times each week until 1,500 responses were collected so the questionnaire would be more visible to workers.
[11] Individuals who completed the pilot test were not allowed to participate in final data collection.

Table 4.1: Select Sample Characteristics

Demographic Characteristic		N	%
Gender Identity			
	Man	463	30.9
	Woman	979	65.3
	Transgender Man	18	1.2
	Transgender Woman	7	.5
	Genderqueer or gender non-conforming	22	1.5
	Questioning	6	.4
	Other	5	.3
Age			
	18	12	.8
	19	74	4.9
	20	99	6.6
	21	178	11.9
	22	233	15.5
	23	256	17.1
	24	306	20.4
	25	342	22.8
Citizenship Status			
	United States Citizen	1473	98.2
	Not a United States Citizen	27	1.8
Sexual Orientation			
	Heterosexual or straight	1131	75.4
	Gay or lesbian	64	4.3
	Bisexual	221	14.7
	Asexual	29	1.9
	Questioning	21	1.4
	Other	34	2.3
Race			
	Caucasian	966	35.6
	Black or African American	140	9.3
	Asian	136	9.1
	American Indian or Alaska Native	7	0.5
	Native Hawaiian or Other Pacific Islander	1	0.1
	Hispanic	97	6.5
	Other	153	10.2

was comprised of 979 women (65.3%) and 463 men (30.9%), with the remaining 3.9% of the sample indicating that they were a transgender man, transgender woman, genderqueer or gender non-conforming, questioning, or preferred not to answer. As was previously mentioned,

respondents' ages ranged from 18 to 25 years old, with an average of 22.83 years old. Nearly the entire sample indicated that they were citizens of the United States (*n*=1473, 98.2%). Of those who were not United States citizens, 63% (*n*=17) possessed a Green Card and 25.9% (*n*=7) had a U.S. Visa. Furthermore, the majority of the sample (*n*=1,131, 75.4%) described their sexual orientation as heterosexual or straight, followed by bisexual (*n*=221, 14.7%). Finally, regarding race, over 35% of the sample indicated that they were Caucasian only. This is followed closely by Black or African American (*n*=140, 9.3%) and Asian (*n*=136, 9.1%). The "Other" race category includes those who selected multiple races and those who indicated that their race was not an option.

Measures

Dependent Variables

Cyberstalking victimization is herein defined as the repeated pursuit by the same person (2 or more times) of an individual using communication technologies that would cause a reasonable person to experience a substantial emotional response or feel fear for their safety or the safety of someone close to them. This excludes contact from solicitors, debt collectors, and other sales people. As was reviewed in Chapter 1, this definition of cyberstalking victimization is drawn from previous research (e.g., Fisher et al., 2002; Nobles et al., 2014; Spitzberg & Hoobler, 2002) and is grounded in state and federal legal statutes.

Respondents indicated if in the last 12 months they had experienced any of the following behaviors or contacts from the same person through the use of communication technologies: (1) unwanted contact or attempted contact; (2) harassment or annoyance; (3) unwanted sexual advances; (4) threats of harm; (5) spied on or monitored activities; (6) whereabouts tracked; and (7) inappropriate, unwanted, or personal posts or threatened posts. Nearly 70% of the

respondents (n=1,043) indicated that they had experienced at least one unwanted contact or behavior through the use of communication technologies in the 12-month timeframe. Several follow-up questions were included to determine if the remaining criteria of cyberstalking victimization were met, which included the pursuit behavior being repetitive and the experience of a substantial emotional response or fear as a result of the experiences.

Respondents were next asked to identify the number of times each type of the unwanted contacts or behaviors were experienced from the same person. They were only shown the contacts or behaviors that they indicated they experienced in the past 12 months. For example, if a respondent indicated that they experienced unwanted contact or attempted contact and threats of harm, they were only asked about those two behaviors in this follow-up question. Response options were: 1 time, 2 times, 3-6 times, 7-10 times, or more than 10 times. Almost 60% of respondents (n=880, 58.6%) experienced repeated pursuit behavior by the same person.

If a participant indicated that they had experienced an unwanted contact or behavior, they also were presented with two questions to determine if they experienced a substantial emotional response or if they feared for their safety or the safety of someone close to them. Specifically, respondents were asked "Did you experience a substantial emotional response because someone engaged in unwanted contact/behavior?" and "Did you fear for your safety or the safety of someone close to you because someone engaged in unwanted contact/behavior?" Responses were: Yes (coded 1) or No (coded 0). Of the 880 participants that experienced repeated unwanted contact or behavior, 442 (50.2%) experienced a substantial emotional response, 283 respondents (32.2%) experienced fear, and 477 respondents (54.2%) experienced one or the other.

Respondents were coded as having experienced cyberstalking victimization if they experienced: (1) either one of the unwanted behaviors two or more times *or* at least two

unwanted behaviors at least one time each and (2) a substantial emotional response and/or feared for their safety or safety of someone close to them as a result of the unwanted contacts or behaviors. A dichotomous variable was created to identify those who were cyberstalked in the past 12 months (coded 1) and those who were not (coded 0). Those in the sample who met all of these criteria, which resulted in 477 respondents (31.8%), were classified as victims of cyberstalking in the last 12 months. Table 4.2 also provides the descriptive statistics for the dependent variable and independent variables.

Independent Variables

Given the current state of research, scholars do not fully understand why offenders stalk their victims. Consequently, it is difficult to identify the victim characteristics that would affect a victim's vulnerability, gratifiability, and antagonism. Drawing from the findings of past research, however, several variables are included in the current model as measures of target congruence, and thus, as potential predictors of cyberstalking victimization. Utilizing a target congruence approach is expected to be valuable, as this perspective includes both static characteristic traits of an individual (e.g., race, gender) and dynamic behavioral characteristics to fully explain cyberstalking victimization.[12]

Target congruence measures. Measures for target vulnerability, target gratifiability, and target antagonism are all described and operationalized below. As was previously mentioned, Table 4.2 provides the descriptive statistics for each of the variables that measure of these three key constructs.

Target vulnerability. Target vulnerability refers to victim characteristics that impact an individual's ability to resist or deter victimization (Finkelhor & Asdigian, 1996). To measure

[12] A static characteristic is one that is fixed, while a dynamic characteristic is one that is capable of change.

Table 4.2: Dependent Variable and Independent Variables Descriptive Statistics

Variable	Scale	Min, Max	Mean	Standard Deviation
Dependent Variable				
Cyberstalking victimization	0=No, 1=Yes	0-1	0.32	0.47
Independent Variables				
Target Vulnerability				
Age	Age in years	18-25	22.83	1.82
Disability	0=No, 1=Yes	0-1	0.16	0.36
Student Status				
Undergraduate student (reference)	0=No, 1=Yes	0-1	0.59	0.49
High, trade, or vocational school student	0=No, 1=Yes	0-1	0.06	0.23
Not a student	0=No, 1=Yes	0-1	0.35	0.48
Educational Attainment				
High school degree (reference)	0=No, 1=Yes	0-1	0.48	0.50
Undergraduate degree	0=No, 1=Yes	0-1	0.47	0.50
Graduate or professional degree	0=No, 1=Yes	0-1	0.05	0.21
Amount of time online daily	Time in hours	0-16	6.33	3.27
Online privacy settings				
Public (reference)	0=No, 1=Yes	0-1	0.06	0.23
Mostly public	0=No, 1=Yes	0-1	0.16	0.37
Mostly private	0=No, 1=Yes	0-1	0.43	0.49
Private	0=No, 1=Yes	0-1	0.36	0.48
Number of photos/videos posted	Sum	0-24	5.23	3.40
Online connections	Scale	0-11	5.05	3.85
Impulsivity	Scale	0-12	4.33	2.99
Target Gratifiability				
Gender identity				
Man (reference)	0=No, 1=Yes	0-1	0.31	0.46
Woman	0=No, 1=Yes	0-1	0.65	0.48
Other	0=No, 1=Yes	0-1	0.04	0.19
Sexual orientation				
Heterosexual/straight (reference)	0=No, 1=Yes	0-1	0.75	0.43
Gay/Lesbian	0=No, 1=Yes	0-1	0.04	0.20
Bisexual	0=No, 1=Yes	0-1	0.15	0.35
Other	0=No, 1=Yes	0-1	0.06	0.23
Type of photos/videos posted				
Flirty/Seductive	Percentage	0-100	4.11	8.74
Silly/Fun	Percentage	0-100	11.07	6.63
Professional	Percentage	0-100	21.34	18.60
Selfies	Percentage	0-100	0.03	0.11
Family and friends	Percentage	0-100	0.02	0.10
Hobbies	Percentage	0-100	0.02	0.07

Table 4.2: Dependent Variable and Independent Variables Descriptive Statistics

Variable	Scale	Min, Max	Mean	Standard Deviation
Other	Percentage	0-100	0.02	0.08
Sexting	0=No, 1=Yes	0-1	0.52	0.50
Target Antagonism				
Trolling	0=No, 1=Yes	0-1	0.15	0.36
Hacking	0=No, 1=Yes	0-1	0.18	0.38
Cyberbullying perpetration	0=No, 1=Yes	0-1	0.08	0.27
Cyberstalking perpetration	0=No, 1=Yes	0-1	0.45	0.50
Race (White)	0=No, 1=Yes	0-1		
Citizenship status	0=Not US citizen, 1=US citizen	0-1	0.98	0.13
Relationship status				
Single	0=No, 1=Yes	0-1	0.34	0.48
Casually dating (reference)	0=No, 1=Yes	0-1	0.07	0.26
Serious relationship	0=No, 1=Yes	0-1	0.38	0.49
Married/Civil Union	0=No, 1=Yes	0-1	0.20	0.40
Employment status				
Full-time employment (reference)	0=No, 1=Yes	0-1	0.40	0.49
Part-time employment	0=No, 1=Yes	0-1	0.34	0.48
Unemployed	0=No, 1=Yes	0-1	0.25	0.44
Self-centeredness	Scale	0-12	7.95	2.84
Temper	Scale	0-12	7.63	3.02
Control Variables				
Offline stalking victimization	0=No, 1=Yes	0-1	0.20	0.40
Cyberbullying victimization	0=No, 1=Yes	0-1	0.23	0.42

target vulnerability, Finkelhor and Asdigian (1996) included the following indicators in their original piece: physical stature, physical limitations, psychological distress, social competence, and age. Not all of these measures can be applied to cyberstalking victimization. This is because Finkelhor and Asdigian developed the target congruence approach to explain direct contact offenses. Therefore, a characteristic that makes an individual vulnerable in direct contact crime (e.g., small stature) does not result in the same level of vulnerability for online offenses. However, a few of the original target vulnerability measures are applicable to cyberstalking.

As cyberstalking victimization varies based on age (Reyns et al., 2012), it is included in the current model. Younger individuals may be less experienced and unable to deter victimization (Finkelhor & Asdigian, 1996). The measure of *Age* was created as a continuous variable ranging from 18 to 25, based on the respondent's numerical age. The mean age is 22.83 years old, with a standard deviation of 1.82.

Four additional measures were created to capture target vulnerability that are similar to Finkelhor and Asdigian's (1996) operationalizations. First, *Disability,* was developed to mirror physical limitations and psychological distress as measured in their 1996 article. Respondents were asked, "Have you ever been professionally diagnosed with a disability?" This was measured as a dichotomous variable (0 = No, 1 = Yes). Previous literature has indicated that individuals with disabilities are at an increased risk of stalking and cyberstalking victimization (Breiding & Armour, 2015; Reyns & Scherer, 2017; Sheridan & Grant, 2007). Disabilities, particularly mental or psychological conditions, may cause an individual to be unable to identify or resist dangers in cyberspace.

Finkelhor and Asdigian measured social competence by asking participants if they received failing grades in school. *Student Status,* is related to Finkelhor and Asdigian's (1996) measure of social competence. To create this variable, participants were asked to select the Student Status that best represented them. Response options were high school student, trade school student, vocational school student, college or university student, and not a student. Two dummy variables were created to capture *Student Status*: Not a student and other type of student, with undergraduate student serving as the reference group. Other type of student included those who selected high school, trade school, and vocational school students due to low base rates

(2.0%, 1.2%, and 2.5%, respectively). Of the 1,500 respondents, 886 (59.1%) indicated that they were currently a college or university student.

Next, *Educational Attainment* is closely related to this social competence measure. Respondents were asked, "What is the highest level of education you have completed?" This required the creation of four dummy variables: high school diploma or equivalent (reference group), associate's degree, bachelor's degree, graduate or professional degree, and none of the above. Graduate and professional degree were separate response options on the questionnaire, but were combined in the dummy variable due to low base rates (3.1% and 1.5%, respectively). Nearly half of the sample indicated that their highest level of completed education was high school diploma or the equivalent.

In addition to the measures related to Finkelhor and Asdigian's (1996) variables, several others were developed to capture target vulnerability. One important component of target vulnerability is exposure. Previous research has found that online exposure to motivated offenders impact the risk of victimization. Specifically, as online exposure increases, so does the risk of cyber victimization (Reyns et al., 2011; Welsh & Lavoie, 2012; Wick, Nagoshi, Basham, Jordan, Kim, Nguyen, & Lehmann, 2017). This relationship may exist because those who have significant online exposure are less capable of controlling who has access to their personal accounts or information, and thus, have less control over who contacts them. Several variables are included in the current study to capture online exposure, including *Amount of Time Online Daily, Online Privacy Settings, Number of Photographs or Videos Posted Online,* and *Online Connections.*

To create *Amount of Time Online Daily,* respondents were asked, "On average, how much time do you actively spend online each day?" Possible responses ranged from less than one

hour to 16 or more hours. This variable is treated as a continuous variable range from one hour to 16 hours. The modal response was four hours, with 249 (16.6%) of respondents selecting this option.

Respondents were also asked to indicate, "What privacy settings do you have in place, in general, for your online accounts?" *Online Privacy Settings* was measured with a series of four dummy variables labeled: private, mostly private, mostly public, and public (reference group). The target congruence approach would predict that the individuals who use private settings would have the lowest risk of cyberstalking victimization. The majority of respondents (42.5%) indicated that they have mostly private settings for their online accounts.

Number of Photographs of Videos Posted Online was created by asking respondents to estimate the number of photographs or videos they have posted on: (1) Social Network Websites or Social Media Apps; (2) Professional Network Sites; and (3) Dating Websites or Apps. Each of the three types of communication technologies were asked about separately on the questionnaire. Respondents were only asked about the communication technologies that they previously indicated they utilized. Response options were: less than 10 (coded 1); 10 – 49 (2); 50 – 99 (3); 100 – 199 (4); 200 – 299 (5); 300 – 399 (6); 400 – 499 (7); and 500 or more (8). The responses across the types of communication technologies were summed. Sums could range from 0 to 24, with higher scores representing more photographs or videos posted online.

Online Connections, the last variable created to capture online exposure, was created by asking participants, "Approximately how many connections (e.g., friends, followers) do you estimate you have on all of your online accounts combined?" The response options were: 0 – 99 (coded 0); 100 – 199 (1); 200 – 299 (2); 300 – 399 (3); 400 – 499 (4); 500 – 599 (5); 600 – 699 (6); 700 – 799 (7); 800 – 899 (8); 900 – 999 (9); 1000 – 1499 (10); and 1500 or more (11). The

modal response category was 1,500 or more connections (14.7%), with 200-299 connections falling in second (12.1%).

The final variable created to capture target vulnerability in the current study is *Impulsivity.* Research suggests that those with high impulsivity tend to react to the immediate environment instead of deterring gratification and thinking of potential future consequences (Gottfredson & Hirschi, 1990). *Impulsivity* was developed based on one of the six components of Gottfredson and Hirschi's (1990) low self-control personality trait (Grasmick, Tittle, Bursik, & Arneklev, 1993). Exploratory factor analysis was conducted on the 24-item scale to confirm the measurement. Specifically, using Principal Components Analysis, with varimax rotation, the items loaded onto six factors.[13] One factor was extracted to measure impulsivity, with factor loadings ranging from 0.623 to 0.778. Respondents were given the following prompt: "The following statements are provided about general views you may have of yourself.…Think of how you view yourself now and not how you would like to be. Please indicate the extent to which you agree with the statements provided." The items included for this measure are: (1) "I often act on the spur of the moment without stopping to think."; (2) "I don't devote much thought and effort to preparing for the future."; (3) "I often do whatever brings me please here and now, even at the cost of some distant goal."; and (4) "I am more concerned with what happens to me in the short run than the long run." (Cronbach's alpha = .806). Response options were: strongly disagree (coded 0), somewhat disagree (1), somewhat agree (2), and strongly agree (3). The responses across the four items were summed, with final numbers ranging from 0 to 12. Higher scores represented higher levels of impulsivity.

[13] Eigenvalues greater than 1.00.

Target gratifiability. Target gratifiability was more difficult for Finkelhor and Asdigian (1996) to operationalize. Target gratifiability refers to a "quality, possession, skill, or attribute that an offender wants to obtain, use, have access to, or manipulate" (Finkelhor & Asdigian, 1996, p. 6). They were able to identify just one variable, gender, to measure this target congruence element (Finkelhor & Asdigian, 1996). As research suggests that females are more likely to be cyberstalked (Reyns, 2010), *Gender Identity* is included in the current model. Respondents were asked to indicate their gender identity, with possible response options of: (1) Man, (2) Woman, (3), Transgender Man, (4) Transgender Woman, (5) Genderqueer or gender non-conforming, (6) Questioning, (7) Not listed, and (8) Prefer not to answer. Two dummy variables were created and labeled: Man (reference group), Woman, and Other. The Other dummy variable included responses of Transgender Man, Transgender Woman, Genderqueer or gender non-conforming, Questioning, Not listed, and Prefer not to answer due to low base rates for these categories (1.2%, 0.5%, 1.5%, 0.4%, and 0.3%, respectively).

Sexual Orientation was created to capture target gratifiability by asking respondents to select "Which best describes your sexual orientation?" Potential response options were: (1) Heterosexual or straight; (2) Gay or lesbian; (3) Bisexual, (4) Asexual, (5) Questioning, (6) Not listed, and (7) Prefer not to answer. Three dummy variables were labeled as follows: Gay or lesbian, Bisexual, and Other, with Heterosexual or straight serving as the reference group. Due to low base rates for Asexual, Questioning, Not listed, and Prefer not to answer (1.9%, 1.4%, 1.8%, and 0.5%, respectively), these categories were collapsed into the Other dummy variable. A large majority of respondents, 75.4%, indicated that heterosexual or straight best described their sexual orientation.

The next measure of target gratifiability was *Type of Pictures and Videos Posted.* Respondents were asked "How would you describe the pictures and/or videos of yourself that you have posted…Please indicate the percentage of each type." This question was asked separately for (1) Social Network Websites or Social Media Apps; (2) Professional Network Sites; and (3) Dating Websites or Apps. Response options included Flirty or Seductive, Silly or Fun, Professional, Selfies, Family and Friends, Hobbies and Other. The mean of each type was calculated across all three types of communication technologies.

Finally, *Sexting* was a variable created to capture target gratifiability. Respondents were asked to indicate if they have participated in the following behaviors using communication technologies: (1) Sent sexually explicit images, videos, or texts to someone; or (2) Received sexually explicit images, videos, or texts from someone. As these items were highly correlated (Cronbach's alpha = .855), they were summed to create a single variable. A sum of 0 represented no sexting behaviors and scores of 1 and 2 represented sexting behavior. The scores of 2 were recoded into a score of 1, which created a dichotomous variable (0 = no sexting, 1 = sexting). Just over half of the respondents (n=779) indicated that they engaged in sexting behaviors.

Target antagonism. The final target congruence concept is target antagonism. This refers to victim characteristics that arouse feelings, such as jealousy or anger, in the offender (Finkelhor & Asdigian, 1996). In Finkelhor and Asdigian's original article (1996), youth disobedience and offline risky behaviors were included in the analysis. Based on their work and the fact that previous research has repeatedly indicated that there is a strong relationship between offending and victimization, four separate measures were created to capture online offending and deviant behavior in cyberspace. These variables include *Trolling, Hacking, Cyberbullying Perpetration, and Cyberstalking Perpetration.*

Trolling was measured by asking two separate questions on the questionnaire. Respondents were asked if they have "purposefully upset someone online with the intent to trigger an emotional response?" and if they have "purposefully started an argument online with the intent to trigger an emotional response?" Each was measured as a dichotomous variable (0 = No, 1 = Yes). As these two items were highly correlated (Cronbach's alpha = .718), they were summed to create a single measure. A sum of 0 represented no trolling behavior and scores of 1 and 2 represented trolling behavior. The scores of 2 were recoded into a score of 1, which created a dichotomous variable (0 = no trolling, 1 = trolling). The majority of respondents (84.7%) indicated that they had not engaged in trolling behaviors.

The next measure, *Hacking*, was created by asking respondents to indicate if they have used communication technologies to attempt to hack into someone's online social network account. A score of 0 represented no hacking behaviors and a score of 1 represented hacking behaviors. Of the 1,500 respondents, 264 (17.6%) indicated that they have engaged in hacking behaviors.

Cyberbullying Perpetration was captured by asking respondents, "Have you ever repeatedly made fun of someone online, repeatedly picked on someone online, or posted something about someone online that they did not like?" Responses of no were coded as 0 and indicated that the respondent did not perpetrate cyberbullying and responses of yes were coded as 1 and represented that the respondent did not perpetrate cyberbullying. Most of the respondents, 1386 (92.4%), indicated that they were not perpetrators of cyberbullying.

The final measure created to capture online offending and deviant behavior was *Cyberstalking Perpetration.* Respondents were asked "How many times have you done any of the following using communication technologies towards the same person?" Options included:

(1) Contacted or attempted to contact someone; (2) Persistently harassed or annoyed someone; (3) Made unwanted sexual advances; (4) Threatened physical harm; (5) Spied on or monitored someone's activities; (6) Tracked someone's whereabouts; and (7) Posted or threated to post inappropriate, unwanted, or personal information. Potential responses were: 0 times (coded 0), 1 time (1), 2 times (2), 3-6 times (3), 7-10 times (4), and more than 10 times (5) (Cronbach's alpha = .824). Items were then summed to calculate the number of times a respondent engaged in online pursuit behaviors. Scores of 0 and 1 were recoded into a score of 0 to indicate no cyberstalking perpetration. This is because cyberstalking requires repeated pursuit behavior (i.e., 2 or more times). All other scores were recoded into a score of 1 to represent cyberstalking perpetration. Just under half of the respondents (44.5%) were labeled as engaging in cyberstalking perpetration.[14]

In addition to the online offending and deviance measures, six other variables were created to capture target antagonism. This includes *Race, Citizenship Status, Relationship Status, Employment Status, Self-Centeredness, and Temper. Race* was measured by asking respondents to select the racial category or categories that best described them. Possible responses were: Caucasian, Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Hispanic, and Other. Race was measured as a dichotomous variable (0=Non-white, 1=White). The majority of the 1,500 respondents (64.4%) selected Caucasian as the racial category that best described them.

Two questions were included in the survey instrument to measure *Citizenship Status*. First, respondents were asked, "Are you a United States citizen?" For those who answered no,

[14] This measure of cyberstalking victimization does not include the fear or substantial emotional response criteria, as the perpetrator would not be able to determine if the victim had any emotional response. Thus, this prevalence estimate may be high.

they were asked a follow-up question to indicate if they were in possession of a Green Card, a U.S. Visa, or Neither. As the majority of the sample (98.2%) identified themselves as a United States citizen, a dichotomous variable was created. A response of United States citizen was coded as 1, with all other responses coded as 0.

Relationship Status was created based on the question, "What is your current primary relationship status?" Potential responses were: (1) Single, (2) Casually dating or hooking up (brief sexual encounter); (3) Steady or serious relationship; (4) Married, civil union, domestic partnership, cohabitation; and (5) Divorced, separated, or widowed. A series of four dummy variables were created and labeled as: Single, Casually dating (reference group), Serious relationship, and Married/Civil Union/Domestic Partnership/Cohabitation. Those who identified as divorced, separated, or widowed were included in the Single dummy variable. The modal response category was serious relationship, with 576 (38.4%) of respondents selecting this option.

Respondents were asked, "Which best describes your current employment status?" The potential responses were: Full-time, Part-time, and Unemployed. It is possible that an offender may have negative feelings towards individuals who do not work, thus, it is an appropriate measure of target antagonism. Two dummy variables were created, one for employed part-time and one for unemployed. Employed full-time served as the reference group. Approximately 40% of the 1,500 respondents described their current employment status as full-time.

