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

It is entitled:

Fear of Crime Online: Examining the Effects of Online Victimization and Perceived Risk on Fear of Cyberstalking Victimization

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by

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Fear of Crime Online: Examining the Effects of Online Victimization and Perceived Risk on Fear of Cyberstalking Victimization

Fear of crime research has continued to grow over the last 40 years. However, while fear of crime continues to be a major variable of interest among researchers, little effort has been made to appropriately incorporate fear of crime into the study of online victimization. To date, there have been no empirical, academic studies that focus specifically on the prevalence of fear of cybercrime. Additionally, there has only one study which has attempted to examine any predictors of fear of cybercrime (Higgins et al., 2006). As a result, very little is known about fear of online victimization. The purpose of this dissertation was to continue to develop the fear of crime literature by examining the extent of fear of cyberstalking victimization, as well as the factors that serve as predictors for fear of cyberstalking. Utilizing data from a large sample of undergraduate students from the University of Cincinnati, the current study analyzed both the extent of fear of cyberstalking victimization and the link between cyberstalking victimization, perceived risk of cyberstalking victimization, and fear of cyberstalking victimization. As reported by this study, a large number of individuals are afraid of experiencing cyberstalking victimization. Further, gender, relationship status, type of offender, and frequency of pursuit behaviors have a major impact on the levels of reported fear of cyberstalking victimization. As with previous fear of crime research, cyberstalking victimization and perceived risk of cyberstalking victimization are also both key predictors of fear of cyberstalking victimization. The similarities and differences between fear of traditional street crime and cybercrime and possible directions for future research are also discussed.

DEDICATION

This dissertation is dedicated to my niece Emily Taylor.

Never give up on your dreams.

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CHAPTER 1: FEAR OF CRIME

Crime has a unique place in American culture. While few people would admit that they enjoy hearing about crime, actions speak much louder than words. Crime is consistently the central premise of many of the highest grossing movies, highest rated television shows, bestselling books, and most popular video games in the United States. Among television and Internet news sources, stories of criminal events typically get the lead and are frequently rated as the most viewed. Crime truly fascinates us. Best stated by Warr (2000), "As condensed and emblematic accounts of human conflict, [criminal events] raise profound questions about the nature and sources of human motivation, the misfortune of fellow humans, the ability of the state to maintain social order, and, ultimately, the presence or absence of justice in human affairs" (p. 452). However, while crime has the ability to fascinate, it also has the ability to terrify. Those same shows and news stories that keep people glued to their television sets also make many too afraid to leave their homes. People frequently change their behaviors, activities, and even places of residence because of their fear of crime (Katzenback et al., 1967; May, 2010). Given the dichotomous nature of our reactions to crime, it is easy to see why research on the fear of crime continues to capture the attention of both scholars and policymakers.

Birth of Fear of Crime Research

The fear associated with crime is not a new phenomenon. As long as there has been crime, people have been afraid of it. However, fear of crime has not always been a common topic of research in mainstream criminology. Before the late 1960s, no published studies were produced describing the extent or consequence of fear of crime. It is not clear as to why fear of crime research received such little attention from criminologists. It may have been that most

researchers believed the effects of actual victimization far outweighed any potential consequences that fear may produce. Or, fear of crime may have been seen as an artifact of direct victimization and that by reducing the likelihood of victimization, fear would also subside. Or, it may be that no one wanted the task of trying to define and operationalize fear. Whatever the reason, fear of crime remained absent from criminological research for the better part of its history.

During the early 1960s, the U.S. began to experience something it had not for a quite some time—a growing crime rate. In addition, civil unrest in urban areas had become a national phenomenon. Images of protesters and police battling in the streets were presented by every news organization in the country. By 1965, public opinion polls began identifying crime as the nation's biggest problem (Hilbink, 2006). As a result, law and order became one of the central topics of the 1964 presidential election. After winning the election, President Lyndon Johnson vowed to take on the crime problem gripping America. On July 23, 1965 he created the Commission on Law Enforcement and Administration of Justice in an effort to help understand and eradicate the Nation's crime problem (Hilbink, 2006).

The main task of the Commission was to analyze the current state of knowledge of crime and law enforcement in the United States. Based on their analysis, the Commission produced a report entitled "The Challenge of Crime in a Free Society." The report contained information from dozens of studies performed in cities all over the U.S. examining topics such as general crime prevalence, juvenile delinquency, drug abuse, police actions, and science and technology. The studies utilized methodologies and data collection techniques that had rarely ever been attempted at the national level, such as the administration of self-report surveys (Katzenback et al., 1967). In time, the report would have a monumental impact on the field of criminal justice.

Recommendations outlined by the report would lead to numerous major developments in research topics, instruments, and ideologies. It was the inclusion of national-level studies and recommendations for improved methods of crime measurement that lead to the creation of the National Crime Survey—now known as the National Crime Victimization Survey (Rand, 2005).

In addition to its impact on victimization research, an argument can easily be made that the Commission's report sparked the birth of modern fear of crime research. It was one of the first research-based documents to stress the importance and consequences of fear of crime. As stated in the report (Katzenback et al., 1967):

> The most damaging of the effects of violent crime is fear, and that fear must not be belittled. Suddenly becoming the object of a stranger's violent hostility is as frightening as any class of experience. A citizen who hears rapid footsteps behind him as he walks down a dark and otherwise deserted street cannot be expected to calculate that the chance of those footsteps having a sinister meaning is only one in a hundred or in a thousand or, if he does make such a calculation to be calmed by its results. Any chance at all is frightening. (p. 3)

Further, studies cited in the report uncovered several phenomena that were previously unknown or simply overlooked within the field of criminology. For example, the results of the studies indicated that the general public is most afraid of crime that occurs the least frequently (e.g. violent crime). Further, many individuals' habits and behaviors are directly influenced by their fear of crime. Finally, in direct opposition to the beliefs of many early criminologists, fear of crime is not limited only to those individuals who have had direct experience with victimization (Katzenback et al., 1967). Fear of crime is a widespread issue; it is not simply an artifact of victimization itself.

Not long after the Commission on Law Enforcement and Administration of Justice's report was made available to the public, scholarly articles examining the fear of crime began to be published. Throughout the 1970s, fear of crime articles sporadically appeared in academic journals. The majority of those studies typically focused on the bivariate relationship between individual descriptive characteristics (e.g. gender, race, age) and fear of crime (see Balkin, 1979; Baumer, 1978; Brooks, 1974; Clemente & Kleiman, 1977; Erskine, 1974; Garofalo & Laub, 1978). One exception, however, was Skogan et al.'s (1982) five year "Reactions to Crime (RTC) Project" conducted with the Center for Urban Affairs and Policy Research and the National Institute of Justice. Utilizing survey data from 1975 to 1980, the goal of the study was to examine how crime affected the attitudes and behaviors of individuals in urban areas, especially in regards to fear of crime. Some of the more important findings of the project include: 1) indirect experience with crime explains some of the variation in fear of crime, 2) individuals with low rates of victimization (such as women) may still have high levels of fear of crime, and 3) direct victimization is strongly associated with fear of crime (Skogan et al., 1982).

In the 1980s, researchers continued to study fear of crime, producing academic articles much more frequently than in the previous decade. In addition to being produced more regularly, many fear of crime studies moved beyond examining bivariate relationships between descriptives and fear of crime. Academic articles were produced focusing on the link between actual victimization and fear of crime (Skogan, 1987), the relationship between perceived risk and fear of crime (Garofalo, 1981; LaGrange & Ferraro, 1989; Warr, 1984; Warr & Stafford, 1983), and the impact of interaction effects on fear of crime (Baumer, 1985). By the end of the 1980s, fear of crime research was steadily solidifying a place as a prominent topic of criminological research.

Throughout the 1990s and 2000s, it has become more conventional to develop and test comprehensive models in an effort to explain variation in the fear of crime. For example, the use of multivariate models has become commonplace with fear of crime research (for examples, see Ferraro, 1995; Fisher & May, 2009; Smith & Hill, 1991; Wilcox Rountree, 1998). Further, numerous scholars now focus on multilevel models, examining the influence of both individual and community effects on the prevalence of fear of crime (Wilcox Rountree, 1998; Wyant, 2008). In addition, recent research has also begun to look at the link between victims and offenders (Melde & Esbensen, 2009), the prevalence of fear of crime among specific populations, such as high school and college students (Fisher & May, 2009; Swartz, Reyns, Henson, & Wilcox, 2010; Wallace and May, 2005; Wilcox, May, & Roberts, 2006), and fear caused by specific types of offenders (Barberet, Fisher, & Taylor, 2004; Wilcox, Jordan, & Pritchard, 2007).

Defining and Measuring Fear of Crime

Fear is an emotional reaction produced mainly within the amygdalae (Adolphs, Tranel, Damasio, & Damasio, 1995; LeDoux, 1998). The amygdalae are two small, almond-shaped masses of nuclei located deep within the medial temporal lobes of the brain. These areas are integral for the processing of emotional response, especially fear, anxiety, and stress. With a healthy brain, once an aversive stimulus is presented, the amygdalae transmit signals through synapses to other networks within the limbic system which directly influence a number of functions including emotion, memory, and behavior. Over time, the brain develops conditioned responses through direct and indirect experiences and stores them as memories (Adolphs, Tranel, Damasio, & Damasio, 1995; LeDoux, 1998). These responses may be emotional, physical, or

both—such as increased heart rate, dry mouth, nervousness, and increased alertness. Of all the emotions experienced by human beings, few parallel the effects of fear. Though fear has the ability to petrify by keeping individuals in a perpetual state of panic and terror, it also has the ability to protect by making individuals take caution in potentially dangerous situations (Warr, 2000).

When discussing fear of crime, the criminal event serves as the initial aversive stimulus that produces fear. It may be a direct experience—such as an individual robbing you at gun point, or it may simply be a perception—such as the belief that someone may be hiding around the corner, waiting to rob you. Fear is not a perception, belief, or evaluation. Rather, it is a response to perceptions, beliefs, and/or evaluations (Warr, 2000). For example, an individual walking by a dark alley is not afraid just because the alley is there. Instead, they perceive that alley as potentially dangerous based on previous direct or indirect experiences, and their reaction to that belief is fear.

Unfortunately, the description provided above is not a simple one to convey to research participants. As a result, one of the most problematic aspects of fear of crime research has been how best to define fear (Skogan, 1993). There are certain definitions that are cited more frequently than others, such as that proposed by Ferraro and LaGrange (1987, p. 73) which states "fear of crime refers to the negative emotional reaction generated by crime or symbols associated with crime." With the majority of research studies, however, there has been little wide-spread consistency in the definition and especially the measurement of fear of crime. Further confounding the issue, other terms are frequently used in the place of fear, such as trust, safety, worry, or even stress. This issue is one of major consequence according to some researchers. For example, Warr stated (1984, p. 681), "the phrase "fear of crime" has acquired so many

divergent meanings in the literature that it is in danger of losing any specificity whatsoever." For other researchers, the issue of defining fear of crime is not so dire. According to Skogan (1993, p 131) "this apparent heterogeneity of meaning simply reflects the fact that fear of crime is a general concept." It may be more efficient and appropriate to focus on how to validly and reliably measure fear of crime.

Issues with Previous Fear of Crime Measures

As suggested by the Commission on Law Enforcement and Administration of Justice (1967), the use of self-report surveys have become one of most common methods of measuring crime, victimization, and other related topics. This is especially true for fear of crime research. Over the last several decades, the self-report survey has become the standard for measuring fear of crime, utilized in study after study (e.g. Clemente & Kleiman, 1977; Farrall & Gadd, 2004; Keane, 1995; Melde, 2009; Smith & Hill, 1991; Taylor & Hale, 1986; Warr, 1984; Woolnough, 2009). Consequently, however, the questions used by researchers to measure fear of crime have varied dramatically, a cross sample of such measures can be seen in Appendix A. A careful examination of the various measures used brings to light a number of measurement issues. Many of these will be discussed below, including the failure to actually measure crime, the use of formless measures of fear, the use of context-specific measures, the failure to differentiate between perceived risk and fear, and the lack of measures of fear intensity.

Failure to Measure Crime

For much of the early history of fear of crime research, the most commonly used measures were those borrowed from the National Crime Survey (NCS) and the General Social

Survey (GSS). First initiated well over a quarter of a century ago, these were two of the first surveys that attempted to measure fear of crime among the general population. As alluded to previously, the NCS is a self-report survey administered to a nationally representative sample of respondents, with the aim of measuring victimization. Inspired by the studies used by the President's Commission on Law Enforcement and Administration of Justice (1967), the NCS was not only one of the first victimization surveys, but it also remains as the primary source for nationally representative victimization statistics in the U.S. (Bureau of Justice Statistics, 2011). The GSS is also a self-report survey administered to a nationally representative sample of respondents, though its central focus is measuring social change and public opinion. With the exception of the U.S. Census, the GSS is the most frequently utilized source of social sciences information in the U.S. (National Opinion Research Center, 2011).

With the NCS, fear of crime was measured with the question, "How safe do you feel or would you feel being out alone in your neighborhood at night". As discussed by Ferraro and LaGrange (1987), this was one of the most common measures for examining fear of crime throughout the 1970s and 1980s. For example, the NCS measure was used by Riger, Gordon, & Le Baily (1978), Garofolo (1979), Lewis & Maxfield (1980), Kennedy & Krahn (1984), Maxfield (1984), Taylor, Gottfredson, & Brower (1984), and Baumer (1985).

Similar to the NCS measure, the GSS examine fear of crime by asking, "Is there any place right around here—that is, within a mile—where you would be afraid to walk alone at night". This measure was also utilized in numerous research studies, such as Lebowitz (1975), Clemente & Kleiman (1976; 1977), DeFronzo (1979), Braungart, Braungart, & Hoyer (1980), Cutler (1980), Clarke & Lewis (1982), and Jeffords (1983). Still, the occasional study would utilize both measures in an attempt to more fully capture the extent of fear of crime, including

Erskine (1974), Lee (1982), and Baker, Nienstedt, Everett, & McCleary (1983). Consequently, these and other similar measures have continued to be used today, though not as predominantly.

What should be an obvious shortcoming with these early measures of fear of crime is the fact that they do not actually measure fear of crime. Unfortunately, however, this is frequently overlooked (Ferraro, 1995; Ferraro & LaGrange, 1987; Garofalo, 1979; Warr, 2000). Upon closer inspection of the NCS and GSS questions, it can be seen that neither actually mention the word "crime". They both ask about feelings of safety or fear in regards to being out alone at night. They do not ask about safety from or fear of being a victim of crime. Given the widespread use of these questions, one conclusion that can be made is that researchers assume it is obvious that these questions are referring to the threat of victimization. However, it would be unwise to assume every survey respondent would automatically make the connection. For example, an individual may be afraid to walk through an area at night with lots of construction for fear of being injured. Though they would answer "yes" to the previous questions, it would have nothing to do with crime.

The goal of every researcher who utilizes a survey as part of the data collection process is to efficiently and accurately record the experiences or opinions of respondents. To reduce the chance of systematic error in the findings as much as possible, researchers should make every effort to ensure the clarity of the measures used (Fowler, 1992). This is especially true if researchers do not provide definitions of the topics being examined. With the given topic, at the very least, it is necessary to ensure that questions are worded in a manner so that it is clearly spelled out that respondents are being asked about their specific fear of crime.

Formless versus Concrete Measures

More recently, there have been a number of studies that have attempted to overcome the problem described above by including the term "crime" in their fear questions. For example, with their study of the perceptions of crime and disorder in a nonurban setting, Crank, Giacomazzi, and Heck (2003) asked respondents about their fear of victimization. Similarly, in their research note examining the frequency of fear of crime, Farrall and Gadd (2004, p. 128) asked respondents "In the past year, have you ever felt fearful about the possibility of becoming a victim of crime?" Such measures are often referred to as "formless," as they ask respondents about generalized fear of crime (Farrall, Bannister, Ditton, & Gilchrist, 1997; Ferraro & LaGrange, 1987). Unfortunately, while an improvement over many of the previously used measures that did not specifically mention crime or victimization, the validity of these measures in accurately representing fear of crime is still questionable.

Previous research has shown that individuals are more afraid of certain crimes than they are of others. With their study examining the level of fear of specific types of crime, Warr and Stafford (1983) reported that individuals were much more afraid of being burglarized than being murdered, even though their perceived seriousness of murder was much higher. In many instances, such a crime is referred to as a "master offense." For example, rape/sexual assault is often described as a master offense for women. Numerous studies have reported that women are most afraid of sexual victimization and that fear greatly overshadows their fear of other crimes (Ferraro, 1995; 1996; Fisher & Sloan, 2003; Warr, 1984; 1985). In fact, the fear of sexual victimization often explains much of the variation between male and female levels of fear of crime (Ferraro, 1996; Fisher & Sloan, 2003). Given the influence a single type of crime may have, one could easily argue that a formless measure of general fear of crime may lack the ability

to provide an accurate understanding of the phenomenon. To that end, many argue that fear of crime research should utilize "concrete" measures of fear of crime instead (Warr, 2000).

Concrete measures are those that focus on specific crime types (Farrall et al., 1997; Ferraro & LaGrange, 1987). While any analysis would be limited only to the types of crimes being measured, the use of concrete measures have clear measurement benefits. If respondents are not provided with a specific type of crime to reference, they will select one on their own. Unfortunately, the type of crime selected would probably not be random, creating the potential for systematic error in the fear of crime measure (Ferraro & LaGrange, 1987). As such, the reliability and validity of the fear of crime measure would be questionable. Utilizing measures that specify crime type not only provides respondents with a clear reference to help them better describe their own level of fear, it may also decrease the likelihood of measurement error by ensuring that all respondents report their level of fear of the same type of crime.

Use of Context-Specific Measures

Another major measurement issue in fear of crime research is the use of context-specific questions. From the very beginning of the study of fear of crime, researchers often worded their survey questions in a manner that references specific times, locations, and/or situations (Warr, 2000). For example, the NCS and GSS measures described previously ask respondents about their fear of crime at night, outside the home, and while walking alone. While these and other similar measures may seem adequate for examining fear of crime, they are actually very

problematic and have received considerable criticism (Ferraro, 1995; Ferraro & LaGrange, 1987; Garofalo, 1979; Warr, 2000).[1]

Without a doubt, the main problem with context-specific measures of fear of crime is that any attempt to produce generalized rates of fear would be questionable at best, which makes it difficult to compare across studies. For example, both the NCS and GSS questions ask about walking alone at night. However, as reported by Lee (1982), it is often found that women are more afraid of walking alone at night than men. As a result, using the NCS or GSS measure may produce results showing that women are more afraid of crime than men, but in actuality, it may be that they are just more afraid of crime while being out alone at night. Further, one's knowledge of the environment being referenced may also play a role in their level of fear of crime (DuBow et al., 1979; Silberman, 1981). In some instances, people who live in high crime areas may not be very fearful of being victimized, because they know the area and people who reside there (Ferraro & LaGrange, 1987). Those same individuals may be extremely fearful of being victimized in an unfamiliar area, even if there is relatively low risk of such an experience.

To avoid the issues caused by context-specific measures, two tactics have been used by researchers. First, some researchers have chosen to word their fear of crime measures in a manner that utilizes multiple opposing contexts. With their work examining victimization and fear of crime, Smith and Hill (1991) asked respondents about their fear of crime in and out of the home, within and outside of their neighborhood, and during the day and at night. They then summed the results from each question, creating an overall measure of fear of crime. While using context-specific measures, Smith and Hill (1991) utilized multiple context-specific measures, allowing for the creation of a more general measure. The second tactic is to use fear

[1] This technique is less problematic, of course, if the purpose of the study is to examine fear of crime in specific situations, such as fear of crime on college campuses.

of crime measures that do not reference specific contexts. With his study of women's fear of victimization, Ferraro (1996) asked respondents how afraid they were of being a victim of several types of crime, such as being raped or sexually assaulted, being murdered, or having their car stolen. With his measures, Ferraro (1996) made no mention to specific places or times of day. Both of these techniques have obvious benefits over the traditional context-specific measures, as they provide more much generalizable measures of fear of crime.

Measures of Fear Versus Measures of Risk

Perhaps the most highly problematic issue with fear of crime research is the confusion between measuring fear of crime and measuring risk of crime (Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983). As discussed above, fear is an emotional response. Risk, on the other hand, is the probability that something will occur. In the present discussion, fear of crime refers to the negative emotional response to a criminal event, while risk of crime refers to the likelihood that one will be victimized (Chadee et al., 2007; Ferraro & LaGrange, 1987). There is a consensus among fear of crime scholars that fear and risk are closely linked. Unfortunately, however, many researchers do not make a distinction in their studies, producing questionable results (Brantingham, Brantingham, & Butcher, 1986; Taylor, Taub, & Peterson, 1986).

With any discussion of risk of experiencing a crime, it is necessary to differentiate between perceived risk and actual risk. Perceived risk of crime refers to the likelihood with which an individual thinks he/she will be victimized. Actual risk, however, refers to the likelihood with which an individual will be victimized as determined by a number of factors,

such as demographics, routine activities, and geographic area (Chadee et al., 2007; Ferraro, 1995). While both are measures of the potential chance of victimization, perceived risk is based more on individuals' personal opinions, and actual risk is typically based primarily on statistical likelihoods. The two constructs may be closely related or drastically different. For example, a 15-year old girl may perceive that she has a higher risk of being murdered (for any number of reasons) than other people; however, her actual risk of being murdered is extremely low. According to the Uniform Crime Report, females under age 18 accounted for 3% of all U.S. homicides in 2009. On the other hand, that same 15-year old girl may perceive that she has a higher risk of being raped than other people. In this case the two measures of risk are much more comparable, as women and individuals age 15 and under had the highest rates of rape in the U.S. in 2009 (NCVS, 2009). With research examining the relationship between risk and fear of crime, the overwhelming majority of studies focus on perceived risk of crime.

The relationship between fear and risk is often misinterpreted in two ways. First, many researchers use measures that actually record risk of crime, but mislabels them as measures of fear of crime (Ferraro & LaGrange, 1987; Warr, 2000). This is frequently the case with questions that ask about individuals about safety. Though intended to capture the level of fear an individual feels, safety measures are actually asking individuals to make cognitive assessments of the level of risk associated with specific situations or actions (Ferraro & LaGrange, 1987; Wilcox Rountree & Land, 1996). For example, with the NCS, respondents are asked "How safe do you feel or would you feel being out alone in your neighborhood at night." Though frequently used as a measure of fear, the question is actually asking the respondent what risk they associate with going out alone at night. Secondly, researchers also frequently combine measures of fear and risk and label them simply as fear (Ferraro, 1995). For example, for their

measure of fear of crime, Thomas and Hyman (1977) utilized a nine-item additive index. Among the items, there were questions asking respondents about how afraid they were of being victimized, as well as questions asking them to judge the risk of being victimized in their city. Similar mixed measures were also used by numerous other studies (see Brantingham, Brantingham, & Butcher, 1986; Taylor, Taub, & Peterson, 1986). While studies utilizing this approach are focusing more closely on actual fear of crime, the inclusion of risk in the same measures muddle the findings.

To that end, a number of researchers have begun to examine the relationship between the two, providing strong evidence that while the two are intertwined, they are not the same concept. For example, with their work, Wilcox Rountree and Land (1996) examined the relationship between various predictors and perceived risk and fear of burglary. They found that while there was some similarity in the effect of the predictors on both perceived risk and fear of burglary, the effects were much stronger for fear. Still further, many would argue that risk is a proximate cause of fear. Warr and Stafford (1983) examined the relationship between fear of crime, perceived risk of crime, and perceived seriousness of crime for 16 difference types of crime. They found that although some crimes were assigned a very high level of perceived seriousness—such as murder—respondents reported a relatively low level of fear of that crime. This distinction was directly influenced by the low level of perceived risk the respondents had assigned to murder. Similar results were found for the other crime types. Comparatively, LaGrange, Ferraro, and Supancic (1992) examined the relationship between social and physical incivilities, perceived risk, and fear of crime. They found that although a predictive relationship existed between incivilities and fear of crime, the causal effect was almost entirely mediated by perceived risk.

As seen with the studies described above, fear and risk are unique attributes and should be measured as so. If fact, many researchers argue that risk is a proximate cause of fear (Ferraro, 1995; Warr 1991, 1994, 2000; Warr & Stafford, 1983). In light of the results of these and numerous other studies, it seems that examining fear of crime without accounting for risk would produce misspecified models. It seems the most appropriate methodology is one that includes separate measures of both risk and fear in the analysis.

Presence of Fear Versus Intensity of Fear

With fear of crime research, scholars typically choose to measure one of two concepts—presence of fear or intensity of fear (Warr, 2000). The presence of fear measure typically indicates whether or not a respondent is fearful, while the intensity of fear measure indicates how fearful a respondent is (Farrall & Gadd, 2004; Warr, 2000). Neither measure is intrinsically good or bad. However, there is a clear difference between presence of fear and intensity of fear, and one could make the argument that the intensity measure is the better of the two, as it can be used to determine both if an individual is afraid of crime and how afraid he/she is of that crime.

For much of the early history of fear of crime research, the presence of fear was commonly measured using a dichotomous construct of fear. In such case, fear of crime is often measured and reported as either "yes" the respondent is afraid of being victimized or "no" the respondent is not afraid of being victimized. The dichotomous measure appears frequently throughout research on fear of crime. For example, the GSS measure that has been utilized so frequently throughout the fear of crime literature (see Clemente & Kleimen, 1976; Cutler, 1980; Ferraro & LaGrange, 1987) is a dichotomous measure, asking individuals for a yes or no response.

An examination of the fear of crime literature from the last 25 years will show that many researchers have switched to using measures of fear intensity, asking respondents how afraid of crime they are (see Farrell & Gadd, 2004; Fisher & Sloan, 2003; Hale, 1996; LaGrange & Ferraro, 1989; Schafer et al., 2006; Warr, 1983; 1984; Wilcox et al., 2007; Woolnough, 2009). Measures of fear intensity usually come in one of two forms. Many researchers utilize the traditional four or five point Likert scale, with ordinal responses ranging from "Very Unafraid" to "Very Afraid" or "Very Unsafe" to "Very Safe" (i.e. Fox et al., 2009; LaGrange & Ferraro, 1989; Mesch, 2000; Wilcox et al., 2007; Woolnough, 2009). The second common method of measuring fear intensity is with the use of a continuous ten or eleven-point scale. As with the Likert-scale, responses typically range from low to high levels of fear. Often with these scales, however, presence and intensity measures are combined, with the first point on the scale representing "Not Afraid" and the others representing various levels of fear (Fisher & Sloan, 2003; Ferraro, 1996; Hilinski, 2009; Warr, 1983, 1984; Warr & Stafford, 1983).

In comparing the two types of measures—dichotomous and Likert/continuous scale—it can easily be argued that the continuous scale measure seems to provide a wider range of information. While the dichotomous measure may provide information about the prevalence of fear of crime, the continuous scale measure provides both information about the prevalence and information about the intensity of fear of crime. With that in mind, in seems more rational to utilize a continuous measure, as it can provide information about the intensity of an individual's fear of crime.

Fear of Crime Research Findings

Given the previous discussion of the immense variation with fear of crime measures and their resulting problems, it may seem ill-advised to attempt to detail the known levels of fear of crime. Understandably, there is every possibility that there will be very little agreement across any number of studies. However, I reiterate my previous point that to effectively examine a phenomenon, it must be appropriately measured. To the end, the following description of the extent and consequence of fear of crime reported by previous research studies will be approached with a certain level of caution.

Prevalence of Fear of Crime

As discussed previously, the GSS was one of the first instruments used to attempt to measure fear of crime. While the measure has numerous reliability and validity issues, it has remained constant over time, allowing for some examination of trends. In 1973, researchers at the National Opinion Research Center (NORC) administering the GSS to a national-level sample found that 39.9% of respondents reported being afraid to walk alone at night (NORC, 2011). The same survey was administered to another nationally representative sample by NORC researchers in 2006. In that instance, it was reported that 40.0% of respondents reported being afraid to walk alone at night (NORC, 2011). During the 33 years between the 1973 and 2006, the percentage of individuals reporting being afraid of walking alone at night experienced very little change, with only two years showing more than a 5% change from a base percentage of 40% (NORC, 2011).[2] While the level of fear of crime reported by researchers examining GSS data may seem high, there a number of other studies that report comparative results. For

[2] Percentages were not reported for 4 of the 33 years.

example, Dansie & Fargo (2009) examined individual and community correlates of fear of crime using data from 2007 NCVS. They reported that 43.3% of respondents reported being fearful.

While the studies described above report consistent fear of crime results, they are lacking in that their analysis is limited only to measures of fear of crime, failing to account for either perceived risk or victimization experience. Further, the measures of fear utilized are relatively weak, for reasons described in the previous definition and measurement section. As it is becoming increasingly common to examine both these constructs, any appropriate discussion of fear of crime should include a discussion of the roles of perceived risk and victimization.

As previously discussed, perceived risk of crime and fear of crime are very closely linked but distinct concepts (Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983). Analysis of the relationship between the two constructs has been prevalent throughout numerous studies. In their study, Warr and Stafford (1983) examined the level of fear and perceived risk of 16 separate crime types. In many cases, the reported level of fear and risk were comparable. For example, the incident type ranked as most fearful was someone breaking into your home while away. This same incident was ranked second by respondents in terms of perceived risk. However, there was drastically more variation between fear and risk for other crime types. For example, being raped was ranked as the second fearful crime, but it was ranked eleventh in terms of perceived risk. Wilcox Rountree and Land (1996) also examined the relationship between fear and perceived risk of crime—focusing on burglary. Similar to Warr and Stafford, they found that the relationship between fear and risk varied greatly. For example, Wilcox Rountree and Land (1996) found that younger individuals had the highest fear burglary. Further, they also reported that elderly individuals had the highest

perceived risk of victimization. This result may help explain why many previous studies that failed to utilize a risk measure found that the elderly had the highest fear of victimization.

Numerous researchers have also examined the relationship between victimization and fear of crime (Fox et al., 2009; Keane, 1995; Mohammed, Saridakis, & Sookran, 2009; Russo & Roccato, 2010; Skogan, 1987; Smith & Hill, 1991; Wilcox Rountree, 1998). As with perceived risk, a clear link between victimization and fear of crime has been reported. For example, Skogan (1986) examined the relationship between violent and property victimization and fear of both. He found that recent violent and property victimization is significantly and positively associated with fear of both. Further, Skogan (1986) also reported that property victimization had the stronger effect on fear of crime. Similarly, with her study of community and individual-level effects of crime on fear of victimization, Wilcox Rountree (1998) found that violent victimization was significantly related to fear of both violent and property crime, with individuals who had experienced previous violent victimization having higher rates of fear.

While the relationship between perceived risk and fear of crime and the relationship between victimization and fear of crime have both received much attention from researchers, few studies have attempted to examine the relationship between all three constructs (for a notable exception see Wilcox et al., 2007). As described above, significant individual relationships have been found between the three constructs, separately. If the fear of crime literature is to continue to progress, however, it is important that scholars continue to examine the combined link between victimization, perceived risk of crime, and fear of crime.

Gender Differences in Fear of Crime

For much of the history of crime research, there has continued to be anecdotal evidence that women are more afraid of crime than men. This claim is made more interesting when one considers that women are much less likely to be victimized than men. For example, utilizing 1994 NCVS data, Craven (1997) reported that there were three violent victimizations of males for every two of females. In that same analysis, it was reported that men are four times more likely to be victims of homicide than women. In an effort to better understand the potentially large variation between rates of victimization and levels of fear of victimization for women, examining the effects of fear of crime has become one of the most salient interests of researchers.

Over the course of the last few decades, numerous studies have been conducted reporting that once other factors are controlled, women are simply more fearful of being victimized than men (Fetchenhauer & Buunk, 2005; Hale, 1996; May, Rader, & Goodrum, 2010; Schafer, Huebner, & Bynum, 2006; Skogan & Maxfield, 1981; Stanko, 1995; Young, 1992). For example, utilizing GSS data from 1973 and 1974, Clemente and Kleiman (1977) reported that 61% of females and 22% of males surveyed reported being fearful. As can be seen, that is a large difference. Similarly, according to a 1989 Gallup Poll, 60% of women polled reported being afraid of crime, compared to 25% of men (Gallup Report, 1989). Further, with their work examining the relationship between fear of crime and the tendency to provide socially desirable responses, Sutton and Farrall (2005) reported that women had a higher mean level of fear of burglary, assault, and vandalism than men. Likewise, female respondents also had a higher mean level of total fear of crime than their male counterparts. Warr (1985) examined the prevalence of fear among women, across age groups and crime types. He found that approximately 52% of

sampled women were fearful of victimization. Finally, Scott (2003) studied women's fear of crime as it relates to negative experiences with strangers. Utilizing data from the Canadian Violence Against Women Survey, he found that the percentage of women who expressed fear varied from 39% (being home alone at night) to 81.3% (using parking garages alone at night).

As mentioned in the discussion of the measurement of fear of crime, one of the main areas of focus with women's fear of crime is the effect of sexual victimization on fear. Numerous researchers have argued that the high level of fear of crime among women may be driven in large part by their fear of sexual victimization. As stated by Ferraro (1996),

> In a sense…any victimization of women may involve the possibility of sexual assault. Rape certainly qualifies as a perceptually contemporaneous offense [offenses which are associated with other types of victimization] to most crimes; but its uniqueness as a form of victimization to women probably escalates the degree of fear attending other crimes committed against women. In other words, sexual assault may "shadow" other types of victimization among women. Rape may operate like a "master offense" among women… (p. 669).

In light of this possibility, a substantial amount of research has been performed examining the relationship between fear of sexual victimization and general fear of crime among women (Ferraro, 1996; Fisher & Sloan, 2003; Fox, Nobles, & Piquero, 2009; Hickman & Muehlenhard, 1997; Lane, Gover, & Dahod, 2009; May, 2001; Warr, 1984, 1985). For example, Ferraro (1996) tested for the possibility of the "shadow" of sexual victimization on both fear of personal and fear of property crime. He found that the fear of sexual assault explained most of the variance between male and female levels of fear of personal crime. Further, it also explained a sizable portion of the variance in property crime. Warr (1985) examined the levels of fear of

various crime types among women across age groups. His analysis showed that fear of rape was consistently one of the most feared crime types. In fact, across most age groups, the fear of rape was higher than the fear of murder. Utilizing a national sample of college students, Fisher and Sloan (2003) attempted to replicate and extend the models from Ferraro's (1996) study. Controlling for a wide range of potential influences, such as the time of day, they found that women's fear of rape accounted for a large portion of the fear of personal crimes. Numerous other studies continue to find similar results.

