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SERIOUSNESS PERCEPTIONS OF
COMPUTER CRIME VS. TRADITIONAL CRIME

BY

ABBIE BEAULIEU
Psychology B.A., University of New Hampshire, 2008

THESIS

Submitted to the University of New Hampshire
In Partial Fulfillment of
the Requirements for the Degree of

Master of Arts
in
Justice Studies

December, 2009

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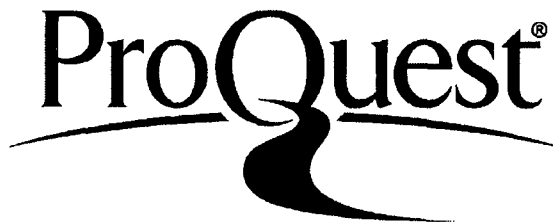
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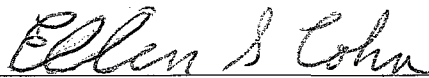
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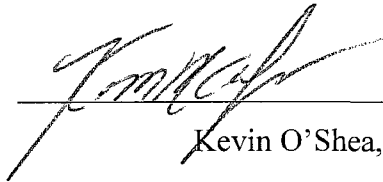
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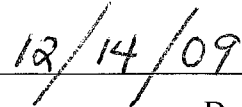
Thesis Director, Ellen S. Cohn, PhD, Professor, Psychology and Justice Studies



Kimberly J. Mitchell, PhD, Research Assistant Professor, Psychology



Kevin O'Shea, Lecturer, Justice Studies



Date

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ABSTRACT

SERIOUSNESS PERCEPTIONS OF COMPUTER CRIME VS. TRADITIONAL CRIME

by

Abbie Beaulieu

University of New Hampshire, December, 2009

With the various advancements made in technology over the last few decades, computer crime has evolved and many are used to victimize more and more American internet users every year (NW3C, 2008). However, no researcher has examined neither how computer crime seriousness is perceived by internet users nor which (if any) social factors affect how the seriousness of computer crime is perceived. The current study attempted to determine internet users' perceptions of computer crime seriousness versus traditional crime seriousness. In addition, the study tried to determine the effects of the following factors as they relate to computer crime seriousness: personal victimization, personal offending, friend offending, perception of crime prevalence in the U.S., and perceived likelihood of offender punishment. A survey was created and used to measure experience and perceptions of 313 college students from a Northern New England University. Results indicate computer crimes were rated significantly more serious in

most cases, seriousness scores varied significantly by individual crime, crimes against children were rated significantly more serious than crimes against adults and perceived likelihood of offender punishment relates strongly with seriousness perception variation.

INTRODUCTION

As technology is constantly advancing, computer crime is evolving. Since the year 2000, the number of Americans reporting victimization via white collar computer crime alone has increased drastically. Every year the reported monetary damage due to these crimes increases as well (NWC3, 2008). Undoubtedly, computer crime is a concern in the U.S. today. The vast and unregulated nature of the Internet means law enforcement and computer crime laws are constantly playing catch-up with technology and accompanying changes in crime (Hick & Halpin, 2001; Reyes, 2007).

With the technology ever-advancing, computers and the Internet are now important tools for committing new versions of old crimes such as fraud, identity theft, child solicitation, and stalking (Taylor, 2006). With the conveniences of new technology, cyber-makeovers of crimes like identity theft, piracy and child pornography mean more people are at risk, more people can easily offend, and damaging data can circulate the world faster and with less restriction to more offenders (Hick & Halpin, 2001; Langenderfer & Cook, 2001; Reyes, 2007). Increasing speed of data, anonymity of users, and other characteristics of computer crime makes it especially vital to understand today (Reyes, 2007; Taylor, 2006).

For these reasons, and more, understanding computer crime as it progresses is increasingly important. However, the trends for these types of crimes have many elements to them which are not completely understood. Understanding how these crimes are perceived is just one element of these crimes, but it is an important characteristic to understand as computer crime offending progresses and increases.