Finally, two measures were created based on two of the six components of self-control (Grasmick et al., 1993). Respondents were given the following prompt: "The following statements are provided about general views you may have of yourself.…Think of how you view yourself now and not how you would like to be. Please indicate the extent to which you agree

with the statements provided." The items included for *Self-Centeredness* are: (1) "I try to look out for myself first, even if it means making things difficult for other people."; (2) "I'm not very sympathetic to other people when they are having problems."; (3) "If things I do upset people, it's their problem not mine."; and (4) "I will try to get the things I want even when I know it's causing problems for other people." (Cronbach's alpha = .793).[15] Response options were: strongly agree (coded 0), somewhat agree (1), somewhat disagree (2), and strongly disagree (3). The responses across the four items were summed, with final numbers ranging from 0 to 12. Higher scores indicate lower levels of self-centeredness.

The items included for *Temper* are: (1) "I lose my temper pretty easily."; (2) "Often, when I'm angry at people I feel more like hurting them than talking to them about why I am angry."; (3) "When I'm really angry other people better stay away from me."; and (4) "When I have a serious disagreement with someone, it is usually hard for me to talk calmly about it without getting upset." (Cronbach's alpha = .786).[16] Response options were: strongly agree (coded 0), somewhat agree (1), somewhat disagree (2), and strongly disagree (3). The responses across the four items were summed, with final numbers ranging from 0 to 12. Higher scores indicated lower levels of temper in the respondent.

Control Variables

In addition to the target congruence measures outlined above, several other variables were controlled for in the current study. These measures are used as control variables because they may be associated with the risk of cyberstalking victimization, and thus, needed to be held constant in the analyses.

[15] The factor loadings ranged from 0.697 to 0.773.
[16] The factor loadings ranged from 0.661 to 0.764.

As research suggests that there may be a link between offline and cyberstalking victimization (Alexy et al., 2005), *Offline Stalking* was included in the current study as a control variable. Respondents were asked to indicate "if one person has ever done any of the following that caused you to have a substantial emotional response or fear for your safety or the safety of someone close to you." The possible unwanted contacts or behaviors included: (1) Followed you around and/or watched you, (2) Sneaked into your home, car, or any other place and did unwanted things to let you know they had been there, (3) Waited for you at your home, work, school, or any other place when you did not want them to, (4) Showed up, rode, or drove by places where you were when they had no business being there, (5) Left or sent unwanted cards, letters, presents, flowers, or other items, and (6) Harassed or repeatedly asked your friends or family about your whereabouts (Cronbach's alpha = .755). If a respondent experienced two or more of the unwanted contacts or behaviors, they were classified as a stalking victim (coded 1). All others were labeled as not stalking victims (coded 0). Approximately 20% of the respondents indicated that they were victims of offline stalking.

Research also has indicated that previous victimization may increase the risk of subsequent victimizations. Therefore, *Cyberbullying Victimization,* was created as a control variable. Respondents were asked to note if "someone has ever repeatedly made fun of you online, repeatedly picked on you online, or posted something about you online that you did not like?" The potential response options were no (coded 0) or yes (coded 1). Of the 1,500 respondents, 339 (22.6%) indicated that they have been victims of cyberbullying.

Statistical Techniques

Univariate Analyses

Descriptive statistics, such as percentages and frequencies, were utilized to estimate the prevalence of each variable of interest in the sample. These univariate statistics are important to explore because it allows for comparisons of characteristics of participants (e.g., percent of sample who are cyberstalking victims versus those who are not cyberstalking victims) and against what is expected (e.g., prevalence of cyberstalking victim in previous research versus this sample). Overall, the univariate statistics provide a simple description and understanding of the data collected.

Bivariate Analyses

Bivariate relationships between the target congruence measures, control variables, and the dependent variable were estimated and are presented in the following chapter. Due to the nature of the measures, two types of bivariate statistics will be calculated. Both measures of association are related to Pearson's *r*, but take into consideration the varying levels of measurement. Nonetheless, point-biserial correlations and Phi coefficients are calculated for this study and are interpreted in the same manner as Pearson's *r*. A point-biserial correlation will be used when one variable is continuous and the other is a true dichotomous measure[17] (Walker & Maddan, 2013). Phi-coefficients will be calculated when both of the variables are nominal and dichotomous (Walker & Maddan, 2013).

These bivariate estimates are used to examine how variables are related to one another. To explain, measures of association determine "the extent to which the same cases or

[17] A true dichotomous measure only has two possible values. A point-biserial correlation cannot be used if there is an underlying continuum (e.g., agree, somewhat agree, somewhat disagree, disagree) between the two values (Walker & Maddan, 2013).

observations occupy the same relative position on two variables" (Walker & Maddan, 2013, p. 259). Further, statistics reveal the strength and direction of a relationship between two measures. The values fall between ± 1. A perfect positive relationship is represented by a +1, a perfect negative relationship is -1, and no relationship at all is represented by a 0 (Walker & Maddan, 2013). Thus, estimates closer to ± 1 indicate a strong relationship and those close to 0 represent a weak relationship. While correlation does not determine causation, exploring these bivariate estimates is an appropriate starting point in assessing the stated hypotheses.

Multivariate Analyses

Since the dependent variable, *Cyberstalking Victimization,* is a dichotomous measure, the appropriate statistical technique for analyzing the data is binary logistic regression. This technique estimates the odds (probability of an event occurring divided by the probability that an event will not occur) of an event occurring while taking into consideration the impact of other variables on these odds. Binary logistic regression is appropriate for dependent variables that are dichotomous in nature because the assumptions are less restrictive than ordinary least squares regression (i.e., does not require the assumptions regarding the population distribution of scores) (Walker & Maddan, 2013).

When estimating logistic regression models, there are several statistics that are interpreted and reported for hypothesis testing. This includes model fit statistics (-1 log likelihood, model chi-square), strength of the model statistics (Nagelkerke R^2), log-odds (B), odds ratios (Exp(B)), standard errors, and 95% confidence intervals. As the logistic regression equation predicts the logged odds of getting a 1, the logistic regression coefficient is not straightforward (Weisburd & Britt, 2007). Therefore, scholars rely on the odds ratios because it represents how a one unit change in x impacts the probability of an event occurring to the

probability of the event not occurring (Weisburd & Britt, 2007). When an odds ratio is greater than 1, the odds of getting a 1 on the dependent variable increases when the independent variable increases. When an odds ratio is less than 1, the odds of getting a 1 on the dependent variable decreases when the independent variable increases (Weisburd & Britt, 2017). Finally, for this study, coefficients with *p*-values equal to or less than 0.05 were considered statistically significant.

Numerous multivariate models will be estimated for this dissertation. Three separate regression models will be estimated to explore the unique effects of each target congruence concept without the influence of the other two elements.[18] A full target congruence model containing all measures capturing target vulnerability, gratifiability, and antagonism – and the control variables – will be estimated.

Additionally, as was mentioned previously, it is possible that the pursued-pursuer relationship may be influencing the risk of cyberstalking victimization as a moderator. Thus, separate analyses will be estimated for known pursuers and stranger pursuers. An equality of coefficients test (Paternoster, Brame, Mazerolle, & Piquero, 1998) will then be performed to determine if there are significant differences between the two groups. Prior to separating the sample into known and stranger pursuer subsamples, the analyses were also estimated for the full pursued sample. This modeling was performed as a step to provide further support for examining the separate known and stranger pursuer models.

It is also important to note that issues with multicollinearity will be explored before running analyses. This will be done by analyzing the tolerance and variance inflation factors

[18] One model will include the measures capturing target vulnerability and the control variables. Another will include the measures capturing target gratifiability and the control variables. A final model will include the measures capturing target antagonism and the control variables.

(VIF). The VIF detects the degree of multicollinearity, with large values representing a strong correlation between predictor variables (Fox, 2008). Generally, it is suggested that VIF values should be not be much larger than 2 (Fox, 2008). SPSS (version 24) statistical analysis software was used to perform all analyses in the current study.

Summary

This chapter began by explaining the questionnaire development and the Institutional Review Board review process. Next, the sampling design and data collection process were presented. An explanation on how the target congruence approach was adapted for cyberspace was offered, along with a description of how each construct was operationalized and measured. The chapter concluded with a description of the statistical techniques utilized. The next chapter, Chapter 5, will review the univariate, bivariate, and multivariate findings using the data from the sample described in this chapter.

CHAPTER 5

RESULTS

Overview

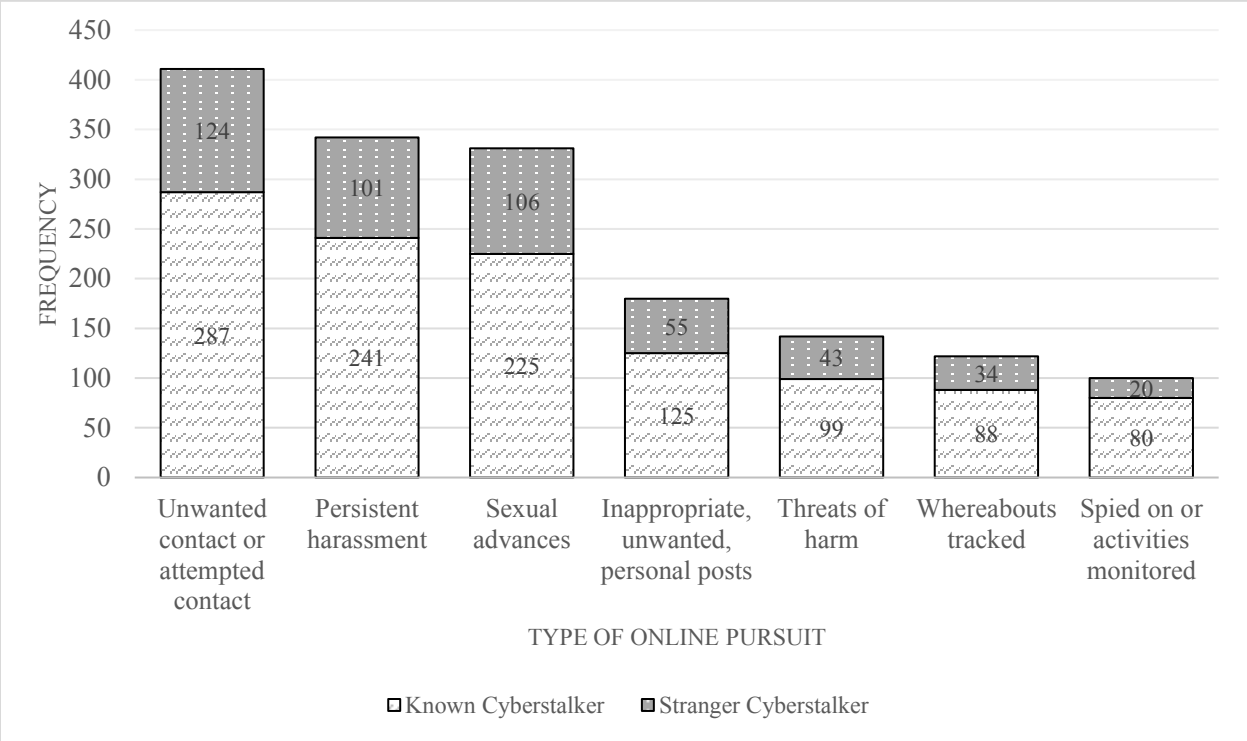
This chapter presents the results of the univariate, bivariate, and multivariate analyses performed to test the four study hypotheses. First, the extent of cyberstalking victimization among a general sample of 18 to 25 year old respondents is reported. Specifically, the 12-month prevalence estimate of cyberstalking victimization is presented, followed by the 12-month prevalence estimates for each of the seven types of pursuit behaviors. Additionally, rates for select demographic characteristics are reported. Next, the results from the bivariate analyses are discussed. As was mentioned in the previous chapter, two types of bivariate statistics, point-biserial correlations and Phi coefficients, were calculated to determine the strength and direction of the associations between the independent, control, and dependent variables. Finally, the results from the binary logistic regression models, along with the equality of coefficients test results, are presented. Chapter 6 will provide an in-depth discussion of these results, with attention placed on integrating the findings within the theoretical framework.

Extent of Cyberstalking Victimization

Annual Prevalence of Cyberstalking Victimization

Among the sample of 1,500 Mechanical Turk workers, 31.8% (*n*=477) were identified as experiencing cyberstalking victimization within the previous 12-month time frame. To explore these experiences further, Figure 5.1 illustrates the frequency of each type of online pursuit behavior experienced within the subsample of cyberstalking victims. Additionally, these frequencies are broken down by those instances where the cyberstalker is known to the victim (e.g., family member, friend, classmate, etc.) and those where the cyberstalker is a stranger. This

Figure 5.1: Types of Online Pursuit Among Cyberstalking Victims (*N*=477)



is done to help illustrate that online pursuit behaviors may be disproportionately committed by known offenders, which supports the application of the target congruence perspective as it was developed by Finkelhor and Asdigian (1996) to explain victimization committed by known perpetrators.

Unwanted contact or attempted contact was the most common online pursuit behavior experienced by cyberstalking victims. Over 86% (*n*=411) of the cyberstalking victims reporting experiencing this type of online pursuit in the last 12 months. Of those who experienced unwanted contact or attempted contact, nearly 70% (*n*=287) knew the cyberstalker. The second most common type of online pursuit was persistent harassment or annoyance (71.7%, *n*=342), with 70% (*n*=241) of those victims knowing their cyberstalker. This was closely followed by sexual advances (69.4%, *n*=331), where approximately 68% (*n*=225) of these cyberstalking victims knew their cyberstalker. Nearly 40% (*n*=180) of cyberstalking victims also reported

experiencing someone making inappropriate or unwanted posts, with 69% (*n*=125) knowing their offender. Some cyberstalking victims also reported that they experienced additional types of online pursuit in the previous 12-months: 29.8% experienced threats of harm (*n*=142) (69.7%, *n*=99 known offender), 25.6% (*n*=122) had their whereabouts tracked (72.1%, *n*=88 known offender), and 21% (*n*=100) were spied on or monitored (80%, *n*=80 known offender).

Extent of Cyberstalking Victimization by Select Demographic Characteristics

Given that demographic characteristics have consistently been found to be significant correlates of numerous types of victimization (e.g., Hindelang, Gottfredson, & Garofalo, 1978; Tillyer, Wilcox, & Fissel, 2018), the extent of cyberstalking victimization across gender identity, sexual orientation, age, race, student status, and relationship status are presented in Table 5.1. Women composed the majority of the sample of cyberstalking victims, with over 69% (*n*=311) selecting this gender identity. This was followed by men (*n*=115, 24.1%), and Other gender (*n*=31, 6.5%). Nearly 68% (*n*=323) of cyberstalking victims in the sample identified as heterosexual or straight. Bisexual was the second most common sexual orientation selected (*n*=96, 20.1%), followed by gay or lesbian (*n*=23, 4.8%), and asexual, questioning, and other (*n*=35, 7.3%). Cyberstalking victims' ages ranged from 18 to 25 years old, with an average age of 22.62 (SD=1.82). Regarding race, the majority of cyberstalking victims reported being Caucasian (*n*=292, 61.2%). Over one-fifth (*n*=107, 22.4%) of cyberstalking victims indicated that they have been professionally diagnosed with a disability. Most of the cyberstalking victims (*n*=294, 61.6%) were college or university students, 31.4% (*n*=150) were not students, and the remining 6.9% (*n*=33) were other types of students. Finally, 40.5% (*n*=193) were in a serious relationship, 29.8% (*n*=142) were single, 17.6% (*n*=84) were married or in a domestic partnership, and 12.2% (*n*=58) were casually dating or hooking up.

Table 5.1: Extent of Cyberstalking Victimization by Select Demographics (*N*=477)

Demographic Characteristic	%	*n*
Gender Identity		
Man	24.1%	115
Woman	69.4%	331
Other[19]	6.5%	31
Sexual Orientation		
Heterosexual or straight	67.7%	323
Gay or lesbian	4.8%	23
Bisexual	20.1%	96
Asexual, questioning, not listed	7.3%	35
Age		
18	0.6%	3
19	5.0%	24
20	8.8%	42
21	12.8%	61
22	20.1%	96
23	15.7%	75
24	16.8%	80
25	20.1%	96
Race		
White	61.2%	292
Non-White[20]	39.8%	185
Disability		
Yes	22.4%	107
No	77.6%	370
Student Status		
College or university student	61.6%	294
Other type of student[21]	6.9%	33
Not a student	31.4%	150
Relationship Status		
Single	29.8%	142
Casually dating or hooking up	12.2%	58
Serious relationship	40.5%	193
Married/civil union[22]	17.6%	84

[19] This category includes transgender man, transgender woman, genderqueer or gender non-conforming, questioning, or preferred not to answer.
[20] This category includes Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Hispanic, Biracial, and Other Race.
[21] This category includes those who were high school, trade school, or vocational school students.
[22] This category also includes domestic partnerships and cohabitation.

Rate of Cyberstalking Victimization by Select Demographic Characteristics

While the univariate statistics provided in the previous section are informative, it is important to explore further by calculating rates of cyberstalking victimization by select demographic characteristics. The percentages reviewed above are influenced by the demographic makeup of the full sample. To explain, it is not surprising that the majority of cyberstalking victims identify as heterosexual because the majority of the full sample is heterosexual (refer to Table 4.1). In contrast to percentages, rates[23] will take into account the full makeup of the full sample of respondents.

Table 5.2 presents the rates of cyberstalking victimization for select demographic characteristics. With respect to gender identity, those who identified as Other had the highest rate of cyberstalking victimization at 53.45 per 100 individuals. This was followed by women at 33.81 per 100 people and men at 24.84 per 100 people. Those who identified as bisexual had the highest rate of cyberstalking victimization compared to the other sexual orientation categories. Bisexual respondents were cyberstalked at a rate of 43.44 out of 100 individuals. This was closely followed by those who identified as asexual, questioning, or other, who were cyberstalked at a rate of 41.67 out of 100 individuals.

Regarding age, 20 year olds had the highest rate of cyberstalking with 42.42 out of 100 individuals victimized. Twenty-two year olds closely followed at a rate of 41.20 out of 100 people. Out of 100 people, 34.64 non-white individuals would be cyberstalked. This is compared to a rate of 30.23 out of 100 individuals who identified as White. Those who have been professionally diagnosed with a disability had a much higher rate of being cyberstalked (45.73 out of 100) relative to those who had not been diagnosed (29.23 out of 100). Other types of

[23] $Rate = \frac{Number\ of\ respondents\ (with\ select\ demographic) cyberstalked}{Number\ of\ respondents\ (with\ select\ demographic) in\ full\ sample} X\ 100$

Table 5.2: Rate of Cyberstalking Victimization by Select Demographics (*N*=1,500)

Demographic Characteristic	Rate (per 100 individuals)
Gender Identity	
Man	24.84
Woman	33.81
Other	53.45
Sexual Orientation	
Heterosexual or straight	28.56
Gay or lesbian	35.94
Bisexual	43.44
Asexual, questioning, not listed	41.67
Age	
18	25.00
19	32.43
20	42.42
21	34.27
22	41.20
23	29.30
24	26.14
25	28.07
Race	
White	30.23
Non-white	34.64
Disability	
Yes	45.73
No	29.23
Student Status	
College or university student	33.18
Other type of student	38.82
Not a student	28.36
Relationship Status	
Single	27.52
Casually dating or hooking up	52.25
Serious relationship	33.51
Married/civil union	28.28

students were cyberstalked at a rate of 38.82 out of 100 people, while college or university respondents had a rate of 33.18 per 100 individuals and those who were not students were cyberstalked at a rate of 28.36 out of 100 people. Finally, with respect to relationship status, those who were casually dating or hooking up had the highest rate with 52.25 out of 100 people

being cyberstalked. Those who were in a serious relationship were cyberstalked at a rate of 33.51 per 100 individuals, followed by those who were married (28.28 per 100), and those who were single (27.52 per 100).

Bivariate Results

The bivariate relationships between the target congruence variables, control variables, and dependent variable appear in Tables 5.3 to 5.5. Point-biserial correlations (r_{pb}) and Phi coefficients (φ) were calculated to determine the strength and direction of an association between two variables. Point-biserial correlations and Phi coefficients fall between ± 1.00. While there is no specific agreed upon criteria for determining the strength of a relationship, for the current study, the following standards are used: ±1.00 represents a perfection correlation, ±0.60 represents a strong correlation, ±0.30 represents a moderate correlation, ±0.10 represents a weak correlation, and 0 represents no correlation. Measures of association are used as a method to gain an initial understanding of how two variables are related to one another, independent of the effects of any other measures. The bivariate relationships that are statistically significant and have a strength of weak or better will be discussed below.

Target Vulnerability

As can be seen in Table 5.3, several of the variables measuring the concept of target vulnerability are statistically associated with having experienced cyberstalking victimization in the previous 12-month time frame. Age (r_{pb} = -0.08, $p \leq .01$), not being a student (φ = -0.06, $p \leq .05$), and having an undergraduate degree (φ = -0.07, $p \leq .01$) were all negatively related to cyberstalking victimization. Having a disability (φ = 0.13, $p \leq .001$) and possessing a graduate or professional degree (φ = 0.07, $p \leq .01$) were positively associated with cyberstalking victimization. The number of photographs or videos posted on one's online accounts (r_{pb} = 0.20,

Table 5.3: Bivariate Relationships between Dependent, Target Vulnerability, and Control Measures (*N*=1,500)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable										
(1) Cyberstalking victimization	1.00									
Target Vulnerability										
(2) Age	-0.08**	1.00								
(3) Disability	0.13***	0.03	1.00							
Student Status										
(4) Undergrad student	0.04	-0.31***	-0.08**	1.00						
(5) High, trade, or vocational school student	0.04	0.03	0.09***	-0.29***	1.00					
(6) Not a student	-0.06*	0.30***	0.04	-0.89***	-0.18***	1.00				
Educational Attainment										
(7) High school diploma	0.04	-0.31***	0.06*	0.04	0.09***	-0.08**	1.00			
(8) Undergrad degree	-0.07**	0.26***	-0.08**	-0.03	-0.08**	0.07**	-0.91***	1.00		
(9) Graduate or professional degree	0.07*	0.13***	0.05*	-0.02	-0.03	0.04	-0.22***	-0.21***	1.00	
(10) Amount of time online daily	0.03	-0.01	0.04	-0.10***	-0.01	0.11***	0.03	-0.03	0.01	1.00
Privacy Settings										
(11) Private	-0.00	0.09***	-0.02	0.00	-0.02	0.01	-0.07**	0.04	0.06*	-0.05
(12) Mostly private	0.01	-0.02	0.04	0.01	-0.01	-0.01	0.03	-0.02	-0.02	0.01
(13) Mostly public	-0.01	-0.09***	-0.02	0.01	0.03	-0.02	0.04	-0.02	-0.04	0.01
(14) Public	-0.02	-0.01	-0.03	-0.02	0.03	0.01	0.01	-0.01	-0.02	0.07**
(15) Number of photos posted	0.20***	0.04	0.10***	0.06*	0.02	-0.07**	-0.14***	0.02	0.27***	0.04
(16) Online connections	0.11***	-0.04	0.01	0.05	-0.06*	-0.02	-0.07**	0.06*	0.04	-0.01
(17) Impulsivity	0.14***	-0.06*	0.08***	-0.01	0.06**	-0.03	0.04	-0.08**	0.08	0.04
Control Variables										
(18) Offline stalking victimization	0.38***	0.02	0.07**	0.02	0.05	-0.04	0.01	-0.05*	0.09***	0.03
(19) Cyberbullying victimization	0.25***	-0.04	0.20***	-0.02	0.02	0.01	0.09***	-0.12***	0.08**	0.10***

Table 5.3: Bivariate Relationships between Dependent, Target Vulnerability, and Control Measures (*N*=1,500) (cont.)

Variable	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Dependent Variable									
(1) Cyberstalking victimization									
Target Vulnerability									
(2) Age									
(3) Disability									
Student Status									
(4) Undergrad student									
(5) High, trade, or vocational school student									
(6) Not a student									
Educational Attainment									
(7) High school diploma									
(8) Undergrad degree									
(9) Graduate or professional degree									
(10) Amount of time online daily									
Privacy Settings									
(11) Private	1.00								
(12) Mostly private	-0.65***	1.00							
(13) Mostly public	-0.33***	-0.38***	1.00						
(14) Public	-0.19***	-0.21***	-0.06*	1.00					
(15) Number of photos posted	-0.07**	0.05	0.04	-0.03	1.00				
(16) Online connections	-0.15***	0.04	0.09***	0.05*	0.30***	1.00			
(17) Impulsivity	-0.03	0.01	0.02	0.01	0.21***	0.01	1.00		
Control Variables									
(18) Offline stalking victimization	-0.02	0.01	0.02	0.00	0.21***	0.07**	0.12***	1.00	
(19) Cyberbullying victimization	0.03	-0.04	0.02	0.00	0.12***	0.05*	0.12***	0.24***	1.00

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

$p \leq .001$), along with the number of online connections one has ($r_{pb} = 0.11$, $p \leq .001$), were also positively associated with experiencing cyberstalking victimization. Finally, impulsivity was positively related to cyberstalking victimization ($r_{pb} = 0.14$, $p \leq .001$). While all of these relationships would be classified as weak, they nevertheless indicate that, to some degree, target vulnerability is associated with the risk of cyberstalking victimization.