One area that has received substantial attention among researchers, especially in the last two decades, is the fear of crime among college students (Fisher, 1995; Fisher & May, 2009; Fisher and Sloan, 2003; Wilcox, Jordan, & Pritchard, 2007). For some time, there was a generally shared belief that college campuses were safe havens, standing as ivory towers, free from any serious crime (Fisher, 1995; Fisher, Sloan, Cullen, & Lu, 1998). More recently, however, dramatic news stories of student-on-student crimes, such as shootings, rape, and assault have drawn attention the college campus as a potential hot spot of criminal activity. As a result, researchers have flocked to classrooms, utilizing student samples in their victimization research.

In one of the first national studies of college student victimization, Fisher and Sloan (2003) utilized a nationally representative sample of 3,472 college students. With their study, Fisher and Sloan (2003) replicated Ferraro's (1996) shadow hypothesis model (discussed above). Much like studies using non-college student samples, Fisher and Sloan (2003) found that not only do women have higher levels of fear of crime than their male counterparts, but also that their fear is largely driven by the fear of sexual assault. In this sense, college students appear to be very similar to those in the general public. Though on a much smaller scale, Jennings, Gover, and Pudrzynska (2007) also utilized a sample of college students to examine the gender

differences in fear of crime. They reported that women had a higher level of fear and perceived risk of victimization, especially sexual victimization. Finally, in a similar study, Fox, Nobles, & Piquero (2009) examined gender differences in college student fear of crime for specific crime types. They reported that female students not only experienced a higher level of daytime fear of crime, but they were also more afraid of stalking and sexual victimization than their male counterparts.

As is evidenced by the present discussion, gender differences in fear of crime have become a major topic of interest for researchers. As a result, there is a growing body of research detailing influence of gender effects on the level of fear of crime felt by individuals. Unfortunately, however, echoing the previous discussion of measurement, there have been few studies focusing on the simultaneous effects of perceived risk and actual victimization on the level of fear of crime felt by men and women. Further research is needed to determine if the combined impact of the two phenomena radically affect the level of fear felt by women.

The Victim-Offender Relationship and Fear of Crime

One key area that has received very little attention from fear of crime researchers is the role of victim-offender relationship. The importance of this relationship has been given great attention in so many other areas of victimization research, including sexual victimization (Logan, Cole, Capillo, 2007; Ullman & Siegal, 1993; Ullman, Filipas, Townsend, & Starzynski, 2006; Wilcox et al., 2007), stalking victimization (Cass, 2007; Fisher, Cullen, & Turner, 2002; Reyns & Englebrecht, 2010), and even homicide (Cao, Hou, & Huang, 2008). It seems quite rational to assume that one's relationship with the offender would directly affect his/her level of fear.

Unfortunately, examination of the victim-offender relationship has not been fully merged into the fear of crime literature. With their research, Ferraro and LaGrange (1987) examined the fear of crime measures utilized by forty-six different studies produced during the 1970s and 1980s. Only one of the forty-six studies had a single measure referring to the victim-offender relationship (worry of riding with males strangers at night). Of the more contemporary fear of crime studies that do include any measure of the victim-offender relationship, the majority simply distinguish between strangers and non-strangers (Jackson, 2009; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983). The notable exception is Keane's (1995) study examining victimization and fear of crime in which he specifically focuses on the victim-offender relationship. With his work, Keane (1995) found that women were significantly more afraid of offenses that were performed by male strangers, as opposed to known men, boyfriends, or current/former spouses.

Given the importance placed on the role of the victim-offender relationship with so many other victimization topics, it only seems rational that it should be examined with fear of crime research. The current extent of knowledge of the role of the relationship between victims and offenders and its effect on the victim's level of fear of crime is limited at best. Examination of this relationship could prove valuable in gaining a better understanding of how individuals process the potential threat of criminal victimization and particularly how their relationship with the offender influences their level of fear. Without a doubt, in order to better understand this phenomenon, further research is needed.

Conclusion

Crime has become a major interest in American society. We are constantly bombarded with images of criminal activity in movies, television shows, and periodicals. Many of the most popular video games and hit songs detail criminal events. News programs routinely lead with a story detailing some horrific crime that has occurred within the community. Growing up, almost every American child has played cops and robbers. Without a doubt, crime has become engrained in our very culture, and it has had a major impact on our behavior, feelings, and attitudes. It is this perspective that has helped fuel the growth of fear of crime research over the last fifty years.

The fear of crime literature has grown dramatically over the years. However, numerous methodological issues have continued to surface throughout fear of crime studies, bringing into question the validity and reliability of the evidence considered in this discussion. Further, almost no research has been performed examining the fear of cybercrime. Discussed in more detail in the following chapters, the purpose of the current study is to examine fear of cyberstalking victimization among a sample of college students. In doing so, particular focus will be placed on the measurement of fear of victimization and the constructs that may directly influence one's level of fear of victimization. Chapter 2 will detail the current extent of cyberstalking victimization research, with specific focus on the lack research examining the fear of cybervictimization.

CHAPTER 2: CYBERSTALKING VICTIMIZATION

Fear is more often linked with certain types of crimes. In many cases, this association is due to the nature of the crime itself. For example, some crimes are considered especially horrific (e.g. murder, rape, child molestation). These types of crimes are more likely to be remembered, especially if they receive heavy media coverage. As a result, while these crimes may be relatively rare, their frequency is greatly over-estimated by the general public (Combs & Slovic, 1979; Slovic, Fischhoff, & Lichtenstein, 1980, 1982; Warr, 1980, 2000). For many individuals, this perception or misperception is often related to higher levels of fear for that particular type of crime (Heath, 1984; Warr, 2000). On the other hand, fear is a required component for some types of crime. For example, with a crime like stalking, fear is considered an integral component of the actual crime. With most definitions of stalking, fear is not just a potential outcome; it is a critical element for the behavior to be considered criminal. The experience of fear is frequently included with both legal definitions and survey measures of stalking victimization (Baum, Rand, & Rose, 2009; Bjerregaard, 2000; Fisher, Cullen, & Turner, 2002; Fox, Nobles, & Fisher, 2011; Tjaden & Thoennes, 1998).

Consequently, however, while the role of fear has been given much attention in the examination and explanation of traditional stalking victimization (i.e. physically proximal stalking or offline stalking), there has been almost no discussion of its role in cyberstalking victimization (i.e. online stalking or electronic stalking). Given the dramatically increasing use of and dependency on technology, the lack of cybercrime-related fear research is an oversight that begs to be addressed. There is anecdotal evidence that individuals are not as afraid of cyberstalking, and cybercrime in general, as they are of traditional stalking, or traditional street crime in general. However, there is no empirical evidence to support this assumption. In an

effort to address this gap in the literature, the following chapter has a three-fold purpose. First, it will provide an overview of the development of cyberstalking victimization, including its link with traditional stalking. Secondly, the prevalence of cyberstalking victimization reported by previous research studies will be discussed. Finally, and most importantly, the chapter will conclude with a discussion of the role of fear in cyberstalking victimization, with special focus on the extremely limited amount of research focusing on fear of cybercrime.

Development of Cyberstalking Victimization

While it has been an issue for a long time, stalking was not considered to be a crime until about 20 years ago. Since then, stalking, and the detrimental effects it can have on an individual's life, has become an important issue for criminology researchers and practitioners. The first state anti-stalking law was passed in California in 1990. Within three years, all 50 U.S. states and the District of Columbia had similar statues. Then, a federal anti-stalking law was passed in 1996 (Tjaden, 2009). Throughout the 1990s, the amount of research examining stalking victimization began to grow rapidly. By the end of the decade there were dozens of small-scale stalking victimization studies (for examples, see Coleman, 1997; Holmes, 1993; Meloy, 1996; Mustaine & Tewksbury, 1999; Pathe & Mullen, 1997; Westrum & Fremouw, 1998). In addition, there were also two national-level studies that examined stalking victimization conducted by Tjaden and Thoennes (1998) and Fisher, Cullen, and Turner (2000). Stalking victimization research has continued to grow throughout the 2000s (see Baum, Catalano, Rand, & Rose, 2009; Jordan, Wilcox, & Pritchard, 2007; McEwan, Mullen, & MacKenzie, 2009; Nobles, Fox, Piquero, & Piquero, 2009; Purcell, Pathe, & Mullen, 2001).

The mid- to late-1990s also saw a dramatic growth in technological advancements. During that time, many electronic devices such as cell phones and computers became commonplace in everyday life. Their speed, ease of use, and multitude of capabilities made them very popular (Reno, 1999). Unfortunately, those same features made the devices key tools in the stalker's arsenal (Spitzberg & Hoobler, 2002). By 1999, a new form of stalking—cyberstalking—began to gain attention among both researchers and policy-makers. Recognizing this potential problem, Vice-President Al Gore tasked Attorney General Janet Reno to establish a research agenda and report on the potential issue of cyberstalking. Her report indicated that not only was cyberstalking a real threat, but also that it would most likely continue to grow in scope (Reno, 1999). Over the last decade, the news media has continued to describe incidents in which the use of electronic communication to stalk, harass, or bully has caused victims serious emotional and physical harm, in some cases even resulting in suicide (Ruedy, 2008).

The last decade has seen a growth in cyberstalking research. Unfortunately, however, this research has not been performed with the same consistency as traditional stalking research. A search of any given criminal justice research database will produce well over 200 scholarly articles and books, written in the last 10 years, focusing on stalking victimization[3]. Of those, approximately two dozen specifically discuss cyberstalking victimization, and just over a dozen provide estimates of the prevalence of cyberstalking[4]. A brief description of these studies can be seen in Table 2.1. The three shaded studies utilized a nationally representative sample. These studies will be discussed in further detail in the subsequent sections of this chapter.

[3] This information in based on a search of the ProQuest Criminal Justice Periodicals Index, which is one of the largest, most popular criminal justice research search engines.

[4] The three studies that I have co-authored are not included in the list.

Table 2.1: Description of Studies Examining Prevalence of Cyberstalking Victimization

AUTHOR(S)	SAMPLE COMPISITION/DESIGN	DEPENDENT VARIABLE	OPERATIONALIZATION	PREVALENCE
Finkelhor et al. (2000)	1,501 youths age 10 to 17 (Two-Stage Random Sample)	Online Harassment	Sexual solicitation, unwanted exposure to sexual materials, and threats or harassment online	6 – 25% (depending on type of behavior)
Fisher et al. (2002)	4,446 college women in the US (Two-Stage Stratified Random Sample)	Stalking via Email	Repeated emails that seemed obsessive or resulted in feelings of fear	24.7% (of stalking incidents)
Baum et al. (2009)	65,270 residents of the US age 18 and older (Multi-Stage Random Sample)	Cyberstalking	Conduct which causes respondent to feel fear via unsolicited or unwanted emails	26.1% (of those who were stalked)
Jerin and Dolinsky (2001)	154 female online-dating website users (Purposive Sample)	Cyber-victimization	7 different actions (e.g. threatening emails, electronic identity theft)	28.1% (experienced at least one action)
Spitzberg and Hoobler (2002)	235 undergraduate students from a large southwestern public university (Convenience Sample)	Cyber Obsessive Relational Intrusion	Harassed or obsessive pursuit with computer or other electronic means (24 various cyberstalking behaviors)	31.0% (experienced behavior at least once)
Bocij (2003)	169 survey respondents recruited online (Snowball Sample)	Cyberstalking	11 measures of online harassment (e.g. threatening emails, computer viruses)	21.9 – 82.1% (depending on criteria used)
D'Ovidio and Doyle (2003)	All cybercrimes investigated by NYPD CITU from 1996-2000	Cyberstalking	Aggravated harassment with a computer or the Internet	42.8% (of all cybercrimes)
Finn (2004)	339 undergraduate students from the University of New Hampshire (Convenience Sample)	Online Harassment	Repeated emails or IM messages meant to harass, threaten, or insult	10 – 15%
Alexy et al. (2005)	100 students from a public university and 656 students from a private university (Convenience Sample)	Cyberstalking	Not reported	3.7% (31.5% of those who were stalked)
Sheridan and Grant (2007)	1,051 self-identified stalking victims (Purposive Sample)	Cyberstalking	Incidents began and persisted solely online for > 4 weeks and >10 occasions (e.g. unsolicited emails and harassment)	7.2%
Buhi et al. (2009)	391 female undergraduate and graduate college students (Random Sample)	Stalking via Email	Repeated unsolicited emails	9.0% (44.9% of those who were stalked)
Holt and Bossler (2009)	578 college students (Convenience Sample)	Online Harassment	Dichotomous measure of online harassment	18.9%
Kraft & Wang (2010)	471 students at a public liberal arts college (Purposive Sample)	Cyberstalking	Repeated harassment through electronic communication	9%
Marcum et al. (2010)	744 students enrolled in 100-level course at a mid-sized university in the northeast (Semi-Random Sample)[5]	Online Victimization	3 measures of unwanted online activity (receiving sexually explicit material, nonsexual harassment, & sexual solicitation)	6.5 – 34.9% (depending on measure and time period)

Defining and Measuring Stalking Victimization

With their national study of victimization among college students, Fisher, Cullen, and Turner (2002, p.275) defined stalking as "the same person exhibiting repeated pursuit behavior that seemed obsessive and made the respondent afraid or concerned for [their] safety." While there is some variation depending on the context in which it is used, most definitions of stalking victimization are very similar to that used by Fisher et al. (Tjaden, 2009). For example, in another major, nationally representative study of stalking victimization, Tjaden and Thoennes (1998) examined data from the National Violence Against Women (NVAW) survey. The definition utilized in the survey describes stalking 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). As another example, the U.S. federal stalking statute utilizes a definition that emphasizes the intent to harass, injure, place under surveillance, or intimidate another person or a member of that person's family, the result of which places that person in reasonable fear (18 USCS § 115). The two key components of these and other stalking definitions are "repeated pursuit behavior" and "fear." It is these two components that have served as the basis for the majority of stalking victimization research, with each being examined using a wide range of different measures.

In academic research studies, repeated pursuit behavior is most frequently operationalized as repeated unwanted contact (Basile, Swahn, Chen, & Saltzman, 2006; Buhi, Clayton, & Surrency, 2009; Fisher et al., 2000; Logan, Shannon, & Cole, 2007; Jordan, Wilcox, & Pritchard, 2007; Purcell, Pathe, & Mullen, 2001; Tjaden, Thoennes, & Allison, 2000).

[5] Sample was obtained with two-stage process. Seventy-five classes of 100-level courses were randomly selected. Then, all students in those classes were surveyed.

However, it has also been measured as a number of other actions, such as repeated harassment (Ashcroft, 2001; Baum et al., 2009; Patton, Nobles, & Fox, 2010) and repeated threats of violence (Nobles, Fox, Piquero, & Piquero, 2009). Still, rather than focusing on single measures, other studies have utilized a combination of these and/or other types of actions in an effort to identify as many stalking victims as possible (see Brewster, 2000; Coleman, 1997; McEwan, Mullen, & MacKenzie, 2009).

The second component—fear—has also been operationalized in a number of different ways. For the majority of stalking research studies, individuals are asked if the pursuit behaviors caused them to fear for their safety or the safety of their family (see Baum et al., 2009; Belknap, Fisher, & Cullen, 1999; Brewster, 2000; Buhi et al., 2009; Fisher et al., 2002). For example, with the NVAW survey, respondents were asked if they had experienced any number of described pursuit behaviors. If the respondent answered yes, she was then asked if the behavior made her feel frightened or feared bodily harm (Tjaden & Thoennes, 2000). Still, other studies often include fear within a series of emotional responses. For example, with their study of victims' decision to report stalking, Reyns and Englebrecht (2010) examined data from the 2006 NCVS supplemental victimization survey. With that survey, respondents were asked if previously experienced pursuit behaviors made them frightened, concerned, or angered. To a lesser extent, some researchers have adopted a more generic measure of fear. With their study of female stalkers, Purcell et al. (2001) asked if the pursuit behaviors were unwelcome and fear-provoking.

The definition of stalking victimization described above is not only important for stalking victimization research, but it will also prove important for cyberstalking victimization research. While the two phenomena may have many distinct characteristics, there is still a substantial

amount of overlap. Specifically, the two components of the stalking definition—pursuit behavior and fear—have been frequently discussed in cyberstalking victimization definition and measurement. The inclusion of these components will be discussed in more detail below.

Defining and Measuring Cyberstalking Victimization

Although there is no universally accepted definition of cyberstalking among scholars, in most instances, individuals simply build from definitions of traditional stalking (Ashcroft, 2001; Henson, 2010; Reno, 1999). For example, Meloy (1999) describes cyberstalking as the use of the Internet to commit stalking. Similarly, in Attorney Reno's (1999) original report, cyberstalking was defined as the "use of the Internet, e-mail, or other electronic communications devices to stalk another person." Further, this method of defining cyberstalking has changed very little over time. With their discussion of regulating cyberstalking victimization, Basu and Jones (2007) defined cyberstalking as the use of the Internet or other communication technology to harass or menace someone. Similarly, with their discussion of the new age of stalking, Fraser, Olsen, Lee, Southworth, and Tucker (2010, p. 40) describe cyberstalking as **"**stalking via the Internet and other technological tools."

When examining the methods used to measure cyberstalking victimization in academic research, it becomes evident that a similar tactic is used. In the overwhelming majority of cyberstalking research studies, researchers simply measure traditional pursuit behaviors with the addendum that the behaviors take place by way of the Internet or other form of electronic communication. For example, as shown in Table 2.1, cyberstalking researchers have examined repeated unwanted online contact (Buhi et al., 2009; Fisher et al., 2002), online harassment (Bocij, 2003; D'Ovidio & Doyle, 2003; Holt & Bossler, 2009; Jerin & Dolinsky, 2001; Spitzberg

& Hoobler, 2002), and unwanted online sexual advances (Finkelhor et al., 2000; Marcum et al., 2010). Further, as with traditional stalking studies, some researchers also utilize a combination of these and other online behaviors in an effort to identify as many cyberstalking victims as possible (Finn, 2004; Sheridan & Grant, 2007).

In general, cyberstalking researchers have attempted to mirror traditional stalking research methodologies in terms of selecting which types of pursuit behaviors to include in their analysis. Unfortunately, this technique illuminates one of the key issues with stalking research in general. While many scholars utilize multiple items to operationalize pursuit behavior, in many cases each of the items often refer to the same type of behavior. For example, with Bocij's (2003) study of the prevalence of cyberstalking, he asked respondents about 11 different actions they may have experienced online. However, many of the actions were simply various forms of the same behavior. Three separate behaviors measured included receiving threatening messages through email, receiving threatening instant messages, and being threatened in chat rooms. While all three behaviors may be very serious, they are still simply different measures of the same behavior—receiving threats.

As is demonstrated by the relevant legal statutes, stalking may encompass a number of distinct behaviors. Though a number of the studies listed in Table 2.1 examine multiple types of behaviors, the measurement of multiple distinct types of pursuit behaviors is not common across all cyberstalking studies. Further, in the area of cyberstalking research, this issue is exacerbated by the fact that there are so few studies. In an effort to improve the validity and reliability of the cyberstalking measures utilized, research needs to focus on multiple types of distinct online pursuit behaviors.

Cyberstalking Victimization Legislation

The conclusions of Attorney Reno's (1999) report mentioned previously indicated that cyberstalking victimization would continue to grow and become a viable threat for a large number of individuals. In an effort to protect people from the threat of cyberstalking, Attorney Reno proposed that state legislators amend anti-stalking statues to include electronic activity. In 1999, California was the first state to include electronic communication in its anti-stalking statute (National Center for Victims of Crime, 2010). Numerous other states quickly followed. As can be seen in Table 2.2, as of 2010, online stalking behavior is mentioned in the anti-stalking statutes of 44 states, as well as the District of Columbia and the federal stalking statute. In addition to amending anti-stalking statutes, six states have passed legislation specifically addressing cyberstalking as a unique form of criminal activity.

Table 2.2: Cyberstalking Laws and the Inclusion of Fear*

	STALKING LAW	INCLUDES ELECTRONIC COMMUNICATION	INCLUDES FEAR	CYBERSTALKING LAW	INCLUDES FEAR
ALABAMA	YES	YES[1]	REQUIRES		
ALASKA	YES	YES	REQUIRES		
ARIZONA	YES	YES[1]	REQUIRES		
ARKANSAS	YES	YES[2]	REQUIRES		
CALIFORNIA	YES	YES	REQUIRES		
COLORADO	YES		MENTIONS		
CONNECTICUT	YES	YES[1]	REQUIRES		
DELAWARE	YES	YES[1]	MENTIONS		
D.C.	YES	YES	MENTIONS		
FLORIDA	YES	YES	REQUIRES		
GEORGIA	YES	YES	REQUIRES		
HAWAII	YES	YES			
IDAHO	YES	YES	MENTIONS		
ILLINOIS	YES	YES	MENTIONS	YES	MENTIONS
INDIANA	YES	YES[1]	MENTIONS		

IOWA	YES	YES[1]	REQUIRES		
KANSAS	YES	YES	REQUIRES		
KENTUCKY	YES	YES	MENTIONS		
LOUISIANA	YES	YES	MENTIONS	YES	
MAINE	YES		MENTIONS		
MARYLAND	YES	YES[3]	REQUIRES		
MASSACHUSETTS	YES	YES	REQUIRES		
MICHIGAN	YES	YES	MENTIONS		
MINNESOTA	YES	YES	MENTIONS		
MISSISSIPPI	YES	YES	REQUIRES	YES	
MISSOURI	YES	YES[1]	REQUIRES		
MONTANA	YES	YES			
NEBRASKA	YES				
NEVADA	YES	YES	MENTIONS		
NEW HAMPSHIRE	YES	YES[1]	REQUIRES		
NEW JERSEY	YES		MENTIONS		
NEW MEXICO	YES		REQUIRES		
NEW YORK	YES	YES[1]	MENTIONS		
NORTH CAROLINA	YES	YES	REQUIRES	YES	
NORTH DAKOTA	YES	YES[1]	MENTIONS		
OHIO	YES	YES	MENTIONS		
OKLAHOMA	YES	YES	MENTIONS		
OREGON	YES	YES	MENTIONS		
PENNSYLVANIA	YES	YES	REQUIRES		
RHODE ISLAND	YES	YES	MENTIONS	YES	MENTIONS
SOUTH CAROLINA	YES	YES	REQUIRES		
SOUTH DAKOTA	YES	YES	MENTIONS		
TENNESSEE	YES	YES	MENTIONS		
TEXAS	YES	YES[1]	REQUIRES		
UTAH	YES	YES	MENTIONS		
VERMONT	YES	YES	REQUIRES		
VIRGINIA	YES	YES[1]	REQUIRES		
WASHINGTON	YES	YES	REQUIRES	YES	
WEST VIRGINIA	YES		MENTIONS		
WISCONSIN	YES	YES[4]	MENTIONS		
WYOMING	YES	YES			
FEDERAL	YES	YES	REQUIRES		

*Information obtained on 3-1-2011 from state and federal anti-stalking statutes as posted by the Working to Halt Online Abuse website http://www.haltabuse.org/resources/laws/index.shtml

Prevalence of Cyberstalking Victimization

As mentioned previously, cyberstalking is a relatively new topic of academic research. Unfortunately, however, it is also a slowly progressing topic of research. As shown in Table 2.1, there have only been 14 published studies in the last decade that provide an estimate of the prevalence of cyberstalking and/or online victimization. In examining the estimates provided by these studies, two shortcomings become evident. First, there is a clear lack of uniformity across cyberstalking research measures (e.g. some studies utilize a single measure of harassment, while others utilize multiple measures such as harassment, unwanted sexual contact, and threatening behavior). Secondly, continued research is absolutely necessary, if scholars are to ever understand the true scope and nature of cyberstalking victimization.

As seen in Table 2.1, the estimated prevalence of cyberstalking victimization ranges from 3.7% (Alexy et al., 2005) to 82.1% (Bocij, 2003). Such a wide range clearly shows a lack of consistent measurement and the presence of varying reference periods across studies. This issue becomes further muddled by the fact that some researchers report the prevalence of cyberstalking behaviors in terms of the percentage of total incidents (D'Ovidio & Doyle, 2003; Fisher et al., 2002), while others report it in terms of the percentage of total people stalked (Baum et al., 2009). Still other researchers reported the prevalence of cyberstalking in terms of the percentage of the sample who were cyberstalked (Alexy et al., 2005; Holt & Bossler, 2009; Kraft & Wang, 2010; Marcum et al., 2010; Sheridan & Grant, 2007). This last method is the most common and more generally represents what most individuals think about in terms of prevalence rates.

Of the cyberstalking victimization studies that provide estimates of prevalence in terms of the percentage of individuals cyberstalked, it appears that across studies approximately 20% of respondents have experienced some form of online pursuit behavior, on average. However, even

this approximation is problematic for two key reasons. First, as discussed in the previous section, many cyberstalking studies only focus on a single type of pursuit behavior, such as harassment. As a result, researchers may be underestimating the actual prevalence of cyberstalking victimization, by not examining multiple distinct types of pursuit behaviors. Secondly, and more importantly, many cyberstalking studies are based on convenience or purposive samples, with a relatively small number of participants. These types of sampling techniques call into question the generalizability of the findings.

Without a doubt, cyberstalking research is still in its infancy. Before any reliable estimates of cyberstalking prevalence can be reported, much more research is needed. Steps need to be taken to attempt to ensure that the findings are as valid and reliable as possible. To that end, researchers should focus on utilizing appropriate cyberstalking measures and sampling techniques, such as probability-based sampling. Also, it is imperative that large enough samples be examined as to ensure the results are more consistent.

The Role of Fear in Cyberstalking Victimization

Mentioned early in this chapter, fear plays a major role in defining traditional stalking. The experience of fear is frequently discussed in traditional stalking victimization statutes. As seen in Table 2.2 above, fear is mentioned in 47 stalking statutes (including the District of Columbia), and it is a required component in 23 of the statutes. Further, the experience of fear is often included in measures of stalking victimization utilized by researchers (Baum et al., 2009; Bjerregaard, 2000; Tjaden & Thoennes, 1998). However, this is another area where traditional stalking and cyberstalking studies tend to diverge. While the presence of fear is absent from a number of traditional stalking studies (e.g. Basile et al., 2006; Björklund, Häkkänen-Nyholm,

Sheridan, & Roberts, 2010; Brewster, 2000; Lowney & Best, 1995; McEwan et al., 2009; Mustaine & Tewksbury, 1999), this is more often the exception than the rule (for examples of traditional stalking studies that include fear, see Fisher et al., 2002; Jordan et al., 2007; Nobles et al., 2009; Purcell et al., 2001; Tjaden & Thoennes, 1998). With cyberstalking victimization studies, on the other hand, the discussion of fear is simply not as common.

Of the 14 studies of cyberstalking victimization listed in Table 2.1, only seven include measures of cyberstalking that even mention fear. With the two national-level studies executed by Fisher et al. (2002) and Baum et al. (2009), fear is required for an incident to be defined as cyberstalking. These two studies are unique, though, in the current context as they were actually performed to examine the prevalence of traditional stalking victimization and simply included a measure of online stalking in their analysis. With their analyses, Jerin and Dolinsky (2001), Bocij (2003), and Sheridan and Grant (2007) also asked respondents about fear associated with cyberstalking. However, in each of those studies, though fear was included, it was not a required element for an incident to be defined as cyberstalking. Finally, both Finkelhor et al. (2000) and Spitzberg and Hoobler (2002) included somewhat vague descriptions of fear in their measures of cyberstalking. Finkelhor et al. (2000) asked respondents if the pursuit behaviors caused them distress, while Spitzberg and Hoobler (2002) asked if the behaviors were threatening or caused fear.

As is evident from the previous discussion, the role of fear in cyberstalking victimization is rather uncertain. While fear is often a major component of traditional stalking victimization, researchers have not given it equal treatment with cyberstalking victimization studies. The increased level of anonymity afforded by the virtual world may have a much different impact on fear of crime. Does fear play a major role in cyberstalking victimization? Are individuals

generally afraid of being victimized online? Does perceived risk of cyberstalking victimization influence an individual's level of fear of Cyberstalking? Unfortunately, these questions have thus far been unanswered. In order to be able to answer these and many more questions, continued research examining the level of fear experienced by victims of cyberstalking is necessary.

Fear of Cyberstalking Victimization

In regards to fear, there is one major oversight that the few cyberstalking studies share with the overwhelming majority of traditional stalking studies. While many researchers have examined the presence or level of fear an individual feels as a result of being stalked, no studies have attempted to measure the fear of stalking in general. That is to say, to date, there have been no published academic studies attempting to examine the level of fear of cyberstalking victimization felt by a sample of individuals in general. In fact, there has been only one academic study that specifically focused on the fear of online victimization. With their work, Higgins, Ricketts, and Vegh (2008) examined the relationship between self-control and perceived risk and fear of online victimization among a sample of college student Facebook users. Unfortunately, while they do find a positive correlation between perceived risk and fear of online victimization, they do not provide any estimates of the level of fear of online victimization.

Researchers consistently have shown that fear and victimization are strongly related (Fox et al., 2009; Keane, 1995; Mohammed, Saridakis, & Sookran, 2009; Russo & Roccato, 2010; Skogan, 1987; Smith & Hill, 1991; Wilcox Rountree, 1998). This point has been stressed repeatedly through the current work, as it has in many other studies. For a majority of

individuals, perceptions of crime are more strongly related to fear than the seriousness of the crime, itself (Warr & Stafford, 1983). Unfortunately, while researchers have begun to examine victimization in the cyberworld, they have overlooked this area in victimization research. Fear of victimization has been a topic of research for close to 50 years. Scholars have continued to gain a clearer understanding of the role fear plays in criminal victimization. To continue to build upon this understanding, researchers must examine the role of fear in cybervictimization, including both the fear caused by cybervictimization and the fear of cybervictimization.

Conclusion

Cyberstalking is a relatively new phenomenon, compared to many other types of victimization. Just a decade ago, most people had not even heard the term cyberstalking. With the rapid growth of technology and electronic communications, cyberstalking is becoming one of those words that is peppered throughout conversations and news reports in our digital world. Unfortunately, however, the understanding of cyberstalking victimization from a criminological stand-point is minuscule, at best. Given that cyberstalking has now been a topic of victimization research for over a decade, the fact that there are only 14 published studies providing an estimate of its prevalence is disheartening. Scholars can no longer use the "newness" of cyberstalking as an excuse for their lack of knowledge on the topic. There are many questions that have not yet been answered. How do individuals perceive cyberstalking victimization? Are people afraid of cyberstalking victimization? How afraid are they? Continued research on cyberstalking victimization is needed to help further develop scholars' understanding of this phenomenon.

With that in mind, the purpose of the current study is to help to build a foundation of understanding of cyberstalking victimization. This will be accomplished by performing separate

analyses examining two different cyberstalking-fear relationships. The first analysis will examine the level of fear of cyberstalking victimization felt by a general sample of individuals, with particular focus placed on the variation between victims and non-victims of cyberstalking. The second analysis will examine the variation in the level of fear felt by respondents who have experienced cyberstalking victimization, with particular focus on the effects of the characteristics of the cyberstalking victimization event. With each of these actions, another step will be taken to help bridge the gap between fear of crime and cybervictimization research. Each of these analyses will be described in more detail in Chapter 3.

CHAPTER 3: RESEARCH METHODOLOGY

Present Study

Outlined in Chapter 1, there has been tremendous progress with fear of crime research over the last several decades. However, researchers have failed to appropriately incorporate fear of crime into the study of online victimization. As a result, very little is known about the extent of fear of online crime. Outlined in Chapter 2, stalking is a crime that is intrinsically linked with fear, as fear is often considered as necessary for the crime to have occurred. However, researchers have not determined exactly what role, if any, fear plays in cyberstalking victimization.

The purpose of the current study is to help extend the fear of crime literature by bridging the gap between these two areas of study. The main focus will be to answer the following research questions:

1) What is the extent of fear of cyberstalking victimization among a sample of college students?
2) Is there a relationship between victimization, perceived risk, and fear of cyberstalking victimization?
3) Do the characteristics of the cyberstalking incident affect the level of fear experienced by the victim?

To answer these questions, the current study will utilize two separate analyses. The first analysis will focus on the general level of fear of cyberstalking among a sample of college students in an effort to address questions 1 and 2. The second analysis will focus specifically on those individuals that have experienced cyberstalking victimization and the characteristics of the cyberstalking event, in an effort to answer question 3.

Goals and Expected Outcomes of Research Questions

The answers to each of the research questions described above could provide valuable insight into the role of fear in cybercrime victimization. In answering question 1, the goal will be to simply provide a better understanding of the general prevalence of fear of cyberstalking victimization, which has remained absent from cybercrime research thus far. As mentioned previously, there has only been one academic study that has attempted to examine fear of cybercrime (Higgins et al., 2008). With that study, however, the main focus was on the relationship between self-control and fear of cybercrime. As a result, there was little discussion of the role of fear in cybervictimization, and no estimates of fear of cybervictimization were provided. The present study will be the first to provide estimates of fear of any type of cybervictimization.

With the current study, it is expected that the reported levels of fear of cyberstalking will be relatively low, especially for those respondents who can be considered "heavy" Internet users. This expectation is based on previous cybercrime research that has examined online behavior and lifestyles. These studies show that individuals, especially college students, often increase their own level of exposure to potential online victimization (Acquisti & Gross, 2006; Dwyer, Hiltz, & Passerini, 2007; Jones & Soltren, 2005). For example, with their study of online social networks, Acquisti and Gross (2006) found that over 50% of respondents surveyed posted their birthday, sexual orientation, and instant messenger ID on their online social network. Further, over 25% also posted their cell phone number, class schedule, and significant other's name. Simply put, frequent Internet use may increases one's exposure to online offenders, which produces more opportunity for online victimization (Acquisti & Gross, 2006; Dwyer, Hiltz, & Passerini, 2007; Jones & Soltren, 2005; Marcum, 2009). Discussed by Higgins et al. (2008),

individuals who fail to acknowledge the threats of exposure online have lower levels of fear of online victimization. As will be shown later in this chapter, a large portion of respondents in the current sample are heavy Internet users. To that end, it is expected that their high levels of self-produced exposure will be partially due to their lack of fear of online victimization.