Perceived seriousness of various traditional crimes have been studied for decades using a variety of populations. The seriousness of crime can be considered a foundational element of how we look at crime. Without differing levels of ‘seriousness’, all crimes would be treated the same (Rossi, et al. 1974; Sellin & Wolfgang, 1964; Wolfgang et al., 1985). Additionally, knowledge of which crimes the public finds more serious can have strong implications for law enforcement and policy (McDavid & Stipak, 1982) such as predicting rates of offending of individual crimes as well as how the public would look at punishment of offenders and funding to prevent such crime (Skinner & Fream, 1997). Thus, it is important to understand the perceptions of all crimes prevalent in the U.S., including computer crime, especially as technology and offenders progress these crimes.

Understanding the perceptions of one sample of internet users, such as university students, is a first step in improving the understanding of how computer crimes are perceived and why throughout the U.S. The reliability between different groups of participants in previous studies (Byers, 1993; Rossi, et al. 1974; Sellin & Wolfgang, 1964) may suggest that the perceptions of even one group of internet users may relate more broadly to the general population of Internet users. Specifically, Byers (1993) found that perceptions of college students are consistent with those on a national level and Sellin and Wolfgang (1964) suggested, in their seriousness study, college students represent the middle class of the U.S. and, thus, the ideals behind common law (Byers, 1993; Sellin & Wolfgang, 1964). However, specific differences in seriousness perceptions may exist between various age groups, as has been the case previously

(Wolfgang, et al. 1985). For these reasons, caution should be used in assuming such a sample population accurately reflects the perceptions of all U.S. Internet users.

Understanding seriousness perceptions could assist in understanding patterns of behavior of Internet users. Seriousness perceptions of computer crimes could be telling of Internet users' behavior patterns of offending. Perceptions of crime seriousness are shown to play a role in predicting one's ability to offend (Skinner & Fream, 1997). As an example, choice theory, subculture theory and drift theory of crime would assume viewing certain computer crimes as a norm would suggest one would view the crime as less serious (Taylor, 2006). A developmental approach to criminology suggests offenders commit criminal acts they perceive to be 'less serious' before they commit those acts they consider to be 'more serious'. This assumes offenders have their own perceptions of crime seriousness and those perceptions play a role in their choice to criminally offend (Ramchand, et al. 2008).

Finally, understanding these perceptions may also help with understanding which social or experience/perception factors affect views of seriousness and, thus, how social factors affect responses to various computer crimes. In general, perceptions are subject to change and social experience plays a role in how any person perceives a crime. These seriousness perceptions are believed to be affected by many factors relating to the crime such as harm done to the victims and consequences of the offender (Ramchand, et al. 2008). The degree of punishment for crimes, the perceived harm done to both hypothetical and real victims and the economic costs all relate to how serious an offense is perceived (Cohen, 2000; McDavid & Stipak, 1982).

CHAPTER I

COMPUTER CRIME DEFINITIONS AND CATEGORIES

There are many definitions of computer crime and no universal one. Computer crime, or cyber-crime, can be broadly defined as a crime with a “high-technology or cyber component” (Reyes, 2007). This definition itself suggests simply a cyber-element is added to an existing crime. Essentially, most computer crime has an ancestry in older crime, but with the advantages of computer technology.

Computers play roles in computer crime that vary in their need as either necessary or just convenient for computer crime. These variations can be seen in varying types of computer crime. Computer crime types are defined by how a computer is used in the commission of the crime. The types include computer as a target, computer as an instrument of the crime, and computer as incidental to the crime, and crime associated with the prevalence of computers (Taylor, 2006).