Target Gratifiability

Table 5.4 illustrates the measures of target gratifiability that are statistically associated with having experienced cyberstalking victimization. Being a man ($\varphi = -0.10$, $p \leq .001$) and identifying as heterosexual ($\varphi = -0.12$, $p \leq .001$) were both negatively related to cyberstalking victimization. Identifying as a woman ($\varphi = 0.06$, $p \leq .05$), other gender ($\varphi = 0.09$, $p \leq .001$), bisexual ($\varphi = 0.10$, $p \leq .001$), and other sexual orientation ($\varphi = 0.05$, $p \leq .05$) were all positively associated with experiencing cyberstalking victimization. Posting photographs or videos that were flirty or seductive in nature ($r_{pb} = 0.24$, $p \leq .001$) and participating in sexting ($r_{pb} = 0.22$, $p \leq .001$) were also positively related to cyberstalking victimization. These relationships are, again, all identified as weak in strength, but indicate that target gratifiability is related to the risk of being cyberstalked.

Target Antagonism

Finally, Table 5.5 presents the bivariate relationships between the dependent, target antagonism, and control measures. The majority of the measures capturing target antagonism were statistically significantly associated with cyberstalking victimization. Engaging in antagonistic behaviors, such as trolling ($\varphi = 0.14$, $p \leq .001$), hacking ($\varphi = 0.14$, $p \leq .001$), cyberbullying ($\varphi = 0.14$, $p \leq .001$), and cyberstalking ($\varphi = 0.24$, $p \leq .001$) were positively related to cyberstalking victimization. Being single ($\varphi = -0.07$, $p \leq .01$) was negatively associated with

Table 5.4: Bivariate Relationships between Dependent, Target Gratifiability, and Control Measures (*N*=1,500)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent Variable									
(1) Cyberstalking victimization	1.00								
Target Gratifiability									
Gender Identity									
(2) Man	-0.10***	1.00							
(3) Woman	0.06*	-0.92***	1.00						
(4) Other gender	0.09***	-0.13***	-0.28***	1.00					
Sexual Orientation									
(5) Heterosexual	-0.12***	0.21***	-0.08**	-0.33***	1.00				
(6) Gay/lesbian	0.02	0.01	-0.05*	0.11***	-0.37***	1.00			
(7) Bisexual	0.10***	-0.18***	0.11***	0.15***	-0.73***	-0.09***	1.00		
(8) Other	0.05*	-0.14***	0.02	0.28***	-0.43***	-0.05*	-0.10***	1.00	
Type of Photos/Videos									
(9) Flirty	0.24***	0.13***	-0.12***	-0.01	0.02	-0.01	0.01	-0.05	1.00
(10) Silly/fun	-0.02	0.01	-0.01	0.02	-0.09***	0.04	0.08***	-0.00	-0.12***
(11) Professional	-0.01	0.11***	-0.09***	-0.04	0.07**	-0.02	-0.03	-0.07**	-0.06*
(12) Selfies	0.00	-0.03	0.01	0.03	-0.04	0.01	0.00	0.07**	-0.04
(13) Family and friends	0.03	-0.07**	0.08**	-0.04	0.04	0.01	-0.04	-0.01	-0.04
(14) Hobbies	0.03	0.13***	-0.13***	0.02	0.09***	-0.05*	-0.06**	-0.02	0.11***
(15) Other	0.04	-0.01	-0.01	0.04	-0.05*	0.06*	-0.01	0.06*	-0.03
(16) Sexting	0.22***	-0.08**	0.06*	0.06*	-0.18***	0.09***	0.15***	0.03	0.08**
Control Variables									
(17) Offline stalking victimization	0.38***	-0.08**	0.08**	-0.01	-0.05*	0.02	0.06*	-0.02	0.23***
(18) Cyberbullying victimization	0.25***	0.01	-0.06*	0.12***	-0.16***	0.08***	0.09***	0.08***	0.12***

Table 5.4: Bivariate Relationships between Dependent, Target Gratifiability, and Control Measures (*N*=1,500) (cont.)

Variable	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Dependent Variable									
(1) Cyberstalking victimization									
Target Gratifiability									
Gender Identity									
(2) Man									
(3) Woman									
(4) Other gender									
Sexual Orientation									
(5) Heterosexual									
(6) Gay/lesbian									
(7) Bisexual									
(8) Other									
Type of Photos/Videos									
(9) Flirty									
(10) Silly/fun	1.00								
(11) Professional	-0.08**	1.00							
(12) Selfies	-0.15***	-0.06*	1.00						
(13) Family and friends	-0.07**	-0.05*	-0.02	1.00					
(14) Hobbies	-0.03	0.00	-0.01	0.01	1.00				
(15) Other	-0.06*	-0.07**	0.07**	-0.04	0.03	1.00			
(16) Sexting	-0.03	-0.06*	0.00	0.08***	-0.09***	-0.01	1.00		
Control Variables									
(17) Offline stalking victimization	-0.07**	-0.03	-0.03	0.06**	0.03	0.06*	0.22***	1.00	
(18) Cyberbullying victimization	-0.06**	-0.05*	0.02	0.02	-0.03	-0.03	0.23***	0.24***	1.00

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Table 5.5: Bivariate Relationships between Dependent, Target Antagonism, and Control Measures (*N*=1,500)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent Variable									
(1) Cyberstalking victimization	1.00								
Target Antagonism									
(2) Trolling	0.14***	1.00							
(3) Hacking	0.14***	0.15***	1.00						
(4) Cyberbullying perpetration	0.14***	0.35***	0.19***	1.00					
(5) Cyberstalking perpetration	0.24***	0.18***	0.27***	0.19***	1.00				
(6) Race *(White)*	-0.05	-0.08**	-0.03	-0.05*	0.02	1.00			
(7) Citizenship status	0.02	0.02	0.06*	0.02	0.04	0.13***	1.00		
Relationship Status									
(8) Single	-0.07**	0.02	-0.04	0.03	-0.00	-0.11***	-0.07**	1.00	
(9) Casually dating	0.12***	0.06*	-0.02	0.03	0.06*	-0.05	0.02	-0.21***	1.00
(10) Serious relationship	0.03	-0.03	0.01	-0.05*	-0.04	0.06*	0.01	-0.57***	-0.22***
(11) Married/civil union	-0.04	-0.02	0.06*	0.01	0.01	0.09***	0.06*	-0.36***	-0.14***
Employment Status									
(12) Full-time employment	-0.03	0.02	0.04	0.03	-0.00	0.05*	-0.02	-0.07**	-0.02
(13) Part-time employment	0.03	-0.05*	-0.03	-0.03	-0.03	-0.07**	0.00	0.03	-0.01
(14) Unemployed	-0.01	0.03	-0.02	-0.01	0.03	0.01	0.02	0.04	0.03
(15) Self-centeredness	-0.05*	-0.18***	-0.13***	-0.17***	-0.11***	0.07**	-0.00	-0.10***	-0.02
(16) Temper	-0.12***	-0.18***	-0.15***	-0.18***	-0.14***	0.02	-0.02	-0.00	-0.05
Control Variables									
(17) Offline stalking victimization	0.38***	0.08**	0.20***	0.16***	0.19***	-0.07**	-.007	-0.09***	0.04
(18) Cyberbullying victimization	0.25***	0.24***	0.19***	0.34***	0.14***	0.05	.049	-0.04	0.04

Table 5.5: Bivariate Relationships between Dependent, Target Antagonism, and Control Measures (*N*=1,500) (cont.)

Variable	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Dependent Variable									
(1) Cyberstalking victimization									
Target Antagonism									
(2) Trolling									
(3) Hacking									
(4) Cyberbullying perpetration									
(5) Cyberstalking perpetration									
(6) Race *(White)*									
(7) Citizenship status									
Relationship Status									
(8) Single									
(9) Casually dating									
(10) Serious relationship	1.00								
(11) Married/civil union	-0.39***	1.00							
Employment Status									
(12) Full-time employment	-0.01	0.11***	1.00						
(13) Part-time employment	0.06*	-0.10***	-0.59***	1.00					
(14) Unemployed	-0.05	-0.01	-0.48***	-0.42***	1.00				
(15) Self-centeredness	0.07**	0.04	-0.11***	0.07**	0.04	1.00			
(16) Temper	0.04	-0.02	-0.01	0.05*	-0.05	0.47***	1.00		
Control Variables									
(17) Offline stalking victimization	0.01	0.07**	0.05	-0.03	-0.02	-0.07**	-0.10***	1.00	
(18) Cyberbullying victimization	-0.01	0.03	-0.02	-0.02	0.04	0.00	-0.12***	0.24***	1.00

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

cyberstalking victimization, while casually dating was positively associated with cyberstalking victimization ($\varphi = 0.12$, $p \leq .001$). Finally, self-centeredness ($\varphi = -0.05$, $p \leq .05$) and temper ($\varphi = -0.12$, $p \leq .001$) were also negatively related to experiencing cyberstalking victimization. Again, these bivariate relationships are weak, but represent an association between target antagonism and being cyberstalked.

Summary

Overall, the bivariate results indicate that the target congruence approach may have some utility in explaining cyberstalking victimization. Several measures of each target congruence element - target vulnerability, gratifiability, and antagonism - produced significant bivariate, yet weak, relationships with cyberstalking victimization. To more fully explore how measures capturing target congruence are associated with cyberstalking victimization, several binary logistic regression models were estimated and are presented in the next section.

Multivariate Results

As was mentioned at the end of Chapter 4, multicollinearity was assessed prior to modeling the relationships between the target congruence variables, control variables, and cyberstalking victimization. This is necessary to do to ensure that the predictor variables are not highly correlated, as this makes it difficult to parse out the individual impact of each measure on the dependent variable. Furthermore, multicollinearity increases the standard errors of the coefficients. The tolerance and variation inflation factor (VIF) statistics are presented in Appendix D. In the current study VIF scores range from 1.05 to 2.03 and tolerance statistics range from 0.49 to 0.96. Given that Fox (2008) suggests VIF scores should not be much larger than 2, multicollinearity does not appear to be an issue for this study.

The results from the numerous estimated multivariate models are presented below. First, the results from the three separate binary logistic regression models (one for each target congruence element) are reported in Tables 5.6-5.8. This is followed by Table 5.9, which presents the results of a model that includes all three target congruence elements. A full target congruence model is estimated due to theoretical indeterminacy, which is a concept that states that some characteristics can represent multiple key concepts (Meier & Miethe, 1993; see also Madero-Hernandez & Fisher, 2012). In other words, the measures that capture target vulnerability, target gratifiability, and target antagonism, respectively, may actually represent more than one of the target congruence elements (this issue is discussed in the limitation section of Chapter 6). The next section explores the potential impact of the victim-pursuer relationship by repeating these analyses for a subsample of respondents who experienced at least one type of online pursuit behavior at least once in the previous 12 months. This is followed by the same set of multivariate analyses for a subsample of known pursuers and for a subsample of pursuers who are strangers to the victim.

Several statistics are provided in each multivariate model including the logistic regression coefficient (b), the standard error (S.E.) for the coefficient, the odds ratios (OR), and the OR 95% confidence intervals. The logistic regression coefficient represents log odds and is interpreted as for every one unit change in the independent variable, there is a change in the log of the odds, which corresponds with the value of the coefficient. Positive coefficients represent a positive relationship between the independent and dependent variable (i.e., as the independent variable increases so does probability of the dependent variable), while negative coefficients represent a negative relationship between the independent and dependent variable (Weisburd & Britt, 2014). Given that the regression coefficient is difficult to interpret, odds ratios are also

included in the models. The odds ratio represents the odds of one outcome occurring when exposed to a factor compared to the odds of the same outcome occurring what that factor is not present (Weisburd & Britt, 2007). For example, suppose the odds ratio of predicting cyberstalking victimization for disability was 1.89. This would be interpreted as: those who were identified as having a disability had odds of being cyberstalked that were 1.89 times greater than those who did not have a disability.

Model fit statistics are also included in the multivariate models (Tables 5.6-5.17). The -2 log likelihood statistic represents an index of the model's fit, with larger values indicating a poor fitting model. The -2 log likelihood statistic's value decreases as explanatory variables are included in the statistical model. The Nagelkerke R^2, which is a pseudo R^2, is provided next. While there is no equivalent to the R^2 used in regular Ordinary Least Squares regression[24], the Nagelkerke R^2 statistic is used as a measure of model fit. Finally, the results from equality of coefficients tests are also presented in the multivariate tables. An equality of coefficients test may indicate if the target congruence measures have a more profound impact on risk of victimization for those with known pursuers[25] or those with stranger pursuers (Paternoster et al., 1998). Following Paternoster and colleagues' (1998) advice, the formula used for the equality of coefficients test was:

$$Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$$

[24] R^2 in OLS regression represents the proportion of variation in the dependent variable that is explained by the independent variables in the model. Nagelkerke R^2 is a measure of the proportion of reduction in error in predicting variation in the dependent variable relative to the mean of the dependent variable.

[25] The term *pursuer* is used instead of *perpetrator, offender, or cyberstalker* because not everyone in the sample is categorized as a cyberstalking victim (if they do not meet the threshold of repeated pursuit behavior or do not experience fear/a substantial emotional response), thus, in some cases this individual is not categorized as a cyberstalker.

In this formula, the estimate of the standard deviation is unbiased (see Paternoster et al., 1998). The negative or positive z-scores does not represent the direction of the relationship, but simply indicate which victim-pursuer relationship is associated with an increased or decreased risk of cyberstalking victimization, respectively.

Full Sample Models

Target vulnerability. The effects of target vulnerability on cyberstalking victimization for the total sample are presented in Table 5.6. Overall, the model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 310.66$, $p \leq .001$). Several variables were found to yield statistically significant effects on the risk of cyberstalking victimization. Age was significantly and negatively associated with cyberstalking victimization (OR=0.88) such that the odds of being cyberstalked decreased as age increased. Having a professionally diagnosed disability increased the odds of being cyberstalked by over 1.5 times compared to those who have not been diagnosed with a disability (OR=1.55). The number of photographs or videos posted and the number of online connections one has also were significant predictors, where higher values on both measures slightly increased the odds of experiencing cyberstalking victimization relative to lower values (OR=1.08, 1.04, respectively). Additionally, those with higher levels of impulsivity were at an increased risk of being cyberstalked relative to those with lower impulsivity scores (OR=1.05). The two control variables, offline stalking and cyberbullying victimization, yielded statistically significant findings. Being a victim of offline stalking increased the odds of being cyberstalked by nearly 5.5 times relative to those who had not been stalked (OR=5.48), while being cyberbullied was associated with odds of being cyberstalked that were 2 times greater than those who had not been cyberbullied (OR=2.24).

Table 5.6: Binary Logistic Regression for Target Vulnerability on Cyberstalking Victimization

	b *(S.E.)*	OR	OR 95% CI
Target Vulnerability			
Age	-0.13*** (0.04)	0.88	0.82-0.95
Disability	0.44** (0.17)	1.55	1.12-2.16
Student Status *(Undergraduate student)*			
High, trade, or vocational school student	0.11 (0.27)	1.12	0.65-1.91
Not a student	-0.06 (0.14)	0.94	0.71-1.25
Educational Attainment *(High school degree)*			
Undergrad degree	-0.01 (0.14)	1.00	0.76-1.30
Graduate or professional degree	0.25 (0.34)	1.39	0.67-2.48
Amount of time online daily	0.00 (0.02)	1.00	0.96-1.04
Online privacy settings *(Public)*			
Private	0.26 (0.31)	1.30	0.71-2.36
Mostly private	0.18 (0.30)	1.20	0.67-2.15
Mostly public	-0.03 (0.33)	0.97	0.52-1.84
Number of photos/videos posted	0.08*** (0.02)	1.08	1.03-1.13
Online connections	0.04* (0.02)	1.04	1.01-1.07
Impulsivity	0.05** (0.02)	1.05	1.01-1.10
Control Variables			
Offline stalking victimization	1.70*** (0.15)	5.48	4.10-7.34
Cyberbullying victimization	0.81*** (0.15)	2.24	1.68-2.98
Constant	0.49 (0.90)	1.63	
-2 Log-likelihood	1565.39		
Model χ^2	310.66***		
Nagelkerke R^2	0.26		
N	1,500		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

Target gratifiability. Table 5.7 provides the results of target gratifiability on cyberstalking victimization. The model was significant, overall, in predicting the risk of cyberstalking victimization (Model $\chi^2 = 346.57$, $p \leq .001$). Numerous variables also were found to be statistically significant. Compared to identifying as a man, those who identified as a woman or other gender had increased likelihoods of being cyberstalked (OR=1.46, 3.00, respectively). Those who posted flirty or seductive photographs or videos on their online accounts also had slightly increased odds of being cyberstalked compared to those who did not (OR=1.06).

Table 5.7: Binary Logistic Regression for Target Gratifiability on Cyberstalking Victimization

	b *(S.E.)*	OR	OR 95% CI
Target Gratifiability			
Gender identity *(Man)*			
Woman	0.50*** (0.15)	1.66	1.22-2.24
Other	1.01*** (0.34)	3.00	1.54-5.86
Sexual orientation *(Heterosexual)*			
Gay/Lesbian	-0.14 (0.32)	0.87	0.47-1.62
Bisexual	0.23 (0.18)	1.26	0.88-1.80
Other	0.30 (0.27)	1.35	0.79-2.30
Type of photos/videos posted			
Flirty/seductive	0.06*** (0.01)	1.06	1.04-1.08
Silly/fun	0.02 (0.01)	1.02	1.00-1.04
Professional	0.01 (0.00)	1.01	1.00-1.01
Selfies	0.40 (0.58)	1.49	0.48-4.64
Family and friends	0.20 (0.60)	1.22	0.38-3.95
Hobbies	0.03 (0.04)	1.03	0.96-1.11
Other	1.02 (0.74)	3.25	0.76-13.92
Sexting	0.57*** (0.13)	1.76	1.36-2.30
Control Variables			
Offline stalking victimization	1.51*** (0.15)	4.52	3.36-6.09
Cyberbullying victimization	0.82*** (0.15)	2.29	1.70-3.05
Constant	-2.67*** (0.24)	0.07	
-2 Log-likelihood	1529.48		
Model χ^2	346.57***		
Nagelkerke R^2	0.29		
N	1,500		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

Individuals who participated in sexting had odds of being cyberstalked nearly 2 times greater than those who did not (OR=1.76). Finally, those who were victims of offline stalking and cyberbullying were at greater risk of being cyberstalked compared to those who were not stalked or cyberbullied (OR=4.52, 2.29, respectively).

Target antagonism. The results of the impact of target antagonism on cyberstalking victimization are displayed in Table 5.8. Overall, the model was significant in predicting the risk

Table 5.8: Binary Logistic Regression for Target Antagonism on Cyberstalking Victimization

	b *(S.E.)*	OR	OR 95% CI
Target Antagonism			
Trolling	0.28 (0.18)	1.32	0.93-1.88
Hacking	0.04 (0.17)	1.04	0.75-1.44
Cyberbullying perpetration	-0.13 (0.25)	0.87	0.53-1.43
Cyberstalking perpetration	0.75*** (0.13)	2.12	1.64-2.75
Race *(White)*	-0.13 (0.14)	0.88	0.67-1.14
Citizenship status	0.17 (0.51)	1.19	0.44-3.21
Relationship status *(Casually dating)*			
Single	-0.93*** (0.24)	0.40	0.25-0.64
Serious relationship	-0.68** (0.24)	0.51	0.32-0.81
Married/civil union	-1.15*** (0.27)	0.32	0.19-0.54
Employment status *(Full-time)*			
Part-time	0.27 (0.15)	1.31	0.98-1.76
Unemployed	0.02 (0.16)	1.02	0.74-1.40
Self-centeredness	0.01 (0.03)	1.01	0.96-1.06
Temper	-0.04 (0.24)	0.96	0.91-1.00
Control Variables			
Offline stalking victimization	1.68*** (0.15)	5.35	3.98-7.20
Cyberbullying victimization	0.84*** (0.15)	2.32	1.71-3.13
Constant	-0.93 (0.59)	0.39	
-2 Log-likelihood	1547.03		
Model χ^2	329.03**		
Nagelkerke R^2	0.28		
N	1,500		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

of cyberstalking victimization (Model $\chi^2 = 329.03$, $p \leq .001$). Multiple independent variables were found to yield statistically significant effects on cyberstalking victimization. Individuals who cyberstalked others were at odds over two times greater of being cyberstalked than those who did not (OR=2.12). Compared to those who were casually dating, all other relationship statuses were associated with lower odds of being a victim of cyberstalking. The control variables were significant; those who were stalked at over 5 times greater odds of experiencing

cyberstalking victimization (OR=5.35) and those who were cyberbullied with odds over 2 times greater than those who did not (OR=2.32).

Full target congruence model. Table 5.9 provides the results for the full target congruence model, which includes all three target congruence elements. The full target congruence model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 420.35$, $p \leq .001$). Accounting for the effects the three target congruence elements, some of the significant findings from the separate models were no longer significant, though, several variables still yielded statistically significant effects. For target vulnerability, age was negatively associated with cyberstalking victimization (OR=0.91), while disability and online connections were positively associated with cyberstalking victimization (OR=1.45, 1.04, respectively). All of the measures that were found to be statistically significant in the target gratifiability specific model were also significant in the full model. Women were at odds of being cyberstalked nearly two times greater and other gender had odds over 2.7 times greater, compared to men (OR=1.93, 2.72, respectively). Those who post flirty or seductive photographs or videos to their online accounts had increased odds of being cyberstalked, as did those who participated in sexting, compared to those who did not (OR=1.04, 1.43, respectively). Measures of target antagonism also were found to be statistically significant. Individuals who cyberstalked others had increased odds of cyberstalking victimization relative to those who had not cyberstalked others (OR=2.12). Additionally, those who were single or married had lower risk of being cyberstalked compared to those who were casually dating (OR=0.50, 0.42, respectively). Finally, individuals who were victims of offline stalking were at odds 4.5 times greater than those who were not stalked of being cyberstalked and those who were cyberbullied were at odds approximately 2 times greater than those who were not cyberbullied (OR=4.53, 2.06, respectively).

Table 5.9: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization

	b *(S.E.)*	OR	OR 95% CI
Target Vulnerability			
Age	-0.10* (0.04)	0.91	0.84-0.98
Disability	0.37* (0.18)	1.45	1.02-2.08
Student Status *(Undergraduate student)*			
High, trade, or vocational school student	0.20 (0.31)	1.23	0.68-2.23
Not a student	0.08 (0.16)	1.08	0.79-1.47
Educational Attainment *(High school degree)*			
Undergrad degree	-0.04 (0.15)	0.96	0.71-1.29
Graduate or professional degree	0.05 (0.37)	1.05	0.51-2.15
Amount of time online daily	-0.01 (0.02)	0.99	0.95-1.04
Online privacy settings *(Public)*			
Private	0.25 (0.32)	1.28	0.68-2.40
Mostly private	0.06 (0.32)	1.06	0.57-1.98
Mostly public	-0.19 (0.34)	0.83	0.42-1.62
Number of photos/videos posted	0.02 (0.03)	1.02	0.96-1.07
Online connections	0.04* (0.02)	1.04	1.01-1.08
Impulsivity	0.03 (0.03)	1.03	0.98-1.09
Target Gratifiability			
Gender identity *(Man)*			
Woman	0.66*** (0.17)	1.93	1.38-2.70
Other	1.00** (0.36)	2.72	1.34-5.54
Sexual orientation *(Heterosexual)*			
Gay/Lesbian	-0.13 (0.33)	0.88	0.46-1.69
Bisexual	0.17 (0.19)	1.18	0.81-1.72
Other	0.36 (0.29)	1.43	0.81-2.52
Type of photos/videos posted			
Flirty/seductive	0.04*** (0.01)	1.04	1.02-1.07
Silly/fun	0.01 (0.01)	1.01	0.99-1.04
Professional	0.01 (0.00)	1.01	1.00-1.01
Selfies	0.31 (0.61)	1.37	0.41-4.52
Family and friends	0.19 (0.63)	1.22	0.36-4.15
Hobbies	0.02 (0.04)	1.02	0.94-1.11
Other	1.06 (0.78)	2.87	0.62-13.32
Sexting	0.36* (0.15)	1.43	1.07-1.91
Target Antagonism			
Trolling	0.21 (0.20)	1.23	0.84-1.81
Hacking	-0.19 (0.18)	0.83	0.59-1.18
Cyberbullying perpetration	-0.15 (0.28)	0.86	0.50-1.48
Cyberstalking perpetration	0.75*** (0.14)	2.12	1.60-2.80
Race *(White)*	-0.13 (0.15)	0.88	0.66-1.17
Citizenship status	0.29 (0.53)	1.33	0.47-3.74
Relationship status *(Casually dating)*			
Single	-0.68** (0.26)	0.50	0.31-0.83
Serious relationship	-0.42 (0.26)	0.66	0.40-1.10

Table 5.9: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization (cont.)

	b *(S.E.)*	OR	OR 95% CI
Married/civil union	-0.86** (0.30)	0.42	0.24-0.76
Employment status *(Full-time)*			
Part-time	0.30 (0.17)	1.36	0.97-1.89
Unemployed	0.11 (0.19)	1.12	0.78-1.62
Self-centeredness	0.01 (0.03)	1.01	0.95-1.07
Temper	-0.12 (0.03)	0.99	0.94-1.04
Control Variables			
Offline stalking victimization	1.51*** (0.16)	4.53	3.31-6.20
Cyberbullying victimization	0.72*** (0.17)	2.06	1.48-2.86
Constant	-0.95 (1.19)	0.39	
-2 Log-likelihood	1455.71		
Model χ^2	420.35***		
Nagelkerke R^2	0.34		
N	1,500		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

Pursued Sample Models

To explore the applicability of the target congruence approach further, a sample of those individuals who experienced at least one type of online pursuit behavior or contact at least one time within the 12-month timeframe was created (i.e., pursued sample). This was done because the target congruence approach was originally created to explain certain types of youth victimizations that were perpetrated by known offenders (discussed in detail in Chapter 3). Thus, it is hypothesized that the pursued-pursuer relationship may be moderating the observed relationships between the target congruence elements and cyberstalking victimization. Tables 5.10 through 5.13 display the results of the multivariate analyses for this pursued sample.