With research question 2, the goal is to determine if the patterns seen so often with fear of offline crime research also holds true for fear of cybercrime. Noted in chapter 1, numerous research studies have found a significant relationship between victimization, perceived risk of victimization, and fear of victimization. In many cases previous victimization increases the levels of both perceived risk and fear of crime (see Wilcox et al., 2007). Also, high levels of perceived risk of victimization often produce high levels of fear of victimization (see Warr & Stafford, 1983; LaGrange et al., 1992). It is expected that a similar pattern will emerge with the present study. Though there has only been one empirical academic study that focused on the relationship between perceived risk and fear of online victimization (see Higgins et al., 2008), the researchers did find a significant and positive relationship between the two. As such, it is expected that a significant relationship will be found between the three measures, with individuals who have experienced cyberstalking victimization and/or have high levels of perceived risk of cyberstalking victimization also having higher levels of fear of cyberstalking victimization than those who have not been victimized and/or have lower levels of perceived risk. In addition, it is also expected that respondents will generally have low levels of perceived risk based on the same logic described in the discussion of the expectations for research question 1. "Heavy" Internet users may go online more because they perceive their risk of victimization as being relatively low.

Finally, in answering question 3, the current study will provide evidence as to how the characteristics of the cyberstalking event affect the level of fear produced by that specific event. Much research has shown that the characteristics of the victimization experience (e.g. victim-offender relationship) have varying effects on one's level of fear of crime (Wilcox et al, 2006). For example, it is frequently found that individuals report higher levels of fear of victimization if the perpetrator is a stranger rather than someone they know (Jackson, 2009; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983; Wilcox et al., 2006). However, it is not known if the characteristics of an online victimization incident directly affect the level of fear felt by the victim. Given the extensive focus of fear of offline crime research on the effect of the criminal event characteristics, with the current research, it is expected that several patterns will emerge that mirror those found previously. Specifically, it is expected that female victims will have higher levels of fear than male victims,[6] and all victims will display higher levels of fear if the perpetrator is a stranger rather than a current/former intimate partner or friend/acquaintance. Currently, there is no evidence to assume these outcomes would drastically vary from those found with fear of offline crime research.

Development of the Survey Instrument

All data for the current study was collected via a self-report web survey designed utilizing the online survey program Zoomerang.[7] The survey instrument was developed over the course of two years, under the supervision of my dissertation committee chair, with well over a

[6] For examples of studies of fear of offline crime that found female respondents generally had higher levels of fear than male respondents, see Fetchenhauer & Buunk, 2005; Hale, 1996; May, Rader, & Goodrum, 2010; Schafer, Huebner, & Bynum, 2006; Skogan & Maxfield, 1981; Stanko, 1995; Young, 1992.

[7] Zoomerang is an online survey software program that allows users to create, store, and administer web-based surveys.

dozen versions. Design elements were adopted from both previous web surveys and Dillman's *Tailored Design Method* (Dillman, 2007; Dillman, Smyth, & Christian, 2008) in an effort to develop the most user-friendly survey instrument possible. With the final version of the survey instrument, there were 574 questions across 95 pages. However, due to skip patterns, the average number of questions answered by any one individual was approximately 100, with the average completion time being about 20 minutes. The survey questions were divided into five main categories: 1) demographic and lifestyle information, 2) online social network activity, 3) other online program activity, 4) online victimization, and 5) online offending. These categories will be discussed in more detail in the measurement section below.

During the development of the survey, a pilot test was conducted to examine the structure, flow, and wording of the survey questions. The pilot test was performed utilizing students in a Master's level criminal justice research methods class. Each of the approximately 40 students from the class was assigned a victim-type to portray while completing the survey (e.g. received repeated unwanted sexual advances from two people online). This method was used to ensure every question on the survey would be answered at least once. Additionally, the students were also asked to write down any technical problems or thoughts they had while taking the survey. Once all the students completed the survey, they were divided into three groups and focus group style meetings occurred with each group. Comments from the students were then used to revise the survey instrument to correct any technical issues and improve the likelihood of respondent comprehension. An abridged version of the final survey instrument can be seen in Appendix B.

Institutional Review Board Approval Process

Once the final version of the survey instrument was completed, it was submitted, along with the intended research protocol, to the University of Cincinnati Institutional Review Board (IRB) for review. The IRB is responsible for evaluating all university research proposals that involve human subjects in order to ensure that specific ethical standards are met. Approval was granted for the current study with one caveat. In most cases, the IRB requires signed consent forms from all study participants. However, with the current study there was no physical contact with the respondents, as the survey was administered online. The IRB allowed us to obtain informed consent by providing the respondents with an information sheet at the beginning of the survey, detailing the purpose of the study and the rights of the participants. They were then presented with a question asking if they wanted to participate in the study. By selecting "yes", the participant gave permission for his/her responses to be used in the study. The information sheet can be seen at the beginning of the survey instrument in Appendix B.

Sample Selection

Data for the current study was collected from the population of undergraduate students at the University of Cincinnati—a large, urban university in the Midwest. Based on the student population available, a sampling frame was created containing the following characteristics: undergraduate, full-time status, enrolled in 2009 spring quarter at any UC campus, and 18 to 24 years old. This produced a population of 16,592 individuals from which to draw the sample. The University of Cincinnati IRB requires that each study participant be given the same incentive. Unfortunately, funds were not available to provide incentives to all sample members.

A sample of 10,000 individuals was chosen in an effort to overcome a potentially low response rate and obtain a large enough research sample to perform appropriate statistical analyses. This group of individuals was selected, in conjunction with the university registrar's office, utilizing simple random sampling. Seven numbers between 1 and 10 were randomly chosen. Then, students whose university ID number ended in one of the seven numbers were chosen until a sample of 10,000 was obtained.

Data Collection

Once the sample was determined, each of the 10,000 students was sent an email from the university registrar's office with an invitation asking them to participate in the study. The email briefly described the purpose of the study and asked students to click on an embedded link if they were interesting in participating. The link directed them to the online survey on Zoomerang's website. Two additional waves of follow-up email invitations were sent at approximately two week intervals after the initial invitation. Each of the follow-up invitations varied slightly in wording, as to not sound like a generic form letter. This technique was suggested by Dillman with his *Tailored Design Method* (Dillman, 2007; Dillman, Smyth, & Christian, 2008) as a method to elicit more participants. Copies of each email can be seen in Appendix C. The entire data collection process occurred over the course of five weeks from April to May 2009. In an attempt to prevent the data from being corrupted by single individuals completing the survey multiple times, the survey was set to only allow individuals to complete it once.

Sample Size and Response Rate

Of the 10,000 individuals who were originally sent invitations to participate in the survey, 74 were unable to receive the email. For these individuals, the email invitation was undeliverable, either because their recorded email address was incorrect or their email inbox was full. Of the remaining 9,926 individuals who received the email invitation, 1,951 followed the link and viewed the survey. Of those who viewed the survey, 751 individuals completed the survey, and 563 partially completed the survey, producing a response rate of 13.2%. In terms of the partially completed surveys, the level of completeness ranged from respondents who only answered a few questions to respondents who answered every question but failed to click the submit button at the end of the survey. While the majority of partially completed surveys had sufficient information for analysis, approximately 11% were removed due to missing data. As a result, the final sample size was 1,252 individuals.

While examining the data from the remaining individuals, it was found that a number of cases were missing data for the dependent variables. While a number of statistical techniques have been suggested for dealing with missing data—such as mean substitution, maximum likelihood estimation, and multiple imputation—they are not recommended if the missing data is on the dependent variable, as it can reduce the amount of variation and/or produce bias outcomes (Allison, 2001; Little & Rubin, 2002; Pallant, 2007). For the current study, complete case analysis (sometimes referred to as listwise deletion) was utilized to manage the missing data. With this technique, all cases that contain missing data are removed from the sample (Pigott, 2001). As there was very little difference between the sample characteristics of the complete cases as compared to the cases with missing data, this technique should result in producing very

little bias during the analysis (Schlomer, Bauman, & Card, 2010). This procedure produced a final analytical sample size of 846 cases, with a final response rate of 8.5%.

Traditionally, a response rate of 8.5% would be considered extremely low for a self-report survey. However, such a response rate is not that unusual given the mode of survey administration utilized in the current study. In both Couper (2000) and Dillman et al's (2009) discussion of modes of survey administration, the authors assert that it is very common for web-based surveys to have relatively low rates of participation, frequently as low as 10%. Similar response rates have been obtained in other studies that utilize web-based surveys (Hilinski, 2009; Nobles et al., 2009). As mentioned previously, with the current study, the likelihood of a low response rate was heightened by the fact that an incentive could not be offered to each participant.

Sample Characteristics

As stated previously, the final sample contains 846 individuals, all of whom are full-time undergraduate students attending the University of Cincinnati during the 2009 spring quarter. In terms of characteristics, 39% of the sample is male, 87.4% is white, and the average age is 20.2 years of age. Further, a large majority of the individuals in the final sample are heterosexual (93.8%), and a little under half are single (42.9%). Respondents were also asked about their grade level and residence while attending school. Sophomores and Juniors make up the largest portion of the sample with 29.2% and 27.2% of individuals, respectively. Freshmen account for a quarter of the sample (25.8%), while Seniors make up the smallest portion (17.2%). In regards to residence, the majority of respondents live off campus, with 52.6% living in off campus

university housing or personal apartments and 21.5% living with their parents/guardians. The remainder of the sample (25.2%) lives in on campus housing.

Table 3.1 displays a comparison of the characteristics of the study sample and the characteristics of the university population from which the sample came. The purpose of this comparison is to show the representativeness of the study sample. As shown in the table, the study sample has a larger percentage of females than the university population (61% compared to 49%). In terms of race, the study sample also contains a higher percentage of whites than the university population. However, the difference is much smaller (87% compared to 80%). In terms of age, the study sample and university population vary somewhat in terms of specific ages, but overall the two are very similar with the average age of the study population being 20.2 years old and the average age of the university population being 20.5 years old.

Table 3.1: Comparison of Study Sample and University Population Characteristics[8]

Demographic Categories	Sample Characteristics		University Population Characteristics	
Gender				
Male	330	39.0%	8,200	51.3%
Female	516	61.0%	7,786	48.7%
Race/Ethnicity				
White	736	87.4%	12,830	80.3%
Non-White	106	12.6%	3,156	19.7%
Age				
18	67	7.9%	1,053	6.6%
19	224	26.5%	3,805	23.8%
20	238	28.1%	3,639	22.8%
21	177	20.9%	2,979	18.6%
22	105	12.4%	2,495	15.6%
23	21	2.5%	1,403	8.8%
24	14	1.7%	612	3.8%
Total	846	100%	15,986	100%

[8] Unfortunately, t-tests show that the characteristics of the sample are significantly different than the characteristics of the university population at the 0.01 level of significance. However, as this is an exploratory study, I feel the sample is diverse enough to provide valuable insight into the fear of cyberstalking felt by college students. With future research, more effort will be made to improve the generalizability of the sample.

Measures for Analysis 1

Dependent Variables: Fear of Cyberstalking Victimization

As noted above, the first analysis will focus on the general level of fear of cyberstalking victimization. The goal of this analysis is an attempt to answer the first two research questions:

1) What is the extent of fear of cyberstalking victimization among a sample of college students?
2) Is there a relationship between victimization, perceived risk, and fear of cyberstalking victimization?

To that end, the survey instrument contained three pairs of questions asking respondents about their fear of cyberstalking. One question asked respondents how afraid they are that a current or former intimate partner may use the information on their online social network or blog to stalk them. A second question asked how afraid they are that a current or former intimate partner may use the information on their other online programs to stalk them. Similar questions were then asked about friends/acquaintances and strangers. These questions were designed so that respondents were asked about a specific type of crime and specific types of offenders. As discussed in Chapter 1, the use of such concrete measures helps ensure that all respondents are thinking of the same type of crime when discussing their levels of fear. This technique helps improve the validity of the constructs.

All six questions contained a 10-point response scale ranging from 1 (Not Afraid at All) to 10 (Very Afraid). As discussed previously, similar scales have been used in numerous fear of victimization studies (for examples see Fisher & Sloan, 2003; Ferraro, 1996; Hilinski, 2009; Warr, 1983, 1984; Warr & Stafford, 1983). The use of a scale rather than a dichotomous measure allows researchers to capture the intensity of level of fear, rather than just presence or

absence of fear. This helps researchers to gain a clearer understanding of how afraid individuals are of crime.

As the focus of the current study is on general rather than specific online activity, each pair of fear questions (intimate partner, friend/acquaintance, stranger) were combined to create three dependent measures of fear of cyberstalking: 1) fear of cyberstalking by current or former intimate partner, 2) fear of cyberstalking by friend/acquaintance, and 3) fear of cyberstalking by stranger. Response scores for these measures were created by summing the scores for each pair of survey items.[9] For example, if a respondent scored their level of fear of a stranger using their online social network information to stalk them as a 5 and scored their level of fear of a stranger using their other online program information to stalk them as a 5, then the combined score would be a 10. With this method, the range of possible fear intensity scores changes from 1 through 10 to 2 through 20, with a score of 2 meaning "not afraid at all" and a score of 20 meaning "very high fear." Finally, in an effort to make scores more meaningful, the scale was recoded, so that "not afraid at all" receives a score of 0. As a result, possible scores range from 0 (not afraid at all) to 18 (very high fear). With this change, only non-zero scores would represent actual levels of fear. The full descriptive statistics for these variables can be seen in Table 3.2.

Table 3.2: Dependent Variables: Fear of Cyberstalking Victimization

Dependent Variables	Scale/Coding	Mean	SD	Min	Max	*N*
Fear of Cyberstalking						
By Intimate Partners	(0 = No Fear to 18 = High Fear)	1.22	2.854	0	18	846
By Friends/Acquaintances	(0 = No Fear to 18 = High Fear)	0.99	2.365	0	18	846
By Strangers	(0 = No Fear to 18 = High Fear)	2.42	3.636	0	18	846

[9] Before combining the items, a reliability analysis was performed for each pair. Both the intimate partner and friend/acquaintance pairs resulted in a Cronbach's α over 0.80, and the stranger pair resulted in a Cronbach's α of over 0.75, indicting high levels of correlation.

Independent Variables

Perceived Risk of Cyberstalking Victimization

As discussed in Chapter 1, with any study of fear of victimization, it is only appropriate to include measures of perceived risk of victimization as well. Research has shown that the effects of various predictor variables can be very different for risk and fear of victimization (see Wilcox Rountree & Land, 1996). Further, many studies have found evidence that perceived risk of victimization may predict one's level of fear of victimization, meaning that an individual's level of fear of crime varies in a similar fashion as his/her perceived risk of crime (see Ferraro, 1995; Warr 1991, 1994, 2000; Warr & Stafford, 1983). In essence, individuals with higher perceived risk of victimization generally have higher levels of fear as well. Whether or not such patterns are also true for cybercrime is unknown. With that in mind, the inclusion of measures of perceived risk will hopefully provide valuable insight into the relationship between risk and fear of cybercrime.

The measures of perceived risk of cyberstalking victimization utilized in the current study were designed to parallel the measures of fear of cyberstalking victimization and therefore have the same strengths. The survey instrument contained six questions asking respondents about their perceived risk of cyberstalking victimization. As with the fear measures described previously, the perceived risk questions were created in pairs, with two questions focusing on current and former intimate partners, two questions focusing on friends/acquaintances, and two questions focusing on strangers. With each pair of questions, respondents were asked how likely they think each of three types of individuals would use the information on their online social network/blog and the information on their other online programs to stalk them. All six questions allowed for responses ranging from 1 (not likely at all) to 10 (very likely). As with the fear of

cyberstalking measures, the goal was to capture the intensity of perceived risk rather than just the presence of it.

Each pair of risk questions (intimate partner, friend/acquaintance, stranger) were combined to create three measures of perceived risk of cyberstalking: 1) perceived risk of cyberstalking by current or former intimate partner, 2) perceived risk of cyberstalking by friend/acquaintance, and 3) perceived risk of cyberstalking by stranger.[10] Using the same technique described with the fear of cyberstalking variables, the respondent's scores for each pair of questions were summed. If a respondent scored their level of perceived risk of a current or former intimate partner using their online social network information to stalk them as a 5 and scored their level of perceived risk of a current or former intimate partner using their other online program information to stalk them as a 5, then the combined score would be a 10. With the new measures, the range of possible perceived risk intensity scores changes from 1 through 10 to 2 through 20, with a score of 2 meaning "not likely at all" and a score of 20 meaning "very likely." As with the fear measures discussed previously, the final range of possible scores were then recoded, so that "not likely at all" received a score of 0 and "very likely" received a score of 18. Descriptive statistical information for these variables can be seen in Table 3.3 below.

[10] Before combining the items, a reliability analysis was performed for each pair. Both the intimate partner and stranger pairs resulted in a Cronbach's α over 0.70, and the friend/acquaintance pair resulted in a Cronbach's α of over 0.65. While these values are not as high as those obtained for the fear measures, they are still relatively high, indicting an acceptable level of correlation.

Table 3.3: Independent Variables: Perceived Risk of Cyberstalking Victimization

Variables	Scale/Coding	Mean	SD	Min	Max	*N*
Perceived Risk of Cyberstalking						
By Intimate Partners	(0 = Not Likely to 18 = Very Likely)	2.43	3.787	0	18	846
By Friends/Acquaintances	(0 = Not Likely to 18 = Very Likely)	2.06	3.222	0	18	846
By Strangers	(0 = Not Likely to 18 = Very Likely)	3.19	3.907	0	18	846

Online Victimization

With traditional fear of victimization research (i.e. offline victimization), numerous researchers have examined the relationship between fear and actual victimization (see Fox et al., 2009; Keane, 1995; Mohammed, Saridakis, & Sookran, 2009; Russo & Roccato, 2010; Skogan, 1987; Smith & Hill, 1991; Wilcox Rountree, 1998). In many cases, it has been found that being a victim of crime increases one's level of both perceived risk and fear of victimization (Skogan, 1987; Wilcox Rountree, 1998). In an effort to examine any potentially similar relationships with regards to cybercrime, measures of online victimization are included in this analysis. As shown in Table 3.4, these measures include: 1) online program hacked, 2) online identity stolen, 3) friend's online program hacked, 4) friend's online identity stolen, and 5) victim of cyberstalking. Each of these variables will be discussed in more detail below.

For the measure online program hacked, respondents were asked if anyone has ever attempted to hack (i.e. digitally break-in to) any of their online programs, such as email, instant messenger, etc. This variable is treated as a dichotomous measure, with respondents either answering yes or no. In a similar fashion, for the measure online identity stolen, respondents were asked if anyone has ever pretended to be them online without their permission. Again, this variable is also treated as dichotomous, with respondents either answering yes or no.

Discussed by Ferraro (1995) and supported by numerous other studies (Russo & Roccato, 2010; Tseloni & Zarafonitou, 2008; Xie & McDowall, 2008), an individual's level of fear and/or perceived risk of victimization may be affected by both direct and indirect victimization. Direct victimization, of course, refers to any type of victimization experienced by the individual, him/herself. Indirect victimization refers any type of victimization experienced by someone close to the individual (Ferraro, 1995). To capture any possible effects of indirect victimization, individuals were also asked about their friends' experience with online victimization. For the friend's online program hacked measure, respondents were asked if anyone has every hacked into any of their friends' online programs. For the friend's online identity stolen measure, respondents were asked if anyone had every pretended to be one of their friends online without their permission. Each of the indirect victimization variables are also treated as dichotomous, with either a yes or no response.

Given that the purpose of the current study is to examine fear of cyberstalking victimization, the most important measure of online victimization is the victim of cyberstalking variable. In an effort to obtain information about a wide range of cyberstalking behaviors, information was collected about individual lifetime experiences with four types of pursuit behaviors: 1) unwanted contact, 2) harassment, 3) unwanted sexual advances, and 4) threats of violence. For the "unwanted contact" pursuit behavior, respondents were asked if they have ever been contacted online by the same individual on more than one occasion, after asking/telling that individual not to contact them. "Harassment" was measured by asking respondents if they have ever been persistently harassed or annoyed online by the same individual on more than one occasion. "Unwanted sexual advances" was measured by asking respondents if the same individual has ever made unwanted sexual advances toward them online on more than one

occasion. Finally, for the "threats of violence" pursuit behavior respondents were asked if someone has ever spoken to them in a violent manner or threatened to physically harm on more than one occasion online. As discussed in Chapter 2, the offline equivalent of each of these types of behaviors has been examined extensively in previous stalking studies. Each measure is coded as dichotomous with either a yes or no response.

Initially, the goal was to create a multi-item cyberstalking victimization scale. However, after performing a reliability analysis of the level of correlation between the four items, the resulting Cronbach's α value was only 0.458.[11] As such, creating a multi-item cyberstalking victimization measure comprised of these four items is not supported. It appears that while each of these four pursuit behaviors may be types of cyberstalking behavior, they are, in fact, distinct types of behavior. An alternative approach, therefore, was taken to obtain a single measure of cyberstalking victimization. A composite measure of cyberstalking was created by summing the response values for each type of behavior for each individual, with a new possible range of values from 0 to 4. The new values were then recoded to create a dichotomous measure. A value of 0 indicates that the respondent has never experienced any of online pursuit behaviors, while a value of 1 indicates that the respondent has experienced at least one type of pursuit behavior and is a victim of cyberstalking. The descriptive statistics for each measure of online victimization can be seen in Table 3.4.

[11] The average inter-item correlation of these measures was rather low at 0.179.

Table 3.4: Independent Variables: Measures of Online Victimization

Variables	Scale/Coding	Mean	SD	Min	Max	*N*
Online Victimization						
Online Program Hacked	(0 = No, 1 = Yes)	0.09	0.286	0	1	846
Online ID Stolen	(0 = No, 1 = Yes)	0.10	0.304	0	1	846
Friend's Online Program Hacked	(0 = No, 1 = Yes)	0.27	0.445	0	1	846
Friend's Online ID Stolen	(0 = No, 1 = Yes)	0.23	0.424	0	1	846
Cyberstalking Victim	(0 = No, 1 = Yes)	0.41	0.493	0	1	846

Control Variables

Demographics

Numerous research studies have found the level of fear of crime often varies across individuals with different demographic characteristics, such as gender (Fetchenhauer & Buunk, 2005; Hale, 1996; May, Rader, & Goodrum, 2010; Schafer, Huebner, & Bynum, 2006; Skogan & Maxfield, 1981; Stanko, 1995; Young, 1992). With that in mind, the current analysis will also examine several demographic characteristics as control variables. These variables include gender (0 = male, 1 = female), race (0 = white, 1 = non-white), and age (measured in years). In addition, respondents were also asked about their relationship status (0 = single, 1 = non-single). Non-single refers to both individuals who are married or in a long-term relationship. Descriptive statistics for each of the demographic variables can be seen in Table 3.5 below.

Online Exposure

With traditional fear of crime research, there has been a strong focus on the relationship between exposure to crime and fear of crime. However, this relationship has not been examined with cybercrime research. To that end, the current study will attempt to examine this relationship by focusing on the extent to which respondents are exposed to potential crime

online. To capture the amount of time respondents spend online, they were asked how many hours they spend online each day (with a maximum limit of 16 hours). In order to differentiate between light and heavy Internet users, this variable was recoded as a dichotomous measure (0 = Light Internet User, 1 = Heavy Internet User).[12] In addition, respondents were asked about the types of online programs they frequently utilize, including social networks, dating sites, online groups, instant messengers, and YouTube. Use of each of these online programs is coded as a separate dichotomous measure (0 = No, 1 = Yes). Table 3.5 displays the descriptive statistics for all of the online exposure measures.

Table 3.5: Control Variables: Measures of Demographics and Online Exposure

Variables	Scale/Coding	Mean	SD	Min	Max	*N*
Demographics						
Gender	(0 = Male, 1 = Female)	0.61	0.488	0	1	846
Race	(0 = White, 1 = Non-White)	0.13	0.332	0	1	842
Age	(Age in Years)	20.17	1.322	18	24	846
Relationship Status	(0 = Single, 1 = Non-single)	0.57	0.495	0	1	844
Online Exposure						
Internet Use	(0 = Light User, 1 = Heavy User)	0.29	0.456	0	1	845
Use Social Networks	(0 = No, 1 = Yes)	1.00	0.000	0	1	846
Use Dating Sites	(0 = No, 1 = Yes)	0.01	0.349	0	1	846
Use Online Groups	(0 = No, 1 = Yes)	0.14	0.349	0	1	846
Use Instant Messengers	(0 = No, 1 = Yes)	0.37	0.484	0	1	846
Use YouTube	(0 = No, 1 = Yes)	0.84	0.369	0	1	846

Measures for Analysis 2

The second analysis being performed focuses specifically on the level of fear experienced by those individuals that have been a victim of cyberstalking. The goal is to gain a better understanding of the effects of the characteristics of the cyberstalking event on the victim's level

[12] The mean number of hours spent online by respondents was 3.99. This value was used as the cutoff point differentiating light and heavy internet users. Respondents who spent four or less hours online each day were coded as light users, and those who spent five or more hours online each day were coded as heavy users.

of fear. As such, it is intended to directly address the third research question proposed previously.

3) Do the characteristics of the cyberstalking incident (e.g. type of pursuit behavior, victim-offender relationship) affect the level of fear experienced by the victim?

In addition to the independent and control variables described previously, the second analysis will also utilize an additional series of independent variables and a different measure of fear of cyberstalking victimization. Each of the additional variables will be discussed in more detail below.

Dependent Variables: Fear of Cyberstalking Victimization

While the measure of fear of cyberstalking victimization utilized for the first analysis focuses on how afraid respondents are of experiencing cyberstalking victimization, the measure used in the second analysis focuses on the level of fear experienced as a result of having experienced cyberstalking. Respondents who stated that they had experienced one of the four types of pursuit behaviors discussed previously were given the option to complete an incident report, providing detailed information about the incident(s). In total, the respondents could complete up to five incident reports for each of the four types of pursuit behaviors. A copy of the incident report can be seen with the survey instrument in Appendix B.

Within each incident report, participants were asked how afraid they were as a result of the experienced behavior. As with the fear of cyberstalking victimization measure used for the first analysis, this measure utilizes a ten-point response scale, ranging from 1 (not afraid at all) to 10 (very afraid). Again, such a scale allows for an examination of the intensity of fear of cyberstalking victimization rather than just its presence. Utilizing a similar methodology as the

measures of fear described in analysis 1, the measure was recoded so that "not afraid at all" received a score of 0 and "very afraid" received a score of 9. The descriptive statistics for this measure can be seen in Table 3.6.

Table 3.6: Dependent Variables: Fear of Victimization for Cyberstalking Incidents

Dependent Variables	Scale/Coding	Mean	SD	Min	Max	*N*
Fear of						
Unwanted Contact	(0 = Not Afraid at All to 9 = Very Afraid)	1.68	2.461	0	9	348
Harassment	(0 = Not Afraid at All to 9 = Very Afraid)	1.21	2.070	0	9	213
Unwanted Sexual Advances	(0 = Not Afraid at All to 9 = Very Afraid)	1.20	2.033	0	9	163
Threats of Violence	(0 = Not Afraid at All to 9 = Very Afraid)	2.25	2.527	0	8	32

Independent Variables

Type of Pursuit Behavior

Noted previously, the first analysis in the present study utilizes a combined measure of cyberstalking behavior. The value of this measure indicates whether a respondent experienced any of the four pursuit behaviors described (unwanted online contact, online harassment, unwanted online sexual advances, and threats of violence online). The second analysis in this study, however, focuses on incidents rather than individuals. As such, the types of pursuit behaviors will be examined separately, rather than as a combined measure. The goal is to determine if the victim's level of fear varies across the types of pursuit behaviors. The number of incidents involving each type of behavior is reported in Table 3.6.

Victim-Offender Relationship

As noted in Chapter 2, the role of the victim-offender relationship has only received attention in a very small portion of the fear of crime literature (for examples see Jackson, 2009; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983). Of those studies that do provide information about the victim-offender relationship, it is most commonly found that individuals are more fearful of strangers than non-strangers (see Keane, 1995). To expand upon this literature, the second analysis of the current study examines the variation in the level of fear experienced by cyberstalking victims according to the type of offender. With the incident report, respondents were asked how they knew the person who engaged in the type of pursuit behavior. On the survey instrument, the question was designed as open-ended, allowing respondents to list any type of relationship. The responses were then recoded into a three-category nominal measure (1 = former/current intimate partner, 2 = friend/acquaintance, 3 = stranger). The percentage and frequency of each type of relationship by type of behavior is displayed in Table 3.7.

Table 3.7: Cyberstalking Incident Victim-Offender Relationship by Type of Behavior

Type of Behavior	Intimate Partner	Friend/Acquaintance	Stranger
Unwanted Contact	78 (22.6%)	123 (35.7%)	144 (41.7%)
Harassment	38 (17.8%)	95 (44.6%)	80 (37.6%)
Unwanted Sexual Advances	14 (8.6%)	55 (33.7%)	94 (57.7%)
Threats of Violence	7 (21.9%)	15 (46.9%)	10 (31.3%)
Total Incidents	137 (18.2%)	288 (38.2%)	328 (43.6%)

Frequency of Pursuit Behavior

By definition, stalking is a repeat behavior performed by the same individual. To ensure the respondent's experience was indeed stalking and not an isolated incident, the incident report contained a question asking the respondent to list the number of times the pursuer committed the performed behavior. They were given a range of possible scores from 2 to 100 or more. For the purposes of the current analysis, the 100 or more category will be changed to 100, as it is unknown how many times the behavior occurred beyond 100.[13] As a result, the range of possible values has been recoded to be 2 to 100. Descriptive statistics for this measure can be seen in Table 3.8.

Table 3.8: Frequency of Pursuit Behaviors Performed Per Incident

Type of Behavior	Scale/Coding	Mean	SD	Min	Max	*N*
Unwanted Contact	(Number of Times 2 to 100)	9.63	17.635	2	100	348
Harassment	(Number of Times 2 to 100)	9.51	16.300	2	100	213
Unwanted Sexual Advances	(Number of Times 2 to 100)	4.81	9.295	2	100	163
Threats of Violence	(Number of Times 2 to 100)	4.67	5.492	2	25	32

Statistical Techniques

Analysis 1

As discussed above, the first analysis focuses on three dependent variables—1) fear of cyberstalking by intimate partners, 2) fear of cyberstalking by friends/acquaintances, and 3) fear of cyberstalking by strangers). Each of these variables was measured for every respondent using a continuous scale ranging from 0 to 18. With that in mind, multiple linear regression is used to

[13] Of the total number of incidents, there were less than a dozen in which the behavior occurred 100 times or more.

examine for any possible relationships between the perceived risk of cyberstalking, cyberstalking victimization, control, and fear of cyberstalking variables.[14] The goal is to determine if any significant relationships exist between the measures and to estimate the amount of variation in fear of cyberstalking that is explained by the independent and control variables. As is customary, the model summary and coefficient statistics are presented for each model. For this analysis, coefficients with *p*-values equal to or less than 0.05 are considered statistically significant. This statistical analysis was performed utilizing SPSS statistical analysis software.

Analysis 2

For the second analysis, a different statistical technique than that used with analysis one is required. While the first analysis examines individual-level data, the second analysis focuses on incident-level data. Because a single person can experience multiple incidents, there may be a high level of intraclass correlation across incidents experienced by the same individual. With high intraclass correlation, the information for each incident becomes less unique (i.e. much of the data examined for each incident, such as the demographic information of the victim, will be the same). This poses a problem because high intraclass correlation often produces negatively biased standard errors of the estimates which could result in spuriously significant effects (Cameron, Gelbach, & Miller, 2007; Mass & Hox, 2004).

To account for the presence of high intraclass correlation, two main statistical techniques are frequently used—multilevel modeling and clustered robust standard errors. Each of these techniques allow for the correction of the standard errors of estimates by accounting for the

[14] Tests were also performed to ensure the assumptions of OLS are met. Tolerance and variance inflation factor statistics were calculated to determine if multicollinearity exists between variables. A scatter plot was created to examine for potential autocorrelation and heteroskedasticity. Each will be discussed in Chapter 4.

intraclass correlation caused by the clustering effect (Arcenequx & Nickerson, 2009; Maas & Hox, 2004). With the current study, the average number of incidents experienced by individuals is very low, which makes the use of multilevel modeling very problematic. As a result, clustered robust standard errors is the most appropriate statistical technique (Maas & Hox, 2004). Multiple linear regression with robust standard errors was estimated to examine the relationship between dependent, independent, and control variables. The goal is to determine if any significant relationships exist between the variables and to estimate the amount of variation in fear of cyberstalking that is explained by the incident-level independent and control variables. As with the first analysis, the model summary and coefficient statistics will be presented for each model. Coefficients with *p*-values equal to or less than 0.05 are considered statistically significant. The analysis was performed utilizing the Huber/White sandwich estimator available in the Stata statistical analysis software to adjust for the within-cluster correlation (Maas & Hox, 2004).

Conclusion

The goal of this chapter has been to describe the research methodology utilized for the present study. To that end, the survey instrument, sampling design, data collection process, sample characteristics, and research measures were described. In addition, the need to perform two separate analyses was discussed. The chapter concluded with a description of the statistical techniques that will be used for each analysis. Chapter 4 presents the results of the analyses. The study concludes with Chapter 5, in which the results are discussed, with specific focus on the contributions of the present study to the fear of crime literature and suggestions for future research.

CHAPTER 4: RESULTS

The purpose of this chapter is to present the findings of the analyses described in Chapter 3, with specific focus on those outcomes directly related to the three research questions. With analysis one, the prevalence of fear of cyberstalking among the sample will be reported, including both the number of individuals who are afraid of experiencing cyberstalking victimization and the intensity of their fear of cyberstalking victimization. In addition, findings from both bivariate correlation and multivariate linear regression models focusing on the relationships between the demographic, cyberstalking victimization, perceived risk of cyberstalking victimization, and fear of cyberstalking victimization measures will be presented. With analysis two, multivariate linear regression (with clustered robust standard errors) models of the relationship between the characteristics of the cyberstalking event and the level of fear reported by the victim will be presented.