Crime with the computer as the target could not exist without computers or, in some cases, the Internet (Taylor, 2006). These types of crimes were really only possible after the advent of personal computers, the huge popularity of the internet, and a developing dependence of companies on databases and websites. Such crimes can include altering the data of a company’s files or taking down a company’s website for

ransom. These crimes do not translate easily into traditional crimes as they are defined by using cyber-technology to a high degree. As an example, traditional vandalism does not share many of the same characteristics as computer vandalism (Taylor, 2006).

Computer crimes which fall under the category of the computer as an instrument of a crime have stronger ties with traditional crime. The existence of computers and the internet would also be necessary for these computer crimes to exist, yet traditional versions of these crimes are similar and damaging as well. Theft, harassment, and fraud are all traditional crimes which are now also being committed with the aid of computers and the internet (Taylor, 2006).

The computer as incidental to a crime is a category which weighs more on the traditional side for each crime than the computer as an instrument of a crime category, but the use of computers and the internet makes the crime easier to commit. Child pornography, child solicitation, and money laundering all fall into this category. For these crimes, each would exist without personal computers and the Internet, but computers as tools have somewhat transformed these crimes. Child pornography, as an example, existed long before the Internet, but today the ability to create and share images of child sexual abuse is significantly easier to do because of cyber-technology (Taylor, 2006).

Crimes associated with the prevalence of computers also have strong ties with traditional crime. These crimes include identity theft and piracy and involve the average Internet user especially. The very definition of this category of crime suggests that the popularity of computers and the Internet are needed for these crimes. With the growing use of the Internet, offenders and victims alike are more prevalent (Taylor, 2006).

CHAPTER II

EXISTING SERIOUSNESS PERCEPTION RESEARCH

Past seriousness of crime researchers have always tried to establish how populations view the severity of hypothetical crimes. For decades, crime seriousness and its importance have been explored through various research studies (Rossi, et al. 1974; Sellin & Wolfgang, 1964; Wolfgang, et al. 1985). General impact, the extent or frequency, or the harmfulness of a crime are characteristics theorized to show seriousness (Manis, 1974), however past researchers have largely determined seriousness levels by measuring only participants' perceptions of seriousness. These main studies attempted to scale both participants' perceptions of the seriousness of various crimes as well as what factors affect these perceptions.

The basic concept of past seriousness research was to 'tag' a certain crime with a general consensus of a 'crime score'. This type of study can give researchers a strong idea of how individual crimes compare to one another in severity. Essentially, the basic question to answer is: how serious is this crime? The next step would be to ask: how does this crime compare to other crimes? Beyond this, research has aimed to single out which elements of crimes make them more or less serious in the eyes of the average person by asking: why was this crime viewed this way (Byers, 1993)?

Accuracy of measuring consensus and accuracy of measuring actual seriousness perceptions were issues of past methodology. When it comes to measuring seriousness, one issue that tends to arise is the question of “what is seriousness?” It is inevitable for this question to be asked at some point during any seriousness research, especially by participants themselves. Researchers have frequently left this question unanswered so participants can decide themselves what makes a crime serious (Byers, 1993; Rossi, et al 1974).

Past Research Findings.

Several past studies investigating the perception of seriousness of traditional crimes provide a general understanding of the perceived seriousness of these crimes (Byers, 1993; Rossi, et al. 1974; Sellin & Wolfgang, 1964; Warr, 1989, Wolfgang, et al. 1985). To use Rossi’s study as a focal point, there are a few trends that are worth noting in crime seriousness results. First, it is relatively easy to pinpoint which characteristics of crimes relate to variation in seriousness scores. ‘Crimes against persons’ and ‘selling illegal drugs’ are crimes which are seen as especially serious. ‘Crimes against property’, ‘victimless crimes’, and ‘white collar crimes’ are seen as less serious (Rossi, et al. 1974).