Target vulnerability. Table 5.10 provides the results of target vulnerability on cyberstalking victimization among the pursuer subsample. Overall, the model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 198.14$, $p \leq .001$).

Table 5.10: Binary Logistic Regression for Target Vulnerability on Cyberstalking Victimization in Pursued Sample

	b *(S.E.)*	OR	OR 95% CI
Target Vulnerability			
Age	-0.13** (0.04)	0.88	0.81-0.95
Disability	0.41* (0.19)	1.50	1.04-2.17
Student Status *(Undergraduate student)*			
High, trade, or vocational school student	0.48 (0.34)	1.61	0.83-3.
Not a student	-0.03 (0.16)	0.97	0.71-1.32
Educational Attainment *(High school degree)*			
Undergrad degree	-0.06 (0.15)	1.06	0.79-1.42
Graduate or professional degree	0.13 (0.36)	1.14	0.57-2.31
Amount of time online daily	0.02 (0.02)	1.02	0.98-1.06
Online privacy settings *(Public)*			
Private	0.35 (0.34)	1.41	0.72-2.78
Mostly private	0.10 (0.34)	1.10	0.57-2.14
Mostly public	0.07 (0.36)	1.07	0.52-2.18
Number of photos/videos posted	0.07** (0.02)	1.08	1.03-1.13
Online connections	0.01 (0.02)	1.01	0.97-1.05
Impulsivity	0.05* (0.02)	1.05	1.00-1.10
Control Variables			
Offline stalking victimization	1.56*** (0.17)	4.75	3.40-6.62
Cyberbullying victimization	0.60*** (0.16)	1.82	1.32-4.50
Constant	1.18 (0.99)	3.24	
-2 Log-likelihood	1240.16		
Model χ^2	198.14***		
Nagelkerke R^2	0.23		
N	1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

Age was significantly and negatively related to being cyberstalked (OR=0.88), indicating that as age increased, the likelihood of being a victim of cyberstalking decreased. Having a professionally diagnosed disability increased the odds of cyberstalking victimization by 1.5 times compared to those who had not been diagnosed with a disability (OR=1.50). The number of photographs or videos posted online was also significantly and positively related to being cyberstalked (OR=1.08). Finally, individuals with higher levels of impulsivity were at an increased risk of being cyberstalked compared to those with lower levels of impulsivity

(OR=1.05). The two control variables also yielded significant findings. Being a victim of offline stalking, relative to those who have not been stalked offline, and a victim of cyberbullying, relative to those who have not been cyberbullied, each significantly increased the odds of being a victim of cyberstalking (OR=4.75, 1.82, respectively).

Target gratifiability. Table 5.11 provides the results of target gratifiability on cyberstalking victimization in the pursued subsample. The model was significant in predicting risk of cyberstalking victimization (Model $\chi^2 = 226.94$, $p \leq .001$). Compared to those who identified as men, identifying as a woman or other gender were both associated with increased odds of being the victim of cyberstalking (OR=1.57, 2.39, respectively). Respondents who posted flirty or seductive or other types of photographs and videos were at increased odds of being cyberstalked as well (OR=1.07, 7.48, respectively). Those who had been a victim of offline stalking were more likely to have been cyberstalked, relative to those who had not been stalked offline (OR=4.00); being a victim of cyberbullying was associated with odds of being cyberstalked that were 2 times greater than those who had not been cyberbullied (OR=2.04).

Target antagonism. The results of target antagonism on cyberstalking victimization are displayed in Table 5.12. Overall, the model significantly predicted the risk of cyberstalking victimization (Model $\chi^2 = 214.94$, $p \leq .001$). Several independent variables yielded significant effects on cyberstalking victimization. Respondents who engaged in cyberstalking perpetration were at odds of being cyberstalked that were two times greater than those who did not (OR=2.08). Additionally, those who were single or married had lower odds of being cyberstalked compared to those who were casually dating (OR=0.53, 0.40, respectively). Those who were stalked offline and cyberbullied at significantly greater odds of being cyberstalked than those who were not (OR=4.47, 1.99, respectively).

Table 5.11: Binary Logistic Regression for Target Gratifiability on Cyberstalking Victimization in Pursued Sample

	b *(S.E.)*	OR	OR 95% CI
Target Gratifiability			
Gender identity *(Man)*			
Woman	0.45** (0.17)	1.57	1.13-2.19
Other	0.87* (0.37)	2.39	1.15-4.97
Sexual orientation *(Heterosexual)*			
Gay/Lesbian	-0.25 (0.34)	0.78	0.40-1.53
Bisexual	0.20 (0.20)	1.23	0.83-1.81
Other	0.32 (0.30)	1.37	0.76-2.49
Type of photos/videos posted			
Flirty/seductive	0.06*** (0.01)	1.07	1.04-1.09
Silly/fun	0.02 (0.01)	1.02	1.00-1.04
Professional	0.01 (0.00)	1.01	1.00-1.01
Selfies	0.09 (0.62)	1.09	0.32-3.70
Family and friends	0.01 (0.65)	1.01	0.28-3.61
Hobbies	0.06 (0.04)	1.06	0.98-1.16
Other	2.01* (0.91)	7.48	1.26-44.35
Sexting	0.26 (0.15)	1.30	0.97-1.74
Control Variables			
Offline stalking victimization	1.39*** (0.17)	4.00	2.86-5.60
Cyberbullying victimization	0.71*** (0.17)	2.04	1.47-2.82
Constant	-1.94*** (0.27)	0.14	
-2 Log-likelihood	1211.36		
Model χ^2	226.94***		
Nagelkerke R^2	0.26		
N	1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

Full target congruence model. Table 5.13 provides the results for the full target congruence model, which includes the measures capturing target vulnerability, target gratifiability, target antagonism, and the two control variables. The full target congruence model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 281.12$, $p \leq .001$).

In this full model, age was the only measure of target vulnerability that yielded a statistically significant finding (OR=0.89). For target gratifiability, respondents who identified as

Table 5.12: Binary Logistic Regression for Target Antagonism on Cyberstalking Victimization in Pursued Sample

	b *(S.E.)*	OR	OR 95% CI
Target Antagonism			
Trolling	0.19 (0.20)	1.21	0.82-1.79
Hacking	-0.09 (0.18)	0.92	0.64-1.31
Cyberbullying perpetration	-0.06 (0.29)	0.94	0.54-1.64
Cyberstalking perpetration	0.35*** (0.15)	2.08	1.57-2.78
Race *(White)*	-0.20 (0.15)	0.82	0.61-1.09
Citizenship status	0.35 (0.57)	1.42	0.47-4.36
Relationship status *(Casually dating)*			
Single	-0.64** (0.26)	0.53	0.32-0.87
Serious relationship	-0.44 (0.25)	0.65	0.39-1.06
Married/civil union	-0.92*** (0.28)	0.40	0.23-0.69
Employment status *(Full-time)*			
Part-time	0.17 (0.16)	1.18	0.86-1.63
Unemployed	-0.11 (0.18)	0.89	0.63-1.27
Self-centeredness	-0.01 (0.03)	1.00	0.94-1.05
Temper	-0.05* (0.03)	0.95	0.90-1.00
Control Variables			
Offline stalking victimization	1.50*** (0.17)	4.47	3.19-6.27
Cyberbullying victimization	0.69*** (0.17)	1.99	1.42-2.78
Constant	-0.38 (0.65)	0.69	
-2 Log-likelihood	1223.37		
Model χ^2	214.94**		
Nagelkerke R^2	0.25		
N	1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

women were at odds of being cyberstalked nearly 2 times greater and other gender had odds of being cyberstalked over 2 times greater, compared to those who identified as men (OR=1.82, 2.14, respectively). Those who posted flirty or seductive or other types of photographs or videos to their online accounts were at increased odds of being cyberstalked (OR=1.06, 6.43, respectively). Finally, one measure of target antagonism was found to be statistically significant. Those who engaged in cyberstalking perpetration were at odds of being cyberstalked that were over 2 times greater than those who did not (OR=2.10). The two control variables were also

Table 5.13: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization in Pursued Sample

	b *(S.E.)*	OR	OR 95% CI
Target Vulnerability			
Age	-0.11* (0.05)	0.89	0.82-0.98
Disability	0.36 (0.20)	1.44	0.96-2.14
Student Status *(Undergraduate student)*			
High, trade, or vocational school student	0.48 (0.38)	1.62	0.77-3.41
Not a student	0.17 (0.17)	1.19	0.85-1.67
Educational Attainment *(High school degree)*			
Undergrad degree	-0.08 (0.16)	0.92	0.67-1.27
Graduate or professional degree	-0.17 (0.39)	0.85	0.39-1.83
Amount of time online daily	0.01 (0.02)	1.01	0.96-1.06
Online privacy settings *(Public)*			
Private	0.40 (0.36)	1.48	0.73-3.01
Mostly private	0.12 (0.35)	1.12	0.56-2.25
Mostly public	0.04 (0.38)	1.04	0.49-2.20
Number of photos/videos posted	-0.01 (0.03)	1.00	0.94-1.06
Online connections	0.02 (0.02)	1.02	0.98-1.06
Impulsivity	0.02 (0.03)	1.02	0.96-1.08
Target Gratifiability			
Gender identity *(Man)*			
Woman	0.60** (0.19)	1.82	1.26-2.63
Other	0.76* (0.40)	2.14	0.99-4.65
Sexual orientation *(Heterosexual)*			
Gay/Lesbian	-0.16 (0.36)	0.85	0.42-1.71
Bisexual	0.15 (0.21)	1.16	0.76-1.76
Other	0.29 (0.32)	1.34	0.71-2.53
Type of photos/videos posted			
Flirty/seductive	0.05*** (0.01)	1.06	1.03-1.08
Silly/fun	0.02 (0.01)	1.02	1.00-1.05
Professional	0.01 (0.00)	1.01	1.00-1.01
Selfies	0.16 (0.66)	1.17	0.32-4.26
Family and friends	0.04 (0.67)	1.04	0.28-3.87
Hobbies	0.05 (0.05)	1.05	0.96-1.15
Other	1.86* (0.96)	6.43	0.98-42.09
Sexting	0.09 (0.16)	1.10	0.80-1.51
Target Antagonism			
Trolling	0.14 (0.22)	1.15	0.75-1.75
Hacking	-0.20 (0.20)	0.82	0.56-1.21
Cyberbullying perpetration	-0.10 (0.31)	0.90	0.49-1.65
Cyberstalking perpetration	0.74*** (0.16)	2.10	1.54-2.85
Race *(White)*	-0.23 (0.16)	0.80	0.58-1.10
Citizenship status	0.50 (0.59)	1.64	0.51-5.24
Relationship status *(Casually dating)*			
Single	-0.42 (0.28)	0.66	0.38-1.14
Serious relationship	-0.04 (0.29)	0.96	0.55-1.68

Table 5.13: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization in Pursued Sample (cont.)

	b *(S.E.)*	OR	OR 95% CI
Married/civil union	-0.51 (0.33)	0.60	0.32-1.14
Employment status *(Full-time)*			
Part-time	0.17 (0.19)	1.19	0.82-1.72
Unemployed	0.17 (0.19)	0.96	0.64-1.45
Self-centeredness	-0.01 (0.03)	0.99	0.94-1.06
Temper	-0.02 (0.03)	0.98	0.92-1.03
Control Variables			
Offline stalking victimization	1.40*** (0.18)	4.05	2.84-5.78
Cyberbullying victimization	0.64*** (0.19)	1.89	1.31-2.72
Constant	-0.12 (1.32)	0.89	
-2 Log-likelihood	1157.18		
Model χ^2	281.12***		
Pseudo R^2	0.32		
N	1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$
Note: Italicized categories in parentheses represent the reference group

significant. Those who were stalked offline had odds of being cyberstalked that were over 4 times greater than those who were not (OR=4.05) and those who were cyberbullied were at odds nearly 2 times greater of being cyberstalked than those who were not (OR=1.89)

Prior to separating this pursuer sample further into the two pursuer subsamples (known and stranger), these four multivariate models were estimated again with the inclusion of a variable to capture the pursued-pursued relationship. This pursued-pursuer measure was statistically significant ($p \leq .05$) in the target vulnerability, target gratifiability, and full target congruence models, which provides further support to continue with the known and stranger pursuer subsamples. These findings are presented in Appendix E.

Pursued-Pursuer Subsamples Models

Given that the target congruence approach was developed in part to explain those offenses that are committed by family, friends, and other acquaintances because youth do not

have control over their routine activities and are in close proximity to known offenders, the pursued-pursuer relationship may be important to explore in understanding cyberstalking victimization. There may be significant differences in risk of cyberstalking victimization depending on if the perpetrator is a stranger or is known to the victim. Thus, there is a potential for a moderation effect between pursued-pursuer relationship and all of the independent variables. Separate models for each pursued-pursuer subsample are provided below; 676 individuals (64.8%) were included in the known pursuer models (current or former spouse or partner, family member, friend, work colleague, and classmates) and 367 (35.2%) were included in the stranger pursuer models. Additional descriptive statistics for the pursued-pursuer subsamples are provided in Appendix F. The equality of coefficients test was conducted to determine if there are significant differences between the coefficients across the two subsamples.

Target vulnerability. When examining the known pursuer subsample (Model 1 in Table 5.14), several measures yielded statistically significant findings. First, the overall model was significant (Model $\chi^2 = 158.13$, $p \leq .001$). As age increased, the risk of cyberstalking victimization decreased (OR=0.89). Individuals that were professionally diagnosed with a disability were at odds of being cyberstalked nearly 2 times greater than those who were not (OR=1.82). The number of photos or videos posted online was also a significant predictor, with those who post more at increased odds of being cyberstalked relative to those who post fewer photographs or videos (OR=1.10). Additionally, those with higher impulsivity scores had a greater risk of experiencing cyberstalking victimization compared to those who scored lower (OR=1.08). Those who had been stalked offline and those who had been cyberbullied had significantly higher odds of being cyberstalked compared to those who were not stalked or cyberbullied (OR=4.54, 1.97, respectively).

Table 5.14: Binary Logistic Regression for Target Vulnerability on Cyberstalking Victimization for Pursued Subsamples

	Model 1: Known Pursuer Model			**Model 2: Stranger Pursuer Model**			**z score**
	b *(S.E.)*	**OR**	**OR 95% CI**	**b *(S.E.)***	**OR**	**OR 95% CI**	
Age	-0.11* (0.05)	0.89	0.81-0.99	-0.18** (0.07)	0.83	0.72-0.97	0.81
Disability	0.60** (0.24)	1.82	1.13-2.92	0.15 (0.32)	1.16	0.62-2.15	1.13
Student Status *(Undergraduate student)*							
High, trade, or vocational school student	0.43 (0.41)	1.54	0.69-3.44	0.50 (0.64)	1.65	0.47-5.72	-0.09
Not a student	-0.09 (0.20)	0.92	0.62-1.35	0.17 (0.27)	1.18	0.70-2.01	-0.77
Educational Attainment *(High school degree)*							
Undergrad degree	0.10 (0.19)	1.10	0.76-1.60	0.00 (0.25)	1.00	0.61-1.64	0.32
Graduate or professional degree	0.52 (0.44)	1.68	0.71-3.98	-0.77 (0.76)	0.46	0.11-2.04	1.47*
Amount of time online daily	-0.01 (0.03)	1.00	0.94-1.05	0.06 (0.04)	1.06	0.99-1.14	-1.40*
Online privacy settings *(Public)*							
Private	0.65 (0.45)	1.91	0.80-4.57	-0.16 (0.56)	0.85	0.29-2.56	1.13
Mostly private	0.33 (0.44)	1.40	0.59-3.30	-0.36 (0.55)	0.70	0.24-2.04	0.98
Mostly public	0.26 (0.48)	1.30	0.51-3.30	-0.33 (0.59)	0.72	0.23-2.29	0.78
Number of photos/videos posted	0.10*** (0.03)	1.10	1.04-1.17	0.03 (0.05)	1.03	0.94-1.13	1.20
Online connections	0.03 (0.03)	1.03	0.98-1.08	-0.01 (0.03)	1.00	0.93-1.06	0.94
Impulsivity	0.07* (0.03)	1.08	1.01-1.14	0.01 (0.04)	1.01	0.94-1.10	1.20
Control Variables							
Offline stalking victimization	1.51*** (0.20)	4.54	3.06-6.75	1.63*** (0.34)	5.08	2.59-9.94	
Cyberbullying victimization	0.68*** (0.21)	1.97	1.30-2.96	0.46 (0.28)	1.59	0.92-2.72	
Constant	0.38 (1.26)	1.46					
-2 Log-likelihood	778.86			442.74			
Model χ^2	158.13***			48.90***			
Nagelkerke R^2	0.28			0.17			
N	676			367			

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

In comparison, the stranger pursuer model presented in Model 2 of Table 5.14 revealed only one significant measure of target vulnerability. Age was found to be significantly and negatively associated with cyberstalking victimization (OR=0.83). Those who were victims of offline stalking were also at increased odds of experiencing cyberstalking victimization (OR=5.08). Overall, the model was still significant (Model $\chi^2 = 48.90$, $p \leq .001$), but the Nagelkerke R^2 value is only 0.17, compared to 0.28 for the known pursuer model.

The results from the equality of coefficients test used to examine if there is a significant difference between known and stranger subsamples among the association between measures of target vulnerability and cyberstalking victimization are presented in Table 5.14. For ease of interpretation, it should be noted that the known sample was reported first in the equation (see Paternoster et al., 1998). This matters in interpreting the results of the equality of coefficients test. Having a graduate or professional degree and the amount of time spent online each day had statistically significant differences on cyberstalking victimization between the known and stranger subsamples (z-score = 1.47, $p \leq .10$). The effect of having a graduate or professional degree on risk of cyberstalking victimization is more pronounced among the known pursuer sample than the stranger sample. Conversely, the individuals cyberstalked by strangers were at a greater risk of victimization compared to those who were cyberstalked by known individuals on the measure of amount of time spent online daily (z-score = -1.40, $p \leq .10$).

Target gratifiability. Model 1 in Table 5.15 presents the results for target gratifiability regressed on cyberstalking victimization among those with known pursuers. Overall, the model significantly predicted the risk of cyberstalking victimization (Model $\chi^2 = 178.53$, $p \leq .001$).

Women and the other gender category were at increased risk of experiencing cyberstalking victimization compared to men (OR=1.82, 3.64, respectively). Individuals who

Table 5.15: Binary Logistic Regression for Target Gratifiability on Cyberstalking Victimization for Pursued Subsamples

	Model 1: Known Pursuer Model			**Model 2: Stranger Pursuer Model**			**z score**
	B *(S.E.)*	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**	
Gender identity *(Man)*							
Woman	0.59** (0.21)	1.80	1.18-2.73	0.35 (0.30)	1.42	0.78-2.56	0.66
Other	1.30** (0.49)	3.68	1.42-9.56	0.13 (0.64)	1.14	0.33-4.02	1.45*
Sexual orientation *(Heterosexual)*							
Gay/Lesbian	-0.51 (0.44)	0.60	0.26-1.42	0.12 (0.58)	1.13	0.36-3.52	-0.87
Bisexual	0.16 (0.25)	1.18	0.72-1.93	0.39 (0.33)	1.47	0.77-2.82	-0.56
Other	0.30 (0.37)	1.35	0.65-2.78	0.04 (0.59)	1.04	0.33-3.31	0.37
Type of photos/videos posted							
Flirty/seductive	0.07*** (0.01)	1.07	1.04-1.10	0.05** (0.02)	1.06	1.02-1.09	0.89
Silly/fun	0.04** (0.02)	1.04	1.01-1.07	-0.01 (0.02)	0.99	0.95-1.03	1.77*
Professional	0.01* (0.01)	1.01	1.00-1.02	-0.00 (0.01)	1.00	0.98-1.01	0.71
Selfies	0.02 (0.87)	1.02	0.19-5.60	0.28 (0.92)	1.32	0.22-8.05	-0.21
Family and friends	0.02 (0.85_	1.02	0.19-5.43	0.02 (1.02)	1.02	0.14-7.52	0.00
Hobbies	0.07 (0.06)	1.07	0.95-1.20	0.06 (0.07)	1.06	0.93-1.21	0.11
Other	3.09* (1.38)	21.98	1.48-325.93	1.44 (1.18)	4.21	0.42-42.57	0.91
Sexting	0.37* (0.19)	1.45	1.00-2.09	0.08 (0.26)	1.08	0.66-1.79	0.90
Control Variables							
Offline stalking victimization	1.33*** (0.20)	3.76	2.52-5.61	1.29*** (0.35)	3.61	1.82-7.19	
Cyberbullying victimization	0.88*** (0.21)	2.41	1.58-3.66	0.55* (0.28)	1.73	1.01-2.96	
Constant	-2.39*** (0.35)	0.09		-1.33** (0.44)	0.27		
-2 Log-likelihood	758.46			437.65			
Model χ^2	178.53***			53.98***			
Nagelkerke R^2	0.31			0.19			
N	676			367			

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

posted flirty or seductive, silly or fun, professional, or other types of photographs or videos all had increased odds of being cyberstalked. Individuals who participated in sexting were at odds approximately 1.5 times greater than those who did not (OR=1.46). Finally, those who had also experienced offline stalking or cyberbullying victimization were also more likely to be cyberstalked relative to those who did not (OR=3.90, 2.34, respectively).

Model 2 in Table 5.15 presents the results for target gratifiability on cyberstalking victimization for the stranger pursuer model. The overall model was still significant (Model χ^2 = 53.98, $p \leq .001$). Only one measure capturing target gratifiability was found to be significant. Those who posted flirty or seductive photographs or videos had increased odds of being cyberstalked (OR=1.06). Additionally, those who had been victims of offline stalking or cyberbullying were at increased risk of being cyberstalked compared to those who had not been victims (OR=3.61, 1.73, respectively).