Extent of General Fear of Cyberstalking Victimization

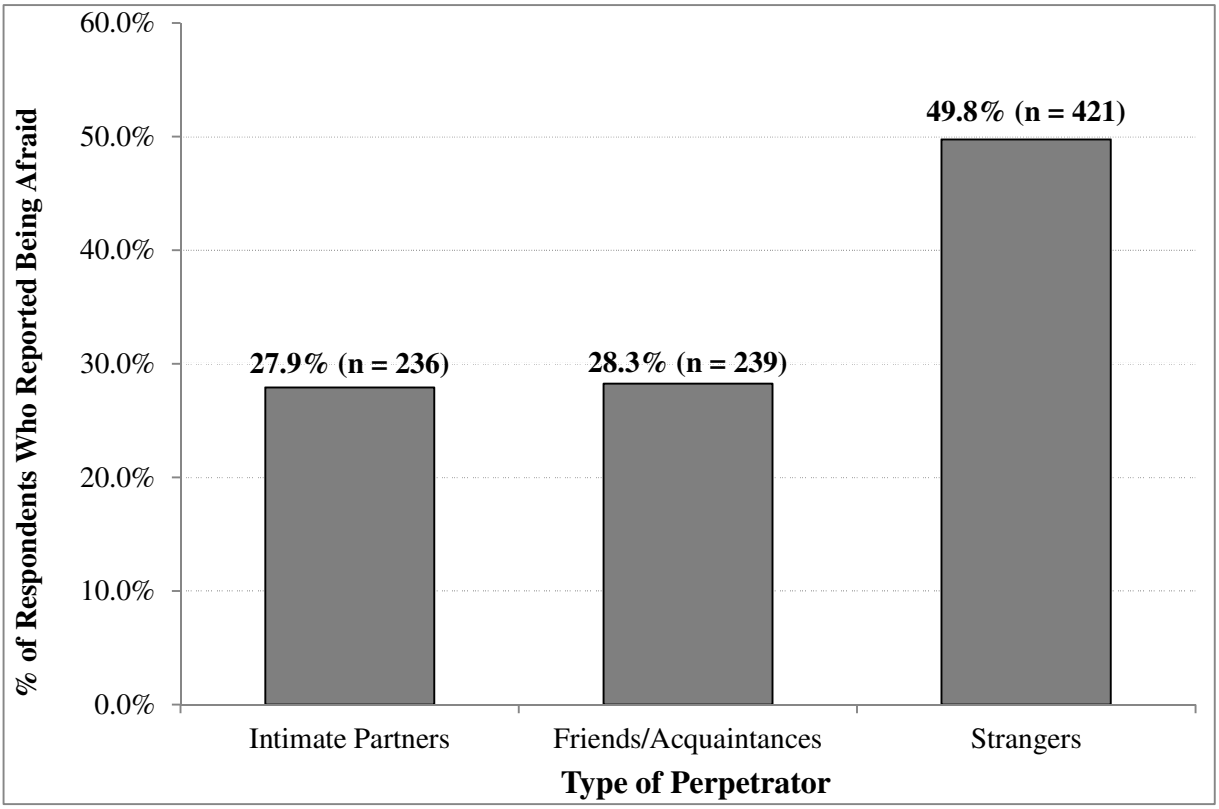
Prevalence of General Fear of Cyberstalking Victimization

As discussed in Chapter 3, respondents were asked how afraid they were that someone might use their information from online programs to cyberstalk them. Also, they were asked about their level of fear for three different types of perpetrators—intimate partners, friends/acquaintances, and strangers.[15] Figure 4.1 presents the percentage of individuals who reported any level of fear of cyberstalking victimization according to the type of perpetrator. As seen in the figure, the percentage of respondents who reported being afraid that an intimate partner or friend/acquaintance may cyberstalk them is relatively even. For both types of

[15] In an effort to save space in the following figures and tables, current/former intimate partner will be referred to only as intimate partner.

perpetrators, approximately 28% of the sample (236 and 239 respondents respectively) reported some level of fear. Further, 421 individuals reported they were afraid that a stranger may use their online program information to cyberstalk them, comprising almost 50% of the sample. It is clear that many more individuals in the sample are afraid of strangers than non-strangers.

Figure 4.1: Number of Respondents Who Reported Being Afraid of Cyberstalking Victimization by Type of Perpetrator (N = 846)

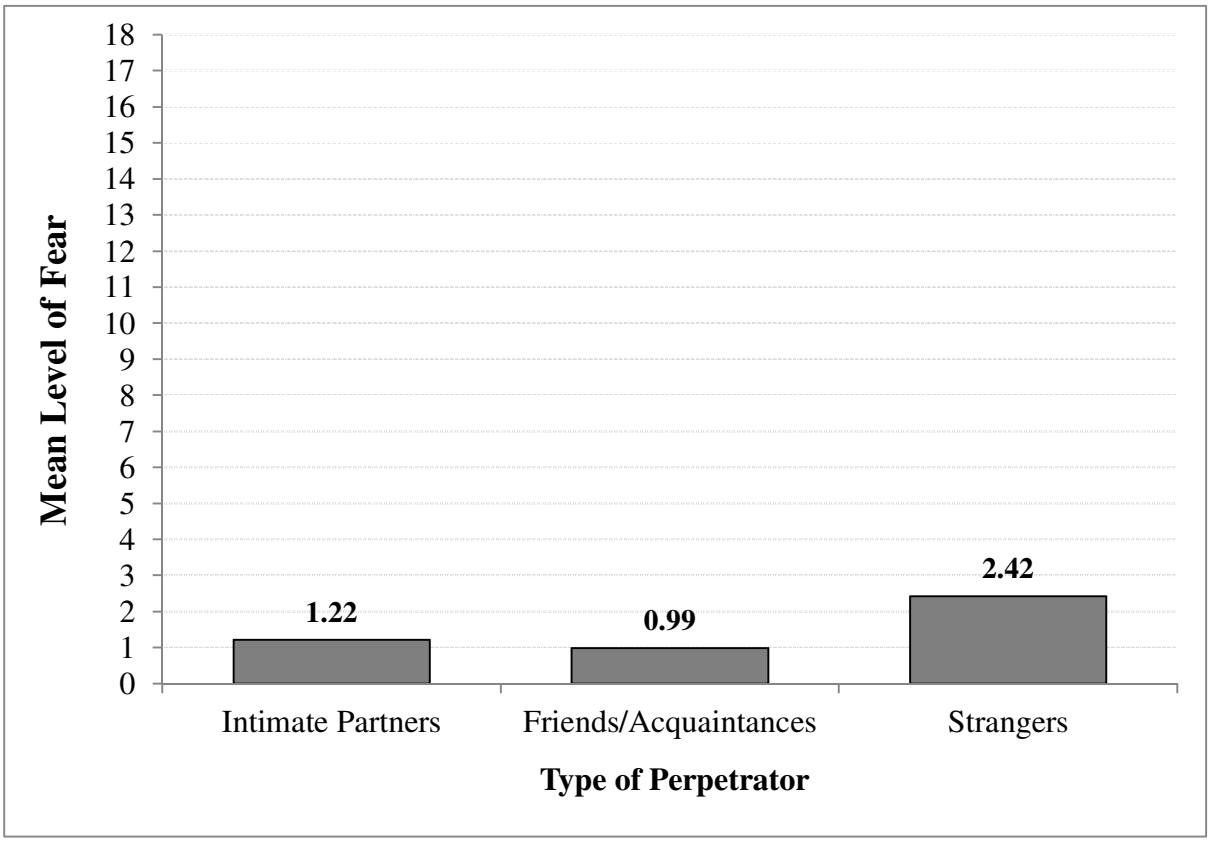


Intensity of General Fear of Cyberstalking Victimization

In addition to examining how many respondents are afraid of experiencing cyberstalking victimization, the current study also focuses on the level of fear reported. As discussed in Chapter 1, it is important to understand how afraid people are of crime rather than just if people

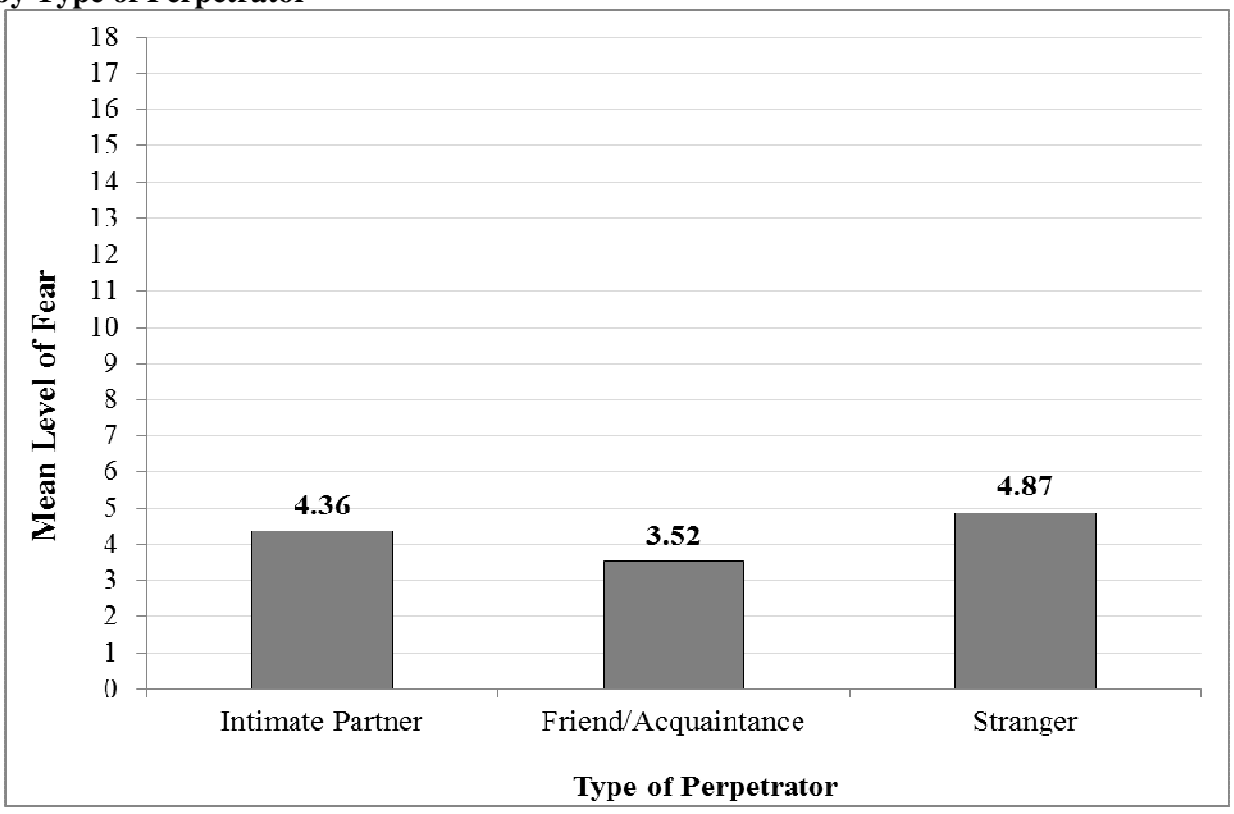
are afraid. Figure 4.2 displays the mean level of fear reported by respondents for each type of perpetrator. Similar to the previous figure, the level of fear felt by respondents for intimate partner and friend/acquaintance perpetrators is relatively even, with an average level of 1.22 (*SD* = 2.85) and 0.99 (*SD* = 2.37) respectively. However, the average level of fear of cyberstalking victimization perpetrated by strangers is 2.42 (*SD* = 3.64). It appears that not only are more respondents afraid of being cyberstalked by strangers, but also that strangers produce higher levels of fear of cyberstalking. The significance of the relatively low level of fear of cyberstalking victimization will be discussed in more detail later.

Figure 4.2: Level of Fear of Cyberstalking Victimization Reported by Respondents by Type of Perpetrator



To provide a more detailed understanding of the intensity of fear of cyberstalking victimization, Figure 4.3 displays the mean level of fear of cyberstalking victimization by each type of perpetrator only for those respondents who reported being afraid. The mean level of fear of cyberstalking by an intimate partner is 4.36 (*SD* = 3.94); the mean level of fear of cyberstalking by a friend/acquaintance is 3.52 (*SD* = 3.31) respectively; and mean level of fear of cyberstalking victimization by a stranger is 4.87 (*SD* = 3.83). Each of these means is somewhat higher than those in Figure 4.2, which are deflated by the large number of zero values of respondents who reported not being fearful. As seen in Figure 4.3, while there is less variation between the mean levels of fear of cyberstalking victimization by intimate partners, friends/acquaintances, and strangers, the rank order is still the same, with respondents being most fearful of cyberstalking by a stranger.

Figure 4.3: Level of Fear of Cyberstalking Victimization Reported by Fearful Respondents by Type of Perpetrator



Extent of Fear of Cyberstalking Victimization by Respondent Characteristics

Both the number of individuals who expressed fear and the intensity of their fear are further broken down by demographic characteristics. Tables 4.1 and 4.2 displays the prevalence and intensity of fear of cyberstalking victimization by gender (male, female), race (white, non-white), age (18 – 24), relationship status (single, non-single), Internet use (light user, heavy user), and as with the previous discussion, it is also broken down by type of perpetrator (intimate partner, friend/acquaintance, stranger).

Prevalence of Fear of Cyberstalking Victimization by Respondent Characteristics

Gender

Table 4.1 displays the number of respondents who reported any level of fear of cyberstalking victimization for each respondent characteristic and perpetrator type. As seen in the table, across all three types of perpetrators, a larger portion of female respondents were afraid of experiencing cyberstalking than male respondents. Of the 516 female respondents, 31.0% were afraid of being cyberstalked by an intimate partner, 30.6% were afraid of being cyberstalked by a friend/acquaintance, and 56.6% were afraid of being cyberstalked by a stranger. Of the 330 male respondents, 23.0% were afraid of being cyberstalked by an intimate partner, 24.6% were afraid of being cyberstalked by a friend/acquaintance, and 39.1% were afraid of being cyberstalked by a stranger. With further analysis, it can be seen that there is a statistically significant difference in the number of males and females who are afraid of being stalked by an intimate partner (χ^2 (1, N = 846) = 6.37, $p \leq 0.01$) and a stranger (χ^2 (1, N = 846) = 24.65, $p \leq 0.001$). However, the difference between the number of males and females who are

afraid of being cyberstalked by a friend/acquaintance is not statistically significant (χ^2 (1, N = 846) = 3.66, p = 0.06).

Race

In regards to race, there is very little difference in the percentage of white and non-white respondents who are afraid of cyberstalking across the three types of perpetrators. As displayed in Table 4.1, of the 736 white respondents, 27.9% were afraid of being cyberstalked by an intimate partner, 28.26% were afraid of being cyberstalked by a friend/acquaintance, and 49.7% were afraid of being cyberstalked by a stranger. Of the 106 non-white respondents, 27.4% of were afraid of being cyberstalked by an intimate partner, 27.4% were afraid of being cyberstalked by a friend/acquaintance, and 50.0% were afraid of being cyberstalked by a stranger. Across all three types of perpetrators, there is no statistically significant difference in the number of whites and non-whites that are afraid of being cyberstalked (intimate partners: χ^2 (1, N = 842) = 0.01, p = 0.92; friends/acquaintances: χ^2 (1, N = 842) = 0.04, p = 0.85; strangers: χ^2 (1, N = 842) = 0.00, p = 0.96).

Age

No clear pattern emerges when examining the number of individuals who reported being afraid of experiencing cyberstalking victimization for each age category. For example, only 14.3% of individuals age 24 were afraid of being cyberstalked by an intimate partner, while 38.1% of respondents age 23 were afraid of being cyberstalked by an intimate partner. Nevertheless, as a very low number of respondents fall into the 23 and 24-year-old categories, with 21 and 14 respectively, these figures must be taken with a grain of salt. In looking at the

figures presented for all the age categories in Table 4.1, however, it can be seen that the variation between the percentage of respondents who are afraid of being cyberstalked is rather minimal and is in fact not significantly significant (intimate partners: χ^2 (6, N = 846) = 5.74, p = 0.45; friends/acquaintances: χ^2 (6, N = 846) = 2.92, p = 0.82; strangers: χ^2 (6, N = 846) = 1.89, p = 0.93). It is apparent, though, that the largest percentage of respondents for every age category is most afraid of experiencing cyberstalking by a stranger.

Relationship Status

In terms of relationship status, a larger portion of non-single respondents were afraid of experiencing cyberstalking than single respondents across all three types of perpetrators. As displayed in Table 4.1, of the 362 single respondents, 22.9% were afraid of being cyberstalked by an intimate partner, 26.0% were afraid of being cyberstalked by a friend/acquaintance, and 47.0% were afraid of being cyberstalked by a stranger. Of the 482 non-single respondents, 31.7% of were afraid of being cyberstalked by an intimate partner, 30.1% were afraid of being cyberstalked by a friend/acquaintance, and 52.1% were afraid of being cyberstalked by a stranger. While the difference between the number of single and non-single respondents who are afraid of being cyberstalked by friends/acquaintances and strangers is not statistically significant (χ^2 (1, N = 844) = 1.73, p = 0.19 and χ^2 (1, N = 844) = 2.16, p = 0.14, respectively), there is a significant difference in the number of single and non-single respondents who are afraid of being cyberstalked by intimate partners (χ^2 (1, N = 844) = 7.97, $p \leq 0.01$).

Internet Use

Finally, a higher percentage of light Internet users were afraid of experiencing cyberstalking than heavy Internet users across all three types of perpetrators. As displayed in Table 4.1, of the 597 light Internet users, 29.8% were afraid of being cyberstalked by an intimate partner, 30.5% were afraid of being cyberstalked by a friend/acquaintance, and 51.1% were afraid of being cyberstalked by a stranger. Of the 248 heavy Internet users, 23.0% of were afraid of being cyberstalked by an intimate partner, 22.6% were afraid of being cyberstalked by a friend/acquaintance, and 46.4% were afraid of being cyberstalked by a stranger. The difference between the number of light and heavy Internet users who are afraid of being cyberstalked by strangers is not statistically significant (χ^2 (1, N = 845) = 1.56, p = 0.21). However, there is a significant difference in the number of light and heavy Internet users who are afraid of being cyberstalked by intimate partners (χ^2 (1, N = 845) = 4.07, $p \leq 0.05$) and friends/acquaintances (χ^2 (1, N = 845) = 5.41, $p \leq 0.05$).

Table 4.1: Prevalence of Fear of Cyberstalking Victimization by Respondent Characteristics and Perpetrator Type[+]

	Intimate Partners		Friends/Acquaintances		Strangers	
	n (%)	χ^2(df), p-value	n (%)	χ^2(df), p-value	n (%)	χ^2(df), p-value
Total (n = 846)	**236 (27.9%)**		**239 (28.3%)**		**421 (49.8%)**	
Gender						
Males (n = 330)	76 (23.0%)	6.37(1),	81 (24.6%)	3.66(1),	129 (39.1%)	24.65(1),
Females (n = 516)	160 (31.0%)	0.01**	158 (30.6%)	0.06	292 (56.6%)	0.00**
Race						
White (n = 736)	205 (27.9%)	0.01(1),	208 (28.3%)	0.04(1),	366 (49.7%)	0.00(1),
Non-White (n = 106)	29 (27.4%)	0.92	29 (27.4%)	0.85	53 (50.0%)	0.96
Age						
18 (n = 67)	22 (32.8%)	5.74(6),	19 (28.4%)	2.92(6),	33 (49.3%)	1.89(6),
19 (n = 224)	57 (25.5%)	0.45	60 (26.8%)	0.82	108 (48.2%)	0.93
20 (n = 238)	74 (31.1%)		71 (29.8%)		125 (52.5%)	
21 (n = 177)	47 (26.6%)		47 (26.6%)		87 (49.2%)	
22 (n = 105)	26 (24.8%)		33 (31.4%)		50 (47.6%)	
23 (n = 21)	8 (38.1%)		7 (33.3%)		12 (57.1%)	
24 (n = 14)	2 (14.3%)		2 (14.3%)		6 (42.9%)	
Relationship Status						
Single (n = 362)	83 (22.9%)	7.97(1),	94 (26.0%)	1.73(1),	170 (47.0%)	2.16(1),
Non-Single (n = 482)	153 (31.7%)	0.01**	145 (30.1%)	0.19	251 (52.1%)	0.14
Internet Use						
Light User (n = 597)	178 (29.8%)	4.07(1),	182 (30.5%)	5.41(1),	305 (51.1%)	1.56(1),
Heavy User (n = 248)	57 (23.0%)	0.04*	56 (22.6%)	0.02*	115 (46.4%)	0.21

[+]Number of cases may not add to 846 due to missing data

* $p \leq 0.05$; ** $p \leq 0.01$

Intensity of Fear of Cyberstalking Victimization by Respondent Characteristics

Gender

Table 4.2 displays the mean level of fear of cyberstalking victimization reported by of respondent characteristics and perpetrator type. As seen in the table, the mean level of fear of cyberstalking is higher for female respondents than male respondents across all three types of perpetrator. Male respondents reported a mean level of fear of being cyberstalked by an intimate partner of 0.82 (*SD* = 2.19), a mean level of fear of being cyberstalked by a friend/acquaintance of 0.82 (*SD* = 2.26), and a mean level of fear of being cyberstalked by a stranger of 1.76 (*SD* = 3.17). Female respondents reported a mean level of fear of being cyberstalked by an intimate partner of 1.47 (*SD* = 3.18), a mean level of fear of being cyberstalked by a friend/acquaintance of 1.10 (*SD* = 2.43), and a mean level of fear of being cyberstalked by a stranger of 2.85 (*SD* = 3.85). In performing a comparison of means test, it can be seen that the difference between the level of reported fear for males and females is significantly different for intimate partner (t (844) = -3.49, $p \leq 0.01$) and stranger perpetrators (t (844) = -4.51, $p \leq 0.01$). However, there is no statistically significant difference between the mean levels of fear of cyberstalking victimization by friends/acquaintances (t (844) = -1.70, $p = 0.09$).

Race

Across all three types of perpetrator, there are very few differences between the level of fear reported by whites and non-whites. White respondents reported a mean level of fear of being cyberstalked by an intimate partner of 1.20 (*SD* = 2.82), a mean level of fear of being cyberstalked by a friend/acquaintance of 0.94 (*SD* = 2.20), and a mean level of fear of being cyberstalked by a stranger of 2.34 (*SD* = 3.56). Non-white respondents reported a mean level of

fear of being cyberstalked by an intimate partner of 1.31 (*SD* = 3.10), a mean level of fear of being cyberstalked by a friend/acquaintance of 1.33 (*SD* = 3.24), and a mean level of fear of being cyberstalked by a stranger of 2.98 (*SD* = 4.09). Though non-white respondents reported a higher level of fear across all three types of perpetrators than whites, the difference appears minimal. In fact, there is no statistically significant difference between the level of fear reported by whites and non-whites for any type of perpetrator (intimate partners: t (840) = -0.37, p = 0.73; friends/acquaintances: t (840) = -1.21, p = 0.23; strangers: t (840) = -1.53, p = 0.13).

Age

As with the discussion of the prevalence of fear of cyberstalking, the intensity of fear of cyberstalking varies somewhat by age. For example, individuals age 24 reported a mean level of fear of cyberstalking by strangers of 1.00 (*SD* = 1.47), while individuals age 18 reported a mean level of fear of cyberstalking by strangers of 2.642 (*SD* = 4.00). However, such a variation is most likely driven by the low number of respondents who fall into the 23 and 24 year old categories. With all of the age categories, though, it is clear that respondents are most afraid of being cyberstalked by a stranger. However, in examining the difference between the mean levels of fear for each type of perpetrator, there is no statistically significant difference across age categories (intimate partners: F (6, 839) = 0.29, p = 0.94; friends/acquaintances: F (6, 839) = 0.66, p = 0.68; strangers: F (6, 839) = 0.57, p = 0.76).[16]

[16] An ANOVA was performed rather than an independent sample t-test because the independent variable had more than two categories.

Relationship Status

In terms of relationship status, non-single respondents reported higher levels of fear than single respondents for all three types of perpetrators. As displayed in Table 4.2, single respondents reported a mean level of fear of being cyberstalked by an intimate partner of 0.98 (*SD* = 2.51), a mean level of fear of being cyberstalked by a friend/acquaintance of 0.87 (*SD* = 2.17), and a mean level of fear of being cyberstalked by a stranger of 2.11 (*SD* = 3.41). Non-single respondents reported a mean level of fear of being cyberstalked by an intimate partner of 1.40 (*SD* = 3.09), a mean level of fear of being cyberstalked by a friend/acquaintance of 1.09 (*SD* = 2.50), and a mean level of fear of being cyberstalked by a stranger of 2.67 (*SD* = 3.79). The difference between the mean levels of fear of being cyberstalked reported by single and non-single respondents is significant for both intimate partner (t (842) = -2.18, $p \leq 0.05$) and stranger (t (842) = -2.26, $p \leq 0.05$) perpetrators. However, there is not a significant difference in the mean levels of fear of being cyberstalked by a friend/acquaintance (t (842) = -1.34, $p = 0.18$) for single and non-single respondents.

Internet Use

Finally, in examining the level of fear of cyberstalking reported by light and heavy Internet users, there appears to be very little difference for all three types of perpetrator. Light Internet users reported a mean level of fear of being cyberstalked by an intimate partner of 1.30 (*SD* = 2.96), a mean level of fear of being cyberstalked by a friend/acquaintance of 1.04 (*SD* = 2.350), and a mean level of fear of being cyberstalked by a stranger of 2.41 (*SD* 3.55). Heavy Internet users reported a mean level of fear of being cyberstalked by an intimate partner of 1.02 (*SD* = 2.59), a mean level of fear of being cyberstalked by a friend/acquaintance of 0.88 (*SD* =

2.41), and a mean level of fear of being cyberstalked by a stranger of 2.45 (*SD* = 3.85). In comparing the mean level of fear, there is no statistically significant difference between the level of fear reported by light and heavy Internet users for any type of perpetrator (intimate partners: t (843) = 1.30, p = 0.19; friends/acquaintances: t (843) = 0.90, p = 0.37; strangers: t (843) = -0.14, p = 0.90).

Summary

While the results discussed above are interesting, in light of previous fear of crime research, they are not entirely surprising. However, several key points should be noted. Overall, more respondents are afraid that their online information may be used by strangers to cyberstalk them as opposed to current/former intimate partners or friends/acquaintances. This finding parallels those of many previous fear of crime studies (see Jackson, 2009; Keane, 1995; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983). In terms of specific characteristics, significantly more females, respondents in relationships, and light Internet users are afraid of being cyberstalked by current or former intimate partners than males, single respondents, and heavy Internet users. Further, significantly more females than males are also afraid of being cyberstalked by strangers. Finally, significantly more light than heavy Internet users are also afraid of being cyberstalked by friends/acquaintances.

In terms of the intensity of fear of cyberstalking, similar results are also found. Overall, respondents are most afraid of being cyberstalked by strangers. Further, females and individuals in relationships are significantly more afraid of being cyberstalked by both intimate partners and strangers than their counterparts (males and single respondents). However, while more light

Table 4.2: Intensity of Fear of Cyberstalking Victimization by Respondent Characteristics and Perpetrator Type[+]

	Intimate Partners		Friends/Acquaintances		Strangers	
	Mean (SD)	t (df), p-value	Mean (SD)	t (df), p-value	Mean (SD)	t (df), p-value
Total (n = 846)	**1.22 (2.85)**		**0.99 (2.37)**		**2.42 (3.64)**	
Gender						
Males (n = 330)	0.82 (2.19)	-3.49(844),	0.82 (2.26)	-1.70(844),	1.76 (3.17)	-4.51(844),
Females (n = 516)	1.47 (3.18)	0.00**	1.10 (2.43)	0.09	2.85 (3.85)	0.00**
Race						
White (n = 736)	1.20 (2.82)	-0.37(840),	0.94 (2.20)	-1.21(840),	2.34 (3.56)	-1.53(840),
Non-White (n = 106)	1.31 (3.10)	0.73	1.33 (3.24)	0.23	2.98 (4.09)	0.13
Age[++]						
18 (n = 67)	1.37 (2.85)	0.29(6, 839),	1.12 (2.47)	0.66(6, 839),	2.64 (4.00)	0.57(6, 839),
19 (n = 224)	1.21 (3.07)	0.94	0.98 (2.51)	0.68	2.48 (3.74)	0.76
20 (n = 238)	1.29 (2.77)		1.18 (2.70)		2.46 (3.66)	
21 (n = 177)	1.24 (3.08)		0.89 (2.05)		2.48 (3.78)	
22 (n = 105)	1.07 (2.54)		0.86 (1.93)		2.31 (3.37)	
23 (n = 21)	0.86 (1.32)		0.810 (1.44)		1.71 (1.88)	
24 (n = 14)	0.57 (1.65)		0.21 (0.58)		1.00 (1.47)	
Relationship Status						
Single (n = 362)	0.98 (2.51)	-2.18(842),	0.87 (2.17)	-1.34(842),	2.11 (3.41)	-2.26(842),
Non-Single (n = 482)	1.40 (3.09)	0.03*	1.09 (2.50)	0.18	2.67 (3.79)	0.02*
Internet Use						
Light User (n = 597)	1.30 (2.96)	1.30(843),	1.04 (2.35)	0.90(843),	2.41 (3.55)	-0.14(843),
Heavy User (n = 248)	1.02 (2.59)	0.19	0.88 (2.41)	0.37	2.45 (3.85)	0.90

[+]Number of cases may not add to 846 due to missing data

++ An ANOVA was performed rather than an independent sample t-test because the independent variable had more than two categories. F-values rather than t-values are presented.

* $p \leq 0.05$; ** $p \leq 0.01$

Internet users are be afraid of being cyberstalked, there is no statistically significant difference in the level of fear reported by light and heavy Internet users. A final point to note is the relatively low levels of intensity of fear reported by all respondents. With a scale of 0 to 18, the average level of fear reported did not rise above 3 for any demographic category. While this was previously predicted with the discussion of the research questions in Chapter 3, it is a topic that warrants attention. Most likely, respondents simply are not very afraid of cybercrime.

Victimization, Perceived Risk, and Fear of Cyberstalking Victimization

Online Victimization

As noted in the previous chapter, the current study is focusing on the influence of both direct and indirect online victimization on fear of cyberstalking victimization. Table 4.3 presents the number of respondents who reported their experience with these two types of online victimization. Being a victim of cyberstalking, having their online program hacked, and having their identity stolen online all served as different forms of direct victimization. Having a friend whose online program was hacked and having a friend whose identity was stolen online both served as different forms of indirect victimization.

Of the 846 respondents, 41.5% have experienced some form of cyberstalking behavior, 18.0% have had an online program hacked, and 12.2% have had their identity stolen online. Further, 54.0% of the respondents knew someone who has had an online program hacked, while 28.7% knew someone who has had their identity stolen online. Based on these figures, it seems as though a large portion of the sample has had some experience with both direct and indirect online victimization.

Gender

When examining the online victimization experiences of males and females separately, female respondents experienced direct victimization more than male respondents, while male respondents experienced slightly more indirect victimization than female respondents. As seen in Table 4.3, of the 330 male respondents, 32.7% experienced some form of cyberstalking behavior, 17.0% had an online program hacked, and 10.6% had their identity stolen online. Of the 516 female respondents, 47.1% experienced some form of cyberstalking behavior, 18.6% had an online program hacked, and 13.2% had their identity stolen online. With regard to indirect victimization, 56.4% of the male respondents knew someone who had an online program hacked, and 28.8% knew someone who had their identity stolen online. For female respondents, 52.5% know someone who had an online program hacked, and 28.7% know someone who had their identity stolen online. With the five types of victimization examined, the difference between the number of males and females who experienced victimization is statistically significant for cyberstalking victimization (χ^2 (1, N =846) = 17.11, $p \leq 0.01$), but not for online program hacked (χ^2 (1, N =846) = 0.37, p = 0.55), identity stolen online (χ^2 (1, N =846) = 1.25, p = 0.26), friend's online program hacked (χ^2 (1, N =846) = 1.20, p = 0.27), or friend's identity stolen online (χ^2 (1, N =846) = 0.00, p = 0.97).

Race

With regards to race, there was very little difference in the number of respondents who experience online victimization. Of the 736 white respondents, 40.5% experienced some form of cyberstalking behavior, 18.2% had an online program hacked, and 11.8% had their identity stolen online. With the 106 non-white respondents, 49.1% experienced some form of

cyberstalking behavior, 17.0% had an online program hacked, and 15.1% had their identity stolen online. In terms of indirect victimization, 53.7% of the white respondents knew someone who had an online program hacked, and 28.9% knew someone who had their identity stolen online. Further, 55.7% of the non-white respondents knew someone who had an online program hacked, and 25.5% knew someone who had their identity stolen online. Though the difference in the numbers of white and non-white respondents who experienced certain types of online victimization may seem somewhat large, none of the differences are statistically significant (cyberstalking victimization: (χ^2 (1, N =842) = 2.80, p = 0.09); online program hacked: (χ^2 (1, N =842) = 0.09, p = 0.76); identity stolen online: (χ^2 (1, N =842) = 0.93, p = 0.34); friend's online program hacked: (χ^2 (1, N =842) = 0.15, p = 0.70); friend's identity stolen online: (χ^2 (1, N =842) = 0.55, p = 0.46).

Age

As seen in Table 4.3, the number of respondents who experienced the various forms of online victimization varies somewhat drastically across age categories. For example, none of the 24-year old respondents knew someone who had their identity stolen online, while 33.2% of the 20-year old respondents knew someone who had their identity stolen online. As mentioned with the previous discussion of fear of cyberstalking, though, this variation is most likely due to the relatively low number of respondents falling into certain age categories. Consequently, however, there is no statistically significant difference in the number of individuals who experienced online victimization falling into any of the age categories (cyberstalking victimization: (χ^2 (6, N =846) = 8.36, p = 0.21); online program hacked: (χ^2 (6, N =846) = 8.35, p = 0.21); identity stolen

online: (χ^2 (6, N =846) = 50.09, p = 0.53); friend's online program hacked: (χ^2 (6, N =846) = 3.88, p = 0.69); friend's identity stolen online: (χ^2 (6, N =846) = 10.59, p = 0.10).

Relationship Status

In viewing the number of single and non-single respondents who reported they experienced online victimization presented in Table 4.3, it can be seen that a larger portion of non-single respondents experienced every type of online victimization measured. Of the 362 single respondents, 37.3% experienced some form of cyberstalking behavior, 16.9% had an online program hacked, and 11.6% had their identity stolen online. With the 482 non-single respondents, 44.6% experienced some form of cyberstalking behavior, 18.88% had an online program hacked, and 12.7% had their identity stolen online. In terms of indirect victimization, 51.4% of the single respondents knew someone who had an online program hacked, and 25.7% knew someone who had their identity stolen online. Further, 56.0% of the non-single respondents knew someone who had an online program hacked, and 30.9% knew someone who had their identity stolen online. The difference between the number of single and non-single respondents who experienced victimization is statistically significant for cyberstalking victimization (χ^2 (1, N =844) = 4.56, $p \leq 0.05$), but not for online program hacked (χ^2 (1, N =844) = 0.58, p = 0.45), identity stolen online (χ^2 (1, N =844) = 0.21, p = 0.64), friend's online program hacked (χ^2 (1, N =844) = 1.79, p = 0.18), or friend's identity stolen online (χ^2 (1, N =844) = 2.76, p = 0.10).

Internet Use

Of the 576 light Internet users, 41.0% experienced some form of cyberstalking behavior, 16.3% had an online program hacked, and 11.7% had their identity stolen online. Of the 248 heavy Internet users, 42.7% experienced some form of cyberstalking behavior, 22.2% had an online program hacked, and 12.9% had their identity stolen online. In terms of indirect victimization, 52.8% of the light Internet users knew someone who had an online program hacked, and 27.6% knew someone who had their identity stolen online. Further, 56.9% of heavy Internet users know someone who had an online program hacked, and 31.1% knew someone who had their identity stolen online.

In comparing the percentage of light and heavy Internet users, a larger portion of heavy Internet users experienced every type of online victimization examined. At first blush this pattern seemingly provides strong support for the idea that heavy Internet users are more often exposed to potential offenders and are therefore more often victimized. However, when examining the statistical significance of the difference in the number of light and heavy Internet users who have been victimized online, the difference is not consistently significant. While there is a statistically significant difference in the number of light and heavy Internet users who had an online program hacked (χ^2 (1, N =845) = 4.18, $p \leq 0.05$), there is no significant difference in the number of light and heavy Internet users who experienced cyberstalking victimization (χ^2 (1, N =845) = 0.21, p = 0.65), had their identity stolen online (χ^2 (1, N =845) = 0.23, p = 0.63), had a friend whose online program was hacked (χ^2 (1, N =845) = 1.18, p = 0.28), or had a friend whose identity was stolen online (χ^2 (1, N =845) = 1.00, p = 0.32).

Table 4.3: Prevalence of Online Victimization by Respondent Characteristics and Type of Victimization[+]

	Cyberstalking Victim		Online Program Hacked		Online ID Stolen	
	n (%)	χ^2(df), p-value	n (%)	χ^2(df), p-value	n (%)	χ^2(df), p-value
Total (n = 846)	**351 (41.5%)**		**152 (18.0%)**		**103 (12.2%)**	
Gender						
Males (n = 330)	108 (32.7%)	17.11(1),	56 (17.0%)	0.37(1),	35 (10.6%)	1.25(1),
Females (n = 516)	243 (47.1%)	0.00**	96 (18.6%)	0.55	68 (13.2%)	0.26
Race						
White (n = 736)	298 (40.5%)	2.80(1),	134 (18.2%)	0.09(1),	87 (11.8%)	0.93(1),
Non-White (n = 106)	52 (49.1%)	0.09	18 (17.0%)	0.76	16 (15.1%)	0.34
Age						
18 (n = 67)	24 (35.8%)	8.36(6),	10 (14.9%)	8.35(6),	7 (10.5%)	5.09(6),
19 (n = 224)	94 (42.0%)	0.21	32 (14.3%)	0.21	33 (14.7%)	0.53
20 (n = 238)	98 (48.2%)		48 (20.2%)		29 (12.2%)	
21 (n = 177)	65 (36.7%)		33 (18.6%)		22 (12.4%)	
22 (n = 105)	54 (51.4%)		25 (23.8%)		11 (10.5%)	
23 (n = 21)	8 (38.1%)		1 (4.8%)		0 (0.0%)	
24 (n = 14)	8 (57.1%)		3 (21.4%)		1 (7.1%)	
Relationship Status						
Single (n = 362)	135 (37.3%)	4.56(1),	61 (16.9%)	0.58(1),	42 (11.6%)	0.21(1),
Non-Single (n = 482)	215 (44.6%)	0.03*	91 (18.9%)	0.45	61 (12.7%)	0.64
Internet Use						
Light User (n = 597)	245 (41.0%)	0.21(1),	97 (16.3%)	4.18(1),	70 (11.7%)	0.23(1),
Heavy User (n = 248)	106 (42.7%)	0.65	55 (22.2%)	0.04*	32 (12.9%)	0.63

[+]Number of cases may not add to 846 due to missing data

* $p \leq 0.05$; ** $p \leq 0.01$

Table 4.3: Prevalence of Victimization by Respondent Characteristics and Type of Victimization[+] (con.)

	Friend's Online Program Hacked		Friend's Online ID Stolen	
	n (%)	χ^2(df), p-value	n (%)	χ^2(df), p-value
Total (n = 846)	**457 (54.0%)**		**243 (28.7%)**	
Gender				
Males (n = 330)	186 (56.4%)	1.20(1),	95 (28.8%)	0.00(1),
Females (n = 516)	271 (52.5%)	0.27	148 (28.7%)	0.97
Race				
White (n = 736)	395 (53.7%)	0.15(1),	213 (28.9%)	0.55(1),
Non-White (n = 106)	59 (55.7%)	0.70	27 (25.5%)	0.46
Age				
18 (n = 67)	33 (49.3%)	3.88(6),	15 (22.4%)	10.59(6),
19 (n = 224)	121 (54.0%)	0.69	64 (28.6%)	0.10
20 (n = 238)	124 (52.1%)		79 (33.2%)	
21 (n = 177)	106 (59.9%)		53 (29.9%)	
22 (n = 105)	54 (51.4%)		28 (26.7%)	
23 (n = 21)	12 (57.1%)		4 (19.1%)	
24 (n = 14)	7 (50.0%)		0 (0.0%)	
Relationship Status				
Single (n = 362)	186 (51.4%)	1.79(1),	93 (25.7%)	2.76(1),
Non-Single (n = 482)	270 (56.0%)	0.18	149 (30.9%)	0.10
Internet Use				
Light User (n = 597)	315 (52.8%)	1.18(1),	165 (27.6%)	1.00(1),
Heavy User (n = 248)	141 (56.9%)	0.28	77 (31.1%)	0.32

[+]Number of cases may not add to 846 due to missing data
* $p \leq 0.05$; ** $p \leq 0.01$

Perceived Risk of Cyberstalking Victimization

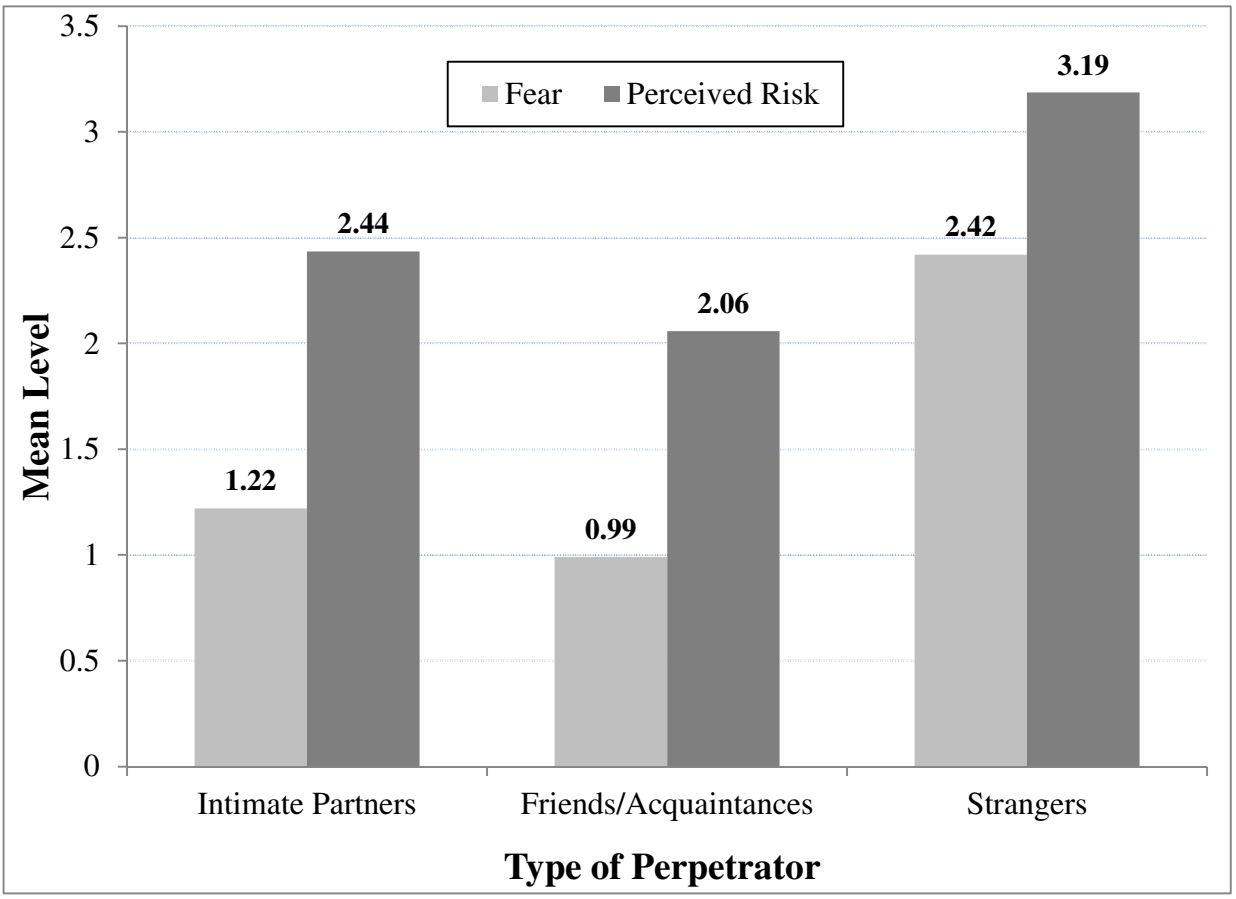
As noted in Chapter 3, in addition to being asked how fearful they are of experiencing cyberstalking victimization, respondents were also asked about their perceived risk of cyberstalking victimization. To measure perceived risk of cyberstalking victimization, respondents were asked how likely they think someone would use their online program information to cyberstalk them. Like the fear of cyberstalking victimization measure, the perceived risk of cyberstalking victimization measure was also recorded using a continuous intensity scale, and respondents were asked about their level of perceived risk for each type of perpetrator—intimate partner, friend/acquaintance, stranger. As seen in Table 4.4, the sample mean level of perceived risk of being cyberstalked by an intimate partner reported by respondents is 2.44 (SD = 3.79). The sample mean level of perceived risk of being cyberstalked by a friend/acquaintance is 2.06 (SD = 3.22). Finally, the sample mean level of perceived risk of being cyberstalked by a stranger is 3.19 (SD = 3.91).

Figure 4.4 presents a comparison of the sample mean levels of fear and perceived risk of being cyberstalked by the three different types of perpetrators examined. Two key patterns emerge from these results. First, respondents had a higher average level of perceived risk of cyberstalking victimization than average level of fear of cyberstalking victimization. By performing a paired-sample t-test, the differences between the mean level of fear and perceived risk was found to be statistically significant for all three types of perpetrator (intimate partner: t (845) = -12.78, $p \leq 0.01$; friend/acquaintance: t (845) = -12.04, $p \leq 0.01$; stranger: t (845) = -7.84, $p \leq 0.01$).[17] Secondly, it can also be seen that respondents were most apprehensive of strangers, as both the average level of perceived risk and fear of cyberstalking is highest with

[17] For each pair, fear was the first component and risk was the second.

strangers as perpetrators. This finding mirrors those of many traditional fear of crime studies, which often report that individuals have a higher perceived risk and fear of being victimized by strangers (Keane, 1995; Scott, 2003; Wilcox et al., 2006). Both these patterns will be discussed further in Chapter 5.

Figure 4.4: Intensity of Fear and Perceived Risk of Cyberstalking by Type of Perpetrator



Gender

Table 4.4 presents the levels of perceived risk of cyberstalking victimization reported by respondent broken down by characteristics and perpetrator type. As seen in the table, the mean level of perceived risk of cyberstalking is relatively similar for male and female respondents

across all three types of perpetrator. Male respondents reported a mean level of perceived risk of being cyberstalked by an intimate partner of 2.49 (*SD* = 3.71), a mean level of perceived risk of being cyberstalked by a friend/acquaintance of 2.02 (*SD* = 3.12), and a mean level of perceived risk of being cyberstalked by a stranger of 2.87 (*SD* = 3.65). Female respondents reported a mean level of perceived risk of being cyberstalked by an intimate partner of 2.40 (*SD* = 3.84), a mean level of perceived risk of being cyberstalked by a friend/acquaintance of 2.09 (*SD* = 3.29), and a mean level of perceived risk of being cyberstalked by a stranger of 3.39 (*SD* = 4.05). Unlike the examination of the reported levels of fear discussed previously, however, there is no statistically significant difference between the mean level of reported perceived risk for male and female respondents for all three types of examined perpetrators (intimate partner: t (844) = 0.36, p = 0.72; friends/acquaintances: t (844) = -0.31, p = 0.76; stranger: t (844) = -1.87, p = 0.06).

Race

The mean level of perceived risk of cyberstalking is also very similar for white and non-white respondents across all three types of perpetrators. White respondents reported a mean level of perceived risk of cyberstalking victimization by an intimate partner of 2.45 (*SD* = 3.78), a mean level of perceived risk of cyberstalking victimization by a friend/acquaintance of 2.05 (*SD* = 3.11), and a mean level of perceived risk of cyberstalking victimization by a stranger of 3.12 (*SD* = 3.83). Non-white respondents reported a mean level of perceived risk of cyberstalking victimization by an intimate partner of 2.28 (*SD* = 3.89), a mean level of perceived risk of cyberstalking victimization by a friend/acquaintance of 2.13 (*SD* = 3.96), and a mean level of perceived risk of cyberstalking victimization by a stranger of 3.61 (*SD* = 4.40). As with gender, there is no statistically significant difference between the mean levels of perceived risk

reported by whites and non-whites for any of the types of perpetrators examined (intimate partner: t (840) = 0.42, p = 0.67; friends/acquaintances: t (840) = -0.22, p = 0.83; stranger: t (840) = -1.10, p = 0.27).

Age

As with the previous discussions of the variation across age categories, the mean level of perceived risk of cyberstalking victimization reported by respondents varies somewhat dramatically across age groups for all three types of perpetrator. Again, this is most likely due to the low number of respondents that fall into some of the age categories. In examining the difference between the mean levels of perceived risk for each type of perpetrator, no statistically significant difference was found across age categories (intimate partners: F (6, 839) = 0.87, p = 0.51; friends/acquaintances: F (6, 839) = 1.26, p = 0.27; strangers: F (6, 839) = 0.58, p = 0.75).

Relationship Status

In terms of relationship status, non-single respondents had a higher perceived risk of cyberstalking victimization than single respondents for each type of perpetrator examined. As seen in Table 4.4, single respondents reported a mean level of perceived risk of cyberstalking victimization by an intimate partner of 2.12 (SD = 3.45), a mean level of perceived risk of cyberstalking victimization by a friend/acquaintance of 1.94 (SD = 3.07), and a mean level of perceived risk of cyberstalking victimization by a stranger of 2.98 (SD = 3.77). Non-single respondents reported a mean level of perceived risk of cyberstalking victimization by an intimate partner of 2.69 (SD = 4.02), a mean level of perceived risk of cyberstalking victimization by a friend/acquaintance of 2.16 (SD = 3.34), and a mean level of perceived risk of cyberstalking

victimization by a stranger of 3.36 (*SD* = 4.01). The difference between the mean levels of perceived risk of being cyberstalked by an intimate partner reported by single and non-single respondents is statistically significant (t (842) = -2.21, $p \leq 0.05$). However, there is not a significant difference in the mean levels of perceived risk of being cyberstalked by a friend/acquaintance (t (842) = -0.97, $p = 0.34$) or stranger (t (842) = -1.41, $p = 0.16$).

Internet Use

Finally, in examining the level of perceived risk of cyberstalking reported by light and heavy Internet users, light Internet users reported a higher mean level of perceived risk for all three types of perpetrators. As seen in Table 4.4, light Internet users reported a mean level of perceived risk of being cyberstalked by an intimate partner of 2.59 (*SD* = 3.93), a mean level of perceived risk of being cyberstalked by a friend/acquaintance of 2.24 (*SD* = 3.22), and a mean level of perceived risk of being cyberstalked by a stranger of 3.22 (*SD* = 3.94). Heavy Internet users reported a mean level of perceived risk of being cyberstalked by an intimate partner of 2.06 (*SD* = 3.39), a mean level of perceived risk of being cyberstalked by a friend/acquaintance of 1.63 (*SD* = 2.86), and a mean level of perceived risk of being cyberstalked by a stranger of 3.10 (*SD* = 3.84). In comparing the mean level of perceived risk for each group, there is a statistically significant difference between light and heavy Internet users for intimate partners (t (843) = 1.99, $p \leq 0.05$) and friends/acquaintances (t (843) = 2.67, $p \leq 0.01$); however, there is no statistically significant difference for strangers (t (843) = 0.40, $p = 0.69$).

Table 4.4: Intensity of Perceived Risk of Cyberstalking Victimization by Respondent Characteristics and Perpetrator Type[+]

	Intimate Partners		Friends/Acquaintances		Strangers	
	Mean (SD)	t (df), p-value	Mean (SD)	t (df), p-value	Mean (SD)	t (df), p-value
Total (n = 846)	**2.44 (3.79)**		**2.06 (3.22)**		**3.19 (3.91)**	
Gender						
Males (n = 330)	2.49 (3.71)	0.36(844),	2.02 (3.12)	-0.31(844),	2.87 (3.65)	-1.87(844),
Females (n = 516)	2.40 (3.84)	0.72	2.09 (3.29)	0.76	3.39 (4.05)	0.06
Race						
White (n = 736)	2.45 (3.78)	0.87(840),	2.05 (3.11)	-0.22(840),	3.12 (3.83)	-1.10(840),
Non-White (n = 106)	2.28 (3.89)	0.67	2.13 (3.96)	0.83	3.61 (4.40)	0.27
Age[++]						
18 (n = 67)	1.96 (3.46)	0.87(6, 839),	1.67 (2.60)	1.26(6, 839),	3.12 (3.80)	0.58(6, 839),
19 (n = 224)	2.15 (4.04)	0.51	2.08 (3.47)	0.27	3.30 (3.90)	0.75
20 (n = 238)	2.42 (3.53)		2.05 (3.16)		3.10 (3.92)	
21 (n = 177)	2.50 (4.03)		2.10 (3.35)		3.33 (4.28)	
22 (n = 105)	2.91 (3.96)		2.56 (3.28)		3.31 (3.63)	
23 (n = 21)	2.38 (2.62)		1.19 (2.09)		2.33 (2.58)	
24 (n = 14)	0.86 (1.75)		0.71 (1.33)		1.79 (2.81)	
Relationship Status						
Single (n = 362)	2.12 (3.45)	-2.21(842),	1.94 (3.07)	-0.98(842),	2.98 (3.77)	-1.41(842),
Non-Single (n = 482)	2.69 (4.02)	0.03*	2.16 (3.34)	0.33	3.36 (4.01)	0.16
Internet Use						
Light User (n = 597)	2.59 (3.93)	1.99(843),	2.24 (3.22)	2.67(843),	3.22 (3.94)	0.40(843),
Heavy User (n = 248)	2.06 (3.39)	0.05*	1.63 (2.86)	0.01**	3.10 (3.84)	0.69

[+]Number of cases may not add to 846 due to missing data

++ An ANOVA was performed rather than an independent sample t-test because the independent variable had more than two categories. F-values rather than t-values are presented.

* $p \leq 0.05$; ** $p \leq 0.01$

Bivariate Relationships

Table 4.5 presents the bivariate correlations between the dependent, independent, and control variables.[18] As with the previous discussions, the bivariate analysis includes measures of demographic characteristics, online exposure, online victimization (direct and indirect), perceived risk of cyberstalking victimization, and fear of cyberstalking victimization. Further, both the perceived risk and fear measures are divided into three categories based on the type of perpetrator (intimate partner, friend/acquaintance, stranger). All relationships significant at the 0.05 level or better are marked with asterisks.

Online Victimization

In terms of online victimization, all but one of the relationships between the measures of direct victimization and fear of cyberstalking victimization are significant. As seen in Table 4.5, there is a statistically significant and positive relationship between being a victim of cyberstalking and fear of cyberstalking by an intimate partner ($r_{pb} = 0.24$, $p \leq 0.01$), fear of cyberstalking by a friend/acquaintance ($r_{pb} = 0.16$, $p < 0.01$), and fear of cyberstalking victimization by a stranger ($r_{pb} = 0.24$, $p < 0.01$). Given the findings of many traditional fear of crime studies, it is not surprising that these are the strongest associations of any of the online victimization and fear of cyberstalking measures. Further, there is a statistically significant and positive relationship between having an online program hacked and fear of cyberstalking by an intimate partner ($r_{pb} = 0.10$, $p < 0.01$) and fear of cyberstalking victimization by a stranger ($r_{pb} = 0.07$, $p < 0.05$). Finally, there is also statistically significant and positive associations between

[18] Two types of correlation coefficients are presented. Pearson's product-moment correlation coefficients are presented for the age and perceived risk measures. As all of the other independent and control variables are dichotomous, point biserial correlation coefficients will be presented for them. The two types of coefficients are interpreted in the same manner.

having one's identity stolen online and all three measures of fear of cyberstalking (intimate partner: $r_{pb} = 0.10$, $p < 0.01$; friend/acquaintance: $r_{pb} = 0.12$, $p < 0.01$; stranger: $r_{pb} = 0.13$, $p < 0.01$).

Shown in Table 4.5, there are much fewer significant associations between the measures of indirect online victimization and fear of cyberstalking victimization than with direct victimization. In fact, there are only two statistically significant relationships. There is a statistically significant and positive relationship between having a friend had an online program hacked and fear of cyberstalking by a stranger ($r_{pb} = 0.07$, $p < 0.05$). There is also a statistically significant and positive relationship between having a friend whose identity was stolen online and fear of cyberstalking by a stranger ($r_{pb} = 0.10$, $p < 0.01$). Though statistically significant, both these relationships are very weak.

Perceived Risk of Cyberstalking Victimization

As many traditional fear of crime research studies have found a strong relationship between perceived risk and fear of victimization, it is not surprising that the strongest bivariate relationships found in the current study are between perceived risk of cyberstalking victimization and fear of cyberstalking victimization. As seen in Table 4.5, the measures of perceived risk of cyberstalking victimization are significantly and moderately associated with the measures of fear of cyberstalking victimization. In terms of the direction of the relationships, perceived risk of cyberstalking by an intimate partner is positively associated with fear of cyberstalking by an intimate partner ($r = 0.68$, $p < 0.01$); perceived risk of cyberstalking by a friend/acquaintance is positively associated with fear of cyberstalking by a friend/acquaintance ($r = 0.52$, $p < 0.01$); and

perceived risk of cyberstalking by a stranger is positively associated with fear of cyberstalking by a stranger ($r = 0.72$, $p < 0.01$).

Control Variables

As shown in Table 4.5, there are several significant bivariate relationships between some of the control variables and fear variables. It must be noted, however, that while they are statistically significant, the strength of many of these relationships are relatively weak. With the demographic measures, gender is significantly and positively associated with both fear of cyberstalking victimization by an intimate partner ($r_{pb} = 0.11$, $p < 0.01$) and fear of cyberstalking victimization by a stranger ($r_{pb} = 0.15$, $p < 0.01$). Relationship status is also positively and significantly associated with both fear of cyberstalking victimization by an intimate partner ($r_{pb} = 0.07$, $p < 0.05$) and fear of cyberstalking victimization by a stranger ($r_{pb} = 0.77$, $p < 0.05$). In terms of online exposure, only the use of instant messengers is significantly associated with fear of cyberstalking. As seen in Table 4.5, there is a statistically significant and positive relationship between the use of instant messengers and fear of cyberstalking by an intimate partner ($r_{pb} = 0.11$, $p < 0.01$), fear of cyberstalking by a friend/acquaintance ($r_{pb} = 0.08$, $p < 0.05$), and fear of cyberstalking victimization by a stranger ($r_{pb} = 0.09$, $p < 0.01$).

Table 4.5: Bivariate Relationships Between Dependent, Independent, and Control Variables[+]

	Fear of Cyberstalking by		
	Intimate Partner	Friend/Acquaintance	Stranger
Demographics			
Gender	0.11**	0.06	0.15**
Race	0.01	0.06	0.06
Age	-0.03	-0.04	-0.04
Relationship Status	0.07*	0.05	0.08*
Online Exposure			
Internet Use	-0.05	-0.03	0.01
Use Dating Sites	0.06	0.06	0.04
Use Online Groups	-0.04	-0.04	0.01
Use Instant Messengers	0.11**	0.08*	0.09**
Use YouTube	0.06	0.06	0.04
Online Victimization			
Cyberstalking Victim	0.24**	0.16**	0.24**
Online Program Hacked	0.10**	0.04	0.07*
Online ID Stolen	0.10**	0.11**	0.13**
Friend's Online Program Hacked	0.06	0.03	0.07*
Friend's Online ID Stolen	0.05	0.06	0.10**
Perceived Risk of			
Cyberstalking by Intimate Partner	0.68**		
Cyberstalking by Friend/Acquaintance		0.62**	
Cyberstalking by Stranger			0.72**

[+]Two types of correlation coefficients are presented. Pearson's product-moment correlation coefficients are presented for the age and perceived risk measures. As all of the other independent and control variables are dichotomous, point biserial correlation coefficients will be presented for them. The two types of coefficients are interpreted in the same manner.
* $p \leq 0.05$; ** $p \leq 0.01$

Multivariate Relationships

Discussed in Chapter 3, Ordinary Least Squares (OLS) regression, also referred to as linear regression, is the main analytical technique utilized in the current study. To appropriately use OLS regression, however, one should check to make sure the data meet certain assumptions so that the results of the analysis are more meaningful and unbiased. Some of the more common assumptions examined include: the distribution of the data is normal, the variance of the error

terms is constant (homoscedasticity), and the amount of correlation between variables is relatively low.[19]

While checking to see if these assumptions were met, it was determined that the data was heteroskedastic, meaning the variance of the dependent variables is not constant for all values of the independent variables. Heteroskedasticity was found by examining results of the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, which assumes the variance is constant. For each of the three types of fear of cyberstalking examined, the BP/CW test produced a large chi-square value and was statistically significant at the 0.05 level of significance, indicating that the variance was not constant. This is most likely caused by the skewness in each of the three dependent variables. Though the possible values of the dependent variables range from 0 to 18, approximately 72% of the cases have a value of zero for the level of fear reported for intimate partner and friend/acquaintance perpetrators, and approximately 50% have a value of zero for the level of fear reported for stranger perpetrators. Further, only 8% of the cases for intimate partner perpetrator variable, 5% of the cases for the friend/acquaintance perpetrator variable, and 17% of the cases for the stranger perpetrator variable have a value higher than five. The presence of heteroskedasticity can lead to biased standard errors, which may produce bias in test statistics (Allison, 1999; Berry & Feldman, 1985; Wooldridge, 2009). As a result, in an effort to obtain reliable estimates, several models have been produced utilizing different statistical techniques. Each model will be discussed in detail below.

[19] The measure of tolerance was above 0.80 for all variables and the variance inflation factor (VIF) was very low for each variable, indicating that multicollinearity is not a problem. There is some issue with the normality of the distribution, as seen with an inspection of the Q-Q plot. However, the issue is not extreme and is caused by the skewness of the distribution which will be discussed in more detail.

Traditional OLS Multivariate Regression

Table 4.6 presents the unstandardized coefficients (*b*) and standard errors from the OLS regression analysis, in which heteroskedasticity has not been addressed. As with the bivariate analysis discussed previously, the relationship between the dependent, independent, and control variables are presented separately for each type of fear of cyberstalking being examined—intimate partner, friend/acquaintance, stranger. Also, each relationship that is statistically significant at the 0.05 level or better is noted with an asterisk. Only the significant relationships will be discussed. Finally, the amount of variation in the dependent variable explained by the independent and control variables (adjusted R^2) is presented at the bottom of each column.

Fear of Cyberstalking by an Intimate Partner

The first two columns in Table 4.6 display the model statistics for the multivariate relationship between the independent and control variables and the reported level of fear of cyberstalking by an intimate partner. As seen in the table, gender is positively and significantly related to fear of cyberstalking by an intimate partner ($b = 0.61$, $SE = 0.15$, $p \leq 0.01$). With gender coded as 0 = male and 1 = female, the direction of this relationship indicates that women are more fearful of cyberstalking by an intimate partner than men. Though weaker, there also appears to be a significant, but negative relationship between age and fear of cyberstalking by an intimate partner ($b = -0.11$, $SE = 0.06$, $p \leq 0.05$). This indicates that older respondents have significantly lower levels of fear of cyberstalking by an intimate partner than younger respondents.

Further, it appears that measures of both direct and indirect victimization are significantly related to fear of cyberstalking by an intimate partner. In terms of direct victimization, both

previously experiencing cyberstalking victimization ($b = 0.37$, $SE = 0.16$, $p \leq 0.05$) and having an online program hacked ($b = 0.45$, $SE = 0.20$, $p \leq 0.05$) are positively and significantly related to the level of fear of cyberstalking by an intimate partner. The positive direction of these relationships indicates that respondents who experienced direct online victimization have higher levels of fear of cyberstalking by an intimate partner. Interestingly, in terms of indirect victimization, there is a significant and negative relationship between having a friend whose identity was stolen online and the level of fear of cyberstalking by an intimate partner ($b = -0.44$, $SE = 0.18$, $p \leq 0.01$). This indicates that respondents who experienced indirect online victimization have a lower level of fear. While the reason for this relationship is not fully known, it may be that respondents become desensitized as a result of indirect online victimization and therefore, are not as fearful. This will be discussed in more detail in the next chapter.

One of the strongest and most consistent associations in the current analysis is the relationship between perceived risk of cyberstalking and fear of cyberstalking. As seen in Table 4.6, there is a statistically significant and positive relationship between perceived risk of cyberstalking by an intimate partner and fear of cyberstalking by an intimate partner ($b = 0.51$, $SE = 0.02$, $p \leq 0.01$). This indicates that respondents with higher levels of perceived risk also have higher levels of fear. These results are supportive of past research which frequently show that perceived risk of victimization is strongly and significantly associated with fear of victimization (see Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983).

The adjusted R^2 values presented in the bottom row of Table 4.6 represent an estimate of the amount of variation in the dependent variable explained by the combination of the independent and control variables. With fear of cyberstalking by an intimate partner, 48.7% of the variation is explained by the independent and control variables. Further, the presence of the perceived risk measure explains the majority of the variation. Without it, the other variables in the model only explain 7.5% of the variation in the fear measure. This is a strong indication that perceived risk is an important predictor in fear of cybercrime research.

Fear of Cyberstalking by a Friend/Acquaintance

The second two columns in Table 4.6 display the model statistics for the multivariate relationship between the independent and control variables and the reported level of fear of cyberstalking by a friend/acquaintance. This model displayed the fewest significant relationships of any of the three models. In fact, only two statistically significant relationships are present. First, as with fear of cyberstalking by an intimate partner, there is a significant and negative relationship between age and fear of cyberstalking by a friend/acquaintance (b = -0.10, SE = 0.05, $p \leq 0.05$). This indicates that older respondents are less fearful of being cyberstalked by a friend/acquaintance than younger respondents. Further, there is a significant and positive relationship between perceived risk of cyberstalking by a friend/acquaintance and fear of cyberstalking by a friend/acquaintance (b = 0.45, SE = 0.02, $p \leq 0.01$). Again, this relationship is very supportive of the findings of previous fear studies, which often report strong associations between perceived risk and fear of victimization (see Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983).

In terms of the amount of variation in the dependent variable explained by the combination of the independent and control variables, it is estimated that 38.1% of the variation in the level of fear of cyberstalking by a friend/acquaintance is explained by the independent and control variables. Further, a very large portion of the variation in the dependent variable is explained by the measure of perceived risk of cyberstalking by a friend/acquaintance. Without it, the other variables in the model explain only 3.8% of the variation in the fear measure.

Fear of Cyberstalking by a Stranger

Finally, the last two columns in Table 4.6 display the model statistics for the multivariate relationship between the independent and control variables and the reported level of fear of cyberstalking by a stranger. As seen in the table, gender is positively and significantly related to fear of cyberstalking by stranger ($b = 0.66$, $SE = 0.18$, $p \leq 0.01$). The direction of this relationship indicates that women are more fearful of cyberstalking by a stranger than men. There is also a significant and positive relationship between one of the measures of direct victimization—previous cyberstalking victim—and fear of cyberstalking by a stranger ($b = 0.37$, $SE = 0.19$, $p \leq 0.05$), meaning respondents who previously experienced cyberstalking victimization have higher levels of fear of cyberstalking by strangers. Finally, as with both of the other fear of cyberstalking models, there is a statistically significant and positive relationship between perceived risk of cyberstalking by a stranger and fear of cyberstalking by a stranger ($b = 0.65$, $SE = 0.02$, $p \leq 0.01$). Again, this indicates that respondents with higher levels of perceived risk also have higher levels of fear, which is supportive of previous research findings a strong association between perceived risk and fear of victimization (see Chadee, Austen, & Ditton,

2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983).