The results for the equality of coefficients test are presented in Table 5.12. Identifying as an other gender and posting silly or fun photographs had statistically significantly different impact on cyberstalking victimization across the two pursuer subsamples (z-score = 1.45, 1.77, respectively, $p \leq .10$). Specifically, the effect of these two measures on cyberstalking victimization are more pronounced for those who are pursued by known individuals compared to strangers

Target antagonism. Model 1 of Table 5.15 presents the results of the binary logistic regression for target antagonism on cyberstalking victimization for the known subsample. Overall, the model was significant (Model χ^2 = 161.76, $p \leq .001$). Engaging in cyberstalking perpetration was associated with odds of cyberstalking victimization that were nearly 2.5 times greater than those who did not cyberstalk other (OR=2.37). Compared to being non-White,

Table 5.16: Binary Logistic Regression for Target Antagonism on Cyberstalking Victimization for Pursued Subsamples

	Model 1: Known Pursuer Model			**Model 2: Stranger Pursuer Model**			**z score**
	B *(S.E.)*	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**	
Trolling	0.09 (0.26)	1.09	0.65-1.82	0.45 (0.32)	1.57	0.83-2.96	-0.87
Hacking	-0.10 (0.23)	0.90	0.58-1.42	-0.15 (0.33)	0.86	0.46-1.63	0.12
Cyberbullying perpetration	0.02 (0.35)	1.02	0.51-2.02	-0.56 (0.56)	0.57	0.19-1.71	0.88
Cyberstalking perpetration	0.87*** (0.19)	2.37	1.65-3.42	0.56** (0.24)	1.75	1.08-2.82	1.01
Race *(White)*	-0.38* (0.19)	0.69	0.47-0.99	0.18 (0.26)	1.20	0.72-1.99	-1.74*
Citizenship status	0.90 (0.66)	2.45	0.68-8.87	-1.59 (1.32)	0.20	0.02-2.68	1.69*
Relationship status *(Casually dating)*							
Single	-0.53 (0.34)	0.59	0.30-1.16	-0.84* (0.41)	0.43	0.19-0.97	0.58
Serious relationship	-0.57 (0.33)	0.57	0.30-1.08	-0.29 (0.42)	0.75	0.33-1.72	-0.52
Married/civil union	-0.98** (0.37)	0.38	0.18-0.78	-0.96* (0.46)	0.38	0.16-0.94	-0.03
Employment status *(Full-time)*							
Part-time	0.12 (0.21)	1.13	0.75-1.69	0.28 (0.28)	1.33	0.77-2.29	-0.46
Unemployed	-0.08 (0.23)	0.92	0.59-1.43	-0.14 (0.31)	0.87	0.48-1.60	0.57
Self-centeredness	-0.02 (0.04)	0.99	0.92-1.06	0.01 (0.05)	1.01	0.92-1.12	0.16
Temper	-0.05 (0.03)	0.96	0.90-1.02	-0.06 (0.04)	0.94	0.87-1.03	2.20*
Control Variables							
Offline stalking victimization	1.50*** (0.20)	4.48	3.00-6.69	1.38*** (0.36)	3.98	1.99-7.99	
Cyberbullying victimization	0.77*** (0.22)	2.16	1.41-3.31	0.58* (0.30)	1.79	1.00-3.19	
Constant	-0.72 (0.77)	0.49		1.22 (1.44)	3.38		
-2 Log-likelihood	775.83			433.06			
Model χ^2	161.16***			58.57***			
Nagelkerke R^2	0.28			0.20			
N	676			367			

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

White respondents were at a decreased likelihood of being cyberstalked (OR=0.69). Finally, being married, compared to casually dating, was associated with lower odds of cyberstalking victimization (OR=0.38). Again, those who were stalked offline or cyberbullied had increased odds of being cyberstalked relative to those who were not (OR=4.48, 2.16, respectively).

Model 2 of Table 5.16 provides the results for the stranger pursuer subsample. The overall model was still significant (Model $\chi^2 = 58.57$, $p \leq .001$). Engaging in cyberstalking offending was again associated with increased odds of being cyberstalked relative to those who did not (OR=1.75). Individuals who were single or married were at lower odds of being cyberstalked compared to those who were casually dating (OR=0.43, 0.38, respectively). Those who were victims of offline stalking and cyberbullying had increased odds of being cyberstalked compared to those who were not (OR=3.98, 1.79, respectively).

The results for the equality of coefficients test are presented in Table 5.16. Race, citizenship status, and temper had statistically significantly different relationships with cyberstalking victimization compared across the two subsamples. Citizenship status and temper had more of a pronounced impact on cyberstalking victimization for the known pursuer sample compared to the stranger pursuer sample (z-score = 1.69, 2.20, respectively, $p \leq .10$). Conversely, race had a more pronounced effect for the stranger pursuer sample compared to the known pursuer sample (z-score = -1.74, $p \leq .10$).

Full target congruence model. Finally, a full target congruence model was estimated for each of the pursuer subsamples. Model 1 of Table 5.17 presents the results for the known pursuer subsample. The full target congruence model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 225.87$, $p \leq .001$).

Table 5.17: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization for Pursued Subsamples

	Model 1: Known Pursuer Model			Model 2: Stranger Pursuer Model			z score
	B *(S.E.)*	OR	95% CI	B *(S.E.)*	OR	95% CI	
Target Vulnerability							
Age	-0.10 (0.06)	0.91	0.81-1.02	-0.20* (0.09)	0.82	0.69-0.97	0.92
Disability	0.53* (0.27)	1.69	1.00-2.87	0.09 (0.36)	1.09	0.54-2.20	0.98
Student Status *(Undergraduate student)*							
High, trade, or vocational school student	0.42 (0.47)	1.52	0.61-3.82	0.70 (0.72)	2.01	0.49-8.27	-0.33
Not a student	0.07 (0.22)	1.07	0.70-1.65	0.43 (0.33)	1.54	0.81-2.93	-0.91
Educational Attainment *(High school degree)*							
Undergrad degree	-0.01 (0.21)	0.99	0.66-1.49	-0.27 (0.29)	0.77	0.44-1.35	0.73
Graduate or professional degree	0.13 (0.49)	1.14	0.44-2.97	-0.98 (0.85)	0.38	0.07-1.99	1.13
Amount of time online daily	-0.02 (0.03)	0.98	0.93-1.04	0.08 (0.05)	1.08	0.99-1.18	-1.71*
Online privacy settings *(Public)*							
Private	0.72 (0.49)	2.05	0.79-5.31	-0.00 (0.60)	1.00	0.31-3.25	0.93
Mostly private	0.39 (0.48)	1.47	0.58-3.74	-0.27 (0.59)	0.77	0.24-2.43	0.87
Mostly public	0.20 (0.52)	1.22	0.45-3.36	-0.10 (0.64)	0.91	0.26-3.18	0.36
Number of photos/videos posted	0.02 (0.04)	1.02	0.95-1.11	-0.08 (0.06)	0.92	0.82-1.04	1.39*
Online connections	0.04 (0.03)	1.04	0.99-1.10	0.01 (0.04)	1.01	0.94-1.08	0.60
Impulsivity	0.06 (0.04)	1.06	0.98-1.14	-0.04 (0.05)	0.96	0.87-1.06	1.56*
Target Gratifiability							
Gender identity *(Man)*							
Woman	0.72** (0.25)	2.04	1.27-3.30	0.53 (0.35)	1.69	0.85-3.37	0.44
Other	1.00 (0.53)	2.70	0.95-7.68	0.36 (0.70)	1.44	0.37-5.64	0.73
Sexual orientation *(Heterosexual)*							
Gay/Lesbian	-0.54 (0.48)	0.58	0.23-1.49	0.23 (0.62)	1.26	0.37-4.28	-0.98
Bisexual	0.08 (0.28)	1.08	0.63-1.85	0.35 (0.37)	1.42	0.68-2.95	-0.58
Other	0.33 (0.40)	1.39	0.63-3.04	0.01 (0.66)	1.01	0.28-3.65	0.41
Type of photos/videos posted							
Flirty/seductive	0.06** (0.02)	1.06	1.02-1.10	0.05** (0.02)	1.06	1.01-1.10	0.35
Silly/fun	0.03 (0.02)	1.03	1.00-1.07	0.01 (0.02)	1.01	0.97-1.06	0.71
Professional	0.01 (0.01)	1.01	1.00-1.02	0.00 (0.01)	1.00	0.99-1.02	0.71
Selfies	-0.19 (0.97)	0.83	0.12-5.54	0.83 (1.02)	2.28	0.31-16.71	-0.72
Family and friends	-0.06 (0.88)	0.95	0.17-5.31	0.43 (1.11)	1.53	0.17-13.51	-0.35

Table 5.17: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization for Pursued Subsamples (cont.)

	Model 1: Known Pursuer Model			Model 2: Stranger Pursuer Model			z score
	B *(S.E.)*	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**	
Hobbies	0.03 (0.07)	1.03	0.90-1.17	0.11 (0.08)	1.11	0.96-1.29	-0.75
Other	2.97* (1.46)	19.54	1.12-341.66	1.09 (1.26)	2.98	0.25-35.35	0.97
Sexting	0.23 (0.21)	1.26	0.83-1.90	-0.05 (0.29)	0.95	0.54-1.68	0.78
Target Antagonism							
Trolling	-0.05 (0.29)	0.95	0.54-1.67	0.47 (0.36)	1.61	0.80-3.23	-1.12
Hacking	-0.23 (0.25)	0.80	0.49-1.31	-0.33 (0.37)	0.72	0.35-1.48	0.22
Cyberbullying perpetration	-0.01 (0.39)	0.99	0.46-2.14	-0.30 (0.60)	0.74	0.23-2.41	0.41
Cyberstalking perpetration	0.88*** (0.20)	2.40	1.61-3.58	0.64* (0.28)	1.90	1.10-3.27	0.70
Race *(White)*	-0.44* (0.21)	0.64	0.42-0.98	0.22 (0.29)	1.24	0.70-2.19	-1.84*
Citizenship status	1.16 (0.69)	3.20	0.83-12.36	-1.99 (1.42)	0.14	0.01-2.21	2.00*
Relationship status *(Casually dating)*							
Single	-0.35 (0.38)	0.71	0.34-1.49	-0.63 (0.47)	0.54	0.21-1.34	0.46
Serious relationship	-0.25 (0.38)	0.78	0.37-1.65	0.11 (0.51)	1.12	0.41-3.01	-0.57
Married/civil union	-0.65 (0.44)	0.52	0.22-1.23	-0.39 (0.56)	0.67	0.23-2.00	-0.37
Employment status *(Full-time)*							
Part-time	0.20 (0.24)	1.22	0.76-1.97	0.07 (0.34)	1.07	0.55-2.08	0.31
Unemployed	0.19 (0.27)	1.21	0.72-2.03	-0.56 (0.39)	0.57	0.27-1.22	1.58*
Self-centeredness	0.01 (0.04)	1.01	0.93-1.09	-0.01 (0.06)	0.99	0.89-1.11	0.28
Temper	-0.01 (0.04)	0.99	0.92-1.06	-0.07 (0.05)	0.94	0.85-1.04	0.94
Control Variables							
Offline stalking victimization	1.38*** (0.22)	3.96	2.57-6.09	1.38*** (0.40)	3.99	1.82-8.75	
Cyberbullying victimization	0.77** (0.25)	2.17	1.34-3.50	0.41 (0.33)	1.51	0.79-2.90	
Constant	-1.97 (1.66)	0.14		5.29* (2.61)	198.46		
-2 Log-likelihood	711.12			405.00			
Model χ^2	225.87***			86.63***			
Nagelkerke R^2	0.38			0.29			
N	676			367			

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

Just one measure capturing target vulnerability was found to be significant. Individuals who had been professionally diagnosed were at an increased risk of being cyberstalked compared to those who had not been (OR=1.69). Three target gratifiability variables were significantly associated with cyberstalking victimization. Women, compared to men, were at odds of being cyberstalked that were two times greater (OR=2.04). Those who posted flirty or seductive or other photographs or videos were at increased odds of being cyberstalked (OR=1.06, 19.54, respectively). Two target antagonism measures were found to yield statistically significant results. Individuals who engaged in cyberstalking perpetration were at odds nearly 2.5 times greater at experiencing cyberstalking victimization than those who did not (OR=2.40). Being white was associated with lower odds of being cyberstalked (OR=0.64). Finally, those who were stalked offline or cyberbullied were at significantly greater odds of being cyberstalked than those who had not experienced stalking or cyberbullying victimization (OR=3.96, 2.17, respectively).

Model 2 of Table 5.17 shows the results of a full target congruence model for the stranger pursuer subsample. Overall, the model was significant in predicting the risk of cyberstalking victimization (Model $\chi^2 = 86.63$, $p \leq .001$).

Again, only one measure capturing target vulnerability was significant. However, in this model, age was found to significantly reduce the risk of cyberstalking victimization (OR=0.82). Posting flirty or seductive photographs was again associated with a greater risk of being cyberstalked (OR=1.06). Those who engaged in cyberstalking perpetration had odds nearly two times greater of being cyberstalked relative to those who not (OR=1.90). Finally, those who were stalked offline were at odds of being cyberstalked that were 4 times greater than those who were not (OR=3.99).

The results for the equality of coefficients test are included in Table 5.17. The effects of amount of time spent online daily, number of photos or videos posted, impulsivity, race, citizenship status, and being unemployed on cyberstalking victimization were statistically significantly different across the two pursuer subsamples. Impulsivity, citizenship status, and being unemployed had more of a pronounced effect on cyberstalking victimization for the known pursuer sample compared to the stranger pursuer sample. Amount of time spent online and race, however, had a stronger impact on cyberstalking victimization for the stranger pursuer sample compared to the known pursuer sample (z-score = -1.71, -1.84, respectively, $p \leq .10$).

Summary

Overall, there appears to be partial support for the applicability for the target congruence perspective explaining cyberstalking victimization among young adults. The explanatory power across the multivariate models ranged from the independent variables explaining 17% of the variation in cyberstalking victimization up to 38% of the variation.[26] While measures of each target congruence element – target vulnerability, target gratifiability, and target antagonism – were significant in the full-sample models, there may be more utility for this model when examining specific pursued-pursuer relationships. Specifically, it appears that the target congruence approach may be best at explaining victimization that is committed by individuals that are known to the victim. This finding is not surprising, given that the target congruence approach was originally developed to explain victimizations that were perpetrated by known individuals (e.g., parents or guardians; Finkelhor & Asdigian, 1996). The results from the two pursuer subsamples can have prevention and policy implications. These theoretical and policy implications, substantive contributions, and limitations of the current study will be discussed in

[26] The smallest explanatory powers were associated with the stranger pursuer subsample models.

detail in Chapter 6. The chapter will also conclude with suggestions for future research on cyberstalking victimization.

CHAPTER 6

DISCUSSION

Overview

This final chapter will address the main research questions that guided the dissertation: (1) What is the extent of cyberstalking victimization among a sample of 18 to 25 year old workers from Amazon's Mechanical Turk?; (2) Is there a relationship between target vulnerability and cyberstalking victimization?; (3) Is there a relationship between target gratifiability and cyberstalking victimization?; (4) Is there a relationship between target antagonism and cyberstalking victimization?; and (5) Does the pursued-pursuer relationship moderate the relationship between the target congruence elements and cyberstalking victimization? The chapter will continue with a discussion of the theoretical and policy implications, followed by a review of the limitations of the study, suggestions for future research, and will conclude with some final remarks.

Summary of Results

Extent and Rates of Cyberstalking Victimization

The 12-month prevalence estimate of cyberstalking victimization for this sample is 31.8%. Of those who were victims of cyberstalking, 86% experienced unwanted contact, 72% experienced persistent harassment, 69% received unwanted sexual advances, 38% had inappropriate, unwanted, or personal posts shared about them, 30% received threats of harm, 26% had their whereabouts tracked, and 21% were spied on or monitored at least once in the previous 12-month timeframe. Additionally, of those who were cyberstalked, nearly 70% (*n*=333) identified the perpetrator as someone they knew.

With respect to rates of cyberstalking victimization, numerous demographic characteristics stood out. Research has previously found that women, compared to men, are most likely to be victims of cyberstalking (e.g., Basile et al., 2006; Baum et al., 2009). The current study expanded beyond the gender identity dichotomy and found that those who identified as other had the highest rate of being cyberstalked. Also consistent with existing literature (e.g., Reyns & Scherer, 2019), those with a professionally diagnosed disability were found to have a higher rate of cyberstalking victimization. Surprisingly, those who were casually dating or hooking up had the highest rate of being cyberstalked relative to other relationship statuses.

These results inform two points that are worth highlighting. As was discussed in Chapter 2, research on cyberstalking victimization has revealed a wide range of prevalence estimates (3.4% to 40.8%). While finding that nearly 32% of the sample was cyberstalked in a 12-month time frame falls on the higher end of the prevalence estimate range, it is not unreasonable. This is partly due to the modifications to how cyberstalking is conceptualized and operationalized in the current study. To explain, based on the operationalization utilized in this dissertation, cyberstalking victimization occurs if the individual who experiences repeated online pursuit behaviors feels fear *or* a substantial emotional response. In contrast, a number of the studies reviewed in Table 2.2 classified an individual as a cyberstalking victim if they experience only fear as a result of the repeated pursuit behaviors (e.g., Dreßing et al., 2014). The additional substantial emotional response element can partly account for the higher prevalence estimated in the current study.

Second, it appears as if strangers are not who should be feared online, at least in terms of cyberstalking. On more than one occasion, the media has presented headlines that create an image of cyberstalkers that is of an unidentifiable hooded figure hunched over a computer:

"Cyber Stalkers – Strangers Targeted Kids Online," "Hawthorne Man Cyberstalked Stranger for Months." Research has even reported findings that are supportive of the belief that cyberstalkers are more often strangers (e.g., Bocij, 2003; Reno, 1999; Philips & Morressey, 2004; Moriarty & Freiberger, 2008). Other studies, however, support the current finding that cyberstalkers are generally non-strangers and are frequently even current or former intimate partners (e.g., Alexy et al., 2005; Cavezza & McEwan, 2014; Paullet et al., 2009; Short et al., 2015)[27].

This finding is important because it suggests that cyberstalking may not be an act that targets individuals randomly online based on their cyber behaviors, but is instead part of an arsenal for current or former intimate partners pursuing, and potentially controlling, their partner. If this is the case, it would alter how scholars and law enforcement agencies approach preventing this phenomenon. Additionally, it calls into question if predictors of cyberstalking victimization differ for those who are cyberstalked by known pursuers versus stranger pursuers (i.e., Research Question 5).

Target Congruence Explaining Cyberstalking Victimization

The main goal of this dissertation was to determine if the target congruence approach is an empirically supported theoretical perspective for explaining cyberstalking victimization (Research Questions 2-4) and to explore if the pursued-pursuer relationship acted as a moderator (Research Question 5). It was hypothesized that increases in target vulnerability, target gratifiability, and target antagonism would all be associated with an increased risk of being cyberstalked. The victim-pursuer relationship was also predicted to moderate the target

[27] When exploring the dates of these publications, it is evident that the majority of research that found cyberstalkers were generally strangers was published a decade or more in the past, while the research suggesting cyberstalkers are typically non-strangers generally is more recent. This may be indicative of how technology – and social media – has evolved over the past decade.

congruence and cyberstalking victimization relationships. The bivariate and binary logistic regression analyses, in addition to the equality of coefficients tests, provide some support for these hypotheses. Table 6.1 provides a summary table of all multivariate findings.

Target vulnerability. As discussed in Chapter 3, the concept of target vulnerability is expected to increase risk of victimization because these characteristics impact the victim's ability to resist or deter victimization (Finkelhor & Asdigian, 1996).

Bivariate results. In the bivariate analysis, multiple measures capturing target vulnerability were significantly related to cyberstalking victimization: (1) age; (2) having a disability; (3) not being a student; (4) having an undergraduate degree; (5) having a graduate or professional degree; (6) number of photographs posted; (7) number of online connections; and (8) impulsivity. Age, not being a student, and having an undergraduate degree were all significantly and negatively related to cyberstalking victimization. Having a disability, having a graduate or professional degree, number of photographs posted online, number of online connections, and impulsivity were all significantly and positively related to cyberstalking victimization. These bivariate relationships were all in the expected direction, except for having a graduate or professional degree. According to Finkelhor and Asdigian (1996), it was expected that higher education (a proxy for their social competence measure) would have been associated with a reduction in risk of cyberstalking victimization.

Multivariate results. Given the findings from the bivariate analyses that target vulnerability is related to cyberstalking victimization, the next appropriate step was to estimate binary logistic regression models. Many of the variables that were statistically significant in the bivariate analyses remained significant in the multivariate models. Below is a discussion of the results for target vulnerability specific models estimated with the full and pursued subsamples.

Table 6.1: Summary of Multivariate Results

	Target Vulnerability			Target Gratifiability			Target Antagonism			Target Congruence		
	Full Sample	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***
Target Vulnerability												
Age	-	-	-							-		-
Disability	+	+								+	+	
Student Status *(Undergrad student)*												
High, trade, or vocational school												
Not a student												
Educational Attainment *(High school degree)*												
Undergrad degree												
Graduate or professional degree												
Amount of time online daily												
Online privacy settings *(Public)*												
Private												
Mostly private												
Mostly public												
Number of photos posted	+	+										
Online connections	+									+		
Impulsivity	+	+										
Target Gratifiability												
Gender identity *(Man)*												
Woman				+	+					+	+	
Other				+	+					+		
Sexual orientation *(Heterosexual)*												
Gay/Lesbian												
Bisexual												
Other												

	Target Vulnerability			Target Gratifiability			Target Antagonism			Target Congruence		
	Full Sample	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***	***Full Sample***	***Known Pursuer***	***Stranger Pursuer***
Type of photo posted												
Flirty/seductive				+	+	+				+	+	+
Silly/fun					+							
Professional					+							
Selfies												
Family and friends												
Hobbies												
Other					+						+	
Sexting				+	+					+		
Target Antagonism												
Trolling												
Hacking												
Cyberbullying perpetration												
Cyberstalking perpetration							+	+	+	+	+	+
Race *(White)*								-			-	
Citizenship status												
Relationship status *(Casually dating)*												
Single							-		-	-		
Serious relationship							-					
Married/civil union							-	-	-	-		
Employment status *(Full-time)*												
Part-time												
Unemployed												
Self-centeredness												
Temper												

(+) = statistically significant ($p \leq .05$) positive relationship, (-) = statistically significant ($p \leq .05$) negative relationship

Full sample. Five measures of target vulnerability were found to be significant in the full sample: (1) age; (2) having a disability; (3) number of photographs posted; (4) number of online connections; and (5) impulsivity. Younger respondents and those who have been professionally diagnosed with a disability are at an increased risk of cyberstalking victimization because, theoretically, these characteristics make them more vulnerable. Younger individuals have less life experience, which could increase risk (Finkelhor & Asdigian, 1996). In other words, younger persons do not have the knowledge or experience required to protect themselves from cyberstalking victimization. This finding has been well-established in the existing literature (e.g., Bossler & Holt, 2010; Dreßing et al., 2014; Hutton & Haantz, 2003).

Consistent with the current study, previous research has found that individuals with disabilities are at an increased risk of being victims of crime, generally (Harrell, 2017), and stalking specifically (Reyns & Scherer, 2018). Based on the target congruence approach, having a disability interferes with an individual's ability to resist or deter victimization. Relatedly, having high levels of impulsivity were found to increase an individual's risk of cyberstalking victimization. This aligns with theoretical expectations and prior research, as those who are impulsive are less likely to consider longer term consequences of their actions, which includes those behaviors that could endanger their safety (Reyns et al., 2013; Schreck, 1999).

The final two target vulnerability variables that increased risk of cyberstalking victimization were the number of photographs posted online and number of online connections. Having greater online exposure – posting many photographs and having a large number of online connections – makes an individual more vulnerable because their activities have the potential to reach a larger online audience. This, in turn, increases exposure to motivated offenders (Cohen et

al., 1981). Online exposure has been found to be a significant predictor of cyberstalking victimization in previous research, as well (e.g., Reyns, 2010).

Pursued subsamples. Findings emerged among the two pursued subsample analyses that provide evidence that predictors of cyberstalking victimization may vary based on pursued-pursuer relationship. In the known pursuer model, four target vulnerability measures were found to be significant: (1) age; (2) having a disability; (3) number of photographs posted; and (4) impulsivity. In the stranger pursuer model, however, only age was found to significantly impact risk of cyberstalking victimization.

A plausible explanation for these findings is that individuals who are strangers know less about the victim. Many online platforms allow users to easily determine the age (or age range) of another. This can be done by posting an exact age, birth year, graduation date, or this information could even be deduced from photographs. In contrast, these online platforms do not encourage sharing one's disability status. Therefore, having a disability may only be significant in the known pursuer model because it is not a characteristic to which strangers would be privy. Additionally, strangers may not be connected (i.e., friends or followers) with their victim on online platforms. Therefore, they would not receive updates each time the person uploaded a new photograph, though someone who was connected (i.e., a known pursuer) would. The equality of coefficients test, however, indicated that the differences between the known and stranger pursuer models were not statistically significant across these target vulnerability measures.[28]

In addition to the variation in the significant variables across the two models, the explanatory power of the models also varied. For the known pursuer model, the independent

[28] The equality of coefficients test determined that having a graduate or professional degree and amount of time spent online daily were statistically significantly different across the known and stranger pursuer models. However, neither of these variables reached statistical significance in the models.

variables explained 28% of the variation in cyberstalking victimization. However, the independent variables only explained 17% of the variation in cyberstalking victimization for the stranger pursuer model.