In explaining 52.9% of the variation in the dependent variable, the independent and control variables account for a larger amount of the variation in the fear of cyberstalking by a stranger model than they do in either of the other two models. Further, there is little doubt that the perceived risk of cyberstalking by a stranger measure explains the most variance in the fear of cyberstalking by a stranger measure. The remaining variables only explain 7.8% of the variation in the fear measure.

Table 4.6: OLS Regression of Independent and Control Variables on Fear of Cyberstalking

	Fear of Cyberstalking by					
	Intimate Partner		Friend/Acquaintance		Stranger	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	0.61**	(0.15)	0.22	(0.14)	0.66**	(0.19)
Race	0.15	(0.22)	0.34	(0.20)	0.27	(0.27)
Age	-0.11*	(0.06)	-0.10*	(0.05)	-0.09	(0.07)
Relationship Status	0.02	(0.90)	0.10	(0.14)	0.17	(0.18)
Online Exposure						
Internet Use	-0.01	(0.16)	0.06	(0.15)	0.11	(0.20)
Use Dating Sites	-0.14	(0.63)	-0.18	(0.57)	-0.32	(0.77)
Use Online Groups	0.09	(0.21)	0.12	(0.19)	-0.23	(0.25)
Use Instant Messengers	0.15	(0.15)	0.10	(0.14)	0.24	(0.19)
Use YouTube	-0.00	(0.20)	0.08	(0.18)	-0.01	(0.24)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	0.37*	(0.16)	0.09	(0.14)	0.37*	(0.19)
Online Program Hacked	0.45*	(0.20)	0.07	(0.18)	-0.06	(0.24)
Online ID Stolen	0.26	(0.24)	0.10	(0.22)	0.50	(0.29)
Friend's Online Program Hacked	-0.15	(0.15)	-0.25	(0.14)	0.09	(0.19)
Friend's Online ID Stolen	-0.44**	(0.18)	-0.11	(0.16)	-0.30	(0.21)
Perceived Risk of						
Cyberstalking by Intimate Partner	0.51**	(0.02)				
Cyberstalking by Friend/Acquaintance			0.45**	(0.02)		
Cyberstalking by Stranger					0.65**	(0.02)
Adjusted R^2	**0.487**		**0.381**		**0.529**	

* $p \leq 0.05$; ** $p \leq 0.01$

OLS Multivariate Regression with Robust Standard Errors

One of the main issues with estimating OLS regression in the presence of heteroskedasticity is that the standard errors (which are based on the variances described previously) produced most likely are biased. This could directly influence the test statistics and significance levels of the regression analysis. One of the simplest techniques used to account for the presence of heteroskedasticity is the use of robust standard errors, also known as the Huber/White or sandwich estimators of variance (Allison, 1999; Berry & Feldman, 1985; Wooldridge, 2009). With the use of robust standard errors, the assumptions that the error terms are independent and there is a constant distribution are somewhat relaxed.[20] This technique is often referred to as heteroskedastic-robust procedures, as they produce valid standard errors with large samples. Essentially, more reliable standard error values are obtained which then helps ensure the test statistics and significance levels are more trustworthy (Wooldridge, 2009).

Table 4.7 displays the same OLS regression models described above with the application of robust standard errors. With the use of robust standard errors, the values of the *b* coefficients do not change, as would be expected (Wooldridge, 2009). Nevertheless, as can be seen in the table, the values of the standard errors did change. In comparing Table 4.6 and Table 4.7, it seems that the robust standard error is slightly higher or lower than the original standard errors for the majority of relationships. However, there are a few instances in which the differences between the original and robust standard errors are more drastic. For example, in the original OLS regression model for the fear of cyberstalking by an intimate partner, the standard error for relationship status is 0.90, while in the OLS regression model with robust standard errors, the value is 0.15, indicating a sizable decrease in the standard error.

[20] For a detailed explanation of the use and effects of robust standard errors, see *Introductory Econometrics: A Modern Approach*, by Jeffrey Wooldridge (2009)

In terms of the tests of significance, there was only one change. For the model focusing on fear of cyberstalking by strangers, the relationship between being previous cyberstalking victimization and fear of cyberstalking by a stranger was significant at the 0.05 level in the original OLS regression model. However, in the model with robust standard errors, it is no longer statistically significant ($p = 0.06$). This finding brings into question the actual significance of the association between the two variables. As a result, the relationship will not be considered significant in the remaining discussion.

Finally, a comparison of the amount of variation in the dependent variables explained by the independent and control variables (adjusted R^2 value) displayed in Table 4.6 and Table 4.7 also show some slight change across the two types of analysis. With the model for fear of cyberstalking victimization by an intimate partner, the amount of variation in the dependent variable explained increases from 48.7% in the original OLS regression model to 49.6% in the OLS regression with robust standard errors model. Similarly, for the model for fear of cyberstalking victimization by a friend/acquaintance, the amount of explained variation increases from 38.1% in the original model to 39.2% robust standard error model. Further, with the model for fear of cyberstalking by a stranger, the amount of variation in the dependent variable explained by the control and independent variables increases from 52.9% in the original OLS regression model to 53.8% in the robust standard errors model.

Table 4.7: OLS Regression (with Robust Standard Errors) of Control and Independent Variables on Fear of Cyberstalking

	Fear of Cyberstalking by					
	Intimate Partner		Friend/Acquaintance		Stranger	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	0.61**	(0.14)	0.22	(0.13)	0.66**	(0.18)
Race	0.15	(0.21)	0.34	(0.23)	0.27	(0.32)
Age	-0.11*	(0.05)	-0.10*	(0.05)	-0.09	(0.06)
Relationship Status	0.02	(0.15)	0.10	(0.13)	0.17	(0.18)
Online Exposure						
Internet Use	-0.01	(0.16)	0.06	(0.16)	0.11	(0.20)
Use Dating Sites	-0.14	(0.23)	-0.18	(0.29)	-0.32	(0.66)
Use Online Groups	0.09	(0.21)	0.12	(0.19)	-0.23	(0.28)
Use Instant Messengers	0.15	(0.15)	0.10	(0.14)	0.24	(0.19)
Use YouTube	-0.00	(0.15)	0.08	(0.14)	-0.01	(0.19)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	0.37*	(0.15)	0.09	(0.14)	0.37	(0.20)
Online Program Hacked	0.45*	(0.20)	0.07	(0.18)	-0.06	(0.26)
Online ID Stolen	0.26	(0.21)	0.10	(0.24)	0.50	(0.35)
Friend's Online Program Hacked	-0.15	(0.14)	-0.25	(0.13)	0.09	(0.17)
Friend's Online ID Stolen	-0.44**	(0.17)	-0.11	(0.16)	-0.30	(0.21)
Perceived Risk of						
Cyberstalking by Intimate Partner	0.51**	(0.04)				
Cyberstalking by Friend/Acquaintance			0.45**	(0.05)		
Cyberstalking by Stranger					0.65**	(0.04)
Adjusted R^2	**0.496**		**0.392**		**0.538**	

* $p \leq 0.05$; ** $p \leq 0.01$

Tobit Multivariate Regression

In an effort to present reliable estimates, a third type of multivariate analytical technique is utilized. In some cases, variables may be considered censored, meaning there is a minimum or maximum threshold value at which a large number of cases fall (Jöreskog, 2002; Wooldridge, 2002; 2009). This is sometimes referred to as a corner solution response. For example, in criminal justice research, numerous studies include measures for the number of crimes

committed by individuals. If the research sample is taken from the general population, it is likely that there will be a large number of individuals who have not committed any crime. Therefore it will have a large number of cases at the minimum threshold (also known as left censored) and fewer distributed at values above zero. Such a distribution could be highly skewed to the right. To attempt to overcome problems produced by skewness (and to an extent heteroskedasticity) special types of analysis have been developed. As one such type of analysis, tobit regression (also known as censored regression) allows for the analysis of data that contain variables with lower and/or upper value thresholds (Jöreskog, 2002; Wooldridge, 2002; 2009). Table 4.8 presents the tobit regression models for the fear of cyberstalking utilizing the same variables as the OLS regression models discussed previously.

Fear of Cyberstalking by an Intimate Partner

As with the Tables 4.6 and 4.7, the first two columns in Table 4.8 display the tobit model for the relationship between the independent and control variables and the reported level of fear of cyberstalking by an intimate partner. In terms of demographics, gender is significantly and positively related to fear of cyberstalking by an intimate partner ($b = 1.50$, $SE = 0.45$, $p \leq 0.01$), indicating that women are more fearful of cyberstalking by an intimate partner than men. There is also a significant and negative relationship between age and fear of cyberstalking by an intimate partner ($b = -0.32$, $SE = 0.16$, $p \leq 0.05$). As with the OLS models, this indicates that older respondents have lower levels of fear of cyberstalking by an intimate partner than younger respondents.

Shown in Table 4.8, measures of both direct and indirect victimization are significantly related to fear of cyberstalking by an intimate partner. For direct victimization, previous

cyberstalking victimization (b = 1.20, SE = 0.44, $p \leq 0.01$) and having an online program hacked (b = 1.08, SE = 0.53, $p \leq 0.05$) are positively and significantly related to the level of fear of cyberstalking by an intimate partner. The direction of these relationships indicates that respondents who have experienced direct online victimization have higher levels of fear of cyberstalking by an intimate partner. In terms of indirect victimization, there is a significant and negative relationship between having a friend whose identity was stolen online and the level of fear of cyberstalking by an intimate partner (b = -0.99, SE = 0.50, $p \leq 0.05$), indicating that respondents who have experienced indirect online victimization have a lower level of fear of cyberstalking by an intimate partner.

Echoing the results of the OLS regression models, the relationship between perceived risk of cyberstalking and fear of cyberstalking is also significant in the tobit models. Displayed in Table 4.8, there is a statistically significant and positive relationship between perceived risk of cyberstalking by an intimate partner and fear of cyberstalking by an intimate partner (b = 0.96, SE = 0.05, $p \leq 0.01$). Again, this indicates that respondents with higher levels of perceived risk of cyberstalking by an intimate partner also have higher levels of fear of cyberstalking by an intimate partner.

For the measure of the amount of variation in the dependent variable explained by the independent variables, tobit models produce a pseudo R^2 rather than the adjusted R^2 presented with OLS models. The comparability of the two measures is questionable. This is a fact echoed by the developers of the statistical program STATA, which was used for the current analysis. Stated on STATA's website:

> We do not intend that our pseudo R^2 should be reported in formal write-ups of results. The idea of a pseudo R^2 came from economists who wanted some rough measure of

> explanatory power of the model. So it's really just a guide for fitting models. A small pseudo R^2 should make one humble about the model's explanatory ability, but a big pseudo R^2 should not be taken as something necessarily wonderful. (STATA, 2011)

As a result, while the pseudo R^2 values for the tobit models are provided in Table 4.8, they will not be discussed.

Fear of Cyberstalking by a Friend/Acquaintance

The center two columns in Table 4.8 display the tobit model statistics for the relationship between the independent and control variables and the reported level of fear of cyberstalking by a friend/acquaintance. With this model, there is only one statically significant relationship. There is a significant and positive relationship between perceived risk of cyberstalking by a friend/acquaintance and fear of cyberstalking by a friend/acquaintance ($b = 0.90$, $SE = 0.06$, $p \leq 0.01$). The single significant relationship further supports the importance of examining perceived risk in fear of crime research.

Fear of Cyberstalking by a Stranger

Finally, the last two columns in Table 4.8 display the tobit model statistics for the relationship between the independent and control variables and the reported level of fear of cyberstalking by a stranger. As seen in the table, gender is positively and significantly related to fear of cyberstalking by stranger ($b = 1.48$, $SE = 0.18$, $p \leq 0.01$). The direction of this relationship indicates that women are more fearful of cyberstalking by a stranger than men. There is also a significant and positive relationship between one of the measures of direct victimization—previous cyberstalking victim—and fear of cyberstalking by a stranger ($b = 1.02$, $SE = 0.33$, $p \leq 0.01$), indicating respondents who previously experienced cyberstalking

victimization have higher levels of fear of cyberstalking by strangers. Finally, there is a statistically significant and positive relationship between perceived risk of cyberstalking by a stranger and fear of cyberstalking by a stranger ($b = 0.95$, $SE = 0.04$, $p \leq 0.01$). Again, this indicates that respondents with higher levels of perceived risk of cyberstalking victimization by strangers also have higher levels of fear of cyberstalking victimization by strangers.

Table 4.8: Tobit Regression of Control and Independent Variables on Fear of Cyberstalking

	Fear of Cyberstalking by					
	Intimate Partner		Friend/Acquaintance		Stranger	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	1.50**	(0.45)	0.78	(0.41)	1.48**	(0.18)
Race	0.01	(0.64)	0.24	(0.58)	0.15	(0.47)
Age	-0.32*	(0.16)	-0.18	(0.15)	-0.10	(0.19)
Relationship Status	0.45	(0.43)	0.17	(0.39)	0.12	(0.32)
Online Exposure						
Internet Use	-0.38	(0.48)	-0.35	(0.45)	-0.05	(0.36)
Use Dating Sites	-1.09	(2.20)	-0.45	(1.85)	-0.01	(1.30)
Use Online Groups	-0.05	(0.59)	0.21	(0.53)	-0.25	(0.44)
Use Instant Messengers	0.68	(0.44)	0.68	(0.40)	0.55	(0.33)
Use YouTube	-0.04	(0.59)	0.92	(0.57)	0.28	(0.44)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	1.20**	(0.44)	0.52	(0.41)	1.02**	(0.33)
Online Program Hacked	1.08*	(0.53)	-0.06	(0.52)	-0.56	(0.43)
Online ID Stolen	0.72	(0.64)	0.38	(0.60)	0.53	(0.50)
Friend's Online Program Hacked	-0.43	(0.45)	-0.55	(0.41)	-0.09	(0.33)
Friend's Online ID Stolen	-0.99*	(0.50)	-0.39	(0.46)	-0.12	(0.37)
Perceived Risk of						
Cyberstalking by Intimate Partner	0.96**	(0.05)				
Cyberstalking by Friend/Acquaintance			0.90**	(0.06)		
Cyberstalking by Stranger					0.95**	(0.04)
Log Likelihood	-874.49		-884.34		-1377.47	
Likelihood Ratio χ^2 (df)	398.63 (15)**		301.27 (15)**		540.98 (15)**	
Adjusted R^2	0.186		0.146		0.164	
N	840		840		840	

* $p \leq 0.05$; ** $p \leq 0.01$

Comparison of Models

When examining the relationship between demographic, online exposure, online activity, perceived risk of cyberstalking victimization, and fear of cyberstalking victimization variables, several significant relationships become clear. Tables 4.9, 4.10, and 4.11 below present a comparison of the unstandardized coefficients (*b*) and standard errors (*SE*) produced by the OLS regression, OLS with robust standard errors regression, and tobit regression models. Table 4.9 presents the model comparisons for the fear of cyberstalking by an intimate partner measure; Table 4.10 presents the model comparisons for the fear of cyberstalking by a friend/acquaintance measure; and Table 4.11 presents the model comparisons for the fear of cyberstalking by a stranger measure. Given the data issues discussed previously, those relationships that are statistically significant across all three models are considered the most robust.

Fear of Cyberstalking by an Intimate Partner

The models for fear of cyberstalking by an intimate partner have the most significant relationships across the three types of statistical techniques. As seen in Table 4.9, there is a positive and significant relationship between gender and fear of cyberstalking by an intimate partner in each model, which indicates that female respondents have higher levels of fear than male respondents. Conversely, the relationship between age and fear of cyberstalking by an intimate partner is negative and significant across all three models. The negative direction indicates that older respondents have lower levels of fear than younger respondents.

In terms of direct online victimization, there is a positive and significant relationship between both being a victim of cyberstalking and having one's online program hacked and fear of cyberstalking by an intimate partner. These relationships signify that respondents who

experienced direct online victimization have higher levels of fear than those that who had not been victimized. However, there is a negative and significant relationship between one measure of indirect online victimization—knowing someone whose identity was stolen online—and fear of cyberstalking by an intimate partner across all three models. This indicates that respondents who have experienced indirect online victimization have lower levels of fear. As noted previously, it may be that the frequency of this experience has simply made respondents desensitized to online victimization and therefore less fearful.

Finally, there is also a positive and significant relationship between perceived risk of cyberstalking by an intimate partner and fear of cyberstalking by an intimate partner, signifying that respondents with higher levels of perceived risk also have higher levels of fear. This is supportive of the findings of previous fear of crime studies, which found that perceived risk of crime and fear of crime are strongly associated victimization (see Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983). Noted previously, the amount of variation in the dependent variable explained by the perceived risk measure (approximately 40% of the variation in the OLS models) is high, providing further evidence of the importance of perceived risk.

Table 4.9: Comparison of OLS, OLS w/Robust SE, and Tobit Models for Fear of Cyberstalking by an Intimate Partner

	Fear of Cyberstalking by an Intimate Partner					
	OLS		OLS w/Robust SE		Tobit	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	0.61**	(0.15)	0.61**	(0.14)	1.50**	(0.45)
Race	0.15	(0.22)	0.15	(0.21)	0.01	(0.64)
Age	-0.11*	(0.06)	-0.11*	(0.05)	-0.32*	(0.16)
Relationship Status	0.02	(0.90)	0.02	(0.15)	0.45	(0.43)
Online Exposure						
Internet Use	-0.01	(0.16)	-0.01	(0.16)	-0.38	(0.48)
Use Dating Sites	-0.14	(0.63)	-0.14	(0.23)	-1.09	(2.20)
Use Online Groups	0.09	(0.21)	0.09	(0.21)	-0.05	(0.59)
Use Instant Messengers	0.15	(0.15)	0.15	(0.15)	0.68	(0.44)
Use YouTube	-0.00	(0.20)	-0.00	(0.15)	-0.04	(0.59)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	0.37*	(0.16)	0.37*	(0.15)	1.20**	(0.44)
Online Program Hacked	0.45*	(0.20)	0.45*	(0.20)	1.08*	(0.53)
Online ID Stolen	0.26	(0.24)	0.26	(0.21)	0.72	(0.64)
Friend's Online Program Hacked	-0.15	(0.15)	-0.15	(0.14)	-0.43	(0.45)
Friend's Online ID Stolen	-0.44**	(0.18)	-0.44**	(0.17)	-0.99*	(0.50)
Perceived Risk of						
Cyberstalking by Intimate Partner	0.51**	(0.02)	0.51**	(0.04)	0.96**	(0.05)
Cyberstalking by Friend/Acquaintance						
Cyberstalking by Stranger						
Log Likelihood					-874.49	
Likelihood Ratio χ^2 (df)					398.63 (15)**	
R^2	0.487		0.496		0.186	
N	840		840		840	

* $p \leq 0.05$; ** $p \leq 0.01$

Fear of Cyberstalking by a Friend/Acquaintance

Table 4.10 presents the comparison of the three models for fear of cyberstalking by a friend/acquaintance. As seen in the table, the models for this outcome measure contain the fewest number of significant relationships. In fact, there is only one statistically significant relationship present across all three models. There is a positive and significant relationship

between perceived risk of cyberstalking by a friend/acquaintance and fear of cyberstalking by a friend/acquaintance, which indicates that respondents with higher levels of perceived risk of cyberstalking victimization by a friend/acquaintance also have higher levels of fear of cyberstalking victimization by a friend/acquaintance. Further, the perceived risk measure explains approximately 34% of the variation in the fear measure. Again, this relationship is supportive of previous fear of crime research, which has found a strong link between perceived risk and fear of crime (see Chadee, Austen, & Ditton, 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; LaGrange, Ferraro, & Supancic, 1992; Wilcox Rountree & Land, 1996; Warr 1984, 1985, 2000; Warr & Stafford, 1983).

Fear of Cyberstalking by a Stranger

Finally, Table 4.11 displays the comparison of the three models for fear of cyberstalking by a stranger. As with the friend/acquaintance models, there are few significant relationships found across all three statistical models. There is a positive and significant relationship between gender and fear of cyberstalking by a stranger. Again, this indicates that female respondents have higher levels of fear of cyberstalking by a stranger than male respondents. There is also a positive and significant relationship between perceived risk of cyberstalking by a stranger and fear of cyberstalking by a stranger, which signifies that respondents with higher levels of perceived risk of cyberstalking victimization by a stranger also have higher levels of fear of cyberstalking by a stranger. With the OLS models, perceived risk explains about 45% of the variation in the fear measure.

Table 4.10: Comparison of OLS, OLS w/Robust SE, and Tobit Models for Fear of Cyberstalking by a Friend/Acquaintance

	Fear of Cyberstalking by a Friend/Acquaintance					
	OLS		OLS w/Robust SE		Tobit	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	0.22	(0.14)	0.22	(0.13)	0.78	(0.41)
Race	0.34	(0.20)	0.34	(0.23)	0.24	(0.58)
Age	-0.10*	(0.05)	-0.10*	(0.05)	-0.18	(0.15)
Relationship Status	0.10	(0.14)	0.10	(0.13)	0.17	(0.39)
Online Exposure						
Internet Use	0.06	(0.15)	0.06	(0.16)	-0.35	(0.45)
Use Dating Sites	-0.18	(0.57)	-0.18	(0.29)	-0.45	(1.85)
Use Online Groups	0.12	(0.19)	0.12	(0.19)	0.21	(0.53)
Use Instant Messengers	0.10	(0.14)	0.10	(0.14)	0.68	(0.40)
Use YouTube	0.08	(0.18)	0.08	(0.14)	0.92	(0.57)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	0.09	(0.14)	0.09	(0.14)	0.52	(0.41)
Online Program Hacked	0.07	(0.18)	0.07	(0.18)	-0.06	(0.52)
Online ID Stolen	0.10	(0.22)	0.10	(0.24)	0.38	(0.60)
Friend's Online Program Hacked	-0.25	(0.14)	-0.25	(0.13)	-0.55	(0.41)
Friend's Online ID Stolen	-0.11	(0.16)	-0.11	(0.16)	-0.39	(0.46)
Perceived Risk of						
Cyberstalking by Intimate Partner						
Cyberstalking by Friend/Acquaintance	0.45**	(0.02)	0.45**	(0.05)	0.90**	(0.06)
Cyberstalking by Stranger						
Log Likelihood					-884.34	
Likelihood Ratio χ^2 (df)					301.27 (15)**	
R^2	0.381		0.392		0.146	
N	840		840		840	

* $p \leq 0.05$; ** $p \leq 0.01$

Table 4.11: Comparison of OLS, OLS w/Robust SE, and Tobit Models for Fear of Cyberstalking by a Stranger

	Fear of Cyberstalking by a Stranger					
	OLS		OLS w/Robust SE		Tobit	
	b	(SE)	b	(SE)	b	(SE)
CONTROL VARIABLES						
Demographics						
Gender	0.66**	(0.19)	0.66**	(0.18)	1.48**	(0.18)
Race	0.27	(0.27)	0.27	(0.32)	0.15	(0.47)
Age	-0.09	(0.07)	-0.09	(0.06)	-0.10	(0.19)
Relationship Status	0.17	(0.18)	0.17	(0.18)	0.12	(0.32)
Online Exposure						
Internet Use	0.11	(0.20)	0.11	(0.20)	-0.05	(0.36)
Use Dating Sites	-0.32	(0.77)	-0.32	(0.66)	-0.01	(1.30)
Use Online Groups	-0.23	(0.25)	-0.23	(0.28)	-0.25	(0.44)
Use Instant Messengers	0.24	(0.19)	0.24	(0.19)	0.55	(0.33)
Use YouTube	-0.01	(0.24)	-0.01	(0.19)	0.28	(0.44)
INDEPENDENT VARIABLES						
Online Victimization						
Cyberstalking Victim	0.37*	(0.19)	0.37	(0.20)	1.02**	(0.33)
Online Program Hacked	-0.06	(0.24)	-0.06	(0.26)	-0.56	(0.43)
Online ID Stolen	0.50	(0.29)	0.50	(0.35)	0.53	(0.50)
Friend's Online Program Hacked	0.09	(0.19)	0.09	(0.17)	-0.09	(0.33)
Friend's Online ID Stolen	-0.30	(0.21)	-0.30	(0.21)	-0.12	(0.37)
Perceived Risk of						
Cyberstalking by Intimate Partner						
Cyberstalking by Friend/Acquaintance						
Cyberstalking by Stranger	0.65**	(0.02)	0.65**	(0.04)	0.95**	(0.04)
Log Likelihood					-1377.47	
Likelihood Ratio χ^2 (df)					540.98 (15)**	
R^2	0.529		0.538		0.164	
N	840		840		840	

* $p \leq 0.05$; ** $p \leq 0.01$

Summary

In examining the combined results of the multivariate models in analysis 1, several outcomes should be noted. First, the weakest models (i.e. those with the fewest significant relationships) are those focusing on fear of cyberstalking victimization by a friend/acquaintance, followed by those focusing on fear of cyberstalking victimization by a stranger. Without a

doubt, the models focusing on fear of cyberstalking victimization by an intimate partner are the strongest, as they have both the most significant findings and strongest statistically significant relationships. The impact this may have on future research will be discussed in Chapter 5.

Secondly, the most consistently significant predictors across the three types of perpetrator models appear to be gender, cyberstalking victimization, and perceived risk of cyberstalking victimization. This provides strong support for previous fear of crime research, as gender, previous victimization, and perceived risk are routinely found to be significant predictors of fear of crime (see Ferraro, 1995; Ferraro & LaGrange, 1987; Hale, 1996; Warr, 2000). Perhaps, cybercrime and traditional street crime are not as different as many people think.

Finally, of the measures that are consistently significant predictors of fear of cyberstalking victimization, perceived risk of cyberstalking appears to be the most important across every model examined. Perceived risk of cyberstalking victimization explains exponentially more of the variation in the fear of cyberstalking measures than all the other variables combined, providing very strong support for the importance of the relationship between perceived risk and fear of crime. The importance of this relationship in future research will be discussed in the next chapter.

Fear Caused by Cyberstalking Victimization Incidents

The second main analysis in the current study focuses specifically on those respondents who reported they had experienced cyberstalking victimization and is directly related to research question three discussed previously. The goal of this analysis is to determine the effect, if any, that the characteristics of the victim and cyberstalking event have on the respondent's level of reported fear experienced as a result of being cyberstalked. Because a single respondent may

have experienced multiple cyberstalking victimization events, this analysis focuses on the incident rather than the individual. The 351 respondents who reported they had been cyberstalked experienced a total of 756 incidents of pursuit behavior, including unwanted online contact, online harassment, unwanted online sexual advances, and online threats of violence.

As discussed in Chapter 3, in an effort to account for any possible intraclass correlation that may exist with incidents reported by the same individual, linear regression with clustered robust standard errors will be performed. This technique allows for the correction of the standard errors of estimates by accounting for the intraclass correlation that may be caused by any clustering effect (Arcenequx & Nickerson, 2009; Maas & Hox, 2004). To that end, the last two rows of the regression models presented in Table 4.12 describe both the number of incidents and the number of clusters (i.e. unique individuals) for each type of cyberstalking behavior.

In terms of the variables reported in the regression models, the independent variables include both the demographic and Internet use information utilized in the previous analyses. Further, two measures describing the characteristics of the cyberstalking event are also included—number of times the behavior was experienced and the identity of the perpetrator. The number of times the behavior was experienced variable is simply a count (2 to 100) of the number of times the respondent was contacted, harassed, etc. by the same perpetrator. The identity of the perpetrator variable was originally recorded in a similar fashion as the type of perpetrator variable discussed with the previous analyses (i.e. intimate partner, friend/acquaintance, stranger). However, with the present analysis, this a single variable rather than three separate variables. In an effort to make any significant relationships found between the perpetrator identity variable and the fear of cyberstalking variable more meaningful, this measure was recoded as 0 = unknown and 1 = known. Similar techniques have been utilized in

previous fear of crime studies which focus on stranger vs. non-stranger perpetrators (see Jackson, 2009; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983). The number of known and unknown perpetrators for each type of pursuit behavior can be seen in Table 4.12. Finally, the dependent variable in this analysis is a measure of the level of fear reported by the respondent as a result of experiencing the pursuit behavior.

Table 4.12: Cyberstalking Incident Offender Identity by Type of Behavior

Type of Behavior	Known Perpetrator	Unknown Perpetrator
Unwanted Contact	201 (58.3%)	144 (41.7%)
Harassment	133 (62.4%)	80 (37.6%)
Unwanted Sexual Advances	69 (42.3%)	94 (57.7%)
Threats of Violence	22 (68.8%)	10 (31.3%)
Total Incidents	425 (56.4%)	328 (43.6%)

Unwanted Online Contact

Table 4.13 displays the unstandardized coefficients (*b*) and robust standard errors for each type of pursuit behavior separately. As seen in the table, there are two statistically significant relationships in the unwanted online contact model. First, there is a significant and positive relationship between gender and the level of fear caused by unwanted online contact ($b = 0.77$, $SE = 0.37$, $p \leq 0.05$). This indicates that female respondents who experienced unwanted online contact have higher levels of fear than male respondents. Secondly, there is a positive and significant relationship between the number of times the respondent experienced unwanted contact and his/her reported level of fear ($b = 0.05$, $SE = 0.01$, $p \leq 0.01$), meaning that respondents who were more frequently contacted have higher levels of fear. Finally, in

examining the adjusted R^2 value, it can be seen the independent variables in this model explain about 13% of the variation in the fear measure.

Online Harassment

With the online harassment model, there is a significant and negative relationship between race and the fear of cyberstalking caused by online harassment ($b = 0.66$, $SE = 0.31$, $p \leq 0.05$), signifying that white respondents are more fearful of online harassment than non-white respondents. There is also a significant and positive relationship between the number of times the respondent experienced online harassment and his/her reported level of fear ($b = 0.03$, $SE = 0.02$, $p \leq 0.05$). This indicates that respondents who were more frequently harassed have higher levels of fear. Finally, the independent variables in this model explain about 10% of the variation in the fear measure.

Unwanted Sexual Advances

As seen in Table 4.13, there are two statistically significant relationships in the unwanted sexual advances model. First, there is a significant and positive relationship between gender and the level of fear caused by unwanted online contact ($b = 0.80$, $SE = 0.36$, $p \leq 0.05$). This signifies that female respondents who experienced unwanted sexual advances have higher levels of fear than male respondents. There is also a significant and positive relationship between the type of perpetrator who made the unwanted sexual advances and the respondent's reported level of fear ($b = 0.77$, $SE = 0.38$, $p \leq 0.05$), indicating that respondents who received unwanted sexual advances from someone they know have higher levels of fear than those who received unwanted

sexual advances from strangers. Finally, in examining the adjusted R^2 value, it can be seen the independent variables in this model explain almost 9% of the variation in the fear measure.

Threats of Violence

With the threats of violence model, only one significant relationship appears. There is a significant and positive relationship between the number of times the respondent experienced threats of violence and his/her reported level of fear ($b = 0.23$, $SE = 0.11$, $p \leq 0.05$). This indicates that respondents who received threats of violence more frequently have higher levels of fear. Finally, in examining the adjusted R^2 value, it can be seen the independent variables in this model explain over 29% of the variation in the fear measure.

Table 4.13: Linear Regression (with Clustered Robust Standard Errors) of Incident and Demographic Characteristics on Fear of Cyberstalking by Type of Incident

	Unwanted Contact		Harassment		Unwanted Sexual Advances		Threats of Violence	
	B	(SE)	b	(SE)	b	(SE)	b	(SE)
Demographics								
Gender	0.77*	(0.37)	0.56	(0.32)	0.80*	(0.36)	-0.47	(1.32)
Race	-0.54	(0.58)	-0.66*	(0.31)	0.89	(0.73)	-3.97	(2.18)
Age	-0.14	(0.10)	0.05	(0.11)	0.01	(0.12)	0.49	(0.26)
Relationship Status	0.14	(0.33)	0.55	(0.33)	0.44	(0.30)	0.81	(0.95)
Internet Use	0.51	(0.45)	0.20	(0.36)	-0.27	(0.37)	-0.42	(1.36)
Incident Characteristics								
# Experienced	0.05**	(0.01)	0.03*	(0.02)	0.04	(0.04)	0.23*	(0.11)
Perpetrator Known	0.07	(0.32)	-0.08	(0.27)	0.77*	(0.38)	1.73	(1.00)
Adjusted R^2	0.130		0.101		0.086		0.295	
N	348		212		163		32	
# Clusters	197		149		96		24	

* $p \leq 0.05$; ** $p \leq 0.01$

Summary

The purpose of analysis two described above was to examine the influence of demographic and incident characteristics on the level of fear reported by respondents as a result of experiencing some form of unwanted pursuit behavior. Though there are not very many significant relationships found, several key variables do stand out as being consistently significant predictors across the pursuit behavior models. As with the individual-level models discussed with analysis one, gender is the most consistently significant demographic predictor of fear resulting from experiencing pursuit behavior. With both unwanted contact and unwanted sexual advances, women were significantly more fearful than men, a finding that is supportive of previous fear of crime studies.

In terms of the incident characteristics, the number of times the respondent experienced the pursuit behavior was a significant predictor of fear in three of the models. The more time the respondent experienced the behavior, the higher his/her level of reported fear. Though no direct conclusion can be made, it may be that the frequency of contact directly influences the perceived seriousness of the incident, which in turn may impact the respondent's level of fear. The positive influence of perceived seriousness on one's level of fear of crime has been found in previous research (see Warr & Stafford, 1983). These findings will be discussed more in Chapter 5.

Conclusion

This chapter began with a detailed examination of the prevalence of fear of cyberstalking victimization among a sample of college students. From there, various analyses were presented focusing on the factors that directly influence one's level of fear of cyberstalking. To that end, multiple individual and incident level models were examined. As discussed throughout the

chapter, numerous statistically significant relationships are shown across analytical models. Chapter 5 will present a detailed discussion of all of the findings presented throughout this chapter, with specific focus on their importance in explaining the variation in fear of cyberstalking. Chapter 5 will conclude with a discussion of the limitations of the current study and the key directions in which future research should continue.

CHAPTER 5: DISCUSSION

The goal of this study was to analyze the phenomenon of fear of cyberstalking victimization, with specific focus on those factors that are commonly examined in traditional fear of crime studies. This chapter will summarize and discuss the results of the analyses reported in Chapter 4. In doing so, particular focus will be placed on those outcomes that directly address each of the three research questions proposed in Chapter 3. In addition, there will also be some discussion of the similarities between fear of cybercrime and fear of traditional crime. The chapter will conclude with a description of the limitations of the current study and some suggestions for future research.

Extent of Fear of Cyberstalking Victimization

The first research question proposed by the current study was: What is the extent of fear of cyberstalking victimization among a sample of college students? Though this may seem to be a relatively simple question, it is, however, a very important one. While fear of crime research has undergone much development in the last 50 years, to date, there are no empirical, academic studies that have attempted to estimate the prevalence of fear of any type of cybercrime. This study is the first step towards understanding if people are afraid of cybercrime and just how afraid they are.

Prevalence of Fear of Cyberstalking Victimization

With the current study, at least 50% of respondents reported that they were afraid their online information would be used to cyberstalk them. In terms of who they were afraid of, 27.9% of respondents reported they were afraid of being cyberstalked by a current/former

intimate partner, 28.3% reported they were afraid of being cyberstalked by a friend/acquaintance, and 49.3% reported they were afraid of being cyberstalked by a stranger. This finding reflects the conclusions of much traditional fear of crime research in two key ways. First, the percentage of respondents who reported being afraid of cyberstalking victimization is on par with the figures reported by other surveys (i.e. GSS, NCVS) that focus on traditional street crime. Researchers examining data from these surveys frequently report that approximately 40 – 45% of respondents are afraid of being victimized (Dansie & Fargo, 2009; NORC, 2011). Secondly, more respondents reported they were afraid of being cyberstalked by strangers than either intimate partners or friends/acquaintances. Of the traditional fear of crime studies that examine the type of offender, many report that respondents are more often afraid of strangers than non-strangers (see Keane, 1995; Scott, 2003; Wilcox et al., 2006). While previous surveys/studies utilize very different measures of fear of crime than the current study, these findings provide evidence that the way individuals react to cybercrime may not be that different than how they react to traditional street crime, which may allow researchers to use their understanding of traditional street crime to better understand cybercrime.

The current study also focused on the influence of the respondents' characteristics on the prevalence of fear of cyberstalking victimization. Numerous traditional fear of crime studies have reported that women were more fearful of crime than men (see Fetchenhauer & Buunk, 2005; Hale, 1996; May, Rader, & Goodrum, 2010; Schafer, Huebner, & Bynum, 2006; Skogan & Maxfield, 1981; Stanko, 1995; Sutton & Farrall, 2005; Young, 1992). However, it was unknown if gender played a similar role with fear of cybercrime. With the current study, it was found that the percentage of female respondents who reported being afraid of cyberstalking victimization by an intimate partner or stranger was significantly higher than the percentage of

males who reported being afraid of cyberstalking victimization. While providing support for previous fear of crime research, this finding also brings into question whether the factors that influence fear of traditional crime have the same impact in the cyberworld.

In addition, the current study found that a significantly higher percentage of non-single than single respondents were afraid of experiencing cyberstalking victimization by an intimate partner. Discussed previously, the intimate partner perpetrator category included both current and former intimate partners. With that in mind, the single respondents were most likely stating they were fearful of cyberstalking victimization by former intimate partners, as they are single, while the non-single respondents may have been stating they were fearful of cyberstalking victimization by either former or current intimate partners. Though pure speculation, it seems that since a higher percentage of non-single respondents reported being afraid, many of them may have been afraid of being cyberstalked by their current intimate partner. While much more research is needed, such a finding does lead one to question the health of college student relationships.

Finally, it was also found that a significantly larger percentage of light Internet users than heavy Internet users were afraid of cyberstalking victimization by an intimate partner and friend/acquaintance. This finding provides some support for previous cybercrime studies that discussed the relationship between online exposure and fear. For example, with their work, Higgins et al. (2008) alluded to the idea that individuals who more frequently expose themselves to threats online may fail to actually acknowledge the seriousness of those threats. With the current study it may be that those respondents who are light Internet users refrain from frequent Internet use because they are afraid of being victimized online. The heavy Internet users, who are less commonly afraid of cyberstalking victimization, may simply not acknowledge the potential

threats of online exposure. In order to more fully understand this relationship, further research on the role of exposure in fear of cybercrime is needed.

Intensity of Fear of Cyberstalking Victimization

In addition to examining the prevalence of fear of cyberstalking victimization, the current study also examined the intensity of fear of cyberstalking. The goal was to not only determine the percentage of college students who are fearful but also how afraid they are. As discussed in Chapter 2, similar analyses have been utilized in a number of fear of crime studies (see Farrell & Gadd, 2004; Fisher & Sloan, 2003; Hale, 1996; LaGrange & Ferraro, 1989; Schafer et al., 2006; Warr, 1983; 1984; Wilcox et al., 2007; Woolnough, 2009). Overall, the current study reported that while a large percentage of respondents reported they were afraid of cyberstalking victimization, their actual level of fear was relatively low. On a scale of 0 (not afraid at all) to 18 (very afraid), the mean level of fear of cyberstalking victimization by intimate partners was 1.22; the mean level of fear of cyberstalking by a friends/acquaintance was 0.99; and the mean level of fear of cyberstalking by a stranger was 2.42. When examining only those respondents who reported being afraid, the mean levels of fear of cyberstalking are higher, as expected (intimate partner = 4.36, friend/acquaintance = 3.52, stranger = 4.87). However, the rank order of mean levels of fear mirrors that of the general levels of fear, with fearful respondents being most afraid of cyberstalking by a stranger. The relatively low levels of fear of cyberstalking reported by respondents may be due in large part to the fact that they simply do not take cybercrime that seriously. With the virtual world of the Internet, many individuals may be under the impression that they are protected by anonymity or even physical distance.

In examining the influence of respondent characteristics on the level of fear of cyberstalking victimization reported, results similar to those of the prevalence of fear of cyberstalking analysis discussed above were found. Female respondents reported significantly higher levels of fear of cyberstalking victimization by intimate partners and strangers than male respondents. Also, non-single respondents reported significantly higher levels of fear of cyberstalking victimization by intimate partners and strangers than single respondents. When combined with the results discussed in the previous section, it appears that women and individuals in relationships are the most afraid of cyberstalking victimization. This is not entirely surprising given the findings of so many previous fear of crime studies; however, it does warrant further attention from researchers.

Summary

To summarize, while a large percentage of respondents are afraid of cyberstalking victimization, their level of fear is relatively low. Further, women, individuals in relationships, and light Internet users are significantly more fearful of cyberstalking victimization than men, single individuals, and heavy Internet users. Finally, respondents are most afraid of cyberstalking victimization by strangers rather than intimate partners or friends/acquaintances.

Victimization, Perceived Risk, and Fear of Cyberstalking Victimization

The second research question proposed by the current study was: Is there a relationship between online victimization, perceived risk, and fear of cyberstalking victimization? This relationship has been an important topic in fear of crime research, with many researchers examining the link between victimization and fear of victimization (see Fox et al., 2009; Keane,

1995; Mohammed, Skogan, 1987; Wilcox Rountree, 1998), the link between perceived risk of victimization and fear of victimization (see Chadee et al., 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Wilcox Rountree & Land, 1996; Warr & Stafford, 1983), and the link between all three (see Wilcox et al., 2007). Many of those studies found victimization and perceived risk of victimization were significant predictors of fear of victimization, with individuals who were victimized and/or have high levels of perceived risk also having high levels of fear of victimization. It was expected that similar results would be found when examining fear of cybercrime.

Online Victimization and Fear of Cyberstalking Victimization

With the current study, two categories of online victimization were examined—direct and indirect online victimization. Discussed in Chapter 1, direct victimization refers to victimization personally experienced by an individual, while indirect victimization refers to victimization experienced by someone known to the individual. Both types of victimization have been shown to be positively and significantly related to fear of victimization in previous studies (Ferraro, 1995; Russo & Roccato, 2010; Tseloni & Zarafonitou, 2008; Xie & McDowall, 2008). The measures of direct victimization in the current study included cyberstalking victimization, having an online program hacked, and having one's ID stolen online. The measures of indirect victimization included knowing someone whose online program was hacked and knowing someone whose ID was stolen online. It was found that at least 42% of respondents in the current study had previously experienced some form of direct online victimization, while at least 54% of the respondents had previously experienced some form of indirect online victimization.

In terms of the differences in the characteristics of the respondents in the current study, a significantly higher percentage of female respondents experienced cyberstalking victimization than male respondents. This finding is supportive of many traditional stalking studies which have found that women experience stalking at much higher rates than men (see Basile et al., 2006; Baum et al., 2009; Tjaden & Thoennes, 1998). Further, a significantly higher percentage of non-single respondents also experienced cyberstalking victimization than single respondents. Again, similar findings have been reported by previous traditional stalking studies (see Basile et al., 2006; Baum et al., 2009; Fisher et al., 2002). These findings suggest that traditional stalking and cyberstalking are very similar. Finally, a significantly higher percentage of heavy Internet users had an online program hacked than light Internet users. This finding is anticipated when considering exposure theories of victimization. Individuals who have higher levels of exposure also typically have higher rates of victimization (Acquisti & Gross, 2006; Dwyer et al., 2007; Fisher et al., 2002; Jones & Soltren, 2005; Marcum, 2009; Mustaine & Tewksbury, 1999).

As discussed in Chapter 4, three different types of multivariate models were created in an effort to present reliable estimates of the relationship between the dependent, independent, and control variables examined in this study. Across the three types of models, several significant relationships between online victimization and fear of cyberstalking were found. First, cyberstalking victimization is positively and significantly associated with fear of cyberstalking by an intimate partner and with fear of cyberstalking by a stranger.[21] This means that respondents who were previously cyberstalked were more afraid of being cyberstalked by an intimate partner or stranger than those respondents who had not been cyberstalked. Further, having an online program hacked was also positively and significantly related to fear of

[21] The relationship was only significant for two of the three multivariate fear of cyberstalking by a stranger models.

cyberstalking victimization by an intimate partner. These two relationships are consistent with previous fear of crime research which found significant relationships between victimization and fear (see Fox et al., 2009; Keane, 1995; Mohammed, Saridakis, & Sookran, 2009; Russo & Roccato, 2010; Skogan, 1987; Smith & Hill, 1991; Wilcox Rountree, 1998). It is understandable that individuals who directly experience a particular type of victimization would then be afraid of experiencing that, or a similar type of victimization, again.

While the first two relationships were somewhat expected, the third significant relationship was not predicted. Knowing someone who had his/her ID stolen online is significantly and *negatively* associated with fear of cyberstalking victimization by an intimate partner. This means that respondents who know someone that had their ID stolen online are less afraid of experiencing cyberstalking victimization by an intimate partner than those respondents who do not known someone who has had their ID stolen online. At first blush, this finding seems to be directly contradictory to what is expected. However, there are two possible scenarios that might explain it. First, as mentioned previously, it may be that these respondents know so many people who have experienced this type of victimization that they have essentially become desensitized to it, and it does not affect their overall level of fear of online victimization. Secondly, respondents may know someone who had a relatively minor experience, and as a result, underestimate how serious online victimization can be. Both these possibilities are simply speculation at this point, however, and can only be addressed with further research.

Summary

To summarize, a large percentage of respondents have experienced online victimization. Further, a significantly higher percentage of women, individuals in relationships, and heavy

Internet users compared to men, single respondents, and light Internet users reported that they experienced online victimization. Finally, online victimization was a significant predictor of fear of cyberstalking victimization.

Perceived Risk and Fear of Cyberstalking Victimization

Perceived risk of cyberstalking victimization was measured using intensity measures in the same manner and using the same scale as the fear of cyberstalking victimization variables. The goal was to determine whether the relationship between perceived risk and fear reported so often in traditional fear of crime studies also holds true when examining fear of cybercrime. Across the three types of perpetrators examined in the present study, it was found that the level of perceived risk of cyberstalking victimization reported by respondents was relatively low (2.44 for intimate partners, 2.06 for friends/acquaintances, and 3.19 for strangers). This indicates that respondents thought their likelihood of experiencing cyberstalking victimization was very low.

When comparing the reported sample mean levels of perceived risk of cyberstalking victimization with the reported sample mean levels of fear of cyberstalking victimization, two patterns are evident. First, across all three types of perpetrators, the reported level of perceived risk of cyberstalking victimization is higher than the reported level of fear of cyberstalking. Secondly, the rank order of the level of perceived risk for each type of perpetrator is the same as the rank order of the level of fear, with cyberstalking by a friend/acquaintance having the lowest mean level of perceived risk and fear, cyberstalking by an intimate partner having the second highest mean level of perceived risk and fear, and cyberstalking by a stranger having the highest mean level of perceived risk and fear. Both of these findings are supportive of previous fear of crime research which has found that an individual's level of fear of victimization varies in a

similar manner as his/her perceived risk of victimization (see Ferraro, 1995; Warr 1991, 1994, 2000; Warr & Stafford, 1983).

In terms of the differences in the characteristics of the respondents, non-single respondents reported a significantly higher level of perceived risk of cyberstalking victimization by intimate partners than single respondents. As with the prevalence of fear of cyberstalking victimization discussion above, the significant difference may exist because non-single respondents think that it is likely their current intimate partner will attempt to cyberstalk them. Also, it was noted in the previous victimization discussion that a higher percentage of non-single respondents have experienced cyberstalking victimization. It is understandable that individuals who have experienced cyberstalking victimization would perceive their risk of cyberstalking victimization to be high.

It was also found that light Internet users reported a significantly higher level of perceived risk of cyberstalking by an intimate partner and friend/acquaintance than heavy Internet users. This finding echoes the fear of cyberstalking victimization discussion above. It may be that light Internet users refrain from frequent Internet use because they perceive their risk of online victimization as being high. The heavy Internet users, on the other hand, may perceive their risk of online victimization to be low, and therefore, use the Internet frequently.

Without a doubt, perceived risk of cyberstalking victimization was the strongest predictor of fear of cyberstalking victimization. There is a significant and positive relationship between perceived risk of cyberstalking victimization and fear of cyberstalking victimization across all three types of models for all three types of perpetrator. Further, perceived risk of cyberstalking victimization explained approximately 40% of the variation in the fear of cyberstalking by an intimate partner variable, 34% of the variation in the fear of cyberstalking by a

friend/acquaintance variable, and 45% of the variation in the fear of cyberstalking by a stranger variable. This is important for two reasons. First, it provides strong support for the previous fear of crime studies that argue the relationship between perceived risk and fear is significant (see Chadee et al., 2007; Ferraro, 1995; Ferraro & LaGrange, 1987; Wilcox Rountree & Land, 1996; Warr & Stafford, 1983). Further, given the amount of variation in the fear of cyberstalking variables explained by perceived risk, it would behoove future researchers to include perceived risk in their analyses. Secondly, it provides evidence that the way individuals view cybercrime may not be that different than how they view traditional street crime.

Summary

To summarize, respondents' overall perceived risk of cyberstalking victimization is relatively low, with perceived risk of cyberstalking victimization by strangers being the highest. Further, individuals in relationships and light Internet users reported a significantly higher level of perceived risk of cyberstalking victimization than single respondents and heavy Internet users. Finally, perceived risk of cyberstalking victimization was a significant predictor of fear of cyberstalking victimization.

Fear Caused by Cyberstalking Victimization Incidents

The third research question proposed by the current study was: Do the characteristics of the cyberstalking incident affect the level of fear experienced by the victim? Noted in Chapter 3, in order to answer this question, it was necessary to perform a separate analysis from those used to answer questions 1 and 2. While the initial analyses focused on individual-level data, the final analysis focused on incident-level data. Also, rather than examining the combined cyberstalking

measure, the final analysis examined the separate types of online pursuit behaviors, including unwanted contact, harassment, unwanted sexual advances, and threats of violence.

It was found that 351 (41.5%) respondents reported they had previously experienced at least one incident of unwanted pursuit behavior. In total, respondents experienced 756 individual incidents of pursuit behavior, with 46.0% of incidents involving unwanted contact, 28.2% involving harassment, 21.6% involving unwanted sexual advances, and 4.2% involving threats of violence. Further, in 56.4% of incidents, the perpetrator was someone the respondent knew, while 43.6% of the incidents were committed by unknown perpetrators.

With the multivariate incident-based models, several relationships were found to be significant. In terms of demographic characteristics, there was a positive and significant relationship between gender and fear for incidents involving unwanted contact and for incidents involving unwanted sexual advances. Both of these relationships indicate that female respondents reported higher levels of fear than male respondents when experiencing unwanted contact and unwanted sexual advances. In light of previous fear of crime research, these findings are not that surprising. Previous studies often reported that women are more fearful of victimization than men (see Fetchenhauer & Buunk, 2005; Hale, 1996; May, Rader, & Goodrum, 2010; Schafer, Huebner, & Bynum, 2006; Skogan & Maxfield, 1981; Stanko, 1995; Sutton & Farrall, 2005; Young, 1992). Further, there was also a significant and negative relationship found between race and fear for incidents involving harassment. This indicates that being white was a significant predictor of fear of harassment.

In terms of the influence of incident characteristics on the level of fear reported by respondents, there was a significant and positive relationship between the number of times the behavior was experienced and the level of fear reported by respondents who experienced

unwanted contact, harassment, and threats of violence. These findings signify that the more times a respondent experienced the pursuit behaviors the higher his/her reported level of fear. It is likely that the more frequently an individual experiences a pursuit behavior, the more threatened he/she feels because of it. In turn, this would increase the level of fear felt. Finally, it was also found that there is a positive and significant relationship between the identity of the perpetrator and the level of fear reported for incidents of unwanted sexual advances, indicating that respondents reported higher levels of fear of unwanted sexual advances when the perpetrator was a stranger. Given the conclusions of many previous fear of crime and sexual victimization studies, this finding makes sense. As noted previously, individuals tend to be more afraid of strangers than non-strangers, especially in the case of fear of sexual victimization (see Wilcox et al., 2006).

Summary

To summarize, the most common type of incident experienced by respondents was unwanted online contact. Further, while respondents reported they were most afraid of experiencing cyberstalking victimization by a stranger, a higher percentage of experienced incidents were committed by individuals known to the respondents. Finally, gender, race, the number of times a behavior was experienced, and the identity of the perpetrator all had a significant effect on the level of fear experienced by respondents.

Implications of Findings

This was the first empirical, academic study to focus specifically on the extent of fear of cybercrime victimization and the factors that may influence that fear. As reported by this study,

while a large number of individuals reported being afraid of cyberstalking, the intensity of their fear was relatively low. Further, it was also found that both previous online victimization and perceived risk of cyberstalking victimization are significantly related to fear of cyberstalking victimization. Each of these findings has clear theoretical and practical implications.

First, the relatively low levels of fear reported by the respondents indicate that there may be some type of disconnect for college students when considering the potential dangers of the Internet. Whether due to the lack of physical proximity or the supposed anonymity, it may be that individuals don't see the virtual world of the Internet as potentially dangerous as the physical world and are therefore less afraid. In addition, while the measures of perceived risk explained a large portion of the variation in the fear of cyberstalking variables, the other variables, especially the demographic measures, explained very little of the variation in the dependent variables. As a result, it is necessary to go beyond the measures so frequently included in traditional fear of crime theory. Each of these findings indicates that traditional fear of crime theory may need to undergo some adaptation before it can be effectively applied to cybercrime.

Further, the low levels of fear of reported by college students should encourage college administrators and law enforcement to develop educational prevention programs on cybercrime. As seen with numerous news stories, cybercrime has the potential to lead to serious emotional and physical harms. However, the findings of this study show that college students do not see cybercrime as potentially harmful. It would be beneficial for college campuses to develop programs that will inform and educate students about the potential consequences of cybercrime, in an effort to reduce any potential dangers students may experience.

Study Limitations

It is necessary to note that the findings reported and discussed throughout this dissertation should be considered in light of several data limitations. Specifically, there are four key limitations that need to be addressed. First, the final sample response rate for the current study was rather low at 8.5%. As noted in Chapter 3, such a low response rate is not that unusual given the mode of survey administration utilized in the current study. With both Couper (2000) and Dillman et al's (2009) discussion of modes of survey administration, the authors note that web-based surveys commonly have low rates of participation, frequently as low as 10%. However, as with any low response rate, there are possible issues with sample bias and lack of generalizability, meaning the study sample may not accurately reflect the larger university population. This fact should be kept in mind when considering the applicability of the findings.

Secondly and related to the first limitation, the sample examined in the current study is not representative of the larger college student population. Specifically, the study sample over-represents female students. As gender was found to be a consistently significant predictor of fear of cyberstalking victimization, the influence of the over-representation of female students in the sample must be taken into consideration. The significance of the general relationships between gender and fear of cyberstalking may be over-inflated due to the presence of such a high percentage of female respondents. This possible gender bias should be kept in mind while examining the results of the current study.

Third, as discussed in Chapter 4, the dependent variables were found to be heteroskedastic, meaning their error variance was not constant, which could lead to biased standard errors and test statistics (Allison, 1999; Berry & Feldman, 1985; Wooldridge, 2009). In an effort to overcome this issue, however, three separate types of models were estimated for the

dependent variables, including an OLS model, an OLS with robust standard errors model, and a tobit model. While this solution should provide more reliable and efficient model estimates, the issue of heteroskedasticity should be kept in mind when reviewing the findings of this dissertation.

Finally, there is a possibility that the use of an online survey may have introduced an unintended sample bias. Frequent Internet users may be overrepresented in the study sample. It is understandable that individuals who are more knowledgeable of and more frequently use the Internet would be more likely to take an online survey. Further, as the topic of the study was online victimization, individuals who have very limited experience with the Internet may have declined participation because they have very little understanding of the topic. As a result, the reported findings may only be generalizable to frequent Internet users. Unfortunately, it is not possible to determine if this bias does exist with the current sample. It should be an issue of consideration for future research, however.

Future Research

Both the findings and limitations of the current study bring to light several issues that should be considered with future fear of crime research. First, the results of this study indicate that fear of victimization is not an issue limited solely to traditional street crime. However, there are many aspects of fear of crime research that have not been considered with the study of cybercrime, such as the influence of fear of crime on behavior. To that end, researchers should strive to include measures of both traditional street crime and cybercrime in their analysis of fear. It may also be valuable to replicate previous fear of crime studies using cybercrime rather than traditional street crime.

Secondly, there is a large amount of evidence proffered by previous fear of crime studies that indicates fear of particular types of crime may influence fear of other types of crime. For example, numerous studies support the shadow hypothesis, which suggests that a woman's fear of sexual assault may directly influence her fear of other types of crimes (see Ferraro, 1995; 1996; Fisher & Sloan, 2003; Warr, 1984; 1985). Future research should examine the possibility that an individual's fear of certain types of cybercrime may influence his/her fear of other types of cybercrime. Further, researchers should also test to see if fear of traditional street crime affects fear of cybercrime and vice versa.

Third, future research should attempt to obtain more detailed information about individuals' perceptions of cybercrime with their analyses. While understanding respondents' levels of perceived risk and fear of cybercrime is very informative, it would also be beneficial to obtain other information that could help researchers understand how people view cybercrime, especially those that have experienced online victimization. Why are they not very afraid? Do they think cybercrime is as serious as traditional street crime?

Fourth, given the relatively weak results found across the fear of cyberstalking by a friend/acquaintance models, it may be beneficial for future fear of crime research to utilize multiple categories of perpetrator types. Numerous studies examining the role of the victim-offender relationship have focused on stranger vs. non-stranger perpetrator types (see Jackson, 2009; Scott, 2003; Taylor & Hale, 1986; Warr, 1984; Warr & Stafford, 1983). With the current study, the models examining fear of cyberstalking by an intimate partner were much more efficient (i.e. found more significant predictors of fear) than the models examining fear of cyberstalking by a friend/acquaintance. If these two types of perpetrators were combined into a

single category of "non-stranger", the results may have been very different. Future researchers should be mindful of using overly broad categories of perpetrators.

Finally, given the limitations of the current study, future researchers should attempt to utilize improved sampling and data collection techniques, in an effort to obtain a more valid and reliable measures and improve the generalizability of the findings. Also, it could be beneficial to examine fear of cybercrime utilizing samples from various types of populations. It would be interesting to see how the levels of fear of cybercrime reported by college students compare to those reported by older and younger age groups.

Conclusion

The current study only scratches the surface of the phenomenon of fear of cybercrime. However, it should be seen as the first piece with which a solid foundation of research can be built. In the future, researchers should continue to examine the extent to which individuals are afraid of various types of cybercrime, as well as the effects that fear of cybercrime may have on both online and offline behavior. Our dependence on and use of technology will only continue to grow in the future. As a result, it is necessary for researchers to continue to examine the phenomenon of cybercrime and all its effects. Over four decades ago, a group of researchers argued that fear is one of the most damaging effects of crime, and it should not be taken lightly (Katzenback et al., 1967). That statement helped fuel the birth of fear of crime research as we know it today, and that same statement should continue to lead fear of crime research into the 21st century.

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APPENDIX A: PREVIOUS FEAR OF CRIME MEASURES

AUTHORS	FEAR MEASURE
General Social Survey (1972)	Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?
National Crime Survey (1973)	How safe do you feel or would you feel being out alone in your neighborhood at night?
Erskine (1974)	In the past year, do you feel the crime rate in your neighborhood has been increasing, decreasing, or has it remained about the same as it was before? Would you say that there is more crime in this community now than there was five years ago, or less? Is there more crime in this *area* than there was a year ago, or less? Would you say there is more crime or less crime in this area than there was a year ago? Is there any area around here—that is, within a mile —where you would be afraid to walk alone at night? Compared to a year ago, do you personally feel more worried, less worried, or not much different about your personal safety on the streets? Compared to a year ago, are you personally more worried about violence and safety on the streets, less worried, or do you feel about the same as you did then? How likely is it that a person walking around here at night might be held up or attacked? What about walking alone (in your neighborhood) when it is dark—how safe do (would) you feel? Have there been any times recently when you might have wanted to go somewhere in town but stayed home instead because you thought it would be unsafe to go there? Compared to a year ago, do you feel more afraid and uneasy on the streets today, less uneasy, or not much different from the way you felt a few years ago? Do you feel it is safe to walk in the streets alone in your neighborhood?
Clemente & Kleiman (1976)	Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?
Clemente & Kleiman (1977)	Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?
Balkin (1979)	How safe do you feel being out alone in your neighborhood during the day?
DeFronzo (1979)	Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?

Garofalo (1979)	How safe do you feel or would you feel being out alone in your neighborhood at night?
Cutler (1980)	Is there any area right around here — that is, within a mile—where you would be afraid to walk alone at night?
Baker et al. (1983)	How safe would you feel walking alone at night in your neighborhood? Think of the worst area within a mile of your house. How safe would you feel walking alone at night in this area?
Janson & Ryder (1983)	A question asking respondents what are their three greatest problems. Is living in a high crime neighborhood a serious problem to you? Does crime in the streets cause you any special difficulties in getting around?
Warr & Stafford (1983)	Respondents were asked to describe how afraid they were of becoming a victim to each of sixteen different offenses.
Kennedy & Krahn (1984)	How safe do you feel walking alone in your neighborhood at night?
Warr (1984)	How afraid you are about becoming the victim of each type of crime in your everyday life. If you are not afraid at all, then circle the number 0 beside the crime. If you are very afraid, then circle the number 10 beside the crime. If your fear falls somewhere in between, then circle the number beside the crime which best describes your fear about that crime.
Baumer (1985)	How safe do you feel or would you feel being out alone in your neighborhood at night?
LaGrange & Ferraro (1989)	Measured by the extent of the respondents' fear of 11 different forms of criminal victimization using an 11 point scale ranging from not afraid to very afraid.
Smith & Hill (1991)	Eight questions using 4 category likert-scale (Strong Disagree to Strong Agree) When I am away from home, I worry about the safety of my property. I worry a great deal about my personal safety from crime and criminals. Even in my own home, I'm safe from people who want to take what I have. There are some parts of the county that I avoid during the day because of fear of crime. There are some parts of the county that I avoid at night because of fear of crime. I feel safe going anywhere in my community or neighborhood in the daytime. I feel safe going anywhere in my community or neighborhood after dark. Crime is more serious than the newspapers and TV say.
Keane (1995)	When walking alone in your area after dark, do you feel very worried, somewhat worried, or not at all worried about your personal safety? When alone in your home in the evening or at night, do you feel very worried, somewhat worried, or not at all worried about your personal safety?

Ferraro (1996)	Measure asking respondents how afraid people are in everyday life of being a victim of 10 different kinds of crimes, using a 10-point scale ranging from not afraid at all to very afraid.
Weinrath & Gartrell (1996)	Four point likert-scale type measure asking about fear of walking alone in neighborhood at night (Very unsafe to Very safe).
Wilcox Rountree & Land (1996)	Dichotomous variable indicating whether or not the respondent worries about his or her home being burgled.
Wilcox Rountree (1998)	Dichotomous variable indicating whether or not the respondent worries at least one a week about being physically attacked. Dichotomous variable indicating whether or not the respondent worries at least one a week about his or her home being burgled.
Fisher & Sloan (2003)	Measure asking respondents how afraid they are of being a victim of 5 different kinds of crimes on campus during the day and at night since school began the current year, using a 10-point scale ranging from not afraid at all to very afraid.
Farrall & Gadd (2004)	In the past year, have you ever felt fearful about the possibility of becoming a victim of crime? If yes, how frequently have you felt like this in the last year? On the last occasion, how fearful did you feel? (Not very fearful, A little bit fearful, quite fearful, very fearful, can't remember)
Fisher & May (2009)	Students were asked to indicate their level of agreement on a 4-point Likert-type scale with the following statements: While on campus at (name of school): I am afraid of being attacked by someone with a weapon. I am afraid of having my money or possessions taken from me. I am afraid of being beaten up. I am afraid of being sexually assaulted.
Fox et al. (2009)	Respondents asked about fear of crime while on campus, measured by using a 4 point scale from strongly disagree to strongly agree, of two items: I am reluctant to walk alone on campus during the day I am reluctant to walk alone on campus at night
Melde (2009)	"Please indicate how afraid you are of the following things happening to you," (5 point Likert scale: not at all afraid to very afraid) Having someone break into your house while you are there Having someone break into your house while you are away Having your property damaged by someone Being robbed or mugged Being attacked by someone with a weapon.
May et al. (2010)	Respondents were asked to indicate their level of agreement with the following statements: (4 point Likert scale, strongly disagree to strongly agree) I am afraid someone will break into my house while I am away I am afraid of being raped or sexually assaulted I am afraid of being attacked by someone with a weapon I am afraid to go out at night because I might become a victim of crime I am afraid of being murdered I am afraid of having my money/possessions taken from me

Appendix B: Abridged Survey Instrument

University of Cincinnati
Participant Information Sheet for a Research Study
College of Education, Criminal Justice, and Human Services:
Department of Criminal Justice
Billy Henson, M.S.
513-556-2617 (hensonb@email.uc.edu)
Brad Reyns, M.S.
513-556-2617 (reynsbw@email.uc.edu)

We are inviting you to participate in a first-of-its-kind research study examining the phenomena of online social networks and blogs. As part of our doctoral dissertation research, this survey will ask questions about your use of the Internet and online social networks/blogs, as well as any annoyances and/or dangers you have encountered online. This survey is designed to allow undergraduate college students to speak out about any negative online experiences they have had, and it will serve as the basis for the examination of the possible threats of online social networks/blogs.

You were randomly selected to participate in this research study, along with 10,000 of your fellow students. Participation in this survey will take 10-20 minutes of your time. Your responses will be both password and firewall protected, and will be made available only to the researchers. Once you have finished the survey, your participation will be complete, and you will not be contacted further. In addition, your personal identification information, including your email address, will not be associated with your responses in an effort to preserve your anonymity. There is no payment or direct benefits to you for participation.

PARTICIPATION IN THIS RESEARCH STUDY IS STRICTLY VOLUNTARY, AND YOU HAVE THE OPTION OF QUITTING AT ANY TIME. Participation or non-participation will not affect any legal rights that you would normally have. If, in the event you feel upset or emotionally distressed as a result of the information you provided for this survey, you do have the option of contacting the University Counseling Center, 316 Dyer Hall (513-556-0648).

If you have any questions about the survey or study, you are welcome to contact us. The University of Cincinnati Institutional Review Board - Social and Behavioral Sciences reviews all non-medical 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 research participant, you may contact the University of Cincinnati Institutional Review Board - Social and Behavioral Sciences at (513) 558-5784. If you have a concern about the study you may also call the UC Research Compliance Hotline at (800) 889-1547, or you may write to the Institutional Review Board-Social and Behavioral Sciences, G-28 Wherry Hall, ML 0567, 3225 Eden Avenue, PO Box 670567, Cincinnati, OH 45267-0567, or you may email the IRB office at irb@ucmail.uc.edu.
The results of the survey are scheduled to be made available in June of 2011; please contact the investigators listed at the top of this page for more information.

By taking this survey, you are indicating your consent for your answers to be used for research study. Please print a copy of this Information Sheet for your records.

Page 1 - Question 1 - Yes or No [Mandatory]

WOULD YOU LIKE TO CONTINUE WITH THE SURVEY?

- ○ Yes
- ○ No [Screen Out]

Page 2 - Question 2 - Choice - One Answer (Drop Down)

What is your gender?

- Male
- Female

Page 2 - Question 3 - Choice - One Answer (Drop Down) [Mandatory]

What is your age?

- Under 18 [Screen Out]
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- Over 24

Page 2 - Question 4 - Choice - One Answer (Drop Down)

What is your race/ethnicity?

- American Indian
- Asian/Pacific Islander
- African American
- Hispanic
- White
- Other/Unknown

Page 2 - Question 5 - Choice - One Answer (Drop Down)

What is your grade/class standing?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate
- Other

Page 2 - Question 6 - Choice - One Answer (Drop Down)

What is your sexual orientation?

- Heterosexual/Straight
- Gay/Lesbian
- Bisexual
- Other

Page 2 - Question 7 - Choice - One Answer (Drop Down)

What is your current relationship status?

- ○ Single
- ○ Casual Dating
- ○ Long-Term Dating
- ○ Married/Living with Someone
- ○ Divorced/Separated/Widowed

Page 3 - Question 8 - Choice - One Answer (Drop Down)

Where do you live during the school year?