Summary. Past research examining predictors of various forms of victimization has generally found that target vulnerability increases risk of victimization (e.g., Augustine et al., 2002; Elvey et al., 2018; O & Wilcox, 2017; Steiner & Wooldredge, 2017). The current study adds to the empirical support highlighting the importance of target vulnerability in determining risk of victimization, generally, and cyberstalking victimization, specifically. The results also reveal that pursuers known to the victim may have more knowledge about vulnerabilities the individual may have, leading to more significant findings in the target vulnerability model for known pursuers.

Target gratifiability. Characteristics capturing target gratifiability are expected to increase risk of victimization because they are qualities, possessions, or skills that the offender wants to obtain or use (Finkelhor & Asdigian, 1996).

Bivariate results. In the bivariate analyses, numerous measures of target gratifiability also were found to be statistically significantly related to cyberstalking victimization. Identifying as a man and heterosexual were significantly and negatively associated with cyberstalking victimization. Additionally, identifying as a female, other gender, bisexual, or other sexual orientation, along with posting flirty photos and engaging in sexting behaviors were all positively related to cyberstalking victimization. Based on the target congruence approach, the direction of all of these bivariate relationships were expected.

Multivariate results. As numerous significant relationships were identified in the bivariate analyses, the next appropriate step was to estimate binary logistic regression models to

further explore the impact of target gratifiability on risk of cyberstalking victimization. The results for the target gratifiability specific models in the full sample and pursuer subsamples are explored below.

Full sample. Four measures capturing target gratifiability were found to be statistically significant in the full sample analysis: (1) identifying as a woman; (2) identifying as an other gender; (3) posting flirty or seductive pictures; and (4) engaging in sexting behaviors. Given that cyberstalking victims are generally female (e.g., Basile et al., 2006; Baum et al., 2009; Fisher et al., 2014), cyberstalking perpetrators are most often male (e.g., Baum et al., 2009; Roberts, 2002; Tjaden & Thoennes, 1998), and cyberstalking may have a romantic motivation (e.g., Black et al., 2011; Melton, 2007; Roberts, 2005; Spitzberg & Cupach, 2001; Tjaden & Thoennes, 1998), these findings are not surprising based on the target congruence approach. To explain, if a typical cyberstalker (heterosexual male) was repeatedly pursuing a typical cyberstalking victim (female) and was motivated by intimate feelings, the significant variables (identifying as a woman, posting flirty or seductive pictures, engaging in sexting behaviors) would be considered gratifiable. Recent empirical research also supports the current findings, as sexually explicit messaging was found to be associated with an increased risk of cyberstalking victimization (Boillot-Fansher, 2017).

Pursued subsamples. Significant findings differed across the known pursuer and the stranger pursuer models. In the known pursuer model, seven target gratifiability measures yielded significant findings: (1) identifying as a woman; (2) identifying as an other gender; (3) posting flirty or seductive pictures; (4) posting silly or fun pictures; (5) posting professional pictures; (6) posting other types of pictures; and (7) engaging in sexting behaviors. In the

stranger pursuer model only one variable, posting flirty or seductive pictures, was found to be significant.

Several points should be noted based on these findings. First, several additional variables (posting silly or fun pictures; posting professional pictures; and posting other types of pictures) yielded significant findings in the known pursuer model compared to the full sample. Referring back to the previous section where number of photographs posted was found to be statistically significant, it begs the question as to whether it is actually the type of pictures being posted that matters or the number. The differences between the pursuer subsamples may, again, be best explained by information known about the victim. To explain, strangers are more likely to not be connected with the victim online and, thus, may not see all of the different types of photographs that are posted. Additionally, it would be difficult for strangers to know if the victim engaged in sexting behaviors. Thus, strangers do not have the same access or opportunity to engage with some of the target gratifiability characteristics as known pursuers do.

The known pursuer model had more explanatory power than the stranger pursuer model. The independent variables explained 31% of the variation in cyberstalking victimization in the known pursuer model, yet only 19% in the stranger pursuer model. The equalities of coefficients test indicated that identifying as an other gender and posting silly or fun pictures had statistically significantly different relationships with cyberstalking victimization across the two pursuer subsamples (a stronger impact for the known pursuer model).

Summary. Recent research has attempted to explore how the hookup culture impacts risk for cybervictimization (e.g., Boillot-Fansher, 2017; Reyns & Fissel, Forthcoming). While the element of target gratifiability does not directly align with this, they maybe go hand in hand with

cyberstalking victimization if the main motivation behind the repeated pursuit behaviors online is intimate in nature.

Target antagonism. Measures of target antagonism are predicted to increase risk of victimization because they are characteristics that arouse anger, jealousy, or other destructive impulses in the offender (Finkelhor & Asdigian, 1996).

Bivariate results. Bivariate results indicated that there were statistically significant relationships between target antagonism and cyberstalking victimization as well. Engaging in trolling, hacking, cyberbullying perpetration, cyberstalking perpetration, and casually dating were all positively associated with cyberstalking victimization, as is expected based on target congruence approach. Additionally, single, self-centeredness, and temper were significantly and negatively related to cyberstalking victimization. The direction of these relationships between self-centeredness and temper and cyberstalking victimization were surprising. It was expected that high levels of self-centeredness and temper would be associated with an increased risk of being cyberstalked, as they would invoke antagonistic emotions within the offender.

Multivariate results. Several measures capturing target antagonism were significantly related to cyberstalking victimization in the bivariate analyses, supporting the decision to estimate multivariate models to explore these relationships further. Discussions of the results for target vulnerability specific models estimated with the full sample and pursuer subsamples are provided below.

Full sample. Using the full sample, four target antagonism measures were found to be statistically significant: (1) cyberstalking perpetration; (2) being single; (3) being in a serious relationship; and (4) being married. A well-established finding across crime types is that individuals who engage in offending have an increased risk of victimization (e.g., Hinduja &

Patchin, 2007; Sampson & Lauritsen, 1990). The current study provides further support for this in terms of cyberstalking; a deviant online lifestyle may increase one's risk of victimization (Reyns, 2010) because it makes the offender angry (in other words, the cyberstalking would be retaliatory).

The findings related to relationship status were unexpected due to the limited research available on motivation behind cyberstalking. It was originally hypothesized that being single would be associated with a reduction in risk of being cyberstalked (compared to casually dating). Theoretically speaking, and based on the intimate motivation behind some cyberstalking, being single could not evoke angry responses in the offender (i.e., target antagonism), thus reducing risk of victimization. However, it was not expected that being in a serious relationship or being married would also significantly reduce the likelihood of being cyberstalked (compared to those who were casually dating). There is mixed evidence in the existing body of literature on relationship status' impact on cyberstalking victimization. Some research has found that cyberstalking victims were more often involved in a romantic relationship (Reyns et al., 2012), while other findings have revealed that cyberstalking victims were generally single (Dreßing et al., 2014). More research needs to be conducted in the future to identify the motivation behind cyberstalking so these mixed findings can be parsed out more.

Pursued subsamples. Findings from the separate pursuer subsample models indicated that the victim-pursuer relationship may moderate the relationship between target antagonism and cyberstalking victimization. In the known pursuer model, three measures were found to be significant: (1) cyberstalking perpetration; (2) race; and (3) being married. In the stranger pursuer model, three variables were also found to be significant: (1) cyberstalking perpetration; (2) being single; and (3) being married.

Research on cyberstalking victimization has revealed mixed findings regarding race. Some findings suggest that Caucasian individuals are at an increased risk of victimization compared to other racial categories (e.g., Kraft & Wang, 2010; McFarlane & Bocij, 2003), while others finding the opposite (e.g., Reyns et al., 2012). Given that race was identified as a measure capturing target antagonism, the direction of this finding was expected. It was surprising, however, that race was only significant in the known pursuer model. There are many indicators that are present in cyberspace that allow one's race to be identified (or assumed), even among strangers (e.g., photographs). However, when thinking about this issue further, there are numerous forms of communication technologies (e.g., forums, e-mail, etc.) where it would not be possible for a stranger to determine the race of another individual.

It is important to note that the explanatory power was worse for the stranger pursuer model compared to the known pursuer model. The independent variables explained 28% of the variation in cyberstalking victimization in the known pursuer model, yet only 20% in the stranger pursuer model. The equality of coefficients test revealed that the impact of race on cyberstalking victimization was statistically different across the two pursuer subsamples.

Summary. In the existing literature that uses the target congruence approach, scholars have had the most difficulty identifying measures to capture target antagonism, and difficulty in finding statistically significant relationships between target antagonism and victimization (e.g., Reyns & Sween, 2017). While the motivation behind why someone perpetrates cyberstalking is largely unknown, which makes it difficult to identify characteristics that the offender would consider antagonistic, the current study did yield significant findings in the target antagonism models. Moreover, there were statistically significant differences across the known and stranger pursuer samples.

Full Target Congruence Models. As was discussed in Chapter 5, a full target congruence model (including target vulnerability, gratifiability, and antagonism variables) was estimated due to theoretical indeterminacy. The results from the estimated models among the full sample and pursuer subsamples are discussed below.

Full sample. Ten target congruence variables were significant in the full sample: (1) age; (2) having a disability; (3) number of online connections; (4) identifying as a woman; (5) identifying as an other gender; (6) posting flirty or seductive photographs; (7) engaging in sexting behaviors; (8) cyberstalking perpetration; (9) being single; and (10) being married. The majority of target congruence measures that were significant in the individual elements models were still found to be significant in the full target congruence model (except for number of photographs posted, impulsivity, and being in a serious relationship). Given that all of the measures capturing target gratifiability remained significant in the full model, this target congruence concept may be most important for explaining cyberstalking victimization.

Pursued subsamples. The full target congruence models estimated for the two pursuer subsamples provided findings that may be supportive of Research Question 5. In the known pursuer model, six target congruence variables were significant: (1) having a disability; (2) identifying as a woman; (3) posting flirty or seductive pictures; (4) posting other types of pictures; (5) cyberstalking perpetration; and (6) race. In the stranger pursuer model, only three target congruence variables were significant: (1) age; (2) posting flirty or seductive pictures; and (3) cyberstalking perpetration.

The equality of coefficients test revealed that the impact of amount of time online daily, number of photos posted, impulsivity, race, citizenship status, and being unemployed on cyberstalking victimization were statistically different across the known and stranger pursuer

models, yet only race reached statistical significance in the binary logistic regression models. The explanatory power for the known pursuer subsample model was better than for the stranger pursuer subsample. The independent variables explained 38% of the variation in cyberstalking victimization in the known pursuer model, while the independent variables only explained 29% of variation in cyberstalking victimization in the stranger pursuer model.

Summary. The majority of the existing research that has tested the target congruence approach has estimated full models and have found at least partial support for the perspective (e.g., Elvey et al., 2018; Reyns & Sween, 2017; O & Wilcox, 2017). The full target congruence model in the current study adds to this body of literature for a new type of victimization – cyberstalking. Additionally, the two pursuer subsample models again indicate that the victim-pursuer relationship may be moderating the influence of target congruence elements on cyberstalking victimization.

Summary of Target Congruence Predicting Cyberstalking Victimization. The question that fueled this dissertation is who is cyberstalked and why? Based on the results reviewed above, there are certain factors – those that are categorized as target congruence measures – that increase an individual's chances of being cyberstalked. Consistent with the target congruence approach, those with characteristics that are deemed vulnerable, gratifiable, and antagonistic have higher chances of being the victim of cyberstalking. In addition, those who are pursued by known individuals appear to have different risk factors than do those who are pursued by strangers and post-hoc tests illustrated differences related to some of the individual covariates between the groups.

Theoretical Implications

To date, this is the first known study to apply the target congruence approach to cyberstalking victimization. Given the multivariate results, there appears to be some support for using the target congruence approach to explain cyberstalking victimization. Measures capturing target vulnerability, target gratifiability, and target antagonism were found to be statistically significant in each model that was estimated and presented in Chapter 5. Thus, the use of target congruence adds to the overall understanding of risk of cyberstalking victimization and should be considered in future research on this type of victimization.

Given the variation in types of victimizations studied using the target congruence approach in the existing literature, it is difficult to provide general statements about the quality of the target congruence measures. The motivation behind crimes vary across type (e.g., youth physical assault and anti-gay victimization), thus, characteristics and behaviors that are congruent with the motives of the offender will be crime-specific. In other words, for parental assault on a child, physical limitations would be a measure of target antagonism. However, this likely would not be a measure of target antagonism for anti-gay victimization.

That being said, there are a few characteristics that were found to be statistically significant in the current study that have been found significant in other victimization models using the target congruence approach too, including age, gender, and disability. These indicators may exhibit more cross-crime generalizability, even if categorized in different target congruence elements. Scholars should be mindful of developing target congruence measures that are consistent across studies, which will allow for comparisons of these cross-crime indicators.

While originally introduced to the discipline over two decades ago, few scholars have empirically tested the applicability of the target congruence approach. The current body of

research that has tested the target congruence approach tends to estimate models with all three elements of target congruence (target vulnerability, target gratifiability, and target antagonism) in the same model (see Chapter 3 for review of literature). However, this may not be the most appropriate modeling strategy based on how the target congruence approach was presented by Finkelhor and Asdigian (1996). They simply argued that each target congruence element is associated with an increased risk of victimization. Unlike LRAT, the convergence or combination of these elements are not theoretically required.

Due to this lack on convergence of elements, separate models for each target congruence element were estimated in the current dissertation. Thus, the effects of each target congruence concept on cyberstalking victimization were first examined without considering the influence of the other two. Sween and Reyns (2017) also took this approach and estimated four multivariate models– one for each target congruence element and one that included all three elements. While findings did not vary much between the separate target congruence elements models and the full model, testing the target congruence element specific models and the full target congruence model may be the most appropriate method of empirically testing this perspective in the future. Doing so allows for changes to be identified across individual and full models. The empirical tests of target congruence are limited and scholars are still working to understand and test the theoretical perspective. Therefore, this suggested modeling strategy is another step towards identifying the most appropriate model specification.

The final theoretical contribution of the current study is that it is the first known attempt to separate the sample and examine the applicability of the target congruence perspective based on the victim-pursuer relationship. As previously mentioned, the nature of the types of victimization in previous research using the target congruence approach do not allow for

separating the sample based on the relationship between the victim and pursuer. While it is possible to collect information regarding the victim and offender relationship, the sample would then have to be limited to only those who were victimized. In other words, the dependent variable would be a constant and it would not be possible to explore which characteristics impact risk of victimization. Thus, research on victimization that requires repeated interactions or a fear or emotional distress response (e.g., stalking and cyberstalking) are the only types of crime that can separate the sample into known and stranger subsamples.

As was discussed in Chapter 3, since the original development of the target congruence approach was inspired by LRAT's inability to explain youth victimization perpetrated by known offenders, it was hypothesized that the victim-pursuer relationship would moderate the applicability of the approach. This dissertation found some support for this hypothesis. The multivariate models estimated for the known pursuer subsamples consistently had more significant predictors, compared to the stranger pursuer subsample, and the model fits were better for the known pursuer subsamples. Theoretically speaking, the target congruence approach may only be applicable for those types of victimization that are perpetrated by individuals known to the victim.

Prevention and Policy Implications

While the current dissertation did not set out to develop cyberstalking prevention strategies or programs, implications can be made based on the findings. First, legal and definitional suggestions are offered. This section then continues by briefly introducing strategies that can potentially help reduce one's risk of being cyberstalked.

As was noted in Chapter 2, there are inconsistencies in the legal community regarding how to best define cyberstalking. It is suggested that all states, and the federal government,

develop anti-cyberstalking statutes that utilize a definition that is consistent the with one utilized in the current study (i.e., repeated pursuit behaviors; fear or substantial emotional response). Many of the existing laws require fear and make no mention of other types of emotional distress or responses. In the current study, if only fear was considered, the prevalence estimate would drop from 31.8% of the sample to 18.9% being cyberstalked within the previous 12 months. This translate, in this sample, to nearly 200 individuals being excluded from legal protections and victim services. Law makers must ensure that they utilize definitions that are inclusive of all victims of cyberstalking.

The results from the numerous multivariate models estimated in the current study provide some direction for prevention programs and strategies. Age was consistently found to be significantly and negatively associated with being cyberstalked across all models. Those individuals who were younger in age were at the greatest risk of cyberstalking victimization because they lacked the knowledge or experience required to protect themselves (target vulnerability). While the current sample did not include participants under the age of 18, existing literature has examined risk of cyberstalking victimization among younger populations and find the same pattern of risk reducing with increase in age (e.g., Reidy et al., 2016). Thus, one prevention strategy would be to include programs that focus on online risk and safety in curriculum at the middle school, high school, and college levels.

One of the most well-known and widely disseminated school-based prevention program in the United States is DARE. Originally developed by the Los Angeles Police Department in 1983 to teach elementary school children about drugs and their negative effects, DARE has since expanded to all age youth age groups and now includes supplemental lessons on Internet safety

(Jones, 2010).[29] Another initiative is Enough is Enough, which is a non-profit organization that was developed in the early 1990s as a way to raise public awareness about the dangers of the Internet and provide solutions to these problems (https://enough.org/aboutus). Additionally, The Cybercrime Support Network, and associated fraudsupport.com, is a non-profit organization that provides resources for individuals and businesses before, during, and after a cybercrime event (https://cybercrimesupport.org/). The Stalking Resource Center (http://victimsofcrime.org/our-programs/stalking-resource-center/help-for-victims/stalking-safety-planning) also provides information for developing a stalking safety plan, which can be incorporated into educational programs as well. While no known evaluation of these educational initiatives exist, one would expect teaching students about safe online behaviors to be beneficial.

Related to these general Internet safety initiatives, there have been programs developed to combat bullying, and cyberbullying specifically (e.g., www.justsayyes.org/topics/bullying-prevention-programs/). Multiple systematic reviews have found significant support for anti-bullying programs (e.g., Evans, Fraser, & Cotter, 2014; Ferguson, Miguel, Kolburn, & Sanchez, 2007). Given that the strongest predictors of cyberstalking victimization across all models were offline stalking victimization and cyberbullying victimization, it may be beneficial to include these topics in educational programs.

Specific from the findings of the current study, these programs and organizations would benefit by teaching individuals that their online behaviors influence their risk of being cyberstalked. For example, the number of photos and type of photos posted (e.g., flirty or seductive) were consistently associated with a higher likelihood of being cyberstalked. Additionally, those who engaged in sexting behaviors or cyberstalking perpetration also had

[29] It is recognized that DARE has not received favorable evaluation results. However, the internet safety supplemental lessons have yet to be evaluated.

greater risk of being victims of cyberstalking. This information should be conveyed to program participants, especially given the fact that posting photographs, even those that are flirty or seductive in nature, and sexting behaviors are not typically considered to be deviant or risky behaviors in modern society. Thus, teens and young adults are likely unaware that these cyber behaviors are related to an increased risk of being cyberstalked.

Finally, while privacy settings were not found to yield a statistically significant influence on cyberstalking victimization, it may be beneficial for online platform architects to allow privacy settings to be modified easily (and subsequently, users set these settings). This is because many of the predictors of cyberstalking victimization were only significant in the known pursuer models, suggesting that those who know the individual have motives that are congruent with their characteristics. It is not possible to hide all personal information from everyone in cyberspace, but privacy settings can help limit who can access that information.

Limitations

Although the current study was designed to overcome several of the limitations associated with previous cyberstalking victimization research, it is not without its own limitations. The current study utilizes cross-sectional and retrospective data from a self-report questionnaire. This can be problematic because cross-sectional research designs are unable to establish temporal order. While some online behaviors – such as privacy settings or number of online connections – may predict cyberstalking victimization, they could also be a result of being cyberstalked. For example, an individual could have private settings on their online accounts because they had been cyberstalked previously. Unfortunately, the cross-sectional nature of this data cannot account for which came first.

Next, while this study is more generalizable than previous research because it does not utilize a convenience sample of college students, it still does utilize a convenience sample of young adults in the United States. Given that the demographic composition of the worker pool on Mechanical Turk is unknown (discussed in Chapter 4), it is difficult to generalize the results from the current study to the general population. The next issue that potentially limits the results of the current study is the possibility of self-selection bias. All work on MTurk is voluntary and individuals select which HITs in which they wish to participate. It is possible that those who successfully completed the questionnaire were different than those who did not on a number of dimensions, including online behaviors and experiences. This would likely result in an unrepresentative sample of young adults and biased estimates. A worker may choose to complete a task due to reward amount or time required to complete it, but may also self-select into a HIT based on personal interest. To help reduce self-selection bias concerns, I purposefully did not include much information about the topic of the study in the title, keywords, or description associated with the HIT. Workers were not aware that this was a study on cyberstalking victimization and all the information that was presented would likely be appealing to a general group of workers. Appendix G includes the exact words posted on MTurk used to recruit participants.

Another limitation is associated with how the stranger pursuer subsample is measured. Respondents were asked to identify their relationship with the individual who was responsible for the unwanted contact(s) or behavior(s) and were given the following options: (1) Current spouse or partner; (2) Ex-spouse or partner; (3) Family member; (4) Friend; (5) Work colleague; (6) Classmate; (7) Stranger; and (8) Other, please specify. It is possible that individuals selected stranger, when the more accurate response actually would be that they could not identify the

offender. To explain further, a victim may not be able to identify who the pursuer is, even if it was someone the victim knew, because the pursuer was able to successfully conceal their identity from the victim. Not being able to identify the pursuer is much different than the pursuer being a stranger. An unidentified known pursuer is privy to characteristics (i.e., target congruence measures) of the victim, while a stranger should not have as much personal knowledge about the targeted individual. Thus, it is possible that the stranger pursuer subsample does not only contain strangers, but also those known individuals who successfully concealed their identities from the respondent.

The final limitation of this study is one that is shared by all research that uses victim survey data to test the target congruence approach. Without knowing the motives and perceptions of offenders, it is difficult to link victim attributes to specific target congruence concepts. For example, it could be argued that age is a measure of target vulnerability or a measure of target gratifiability for cyberstalking victimization, and both classifications could be correct. Using the scant research on cyberstalkers' motivation, the characteristics were assigned to the three target congruence elements. However, it is possible that the classifications are inaccurate due to measurement indeterminacy (see discussion in Chapter 5), which is why the full target congruence models also were included in the analyses.

Future Research

Research on cyberstalking victimization is still relatively new and many questions remain unanswered about this phenomenon. Some of the limitations from the current study can be used to help inform recommendations for future research. Overall, future research should continue to make methodological improvements in order to obtain accurate information about this type of victimization.

To be able to make generalizable statements about the nature of or predictors of cyberstalking victimization, future research must utilize a more representative sample. It would be ideal to conduct research on cyberstalking victimization using a nationally representative sample of adults in the United States. At the very least, an MTurk sample could still be used, but using sampling strategy that results in a sample that is proportionate to characteristics (e.g., age, gender identity, etc.) of the United States population.

Future research should also address temporal order to determine which variables are, in fact, predictors of cyberstalking victimization and which may be caused by cyberstalking victimization. This is particularly important for the target congruence measures that are related to online behaviors (e.g., privacy settings, number of online connections, type of photos or videos posted, amount of time spent online, etc.). Without establishing temporal order, it is impossible to determine if the online behaviors (e.g., privacy settings) came first or if the cyberstalking victimization came first. It is also necessary to establish temporal order when examining other types of victimization. In the current study, it is impossible to determine if the offline stalking and cyberbullying victimizations (control variables) occurred prior to the cyberstalking victimization, after, or concurrently; or if the perpetrator was responsible for all forms of victimization experienced. One way to establish temporal order is to conduct longitudinal research using a panel study, with data collected at multiple time points across years.

As was mentioned in the previous section, using victim data to test the target congruence perspective can be problematic. Thus, it is suggested that future research attempts to rectify this issue by also collecting data from cyberstalkers. This gives scholars the opportunity to better identify offenders' motives and perceptions, which directly influence how characteristics, behaviors, and attributes are assigned to the three target congruence elements. It would be even

more beneficial if researchers could collect information from "coupled" victims and pursuers, when the pursuer is known.

One final suggestion for future research is to more thoroughly examine the link between offline stalking and cyberstalking victimization. Specifically, research that includes measuring offline pursuit behaviors should also include online pursuit behaviors, and vice versa. This will allow scholars to examine individuals who only experience offline stalking, those who only experience online stalking, and those who experience both. Then researchers can gain insight into whether the respective victims are similar or different (with respect to descriptive characteristics including demographics, victimization experience characteristics, and consequences of victimization; along with target congruence measures), which can help inform how to legally and conceptually define stalking and cyberstalking.