- ○ On-Campus Housing
- ○ Off-Campus University Housing
- ○ Off-Campus Non-University Housing
- ○ Home of Parent/Legal Guardian or Relative

Page 3 - Question 9 - Choice - Multiple Answers (Bullets)

With whom do you live during the school year? (Check all that apply)

- ☐ Live Alone
- ☐ Student Roommate(s)
- ☐ Non-Student Roommate(s)
- ☐ Romantic Partner/Significant Other
- ☐ Parents
- ☐ Other Relatives

Page 3 - Question 10 - Choice - Multiple Answers (Bullets)

What clubs/organizations do you participate in regularly? (Check all that apply)

- ☐ University Athletic Teams
- ☐ Greek Organizations
- ☐ Honorary Organizations
- ☐ Religious Organizations
- ☐ Major/Department Organizations
- ☐ None
- ☐ Other, please specify

Page 3 - Question 11 - Yes or No

Did you transfer from another college or university?

- ○ Yes
- ○ No

Page 3 - Question 12 - Choice - One Answer (Drop Down)

Which of the following best describes your cumulative undergraduate grade point average?

- ❍ Below 0.67
- ❍ 0.67 - 1.66
- ❍ 1.67 - 2.66
- ❍ 2.67 - 3.66
- ❍ 3.67 - 4.00

[Skip Unconditionally to 4]

Page 4 - Question 13 - Choice - One Answer (Drop Down)

Since beginning school at UC, how many days/nights do you go to parties in an average month?

- ❍ Options of 0 to 30

Page 4 - Question 14 - Choice - One Answer (Drop Down)

Since beginning school at UC, how many days/nights do you go to bars or clubs in an average month?

- ❍ Options of 0 to 30

Page 4 - Question 15 - Choice - One Answer (Drop Down)

Since beginning school at UC, how many alcoholic drinks do you have in an average week?

- ❍ Options of 0 to 50

Page 4 - Question 16 - Choice - One Answer (Drop Down)

Since beginning school at UC, how many times do you use drugs in an average week?

- ❍ Options of 0 to 50

Page 5 - Question 17 - Rating Scale - Matrix

Please choose the characteristics that best describe you:

	Yes	No
Outgoing	❍	❍
Easy Going	❍	❍
Easily Upset	❍	❍
Quiet	❍	❍
Stubborn	❍	❍
Friendly	❍	❍
Intimidating	❍	❍
Apologetic	❍	❍
Sympathetic	❍	❍
Perceptive	❍	❍

Page 6 - Question 18 - Rating Scale - Matrix

Please indiciate the most appropriate reponse to the statements below:

	Strongly Agree	Agree	Disagree	Strongly Disagree
I consider myself to be cautious.	❍	❍	❍	❍
I consider myself to be argumentative.	❍	❍	❍	❍
I have trouble controlling my temper.	❍	❍	❍	❍
I always devote time to studying.	❍	❍	❍	❍
I often confront people when they make me upset.	❍	❍	❍	❍
I consider myself to be a risk-taker.	❍	❍	❍	❍
I spend a lot of time thinking about my future.	❍	❍	❍	❍
I have a lot of money charged on credit cards.	❍	❍	❍	❍

Page 6 - Question 19 - Rating Scale - Matrix

Please indicate the most appropriate response to the statements below:

	Strongly Agree	Agree	Disagree	Strongly Disagree
I value my mother's opinion.	❍	❍	❍	❍
I value my father's opinion.	❍	❍	❍	❍
I like to spend time with my family.	❍	❍	❍	❍
I frequently talk to my family.	❍	❍	❍	❍
I value my friends' opinions.	❍	❍	❍	❍
I like to spend time with my friends.	❍	❍	❍	❍
I frequently talk to my friends.	❍	❍	❍	❍

Page 7 - Question 20 - Yes or No

Do you use the Internet in your home/room?

- ❍ Yes
- ❍ No

Page 7 - Question 21 - Choice - Multiple Answers (Bullets)

Where else do you access the Internet? (Please Check All That Apply)

- ❑ School Library
- ❑ School Computer Lab
- ❑ Work/Office
- ❑ Parents/Relatives' Home
- ❑ Classroom
- ❑ School Food Court
- ❑ Public Library

- ❑ Coffee Shop/Cafe
- ❑ PDA/Blackberry
- ❑ Cell Phone
- ❑ Other, please specify

Page 7 - Question 22 - Choice - One Answer (Drop Down)

On average, how much time do you actively spend online each day? (Including Email, IM, Blogs, etc.)

- ○ Options of “Less Than 1 Hour” to “16 Hours or More”

Page 8 - Question 23 - Choice - Multiple Answers (Bullets)

What forms of electronic communication do you frequently use? (Please Check All That Apply)

- ❑ Instant Messengers (AIM, Yahoo Messenger, etc.)
- ❑ Email
- ❑ Chat Rooms
- ❑ Social Network/Blog Sites (Facebook, MySpace, Twitter etc.)
- ❑ Text Messaging (Cell Phone, PDA, etc.)
- ❑ Online Video Games
- ❑ Other, please specify

Page 8 - Question 24 - Choice - One Answer (Drop Down)

What is the most frequent method you use to communicate with your family/friends?

- ○ In Person
- ○ Over the Phone
- ○ Online
- ○ Other

Page 8 - Question 25 - Choice - One Answer (Drop Down)

What percentage of your friends would you estimate frequently use some type of online communication? (Example: Instant Messenger, Social Networks, etc.)

- ○ Options of 0 to 100% (Five Point Increments)

Page 8 - Question 26 - Choice - One Answer (Drop Down)

What percentage of your friends would you estimate that you talk to online, in an average week? (Example: Instant Messenger, Social Networks, etc.)

- ○ Options of 0 to 100% (Five Point Increments)

Page 9 - Heading

PLEASE INDICATE IF YOU HAVE USED ANY OF THE FOLLOWING FORMS OF ONLINE COMMUNICATION TO PERFORM THE DESCRIBED ACTIVITIES.

Page 9 - Question 27 - Rating Scale - Matrix

Have you ever flirted with a friend or aquaintance, WITH the intention or hope of pursuing a romantic or sexual relationship, including just hooking up?

	Yes	No
Social Network/Blog	❍	❍
Instant Messenger	❍	❍
Email	❍	❍
Other Communication	❍	❍

Page 9 - Question 28 - Rating Scale - Matrix

Have you ever flirted with a friend or aquaintance, WITHOUT the intention or hope of pursuing a romantic or sexual relationship, including just hooking up?

	Yes	No
Social Network/Blog	❍	❍
Instant Messenger	❍	❍
Email	❍	❍
Other Communication	❍	❍

Page 10 - Question 29 - Rating Scale - Matrix

Have you ever flirted with someone you didn't know, WITH the intention or hope of pursuing a romantic or sexual relationship, including just hooking up?

	Yes	No
Social Network/Blog	❍	❍
Instant Messenger	❍	❍
Email	❍	❍
Other Communication	❍	❍

Page 10 - Question 30 - Rating Scale - Matrix

Have you ever flirted with someone you didn't know, WITHOUT the intention or hope of pursuing a romantic or sexual relationship, including just hooking up?

	Yes	No
Social Network/Blog	❍	❍
Instant Messenger	❍	❍
Email	❍	❍
Other Communication	❍	❍

Page 10 - Question 31 - Rating Scale - Matrix

Have you ever hooked up (had brief sexual encounter) with someone you met online?

	Yes--Friend	Yes--Stranger	No
Social Network/Blog	❍	❍	❍

Instant Messenger	❍	❍	❍
Email	❍	❍	❍
Other Communication	❍	❍	❍

Page 10 - Question 32 - Yes or No [Mandatory]

Do you, or have you in the past, regularly use a Social Network/Blog Account? (Example: MySpace, Facebook, Livejournal, etc.)

- ❍ Yes [Skip to 11]
- ❍ No [Skip to 20]

Page 11 - Heading

SOCIAL NETWORK ACTIVITY SECTION

ALL OF THE FOLLOWING QUESTIONS ARE REGARDING ONLY SOCIAL NETWORK ACTIVITY. THE FOLLOWING QUESTIONS REFER TO ACTIVITY/COMMUNICATION THROUGH MYSPACE, FACEBOOK, LIVEJOURNAL, ETC.

Page 11 - Question 33 - Choice - One Answer (Drop Down)

How long have you had a Social Network/Blog Account?

- ❍ Options of “1 Month or Less” to “120 Months or More”

Page 11 - Question 34 - Choice - One Answer (Drop Down)

How many social network/blog accounts have you opened, even if you don't use them regularly?

- ❍ Options of 1 to “15 or More”

Page 11 - Question 35 - Choice - Multiple Answers (Bullets)

What type of Social Network/Blog Account do you have? (Please Check All That Apply)

- ❑ Bebo
- ❑ Classmates.com
- ❑ Facebook
- ❑ Friendster
- ❑ Livejournal
- ❑ MySpace
- ❑ Orkut
- ❑ Twitter
- ❑ Windows Live Spaces
- ❑ Xanga
- ❑ Other, please specify

Page 12 - Question 36 - Choice - Multiple Answers (Bullets)

Why did you open a Social Network/Blog Account? (Please Check All That Apply)

- ❑ Curiousity
- ❑ To Keep in Touch with Friends/Family
- ❑ To Meet New Friends
- ❑ To Meet New Romantic Partners
- ❑ To Flirt
- ❑ Live Out Fantasy Online
- ❑ Other, please specify

Page 12 - Question 37 - Choice - One Answer (Drop Down)

How accurate (honest) is the information on your account?

- ○ Completely False
- ○ Mostly False with Some Truth
- ○ Mostly True with Some Exaggeration
- ○ Completely True

Page 12 - Question 38 - Choice - One Answer (Drop Down)

In an average week, how many times do you update the information on your Social Network/Blog Account(s)?

- ○ Options of 0 to “25 or More”

Page 12 - Question 39 - Open Ended - One Line

How many friends would you estimate you have in total on all your Online Social Network/Blog account(s)?

Page 12 - Question 40 - Choice - One Answer (Drop Down)

In an average day, how many hours do you spend on your social network/blog site(s)?

- ○ Options of “Less than 1 Hour” to “16 Hours or More”

Page 12 - Question 41 - Choice - One Answer (Drop Down)

What percentage of your friends would you estimate also have Social Network/Blog Accounts?

- ○ Options of 0 to 100% (Five Point Increments)

Page 13 - Question 42 - Choice - Multiple Answers (Bullets)

Which of the following do you include on your Social Network/Blog Account(s)? (Please Check All That Apply)

- ❑ First Name

- ❑ Full Name
- ❑ Nickname
- ❑ Birthdate
- ❑ Relationship Status
- ❑ Sexual Orientation
- ❑ Hometown
- ❑ School Address
- ❑ Home Address
- ❑ Job Title
- ❑ Work Name
- ❑ Work Address
- ❑ Instant Messenger ID
- ❑ Email Address
- ❑ Home Phone Number
- ❑ Cell Phone Number
- ❑ School Name
- ❑ Academic Major
- ❑ Class Schedule
- ❑ Clubs/Organizations
- ❑ Address for Other Social Network/Blog Sites
- ❑ Interests/Activities
- ❑ Photos
- ❑ Videos
- ❑ Top Friends
- ❑ Networks
- ❑ Notes/Blogs
- ❑ Applications
- ❑ Other, please specify

Page 14 - Question 43 - Yes or No

Have you ever posted a profile picture of yourself on your Social Network/Blog Account?

- ○ Yes
- ○ No

Page 14 - Question 44 - Yes or No

Have you ever posted photos on your Social Network/Blog Account, other than a profile picture?

- ○ Yes
- ○ No

Page 14 - Question 45 - Open Ended - One Line

How many photos would you estimate that you have on your Social Network/Blog Account?

Page 14 - Question 46 - Choice - Multiple Answers (Bullets)

What types of places are the people in your posted photos typically at? (Please Check All That Apply)

- ❑ Room/Apartment/Home
- ❑ Work
- ❑ Restaurants
- ❑ Sporting Events
- ❑ Extra-Curricular Activities
- ❑ Parties
- ❑ Bars and Clubs
- ❑ Outdoor Activities (Ex: Camping, Swimming, etc.)
- ❑ Other, please specify

Page 15 - Question 47 - Rating Scale - Matrix

Have you ever posted any of the following type of photos on your Social Network/Blog Account, even if you were only joking around in the pictures?

	Yes	No
You and/or Your Friends Drinking Alcohol	❍	❍
You and/or Your Friends Doing Drugs	❍	❍
You and/or Your Friends Doing Things That You Would Consider Sexually Provocative (Ex: Nudity, Sexual Poses, etc.)	❍	❍

Page 15 - Question 48 - Rating Scale - Matrix

Have you ever described any of the following interests or experiences on your Social Network/Blog Account?

	Yes	No
Experiences with Alcohol Use	❍	❍
Experiences with Drug Use	❍	❍
Sexual Experiences, Interests, or Fantasies	❍	❍

Page 15 - Question 49 - Rating Scale - Matrix

Have you ever joined a club/group through your Social Network/Blog Account that encourages any of the following activities?

	Yes	No
Drinking Alcohol	❍	❍
Using Drugs	❍	❍
Having Sex	❍	❍

Page 16 - Question 50 - Yes or No

Have you ever added someone as friend whom you didn't know?

- Yes
- No

Page 16 - Question 51 - Yes or No

Have you ever communicated with someone through other forms of electronic communication that you first met on your Social Network/Blog Account? (Example: IM, Email, Text Messenging, etc.)

- Yes
- No

Page 16 - Question 52 - Yes or No

Have you ever met someone in person that you met for the first time on your Social Network/Blog Account?

- Yes
- No

Page 16 - Question 53 - Yes or No

Have you ever dated someone in person that you met for the first time on your Social Network/Blog Account?

- Yes
- No

Page 16 - Question 54 - Yes or No

Do you have your Social Network/Blog Account set to private or limited access?

- Yes
- No

Page 16 - Question 55 - Yes or No

Have you ever joined an online service that assists you in acquiring new friends for your Social Network/Blog Account? (Example: Friendtrain, Whoretrain, Pimptrain, etc.)

- Yes
- No

Page 16 - Question 56 - Yes or No

Have you ever used an online program that allows you to update multiple social network accounts at once? (Example: ping.fm)

- Yes
- No

Page 16 - Question 57 - Yes or No

Have you ever used or tried to use a profile tracker that keeps track of who views your account? (Example: Trakzor)

- ❍ Yes
- ❍ No

Page 17 - Question 58 - Rating Scale - Matrix

How likely do you think it is that someone you had/have an intimate relationship with will use the information on your Social Network/Blog to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 17 - Question 59 - Rating Scale - Matrix

How likely do you think it is a friend or acquaintance will use the information on your Social Network/Blog to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 17 - Question 60 - Rating Scale - Matrix

How likely do you think it is that a stranger will use the information on your Social Network/Blog to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 18 - Question 61 - Rating Scale - Matrix

How afraid are you that someone you had/have an intimate relationship with will use the information on your Social Network/Blog to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 18 - Question 62 - Rating Scale - Matrix

How afraid are you that a friend or acquaintance will use the information on your Social Network/Blog to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 18 - Question 63 - Rating Scale - Matrix

How afraid are you that a stranger will use the information on your Social Network/Blog to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 19 - Question 64 - Choice - One Answer (Drop Down)

Has anyone every hacked into your Social Network/Blog account?

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 19 - Question 65 - Choice - One Answer (Drop Down)

Has anyone every hacked into one of your friend's Social Network/Blog account?

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 19 - Question 66 - Choice - One Answer (Drop Down)

Has anyone every opened a Social Network/Blog account posing as you?

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 19 - Question 67 - Choice - One Answer (Drop Down)

Has anyone every opened a Social Network/Blog account posing as one of your friends?

- ○ Yes
- ○ No
- ○ Unsure

Page 20 - Heading

ONLINE ACTIVITY SECTION ALL OF THE FOLLOWING QUESTIONS ARE REGARDING ONLINE ACTIVITY, OTHER THAN SOCIAL NETWORK/BLOG ACCOUNT(S) ACTIVITY, SUCH AS ACTIVITY/COMMUNICATION WITH INSTANT MESSENGERS, EMAIL, TEXT MESSENGING, ETC.

Page 20 - Question 68 - Choice - Multiple Answers (Bullets)

Do you regularly use any of the following online sites/groups? (Please Check All That Apply)

- ❑ YouTube
- ❑ Yahoo Groups
- ❑ Google Groups
- ❑ Match.com
- ❑ eHarmony
- ❑ AOL Instant Messenger (AIM)
- ❑ Other, please specify

Page 20 - Question 69 - Yes or No [Mandatory]

Have you ever posted photos/videos online?

- ○ Yes
- ○ No [Skip to 22]

Page 21 - Question 70 - Choice - Multiple Answers (Bullets)

If so, who do you typically post photos/videos of online? (Please Check All That Apply)

- ❑ Yourself
- ❑ Your Family
- ❑ Your Boyfriend/Girlfriend
- ❑ Your Ex-Boyfriend/Girlfriend
- ❑ Your Spouse/Partner
- ❑ Your Ex-Spouse/Partner
- ❑ Friends of the Same Sex as You
- ❑ Friends of the Opposite Sex as You
- ❑ Other, please specify

Page 21 - Question 71 - Choice - Multiple Answers (Bullets)

What types of places are the people in your posted photos/videos typically at? (Please Check All That Apply)

- ❑ Room/Apartment/Home
- ❑ Work
- ❑ Restaurants
- ❑ Sporting Events
- ❑ Extra-Curricular Activities (Example: Organization Meetings)
- ❑ Parties
- ❑ Bars and Clubs
- ❑ Outdoor Activities (Example: Camping)
- ❑ Other, please specify

Page 21 - Question 72 - Choice - Multiple Answers (Bullets)

Have you ever posted any of the following type of photos/video online, even if you were only joking around? (Please check all that apply)

- ❑ You and/or Your Friends Drinking Alcohol
- ❑ You and/or Your Friends Doing Drugs
- ❑ You and/or Your Friends Acting Sexually Provocative (Example: Kissing, Nudity, etc.)
- ❑ None of the Above

Page 22 - Question 73 - Yes or No

Have you ever met someone in person that you first met on online?

- ❍ Yes
- ❍ No

Page 22 - Question 74 - Yes or No

Have you ever dated someone that you first met on online?

- ❍ Yes
- ❍ No

Page 22 - Question 75 - Rating Scale - Matrix

Have you ever described interests or experiences with any of the following online?

	Yes	No
Alcohol Use	❍	❍
Drug Use	❍	❍
Sexual Experiences, Interests, or Fantasies	❍	❍

Page 23 - Question 76 - Choice - One Answer (Drop Down)

Has anyone every hacked into any of your online programs? (Ex: Email, Instant Messenger, etc.)

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 23 - Question 77 - Choice - One Answer (Drop Down)

Has anyone every hacked into any of your friends' online programs? (Ex: Email, Instant Messenger, etc.)

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 23 - Question 78 - Choice - One Answer (Drop Down)

Has anyone every pretended to be you online, without your permission?

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 23 - Question 79 - Choice - One Answer (Drop Down)

Has anyone every pretended to be one of your friends online, without their permission?

- ❍ Yes
- ❍ No
- ❍ Unsure

Page 24 - Question 80 - Rating Scale - Matrix

How likely do you think it is that someone you had/have an intimate relationship with will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 24 - Question 81 - Rating Scale - Matrix

How likely do you think it is a friend or acquaintance will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 24 - Question 82 - Rating Scale - Matrix

How likely do you think it is that a stranger will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Likely at All	2	3	4	5	6	7	8	9	Very Likely
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 25 - Question 83 - Rating Scale - Matrix

How afraid are you that someone you had/have an intimate relationship with will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 25 - Question 84 - Rating Scale - Matrix

How afraid are you that a friend or acquaintance will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 25 - Question 85 - Rating Scale - Matrix

How afraid are you that a stranger will use an online program (Ex. Instant Messenger, Email, etc.) to do any of the following?

	Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
Harass You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Stalk You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
Threaten to Physically Harm You	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 26 - Question 86 - Yes or No [Mandatory]

Has anyone ever contacted you or attempted to contact you on more than one occasion online after you asked/told them to stop?

- ❍ Yes
- ❍ No [Skip to 43]

Page 27 - Question 87 - Choice - One Answer (Drop Down) [Mandatory]

How many different people have contacted you or attempted to contact you on more than one occasion online after you asked/told them to stop?

- 1 [Skip to 28]
- 2 [Skip to 29]
- 3 [Skip to 31]
- 4 [Skip to 34]
- 5 or More [Skip to 38]

Page 28 - Question 88 - Open Ended - One Line

How did you know the person that contacted or attempted to contact you?
(Ex: Husband, Ex-Wife, Girlfriend, Ex-Boyfriend, Friend, Former Friend, Stranger, etc.) Please Do Not Put Names

Page 28 - Question 89 - Choice - One Answer (Drop Down)

How long have you known that person?

- N/A
- Options of “Less Than 1 Month” to “More Than 120 Months”

Page 28 - Question 90 - Choice - One Answer (Drop Down)

How many times did that person contact or attempt to contact you after you asked/told them to stop?

- Options of 1 to “100 or More”

Page 28 - Question 91 - Open Ended - One Line

How long did that person contact or attempt to contact you after you asked/told them to stop? (Ex: 2 weeks, 4 months, etc.)

Page 28 - Question 92 - Choice - Multiple Answers (Bullets)

How did that person contact or attempt to contact you? (Please Check All That Apply)

- Social Network/Blog Message Board/Wall
- Social Network/Blog Messenger Program
- Email
- Instant Messenger
- Text Message
- Telephone
- Letter
- In Person
- Other, please specify

Page 28 - Question 93 - Yes or No

Did that person's actions cause you to fear for your personal safety?

- ❍ Yes
- ❍ No

Page 28 - Question 94 - Rating Scale - One Answer (Horizontal)

How afraid were you?

Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 28 - Question 95 - Choice - Multiple Answers (Bullets)

What did you do as a result of that person repeatedly contacting or attempting to contact you? (Check All That Apply)

- ❑ Ignore Him/Her
- ❑ Tell Your Friends or Relatives
- ❑ Report the Incident to the Social Network/Blog Provider
- ❑ Report the Incident to University Staff
- ❑ Report the Incident to the Police
- ❑ Confront that Person Online
- ❑ Confront that Person Face-to-Face/Over the Phone
- ❑ Set Account to Private or Limited
- ❑ Block that Person
- ❑ Nothing
- ❑ Other, please specify

Page 43 - Question 208 - Yes or No [Mandatory]

Has anyone ever persistently harassed or annoyed you on more than one occasion online?

- ❍ Yes
- ❍ No [Skip to 60]

Page 44 - Question 209 - Choice - One Answer (Drop Down) [Mandatory]

How many different people have persistently harassed or annoyed you on more than one occasion online?

- ❍ 1
- ❍ 2 [Skip to 46]
- ❍ 3 [Skip to 48]
- ❍ 4 [Skip to 51]
- ❍ 5 or More [Skip to 55]

Page 45 - Question 210 - Open Ended - One Line

How did you know the person that persistently harassed or annoyed you?
(Ex: Husband, Ex-Wife, Girlfriend, Ex-Boyfriend, Friend, Former Friend, Stranger, etc.) Please Do Not Put Names

Page 45 - Question 211 - Choice - One Answer (Drop Down)

How long have you known that person?

- ○ N/A
- ○ Options of “Less Than 1 Month” to “More Than 120 Months”

Page 45 - Question 212 - Choice - One Answer (Drop Down)

How many times did that person persistently harass or annoy you?

- ○ Options of 1 to “100 or More”

Page 45 - Question 213 - Open Ended - One Line

How long did that person persistently harass or annoy you? (Ex: 2 weeks, 4 months, etc.)

Page 45 - Question 214 - Choice - Multiple Answers (Bullets)

Through what means did that person persistently harass or annoy you? (Please Check All That Apply)

- ☐ Social Network/Blog Message Board/Wall
- ☐ Social Network/Blog Messenger Program
- ☐ Email
- ☐ Instant Messenger
- ☐ Text Message
- ☐ Telephone
- ☐ Letter
- ☐ In Person
- ☐ Other, please specify

Page 45 - Question 215 - Yes or No

Did that person's actions cause you to fear for your personal safety?

- ○ Yes
- ○ No

Page 45 - Question 216 - Rating Scale - One Answer (Horizontal)

How afraid were you?

Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
❍	❍	❍	❍	❍	❍	❍	❍	❍	❍

Page 45 - Question 217 - Choice - Multiple Answers (Bullets)

What did you do as a result of that person persistently harassing or annoying you?

- ❑ Ignore Him/Her
- ❑ Tell Your Friends or Relatives
- ❑ Report the Incident to the Social Network/Blog Provider
- ❑ Report the Incident to University Staff
- ❑ Report the Incident to the Police
- ❑ Confront that Person Online
- ❑ Confront that Person Face-to-Face/Over the Phone
- ❑ Set Account to Private or Limited
- ❑ Block that Person
- ❑ Nothing
- ❑ Other, please specify

Page 60 - Question 330 - Yes or No [Mandatory]

Has anyone ever made unwanted sexual advances toward you on more than one occasion online?

- ❍ Yes
- ❍ No [Skip to 77]

Page 61 - Question 331 - Choice - One Answer (Drop Down) [Mandatory]

How many different people have made unwanted sexual advances toward you on more than one occasion online?

- ❍ 1
- ❍ 2 [Skip to 63]
- ❍ 3 [Skip to 65]
- ❍ 4 [Skip to 68]
- ❍ 5 or More [Skip to 72]

Page 62 - Question 332 - Open Ended - One Line

How did you know the person that made unwanted sexual advances toward you?
(Ex: Husband, Ex-Wife, Girlfriend, Ex-Boyfriend, Friend, Former Friend, Stranger, etc.) Please Do Not Put Names

Page 62 - Question 333 - Choice - One Answer (Drop Down)

How long have you known that person?

- ○ N/A
- ○ Options of “Less Than 1 Month” to “More Than 120 Months”

Page 62 - Question 334 - Choice - One Answer (Drop Down)

How many times did that person make unwanted sexual advances toward you?

- ○ Options of 1 to “100 or More”

Page 62 - Question 335 - Open Ended - One Line

How long did that person make unwanted sexual advances toward you? (Ex: 2 weeks, 4 months, etc.)

Page 62 - Question 336 - Choice - Multiple Answers (Bullets)

Through what means did that person make unwanted sexual advances toward you? (Please Check All That Apply)

- ☐ Social Network/Blog Message Board/Wall
- ☐ Social Network/Blog Messenger Program
- ☐ Email
- ☐ Instant Messenger
- ☐ Text Message
- ☐ Telephone
- ☐ Letter
- ☐ In Person
- ☐ Other, please specify

Page 62 - Question 337 - Yes or No

Did that person's actions cause you to fear for your personal safety?

- ○ Yes
- ○ No

Page 62 - Question 338 - Rating Scale - One Answer (Horizontal)

How afraid were you?

Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
○	○	○	○	○	○	○	○	○	○

Page 62 - Question 339 - Choice - Multiple Answers (Bullets)

What did you do as a result of that person making unwanted sexual advances toward you?

- ❑ Ignore Him/Her
- ❑ Tell Your Friends or Relatives
- ❑ Report the Incident to the Social Network/Blog Provider
- ❑ Report the Incident to University Staff
- ❑ Report the Incident to the Police
- ❑ Confront that Person Online
- ❑ Confront that Person Face-to-Face/Over the Phone
- ❑ Set Account to Private or Limited
- ❑ Block that Person
- ❑ Nothing
- ❑ Other, please specify

Page 77 - Question 452 - Yes or No [Mandatory]

Has anyone ever spoken to you in a violent manner or threatened to physically harm you on more than one occasion online?

- ○ Yes
- ○ No [Skip to 94]

Page 78 - Question 453 - Choice - One Answer (Drop Down) [Mandatory]

How many different people have spoken to you in a violent manner or threatened to physically harm you on more than one occasion online?

- ○ 1
- ○ 2 [Skip to 80]
- ○ 3 [Skip to 82]
- ○ 4 [Skip to 85]
- ○ 5 or More [Skip to 89]

Page 79 - Question 454 - Open Ended - One Line

How did you know the person that spoke to you in a violent manner or threatened to physically harm you? (Ex: Husband, Ex-Wife, Girlfriend, Ex-Boyfriend, Friend, Former Friend, Stranger, etc.) Please Do Not Put Names

Page 79 - Question 455 - Choice - One Answer (Drop Down)

How long have you known that person?

- ○ N/A
- ○ Options of “Less Than 1 Month” to “More Than 120 Months”

Page 79 - Question 456 - Choice - One Answer (Drop Down)

How many times did that person speak to you in a violent manner or threaten to physically harm you?

- ○ Options of 1 to “100 or More”

Page 79 - Question 457 - Open Ended - One Line

How long did that person continue to speak to you in a violent manner or threaten to physically harm you? (Ex: 2 weeks, 4 months, etc.)

Page 79 - Question 458 - Choice - Multiple Answers (Bullets)

Through what means did that person speak to you in a violent manner or threaten to physically harm you? (Please Check All That Apply)

- ☐ Social Network/Blog Message Board/Wall
- ☐ Social Network/Blog Messenger Program
- ☐ Email
- ☐ Instant Messenger
- ☐ Text Message
- ☐ Telephone
- ☐ Letter
- ☐ In Person
- ☐ Other, please specify

Page 79 - Question 459 - Yes or No

Did that person's actions cause you to fear for your personal safety?

- ○ Yes
- ○ No

Page 79 - Question 460 - Rating Scale - One Answer (Horizontal)

How afraid were you?

Not Afraid at All	2	3	4	5	6	7	8	9	Very Afraid
○	○	○	○	○	○	○	○	○	○

Page 79 - Question 461 - Choice - Multiple Answers (Bullets)

What did you do as a result of that person speaking to you in a violent manner or threatening to physically harm you?

- ☐ Ignore Him/Her
- ☐ Tell Your Friends or Relatives
- ☐ Report the Incident to the Social Network/Blog Provider
- ☐ Report the Incident to University Staff
- ☐ Report the Incident to the Police

- ❑ Confront that Person Online
- ❑ Confront that Person Face-to-Face/Over the Phone
- ❑ Set Account to Private or Limited
- ❑ Block that Person
- ❑ Nothing
- ❑ Other, please specify

Page 94 - Question 574 - Rating Scale - Matrix

Please indicate if you have participated in any of the following activities:

	Yes	No
Repeatedly contacted or attempted to contact someone online after they asked/told you to stop.	❍	❍
Repeatedly harassed or annoyed someone online after they asked/told you to stop.	❍	❍
Repeatedly made sexual advances toward someone online after they asked/told you to stop.	❍	❍
Repeatedly spoken to someone in a violent manner or threatened to physically harm them online after they asked/told you to stop.	❍	❍
Attempted to hack into someone's online social network account.	❍	❍
Downloaded music or movies illegally.	❍	❍
Sent sexually explicit images to someone online or through text messaging.	❍	❍
Received sexually explicit images from someone online or through text messaging.	❍	❍

Page 95 - Heading

THANK YOU FOR YOUR PARTICIPATION!
If you have any questions about the survey or study, you are welcome to contact us. The results of the survey are scheduled to be made available in June of 2011; please contact the investigators listed below for more information.

Department of Criminal Justice
Billy Henson, M.S. 513-556-2617 (hensonb@email.uc.edu)
Brad Reyns, M.S. 513-556-2617 (reynsbw@email.uc.edu)
If you have any questions about your rights as a research participant, you may call the Chair of the Institutional Review Board—Social and Behavioral Sciences at 558-5784.

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FOR MORE INFORMATION OR ADDITIONAL RESOURCES:

If you feel emotionally distressed as a result of this survey or if you would like more information about the University Counseling Center, please follow this link: University Counseling Center
If you would like more information on the prevalence of and/or the services available for stalking victimization, please visit The National Center for Victims of Crime or The Stalking Victims' Sanctuary.

Appendix C: Survey Email Invitations

Initial Survey Invitation

Subject Line: Online Social Networks Research Project

Hello Fellow UC Student,

As part of our doctoral dissertation research, we are inviting you to participate in a first-of-its-kind survey examining the phenomena of online social networks and blogs, such as Myspace and Facebook. You will be asked questions about your use of the Internet and online social networks/blogs, as well as any annoyances and/or dangers you have encountered online including any possible cyberstalking incidents. This survey is essential for our dissertation work, which is a requirement for graduation, and we greatly appreciate your help. If you have any questions, please let us know. Thank you so much for your participation!

To participate in our study, please follow the link below:

http://www.zoomerang.com/Survey/?p=WEB2292ZKV4NAY

Sincerely,
Billy Henson, M.S.
Department of Criminal Justice

Brad Reyns, M.S.
Department of Criminal Justice

1st Follow-Up Survey Invitation

Subject Line: Online Social Networks Research Project

Hello Fellow UC Student,

As college students, we often help each other out. We are asking for a few minutes of your time to complete a survey that will help us carry out our doctoral dissertation research. We invite you to participate in a first-of-its-kind survey examining the phenomena of online social networks and blogs, such as MySpace and Facebook. Questions ask about your use of the Internet and online social networks/blogs, as well as any annoyances and/or dangers you have encountered online including any possible cyberstalking incidents. Your responses are essential for us to finish our degree. We greatly appreciate your help. If you have any questions, please let us know. If you have previously completed the survey, please disregard this email. Thank you so much for your participation!

To participate in our study, please follow the link below:
http://www.zoomerang.com/Survey/?p=WEB2295WEYVCCG

Sincerely,
Billy Henson, M.S.
Department of Criminal Justice

Brad Reyns, M.S.
Department of Criminal Justice

2nd Follow-Up Survey Invitation

Subject Line: Online Social Networks Research Last Call

Hello Fellow UC Student,

We have previously invited you to participate in our study of online social networks and related phenomena. This is our third and final wave of invitations. We are asking for more students to participate because we have fallen short of our target response goal. Your responses are essential for us to finish our degrees. We hope you will help us. We are asking for a few minutes of your time to complete a survey that will help us carry out our doctoral dissertation research. The survey should take about 15 minutes. Questions ask about your use of the Internet and online social networks/blogs, as well as any annoyances and/or dangers you have encountered online including any possible cyberstalking incidents. We greatly appreciate your help. If you have any questions, please let us know. If you have previously completed the survey, please disregard this email. Thank you so much for your participation!

To participate in our study, please follow the link below:
http://www.zoomerang.com/Survey/?p=WEB2295WEYVCCG

Sincerely,
Billy Henson, M.S.
Department of Criminal Justice

Brad Reyns, M.S.
Department of Criminal Justice