Concluding Remarks

There are numerous contributions that the current study makes to the field of victimology, which are outlined in the above sections. If the results of this study are, in fact, representative of the experiences of 18 to 25 year olds in the United States, it can be concluded that cyberstalking victimization is a societal problem that requires scholarly and legal attention. Over 30% of the sample were cyberstalked in a relatively short period of time (12-months), which leads one to extrapolate that lifetime prevalence estimates are even greater.

Given the fact that the use of technological communications are central to daily life, there are detrimental consequences associated with being cyberstalked (e.g., Bocij, 2003; Kraft & Wang, 2010; Nobles et al., 2014; Worsley et al., 2017), few victims report their cyberstalking experiences to law enforcement (e.g., Fissel, 2018; Reyns & Englebrecht, 2010), and state laws vary across states making it difficult to prosecute cyberstalkers (Goodno, 2007), it is imperative

that more research is done to help prevent and respond to incidents of cyberstalking. To best prevent cyberstalking victimization from occurring, more research grounded in theoretical approaches is needed to fully understand the extent and predictors of this phenomenon.

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APPENDICES

Appendix A: Consent Document

Adult Consent Form for Research
University of Cincinnati
College of Education, Criminal Justice, and Human Services:
Department of Criminal Justice
Principal Investigator: ***Erica Fissel, M.S.***
fisselea@mail.uc.edu
Faculty Advisor: Bonnie Fisher, Ph.D.

Title of Study: *Predictors of Cyberstalking Victimization*

Introduction:
You are being invited to participate in a research study examining behaviors and interactions through electronic communication. As part of my doctoral dissertation research, this questionnaire will ask you about your use of electronic communication, including but not limited to social media websites, text messaging, and phone apps. Furthermore, you will be asked about contacts or behaviors you have experienced through these means of electronic communication. Thank you for your interest in this research and please read this paper thoroughly. If you have any questions about the study, please contact Erica Fissel.

Who is doing this research study?
The person in charge of this research study is Erica Fissel, M.S. of the University of Cincinnati (UC) School of Criminal Justice. She is being guided in this research by Professor Bonnie Fisher, Ph.D.

What is the purpose of this research study?
The purpose of this research study is to examine behaviors, contacts, and interactions that occur through the use of communication technologies. Of most interest, the data will identify predictors of negative, harmful, or threatening contacts and interactions that are experienced via communication technologies. Furthermore, the characteristics of individuals involved in the interactions, along with potential consequences, will be explored.

Who will be in this research study?
Approximately 1,500 people will take part in this study.

What will you be asked to do in this research study, and how long will it take?
You will be asked to complete a web-based questionnaire. If you choose to participate, you will be answering demographic questions in addition to questions about behaviors, contacts, and interactions you have experienced via electronic communication. Some of the questions may be sensitive in nature. It is expected that the questionnaire will take approximately 15 minutes to complete.

Are there any risks to being in this research study?

It is not expected that you will be exposed to any risk by being a part of this research study.

Are there any benefits from being in this research study?
While you may not personally benefit from taking part in this study, your responses will help us understand more about behaviors, contacts, and interactions experienced via communication technologies. This will then help in the created of prevention strategies and other resources.

What will you get because of being in this research study?
You will be paid $0.35 through Amazon's Mechanical Turk for a completed questionnaire.

Do you have choices about taking part in this research study?
If you do not wish to take part in this research study, you may simply not participate.

How will your research information be kept confidential?
Your responses to the questionnaire will be kept confidential by using a study identification number, thus, responses cannot be traced back to you. I will keep all responses in a secure database on a password-protected computer. The data from this research study may be published, but you will not be identified.

Agents of the University of Cincinnati may inspect study records for audit or quality assurance purposes. The researcher cannot promise that information sent by the internet or email will be private.

What are your legal rights in this research study?
Nothing in this consent form waives any legal rights you may have. This consent form also does not release the investigator, the institution, or its agents from liability for negligence.

What if you have questions about this research study?
If you have any questions or concerns about this research study, you should contact Erica Fissel at fisselea@mail.uc.edu. Or you may contact Bonnie Fisher at fisherbs@ucmail.uc.edu.

The UC Institutional Review Board reviews all research projects that involve human participants to be sure the rights and welfare of participants are protected.

If you have questions about your rights as a participant, complaints and/or suggestions about the study, you may contact the UC IRB at (513) 558-5259. Or, you may call the UC Research Compliance Hotline at (800) 889-1547, or write to the IRB, 300 University Hall, ML 0567, 51 Goodman Drive, Cincinnati, OH 45221-0567, or email the IRB office at irb@ucmail.uc.edu.

Do you HAVE to take part in this research study?
No one has to be in this research study. Refusing to take part will NOT cause any penalty or loss of benefits that you would otherwise have.

You may start and then change your mind and stop at any time. To stop being in the study, you should tell Erica Fissel and exit out of the questionnaire website.

Agreement:
By turning in your completed survey questionnaire, you confirm that you are between the ages of 18 and 25 and indicate your consent for your responses to be used in this research study. Please keep a copy of this sheet for your records.

Appendix B: Cyberstalking Questionnaire[30]

This first set of questions ask about demographic characteristics. Remember that your responses cannot be linked back to you.

1. What is your age?
   - o 18
   - o 19
   - o 20
   - o 21
   - o 22
   - o 23
   - o 24
   - o 25

2. Which best describes your gender identity?
   - o Man
   - o Woman
   - o Transgender Man
   - o Transgender Woman
   - o Genderqueer or gender non-conforming
   - o Questioning
   - o Not listed
   - o Prefer not to answer

3. Which best describes your sexual orientation?
   - o Heterosexual or straight
   - o Gay or lesbian
   - o Bisexual
   - o Asexual
   - o Questioning
   - o Not listed
   - o Prefer not to answer

4. Which of the following best describes you? Please select all that apply.
   - ☐ Caucasian
   - ☐ Black or African American
   - ☐ Asian
   - ☐ American Indian or Alaska Native
   - ☐ Native Hawaiian or Other Pacific Islander
   - ☐ Hispanic
   - ☐ Other, please specify _____

[30] Each solid line represents a page break.

5. Are you a United States citizen?
   - o No
   - o Yes

(If Yes, skip to question 7)

---

6. Please indicate if you are in possession of the following.
   - o Green Card
   - o U.S. Visa
   - o Neither

---

7. Please indicate which of the following best describes you.
   - o High school student
   - o Trade school student
   - o Vocational school student
   - o College or University student
   - o Not a student

(If High school student, skip to question 9)
(If Not a student, skip to question 11)

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8. What type of post-secondary degree are you currently pursuing?
   - o License/Certificate
   - o Associates
   - o Bachelors
   - o Graduate (e.g., Masters, Ph.D.)
   - o Professional (e.g., Medical, Dental, Law)
   - o Other, please specify _____

---

9. Please indicate which best describes your current enrollment status.
   - o Full-time student
   - o Part-time student

---

10. Please indicate your current cumulative grade point average using a 4.0 scale.
   - o 3.5 – 4.0
   - o 3.0 – 3.49
   - o 2.5 – 2.99
   - o 2.0 – 2.49
   - o 1.5 – 1.99
   - o 1.0 – 1.49
   - o Less than 1.0

---

11. What is the highest level of education you have completed?
    - o High school diploma or equivalent (e.g., GED)
    - o Associates degree
    - o Bachelors degree
    - o Graduate degree (e.g., Masters, Ph.D.)
    - o Professional degree (e.g., Medical, Dental, Law)
    - o None of the above

12. Which best describes your current employment status?
    - o Full-time
    - o Part-time
    - o Unemployed

13. What is your current primary relationship status?
    - o Single
    - o Casually dating or Hooking up (brief sexual encounter)
    - o Steady or serious relationship
    - o Married, Civil Union, Domestic Partnership, Cohabitation
    - o Divorced, Separated, or Widowed

14. Have you ever been professionally diagnosed with a disability?
    - o No
    - o Yes

(If No, skip to Section 2)

15. Have you ever or are you currently being treated by a professional for a disability?
    - o No
    - o Yes

The next set of questions ask about your use of communication technologies and online presence. Remember that your responses are confidential and cannot be linked back to you.

16. On average, how much time do you actively spend online each day?
    - o Less than 1 hour
    - o 1 hour
    - o 2 hours
    - o 3 hours
    - o 4 hours
    - o 5 hours
    - o 6 hours
    - o 7 hours
    - o 8 hours
    - o 9 hours
    - o 10 hours
    - o 11 hours

- 12 hours
- 13 hours
- 14 hours
- 15 hours
- 16 or more hours

17. Please indicate how often you use the following forms of communication technologies. Select all that apply.

	Daily	4-6 times a week	2-3 times a week	Once a week	A few times a month	Never
Text Messaging	○	○	○	○	○	○
E-mail	○	○	○	○	○	○
Social Network Websites (e.g., Facebook, Twitter)	○	○	○	○	○	○
Social Media Apps (e.g., Instagram, Snapchat)	○	○	○	○	○	○
Video Chats (e.g., FaceTime, Skype)	○	○	○	○	○	○
Phone call and/or voicemail	○	○	○	○	○	○
Dating Apps (e.g., Tinder, Bumble, Plenty of Fish)	○	○	○	○	○	○
Dating Websites (e.g., Match.com)	○	○	○	○	○	○
Professional Network Sites (e.g., LinkedIn)	○	○	○	○	○	○
Photo and/or Video Sharing Sites (e.g., YouTube)	○	○	○	○	○	○
Blog Sites	○	○	○	○	○	○
Chat Rooms	○	○	○	○	○	○
Online Computer or Video Games	○	○	○	○	○	○
Instant Messenger	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○

18. How many pictures and/or videos of yourself would you estimate that you have posted on your Social Network Sites or Social Media Apps?

- Less than 10
- 10 – 49
- 50 – 99
- 100 – 199

- 200 – 299
- 300 – 399
- 400 – 499
- 500 or more

19. How many pictures and/or videos of yourself would you estimate that you have posted on your Professional Network Sites?

- Less than 10
- 10 – 49
- 50 – 99
- 100 – 199
- 200 – 299
- 300 – 399
- 400 – 499
- 500 or more

20. How many pictures and/or videos of yourself would you estimate that you have posted on your Dating Websites or Apps?

- Less than 10
- 10 – 49
- 50 – 99
- 100 – 199
- 200 – 299
- 300 – 399
- 400 – 499
- 500 or more

21. How would you describe the pictures and/or videos of yourself that you have posted on your Social Network Sites or Social Media Apps? Please indicate the percentage of each type.

Flirty or Seductive	%
Silly	%
Fun	%
Professional	%
Fitness or Health-related	%
Other, please specify	%
Total	**100%**

22. How would you describe the pictures and/or videos of yourself that you have posted on your Professional Network Sites? Please indicate the percentage or each type.

Flirty or Seductive	%
Silly	%
Fun	%
Professional	%
Fitness or Health-related	%

Other, please specify	%
Total	**100%**

23. How would you describe the pictures and/or videos of yourself that you have posted on your Dating Websites or Apps? Please indicate the percentage of each type.

Flirty or Seductive	%
Silly	%
Fun	%
Professional	%
Fitness or Health-related	%
Other, please specify	%
Total	**100%**

24. What privacy settings do you have in place, in general, for your online accounts?

- o Private
- o Mostly private
- o Mostly public
- o Public
- o I do not know

25. What type of information do you currently share or have shared on your online accounts? Please select all that apply.

- ☐ Citizenship status
- ☐ Relationship status
- ☐ Gender identity
- ☐ Sexual orientation
- ☐ None

26. Approximately how many connections (e.g., friends, followers) do you estimate you have on all of your online accounts combined?

- o 0 – 99
- o 100 – 199
- o 200 – 299
- o 300 – 399
- o 400 – 499
- o 500 – 599
- o 600 – 699
- o 700 – 799
- o 800 – 899
- o 900 – 999
- o 1,000 – 1,499
- o 1,500 or more

27. Please indicate if you have used any of the following communication technologies to perform the described activities in the past 12 months. Select all that apply.

	Developed a romantic relationship with someone you first met through communication technologies	Hooked up (brief sexual encounter) with someone you first met through communication technologies	Flirted with someone you did not know without the intention or hope of pursuing a romantic or sexual relationship	Flirted with someone you did not know with the intention or hope of pursuing a romantic or sexual relationship	Flirted with a friend or acquaintance without the intention or hope of pursuing a romantic or sexual relationship	Flirted with a friend or acquaintance with the intention or hope of pursuing a romantic or sexual relationship	None of these
Text Messaging	○	○	○	○	○	○	○
E-mail	○	○	○	○	○	○	○
Social Network Websites (e.g., Facebook, Twitter)	○	○	○	○	○	○	○
Social Media Apps (e.g., Instagram, Snapchat)	○	○	○	○	○	○	○
Video Chats (e.g., FaceTime, Skype)	○	○	○	○	○	○	○
Phone call and/or voicemail	○	○	○	○	○	○	○
Dating Apps (e.g., Tinder, Bumble, Plenty of Fish)	○	○	○	○	○	○	○
Dating Websites (e.g., Match.com)	○	○	○	○	○	○	○
Professional Network Sites (e.g., LinkedIn)	○	○	○	○	○	○	○
Photo and/or Video Sharing Sites (e.g., YouTube)	○	○	○	○	○	○	○
Blog Sites	○	○	○	○	○	○	○
Chat Rooms	○	○	○	○	○	○	○
Online Computer or Video Games	○	○	○	○	○	○	○
Instant Messenger	○	○	○	○	○	○	○
Other, please specify	○	○	○	○	○	○	○

Thank you for your continued participation in this questionnaire! Please answer this set of questions based on your experiences in the past 12 months. These questions refer to unwanted contacts or behaviors through the communication technologies identified earlier in the questionnaire. Please do not include contacts or behaviors from bill collectors, solicitors, or other sales people.

28. Please indicate if, to your knowledge, you have experienced any of the following contacts or behaviors from one person.

	No	Yes
Contact or attempted contact	○	○
Persistent harassment or annoyance	○	○
Sexual advances	○	○
Threats of harm	○	○
Spied on or monitored activities (using technologies such as a listening device, camera, or computer or cell phone monitoring software)	○	○
Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone)	○	○
Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors)	○	○

(If No = 7, skip to Section E)

29. To your knowledge, in the past 12 months, how many times did each unwanted contact or behavior occur from the same person?

	1	2	3-6	7-10	More than 10
Contact or attempted contact	○	○	○	○	○
Persistent harassment or annoyance	○	○	○	○	○
Sexual advances	○	○	○	○	○
Threats of harm	○	○	○	○	○
Spied on or monitored activities (using technologies such as a listening device, camera, or computer or cell phone monitoring software)	○	○	○	○	○
Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone)	○	○	○	○	○
Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors)	○	○	○	○	○

30. Did you experience a substantial emotional response because someone engaged in unwanted contact/behavior?

	No	Yes
Contact or attempted contact	○	○
Persistent harassment or annoyance	○	○
Sexual advances	○	○
Threats of harm	○	○
Spied on or monitored activities (using technologies such as a listening device, camera, or computer or cell phone monitoring software)	○	○
Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone)	○	○
Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors)	○	○

31. Did you fear for your safety or the safety or someone close to you because someone engaged in unwanted contact/behavior?

	No	Yes
Contact or attempted contact	○	○
Persistent harassment or annoyance	○	○
Sexual advances	○	○
Threats of harm	○	○
Spied on or monitored activities (using technologies such as a listening device, camera, or computer or cell phone monitoring software)	○	○
Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone)	○	○
Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors)	○	○

32. When did the most recent collection of repeated unwanted contacts or behaviors begin?

- ○ More than 12 months ago
- ○ 12 months ago
- ○ 11 months ago
- ○ 10 months ago
- ○ 9 months ago
- ○ 8 months ago
- ○ 7 months ago

- 6 months ago
- 5 months ago
- 4 months ago
- 3 months ago
- 2 months ago
- 1 month ago
- Less than 1 month ago
- Unsure

Thinking about the individual responsible for the most recent collection of repeated unwanted contacts or behaviors you identified in the previous question…

33. At the time of the contact/behavior, what was your relationship with the individual who was responsible for the repeated unwanted contact(s) or behavior(s)?
- Current spouse or partner
- Ex-spouse or partner
- Family member
- Friend
- Work colleague
- Classmate
- Stranger
- Other, please specify _____

(If Ex-spouse or partner, family member, friend, work colleague, classmate, stranger, or other, skip to question 35)

34. What is the current status of your relationship?
- Broken up due to the unwanted contact/behaviors
- Broken up due to other reasons
- Still together
- It is complication
- Other, please specify _____

Still thinking about the individual responsible for the most recent collection of repeated unwanted contacts or behaviors you previously identified…

35. What sex was the person who was responsible for the unwanted contact(s) or behavior(s)?
- Male
- Female
- Other
- Do not know

Still thinking about the individual responsible for the most recent collection of repeated unwanted contacts or behaviors you previously identified…

36. What race was the person who was responsible for the repeated unwanted contact(s) or behavior(s)?

- ○ Caucasian
- ○ Black or African American
- ○ Asian
- ○ American Indian or Alaska Native
- ○ Native Hawaiian or Other Pacific Islander
- ○ Hispanic
- ○ Other
- ○ Do not know

37. How long did each unwanted contact or behavior last?

	<1 week	1 week to <1 month	1 month to <6 months	6 months to <1 year	1 year to <2 years	2 years to <3 years	3 years or more
Contact or attempted contact	○	○	○	○	○	○	○
Persistent harassment or annoyance	○	○	○	○	○	○	○
Sexual advances	○	○	○	○	○	○	○
Threats of harm	○	○	○	○	○	○	○
Spied on or monitored activities (using technologies such as a listening device, camera, or computer or cell phone monitoring software)	○	○	○	○	○	○	○
Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone)	○	○	○	○	○	○	○
Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors)	○	○	○	○	○	○	○

38. Why do you think the individual chose to engage in the unwanted contacts or behaviors towards you? Please select all that apply.

- ☐ Retaliation or revenge
- ☐ Affection
- ☐ Felt rejected
- ☐ Obsessed with you
- ☐ Wanted power or control
- ☐ Other, please specify _____
- ☐ I do not know

Still thinking about the most recent collection of repeated unwanted contacts or behaviors your previously identified…

39. Did these unwanted contacts or behaviors cause any of the following? Please select all that apply.

Academic Performance

- ☐ Difficulty concentrating during class, on assignments, or during exams
- ☐ Missed deadlines or assignments or missed exams
- ☐ Dropped classes
- ☐ Lower grades
- ☐ Considered dropping out of school
- ☐ Changed living situation (e.g., moved out of dorms, moved in with family or friends)
- ☐ Other, please specify _____
- ☐ None of the above

Work Performance

- ☐ Difficulty concentrating at work
- ☐ Missed work
- ☐ Quit or got fired
- ☐ Other, please specify _____
- ☐ None of the above

Family or Social Life

- ☐ Isolated self from friends or family
- ☐ Increased fights with friends or family
- ☐ Loss of interest in daily activities
- ☐ Other, please specify _____
- ☐ None of the above

Health

- ☐ Headaches or stomach aces
- ☐ Eating problems or disorders
- ☐ Nightmares or trouble sleeping
- ☐ Increased drug use
- ☐ Increased alcohol use
- ☐ Other, please specify _____
- ☐ None of the above

This set of questions asks you to answer based on your reactions to the most recent collection of unwanted contacts or behaviors.

40. Did anyone contact law enforcement to report the unwanted contacts or behaviors you experienced?

- o Yes, I did
- o Yes, someone else did
- o Yes, I did and someone else did
- o Not to my knowledge

(If Yes I did, skip to question 42)
(If Yes, someone else did, skip to question 43)
(If Yes, I did and someone else did, skip to question 42)

41. What were your reasons for not contacting law enforcement? Please select all that apply.

- ☐ Dealt with it in another way
- ☐ Did not think it was criminal
- ☐ Thought police would not do anything
- ☐ Thought police would not be helpful
- ☐ Was afraid of the person who did these things to me
- ☐ I do not know
- ☐ Other, please specify _____

42. If you sought help from any office or agency other than law enforcement, who did you contact? Please select all that apply.

- ☐ Crisis hotline counseling
- ☐ Counseling or therapy
- ☐ Medical advocacy
- ☐ Legal or court services (e.g., assistance with getting a restraining, protection, or no contact order)
- ☐ Federal or state victim compensation
- ☐ Risk or threat assessment
- ☐ Safety planning
- ☐ Shelter or safehouse services
- ☐ Told a friend or family member
- ☐ Other, please specify _____
- ☐ No help was sought

43. If someone else sought help on your behalf from any office or agency other than law enforcement, who did they contact? Please select all that apply.

- ☐ Crisis hotline counseling
- ☐ Counseling or therapy
- ☐ Medical advocacy

- ☐ Legal or court services (e.g., assistance with getting a restraining, protection, or no contact order)
- ☐ Federal or state victim compensation
- ☐ Risk or threat assessment
- ☐ Safety planning
- ☐ Shelter or safehouse services
- ☐ Told a friend or family member
- ☐ Other, please specify _____
- ☐ No help was sought

44. There are things that people might try to do to protect themselves or stop unwanted contacts or behaviors from continuing. Indicate if you have done any of the following. Please select all that apply.

- ☐ Changed your daily activities
- ☐ Blocked unwanted calls, messages, or other communications
- ☐ Deleted online accounts
- ☐ Taken self-defensive actions or other security measures
- ☐ Changed your personal information (e.g., social security number)
- ☐ Changed your contact information (e.g., phone number, e-mail address)
- ☐ Applied for a restraining, protective, or no-contact order
- ☐ I did nothing
- ☐ Other, please specify _____

The next set of questions asks about various behaviors you may have engaged in or experienced both offline and online. Remember that your responses are confidential and cannot be linked to you.

45. In the past 12 months, have you purposefully upset someone online with the intent to trigger an emotional response?

- o No
- o Yes

46. In the past 12 months, have you purposefully started an argument online with the intent to trigger an emotional response?

- o No
- o Yes

47. Has someone ever repeatedly made fun of you online, repeatedly picked on you online, or posted something about you online that you did not like?

- o No
- o Yes

48. Have you ever repeatedly made fun of someone online, repeatedly picked on someone online, or posted something about someone online that they did not like?

- ○ No
- ○ Yes

49. Please indicate if you have ever done any of the following using communication technologies. Select all that apply.

- ☐ Attempted to hack into someone's online social network account
- ☐ Downloaded music or movies without paying for them
- ☐ Sent sexually explicit images, videos, or texts to someone
- ☐ Received sexually explicit images, videos, or texts from someone
- ☐ None of the above

50. How many times have you done any of the following using communication technologies towards the same person? Please select all that apply.

	1	2	3-6	7-10	More than 10
Contact or attempted to contact someone	○	○	○	○	○
Persistently harassed or annoyed someone	○	○	○	○	○
Made unwanted sexual advances	○	○	○	○	○
Threatened physical harm	○	○	○	○	○
Spied on or monitored someone's activities	○	○	○	○	○
Tracked someone's whereabouts	○	○	○	○	○
Posted or threatened to post inappropriate, unwanted, or personal information about someone	○	○	○	○	○

51. Please indicate if one person has ever done any of the following that caused you to have a substantial emotional response or fear for your safety or the safety of someone close to you. Select all that apply.

- ☐ Followed you around and/or watched you
- ☐ Sneaked into your home, car, or any other place and did unwanted things to let you know they had been there
- ☐ Waited for you at your home, work, school, or any other place when you did not want them to
- ☐ Showed up, rode, or drove by places where you were when they had no business being there
- ☐ Left or sent unwanted cards, letters, presents, flowers, or other items
- ☐ Harassed or repeatedly asked your friends or family about your whereabouts
- ☐ None of the above

52. The following statements are provided about general views you may have of yourself. Remember that your responses cannot be connected to you. Think of how you view yourself now and not how you would like to be. Please indicate the extent to which you agree with the statements provided.

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
I often act on the spur of the moment without stopping to think.	○	○	○	○
I don't devote much thought and effort to preparing for the future.	○	○	○	○
I often do whatever brings me pleasure here and now, even at the cost of some distant goal.	○	○	○	○
I'm more concerned with what happens to me in the short run than in the long run.	○	○	○	○
I frequently try to avoid projects that I know will be difficult.	○	○	○	○
I breathe daily.	○	○	○	○
When things get complicated, I tend to quit or withdraw.	○	○	○	○
The things in life are easiest to do bring me the most pleasure.	○	○	○	○
I dislike really hard tasks that stretch my abilities to the limit.	○	○	○	○
I like to test myself every now and then by doing something a little risky.	○	○	○	○
Sometimes I will take a risk just for the fun of it.	○	○	○	○
I sometimes find it exciting to do things for which I might get in trouble.	○	○	○	○
Excitement and adventure are more important to me than security.	○	○	○	○

53. Continue to think of how you view yourself now and not how you would like to be. Please indicate the extent to which you agree with the statements provided.

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
If I had a choice, I would almost always rather do something physical than something mental.	○	○	○	○

I almost always feel better when I am on the move than when I am sitting and thinking.	○	○	○	○
I like to get out and do things more than I like to read or contemplate ideas.	○	○	○	○
I seem to have more energy and a greater need for activity than most other people my age.	○	○	○	○
I try to look out for myself first, even if it means making things difficult for other people.	○	○	○	○
I'm not very sympathetic to other people when they are having problems.	○	○	○	○
If things I do upset people, it is their problem not mine.	○	○	○	○
Please select Somewhat Disagree.	○	○	○	○
I will try to get the things I want even when I know it is causing problems for other people.	○	○	○	○
I lose my temper pretty easily.	○	○	○	○
Often, when I'm angry at people I feel more like hurting them than talking to them about why I am angry.	○	○	○	○
When I'm really angry, other people better stay away from me.	○	○	○	○
When I have a serious disagreement with someone, it is usually hard for me to talk calmly about it without getting upset.	○	○	○	○

This last section asks about your opinions regarding specific online behaviors.

54. How harmful do you consider internet trolling is to the intended target or other observers?

Trolling is trying to get a rise out of someone via wise-crackery, posting incorrect information, asking blatantly stupid questions, or other foolishness via the internet.

- o Not at all harmful
- o A little harmful
- o Quite harmful
- o Extremely harmful
- o I am not sure

(If Not at all harmful, skip to question 56)

55. Why do you believe trolling is not harmful?

56. Please indicate the extent to which you agree with each of the following statements about cyberstalking.

Cyberstalking is the repeated pursuit of an individual using communication technologies that would cause a reasonable person to feel fear or have a substantial emotional response.

	Totally False	Somewhat False	Both True and False	Somewhat True	Totally True	Unsure
Most people who get cyberstalked deserve it.	○	○	○	○	○	○
Cyberstalking is a problem for my age group (18-25).	○	○	○	○	○	○
I can understand why someone would cyberstalk others.	○	○	○	○	○	○
I think cyberstalkers should be punished.	○	○	○	○	○	○
Cyberstalkers don't mean to hurt anyone.	○	○	○	○	○	○
Being cyberstalked is no big deal.	○	○	○	○	○	○

Please take a moment to answer a few final questions regarding the questionnaire.

57. How difficult were the questions to understand?
- ○ Extremely difficult
- ○ Moderately difficult
- ○ Slightly difficult
- ○ Neither easy nor difficult
- ○ Slightly easy
- ○ Moderately easy
- ○ Extremely easy

58. How distressing was it to answer questions about your personal experiences?
- ○ Not at all distressing
- ○ A little distressing
- ○ Somewhat distressing
- ○ Very distressing
- ○ Extremely distressing

Thank you for completing the questionnaire!

If you feel like you need immediate assistance, the Victim Connect Helpline provides information and referrals for victims of all crime and can be reached at 855-484-2846.

Please enter this code on MTurk to be paid: 08_02_CybEr

Appendix C: Survey Items Used to Construct Variables

Variables	Survey Items, Coding, and Cronbach's α
Dependent Variable	
Cyberstalking victimization	*In the past 12 months…Please indicate if, to your knowledge, you have experienced any of the following contacts or behaviors from one person.* Contact or attempted contact. Persistent harassment or annoyance. Sexual advances. Threats of harm. Spied on or monitored activities (using technologies such as a listening device, camera, or computer of cell phone monitoring software). Whereabouts tracked (using an electronic tracking device or application, such as a GPS or an application on your cell phone). Inappropriate, unwanted, or personal posts or threatened posts (including private photographs, videos, or spreading rumors). *To your knowledge, in the past 12 months, how many times did each unwanted contact or behavior occur from the same person?* *Did you experience a substantial emotional response because someone engaged in unwanted contact/behavior?* *Did you fear for your safety or the safety of someone close to you because someone engaged in unwanted contact/behavior.* Responses coded as: 0 = Nonvictim, 1 = Victim
Independent Variables	
Target Vulnerability	
Age	*What is your age?* Responses coded as: 18 – 25
Disability	*Have you ever been professionally diagnosed with a disability?* Responses coded as: 0 = No, 1 = Yes
Student Status	*Please indicate which of the following best describes you.* Responses coded as: 0 = College or university student (reference), 1 = Not a student, 2 = Other type of student
Educational Attainment	*What is the highest level of education you have completed?*

Variables	Survey Items, Coding, and Cronbach's α
	Responses coded as: 0 = High school diploma (reference), 1 = Associate's degree, 2 = Bachelor's degree, 3 = Graduate or professional degree, 4 = None of the above
Amount of Time Online Daily	*On average, how much time do you actively spend online each day?* Responses coded as: 1 – 16
Online Privacy Settings	*What privacy settings do you have in place, in general, for your online accounts?* Responses coded as: 0 = Private, 1 = Mostly private, 2 = Mostly public, 3 = Public (reference)
Number of Photos/Videos Posted	*How many pictures and/or videos of yourself would you estimate that you have posted on your Social Network Sites or Social Media Apps?* *How many pictures and/or videos of yourself would you estimate that you have posted on your Professional Network Sites?* *How many pictures and/or videos of yourself would you estimate that you have posted on your Dating Websites or Apps?* Responses coded as: 0 – 24
Online Connections	*Approximately how many connections (e.g., friends, followers) do you estimate you have on all of your online accounts combined?* Responses coded as: 1 – 11
Impulsivity	*Please indicate the extent to which you agree with the statements provided.* I often act on the spur of the moment without stopping to think. I don't devote much thought and effort to preparing for the future. I often do whatever brings me pleasure here and now, even at the cost of some distant goal. I am more concerned with what happens to me in the short run than the long run. Responses coded as: 0 = Strongly Agree to 3 = Strongly Disagree Cronbach's α = .806
Target Gratifiability	
Gender Identity	*Which best describes your gender identity?* Responses coded as: 0 = Man (reference), 1 = Woman, 2 = Other
Sexual Orientation	*Which best describes your sexual orientation?* Responses coded as: 0 = Heterosexual (reference), 1 = Gay or lesbian, 2 = Bisexual, 3 = Other
Type of Photos/Videos Posted	*How would you describe the pictures and/or videos of yourself that you have posted on your Social Network Site or Social Media Apps? Please indicate the percentage of each type.*

Variables	Survey Items, Coding, and Cronbach's α
	How would you describe the pictures and/or videos of yourself that you have posted on your Professional Network Sites? Please indicate the percentage of each type. *How would you describe the pictures and/or videos of yourself that you have posted on your Dating Websites or Apps? Please indicate the percentage of each type.* Responses coded as: 0 – 100
Sexting	*Please indicate if you have ever done any of the following using communication technologies.* Sent sexually explicit images, videos, or texts to someone. Received sexually explicitly images, videos, or texts from someone. Responses coded as: 0 = No sexting, 1 = Sexting Cronbach's α = .855
Target Antagonism	
Trolling	*In the past 12 months, have you purposefully upset someone line with the intent to trigger an emotional response?* *In the past 12 months, have you purposefully started an argument online with the intent to trigger an emotional response?* Responses coded as: 0 = No trolling, 1 = Trolling
Hacking	*Please indicate if you have ever done any of the following using communication technologies.* Downloaded music or movies without paying for them. Responses coded as: 0 = No hacking, 1 = Hacking
Cyberbullying Perpetration	*Have you ever repeatedly made fun of someone online, repeatedly picked on someone online, or posted something about someone online that they did not like?* Responses coded as: 0 = Not cyberbullying perpetration, 1 = Cyberbully perpetration
Cyberstalking Perpetration	*How many times have you done any of the following using communication technologies towards the same person? Please select all that apply.* Contacted or attempted to contact someone. Persistently harassed or annoyed someone. Made unwanted sexual advances. Threatened physical harm. Spied on or monitored someone's activities. Tracked someone's whereabouts.

Variables	Survey Items, Coding, and Cronbach's α
	Posted or threatened to post inappropriate, unwanted, or personal information about someone. Responses coded as: 0 = Not cyberstalking perpetration, 1 = Cyberstalking perpetration Cronbach's α = .824
Race	*Which of the following best describes you?* Responses coded as: 0 = Non-White, 1 = White
Citizenship Status	*Are you a United States citizen?* Responses coded as: 0 = Not a United States citizen, 1 = United States citizen
Relationship Status	*What is your current primary relationship status?* Responses coded as: 0 = Single (reference), 1 = Casually dating, 2 = Serious relationship, 3 = Married/civil union/domestic partnership/cohabitation, 4 = Divorced/separated/widowed
Employment Status	*Which best describes your current employment status?* Responses coded as: 0 = Full-time (reference), 1 = Part-time, 2 = Unemployed
Self-centeredness	*Please indicate the extent to which you agree with the statements provided.* I try to look out for myself first, even if it means making things difficult for other people. I'm not very sympathetic to other people when they are having problems. If things I do upset people, it's their problem not mine. I will try to get the things I want even when I know it's causing problems for other people. Responses coded as: 0 = Strongly Agree to 3 = Strongly Disagree Cronbach's α = .793
Temper	*Please indicate the extent to which you agree with the statements provided.* I lose my temper pretty easily. Often, when I'm angry at people I feel more like hurting them than talking to them about why I am angry. When I'm really angry other people better stay away from me. When I have a serious disagreement with someone, it is usually hard for me to talk calmly about it without getting upset. Responses coded as: 0 = Strongly Agree to 3 = Strongly Disagree Cronbach's α = .786
Control Variables	
Offline Stalking Victimization	*Please indicate if one person has ever done any of the following that caused you to have a substantial emotional response or fear for your safety or the safety of someone close to you.*

Variables	Survey Items, Coding, and Cronbach's α
	Followed you around and/or watched you. Sneaked into your home, car, or any other place and did unwanted things to let you know they had been there. Waited for you at your home, work, school, or any other place when you did not want them to. Showed up, rode, or drove by places where you were when they had no business being there. Left or sent unwanted cards, letters, presents, flowers, or other items. Harassed or repeatedly asked your friends or family about your whereabouts. None of the above. Responses coded as: 0 = Nonvictim, 1 = Victim Cronbach's α = .755
Cyberbullying Victimization	*Has someone ever repeatedly made fun of you online, repeatedly picked on you online, or posted something about you online that you did not like?* Responses coded as: 0 = Nonvictim, 1 = Victim

Appendix D: Collinearity Diagnostics

Variable	VIF	Tolerance
Target Vulnerability		
Age	1.39	0.72
Disability	1.15	0.87
Student Status		
Undergraduate student (reference)	--	--
High, trade, or vocational school student	1.11	0.90
Not a student	1.28	0.78
Educational Attainment		
High school degree (reference)	--	--
Undergraduate degree	1.25	0.80
Graduate or professional degree	1.26	0.80
Amount of time online daily	1.11	0.90
Online privacy settings		
Private	1.35	0.74
Mostly private	1.30	0.77
Mostly public	1.16	0.86
Public (reference)	--	--
Number of photos/videos posted	2.03	0.49
Online connections	1.21	0.83
Impulsivity	1.47	0.68
Target Gratifiability		
Gender identity		
Woman	1.38	0.73
Man (reference)	--	--
Other	1.32	0.76
Sexual orientation		
Heterosexual/straight (reference)	--	--
Gay/Lesbian	1.10	0.91
Bisexual	1.20	0.83
Other	1.21	0.83
Type of photos/videos posted		
Flirty/seductive	2.01	0.48
Silly/fun	1.27	0.79
Professional	1.22	0.82
Selfies	1.10	0.91
Family and friends	1.07	0.94
Hobbies	1.12	0.89
Other	1.06	0.94
Sexting	1.32	0.76
Target Antagonism		
Trolling	1.26	0.79
Hacking	1.24	0.81

Variable	VIF	Tolerance
Cyberbullying perpetration	1.35	0.74
Cyberstalking perpetration	1.23	0.81
Race (White)	1.15	0.87
Citizenship status	1.05	0.96
Relationship status		
Single	1.22	0.82
Casually dating (reference)	--	--
Serious relationship	1.50	0.67
Married/Civil Union	1.54	0.65
Employment status		
Full-time employment (reference)	--	--
Part-time employment	1.48	0.67
Unemployed	1.48	0.68
Self-centeredness	1.60	0.63
Temper	1.49	0.67
Control Variables		
Offline stalking victimization	1.22	0.82
Cyberbullying victimization	1.33	0.75

Appendix E: Binary Logistic Regression Models with Pursued-Pursuer Variable

Table E1: Binary Logistic Regression for Target Congruence Elements on Cyberstalking Victimization with Pursued-Pursuer Variable

	Model 1: Target Vulnerability			Model 2: Target Gratifiability			Model 3: Target Antagonism		
	B *(S.E.)*	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**
Target Vulnerability									
Age	-0.13** (0.42)	0.88	0.81-0.95						
Disability	0.41* (0.19)	1.50	1.04-2.17						
Student Status *(University student)*									
High, trade, vocational school student	0.46 (0.34)	1.58	0.82-3.09						
Not a student	-0.03 (0.16)	0.98	0.72-1.32						
Educational Attainment *(High school degree)*									
Undergrad degree	0.05 (0.15)	1.05	0.78-1.41						
Graduate or professional degree	0.12 (0.36)	1.12	0.56-2.28						
Amount of time online daily	0.02 (0.02)	1.02	0.98-1.06						
Online privacy settings *(Public)*									
Private	0.34 (0.35)	1.41	0.72-2.77						
Mostly private	0.10 (0.34)	1.10	0.57-2.13						
Mostly public	0.08 (0.37)	1.08	0.53-2.20						
Number of photos/videos posted	0.07** (0.02)	1.08	1.03-1.13						
Online connections	0.01 (0.02)	1.01	0.97-1.05						
Impulsivity	0.05* (0.02)	1.05	1.00-1.10						
Target Gratifiability									
Gender identity *(Man)*									
Woman				0.48** (0.17)	1.61	1.15-2.26			
Other				0.89** (0.38)	2.44	1.17-5.08			
Sexual orientation *(Heterosexual)*									
Gay/Lesbian				-0.26 (0.34)	0.77	0.40-1.51			
Bisexual				0.21 (0.20)	1.23	0.83-1.81			
Other				0.27 (0.31)	1.31	0.72-2.38			
Type of photos/videos posted									
Flirty/seductive				0.07*** (0.01)	1.07	1.04-1.09			
Silly/fun				0.02 (0.01)	1.02	1.00-1.05			
Professional				0.01 (0.00)	1.01	1.00-1.01			
Selfies				0.16 (0.63)	1.17	0.34-3.99			
Family and friends				0.07 (0.65)	1.08	0.30-3.85			
Hobbies				0.06 (0.04)	1.07	0.98-1.16			

Table E1: Binary Logistic Regression for Target Congruence Elements on Cyberstalking Victimization with Pursued-Pursuer Variable (cont.)

	Model 1: Target Vulnerability			**Model 2: Target Gratifiability**			**Model 3: Target Antagonism**		
	B *(S.E.)*	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**	**B *(S.E.)***	**OR**	**95% CI**
Other				2.16* (0.91)	8.70	1.46-51.93			
Sexting				0.27 (0.15)	1.30	0.97-1.75			
Target Antagonism									
Trolling							0.20 (0.20)	1.22	0.82-1.80
Hacking							-0.09 (0.18)	0.91	0.64-1.31
Cyberbullying perpetration							-0.09 (0.29)	0.92	0.53-1.61
Cyberstalking perpetration							0.74*** (0.15)	2.09	1.57-2.78
Race *(White)*							-0.21 (0.15)	0.82	0.61-1.09
Citizenship status							0.38 (0.57)	1.47	0.48-4.49
Relationship status *(Casually dating)*									
Single							-0.63** (0.26)	0.53	0.32-0.88
Serious relationship							-0.45 (0.26)	0.63	0.38-1.04
Married/civil union							-0.93*** (0.28)	0.40	0.23-0.69
Employment status *(Full-time)*									
Part-time							0.18 (0.16)	1.20	0.87-1.65
Unemployed							-0.11 (0.18)	0.90	0.63-1.28
Self-centeredness							-0.00 (0.03)	1.00	0.94-1.05
Temper							-0.05* (0.03)	0.95	0.90-1.00
Control Variables									
Offline stalking victimization	1.51*** (0.17)	1.05	3.26-6.39	1.32*** (0.17)	3.76	2.67-5.28	1.46*** (0.17)	4.32	3.08-6.08
Cyberbullying victimization	0.61*** (0.16)	1.83	1.33-2.53	0.74*** (0.17)	2.09	1.51-2.89	0.70*** (0.17)	2.01	1.44-2.81
Victim-Pursuer Relationship	0.27* (0.15)	2.86	0.60-1.07	-0.31* (0.15)	0.73	0.55-0.98	-0.20 (0.15)	0.82	0.61-1.09
Constant	1.30 (1.00)	3.65		-1.87*** (0.27)	0.15		-0.33 (0.65)	0.72	
-2 Log-likelihood	1236.77			1207.01			1221.51		
Model χ^2	201.53***			231.30***			216.79***		
Nagelkerke R^2	0.24			0.27			0.25		
N	1,043			1.043			1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

Table E2: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization with Pursued-Pursuer Variable

	B *(S.E.)*	OR	95% CI
Target Vulnerability			
Age	-0.11** (0.05)	0.89	0.81-0.98
Disability	0.37 (0.21)	1.44	0.97-2.15
Student Status *(Undergraduate student)*			
High, trade, or vocational school student	0.47 (0.38)	1.60	0.76-3.38
Not a student	0.18 (0.17)	1.20	0.85-1.68
Educational Attainment *(High school degree)*			
Undergrad degree	-0.09 (0.17)	0.92	0.66-1.27
Graduate or professional degree	-0.19 (0.40)	0.83	0.38-1.80
Amount of time online daily	0.01 (0.02)	1.01	0.97-1.06
Online privacy settings *(Public)*			
Private	0.39 (0.36)	1.47	0.73-2.99
Mostly private	0.11 (0.35)	1.12	0.56-2.23
Mostly public	0.04 (0.38)	1.04	0.49-2.21
Number of photos/videos posted	-0.01 (0.03)	0.99	0.93-1.06
Online connections	0.02 (0.02)	1.02	0.98-1.07
Impulsivity	0.02 (0.03)	1.02	0.96-1.08
Target Gratifiability			
Gender identity *(Man)*			
Woman	0.63*** (0.19)	1.88	1.30-2.73
Other	0.79* (0.40)	2.20	1.01-4.79
Sexual orientation *(Heterosexual)*			
Gay/Lesbian	-0.17 (0.36)	0.85	0.42-1.70
Bisexual	0.15 (0.21)	1.16	0.76-1.76
Other	0.24 (0.33)	1.27	0.67-2.41
Type of photos/videos posted			
Flirty/seductive	0.06*** (0.01)	1.06	1.03-1.06
Silly/fun	0.02 (0.01)	1.02	1.00-1.05
Professional	0.01 (0.00)	1.01	1.00-1.02
Selfies	0.24 (0.66)	1.27	0.35-4.65
Family and friends	0.10 (0.67)	1.11	0.30-4.13
Hobbies	0.05 (0.05)	1.05	0.96-1.15
Other	1.86* (0.96)	6.43	0.98-42.09
Sexting	0.10 (0.16)	1.11	0.80-1.52
Target Antagonism			
Trolling	0.15 (0.22)	1.16	0.76-1.77
Hacking	-0.21 (0.20)	0.81	0.55-1.19
Cyberbullying perpetration	-0.13 (0.31)	0.88	0.48-1.61
Cyberstalking perpetration	0.74*** (0.16)	2.10	1.55-2.86
Race *(White)*	-0.22 (0.16)	0.80	0.58-1.10
Citizenship status	0.55 (0.59)	1.74	0.54-5.26

Table E2: Binary Logistic Regression for Target Congruence on Cyberstalking Victimization with Pursued-Pursuer Variable (cont.)

	B *(S.E.)*	**OR**	**95% CI**
Relationship status *(Casually dating)*			
Single	-0.40 (0.28)	0.67	0.39-1.16
Serious relationship	-0.07 (0.29)	0.93	0.53-1.64
Married/civil union	-0.50 (0.33)	0.61	0.32-1.16
Employment status *(Full-time)*			
Part-time	0.19 (0.19)	1.21	0.84-1.75
Unemployed	0.03 (0.21)	0.97	0.65-1.46
Self-centeredness	-0.00 (0.03)	1.00	0.94-1.06
Temper	-0.03 (0.03)	0.98	0.92-1.03
Controls			
Offline stalking victimization	1.34*** (0.18)	3.82	2.66-5.47
Cyberbullying victimization	0.66*** (0.19)	1.93	1.34-2.79
Victim-Pursuer Relationship	-0.32* (0.16)	1.38	1.01-1.88
Constant	-0.40 (1.33)	0.90	
-2 Log-likelihood	1153.08		
Model χ^2	285.22***		
Nagelkerke R^2	0.32		
N	1,043		

*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$

Note: Italicized categories in parentheses represent the reference group

Appendix F: Descriptive Statistics for Pursued-Pursuer Subsamples

	Known Pursuer		Stranger Pursuer	
Variable	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
Dependent Variable				
Cyberstalking victimization	0.49	0.50	0.39	0.49
Independent Variables				
Target Vulnerability				
Age	22.83	1.83	22.69	1.80
Disability	0.18	0.38	0.18	0.38
Student Status				
Undergraduate student (reference)	0.61	0.49	0.59	0.49
High, trade, or vocational school student	0.06	0.24	0.04	0.19
Not a student	0.33	0.47	0.37	0.48
Educational Attainment				
High school degree (reference)	0.49	0.50	0.52	0.50
Undergraduate degree	0.45	0.50	0.44	0.50
Graduate or professional degree	0.07	0.25	0.04	0.19
Amount of time online daily	6.29	3.27	6.41	3.17
Online privacy settings				
Public (reference)	0.05	0.22	0.06	0.23
Mostly public	0.15	0.35	0.18	0.38
Mostly private	0.45	0.50	0.44	0.50
Private	0.35	0.48	0.33	0.47
Number of photos/videos posted	5.67	3.92	5.31	2.86
Online connections	5.30	3.78	5.75	4.02
Impulsivity	4.50	3.10	4.35	2.93
Target Gratifiability				
Gender identity				
Man (reference)	0.30	0.46	0.25	0.43
Woman	0.65	0.48	0.71	0.46
Other	0.05	0.22	0.04	0.20
Sexual orientation				
Heterosexual/straight (reference)	0.72	0.45	0.73	0.44
Gay/Lesbian	0.05	0.21	0.05	0.22
Bisexual	0.16	0.36	0.18	0.38
Other	0.07	0.26	0.04	0.20
Type of photos/videos posted				
Flirty/Seductive	4.93	10.97	4.06	6.73
Silly/Fun	10.67	6.28	11.19	6.29
Professional	20.68	18.26	22.42	18.15

Variable	Known Pursuer		Stranger Pursuer	
	Mean	Standard Deviation	Mean	Standard Deviation
Selfies	0.03	0.10	0.04	0.13
Family and friends	0.02	0.11	0.03	0.12
Hobbies	0.82	1.55	0.83	1.76
Other	0.01	0.07	0.02	0.11
Sexting	0.61	0.49	0.59	0.49
Target Antagonism				
Trolling	0.18	0.38	0.17	0.37
Hacking	0.22	0.41	0.17	0.38
Cyberbullying perpetration	0.11	0.31	0.05	0.23
Cyberstalking perpetration	0.50	0.50	0.46	0.50
Race (White)	0.64	0.48	0.67	0.47
Citizenship status	0.98	0.14	0.99	0.09
Relationship status				
Single	0.28	0.45	0.40	0.49
Casually dating (reference)	0.09	0.28	0.10	0.31
Serious relationship	0.44	0.50	0.30	0.46
Married/Civil Union	0.19	0.39	0.20	0.40
Employment status				
Full-time employment (reference)	0.41	0.49	0.34	0.47
Part-time employment	0.33	0.47	0.39	0.49
Unemployed	0.25	0.43	0.27	0.44
Self-centeredness	7.83	3.00	7.64	2.95
Temper	7.60	3.12	8.31	2.67
Control Variables				
Offline stalking victimization	0.31	0.46	0.16	0.37
Cyberbullying victimization	0.28	0.45	0.27	0.44

Appendix G: Mechanical Turk Recruiting

Title: Answer a survey about your online experiences

Description: Complete a questionnaire about behaviors and interactions via communication technologies. Answer demographic questions in addition to questions about behaviors, contacts, and interactions you may have experienced via electronic communication technologies.

Keywords: survey, demographics, cyber, academic