Characteristics of the offenders are also believed by some researchers to be relevant to how their crimes are perceived, however findings have differed on this topic. Some perceptions suggest that, when the offenders can be viewed by the participants, their crimes are perceived as more serious if the offenders are of lower socioeconomic status (Carlson & Williams, 1993). However, researchers have also concluded the opposite: those higher-status offenders are viewed more harshly as their criminal behavior deviates more from their high-status norms (Wharman, 1970). At the same

time, some conclude that those characteristics of offenders are not taken into consideration at all when perceiving seriousness of offenses (Carlson & Williams, 1993).

Characteristics of the respondents are also telling in past research. In Rossi et al's (1974) original study, they found, among white respondents, younger age and higher levels of education lead to more agreement with the average responses. It was also found that women and black respondents rated crimes higher in seriousness than men and white respondents, yet ratings of seriousness are relatively stable among subgroups, overall (Rossi, et al. 1974). Variation in patterns of victimization rates suggest victimization rates could be positively correlated with seriousness scores, supporting social learning theory in that individual experiences predict how one perceives crime seriousness (Skinner & Fream, 1997). Overall, these findings tell us offender status, type of crime and characteristics or experiences of participants can predict variation in crime seriousness perceptions.

Lynch and Danner (1993) suggested using hypothetical scenarios is not the best method for measuring seriousness. They suggest that, because the participants' experience is limited, their perceptions and thought processes would be oversimplified when only rating hypothetical scenarios and those who have experienced the actual crime in some way would have more accurate perceptions of the crime, they argue. They claim victims of the actual crime would be more appropriate for rating crime seriousness as well as more accurate (Lynch & Danner, 1993). However, those of victims are not the only perceptions worth measuring especially as those could be viewed as biased. The views of victims would be different than those of non-victims. For example, the perception of a crime's seriousness by one who has committed that particular crime, or

possibly any crime, may differ as well. Offenders of certain crimes, as they may view those crimes as a norm, may view them as less-serious (Ramchand, et al. 2008).

The method of using only crime victims to determine seriousness would not be very useful in measuring computer crime seriousness as the victimization rates would likely be different between computer crimes and traditional crimes. This would be due to the fact that computer crimes have not existed for as long as traditional crimes have and the age range of participants is limited.

Despite the amounts of older research determining the seriousness perceptions for traditional crimes and how certain characteristics of crime affect how they are perceived, the one crime characteristic which has yet to be studied is the cyber-element of crime (Byers, 1993). With the popularity of computer crime, understanding how these crimes differ from older traditional crimes in how they are perceived is increasingly necessary.

Measuring Seriousness Perceptions

Scales have been the primary form of measuring seriousness. Some measures have asked participants to place in order a specific list of crimes from, for example, “not-serious” to “serious”, giving each crime a different score. Another method asks participants to individually score each crime with a numbered score. Either of these methods will essentially ask the participants to create a scale in their mind of specific crimes and how they relate to each other (Byers, 1993).

The method, which asks participants to place one list of crimes in a seriousness order, is essentially asking participants to relate each crime to the other crimes and gauge their seriousness from there. While this method can be helpful organizationally, it also limits the responses of the participants. For example, it keeps the method of

measurement simple and keeps the participants' personal scale of seriousness in check by immediately relating one crime to another. However, the scales may not express difference between crimes and the scales may also not allow for participants to perceive two crimes as being equally serious, limits the reasoning for seriousness perceptions (Byers, 1993).

One way that this method has been used was in the Baltimore Crime Seriousness Study, where participants were asked to place cards with short descriptions of crimes into slots labeled between "1" and "9". Slot "9" was to be considered the most-serious and slot "1" was to be considered the least-serious. A benefit of this method was that participants could compare crimes with each other easily and adjust their scores accordingly. This would not be quite as easy with a paper-scale with written responses. However, when this method was used it was very open and allowed for speculation on the effectiveness of anonymity of participants (Rossi, et al. 1974).

Other methods have given participants more freedom to scale crimes as they wish. An example would be to simply give the participants a list of items to scale and have them place a number, say from "1" to "10", next to the item indicating their perception of seriousness. This format allows participants to assign two different crimes the same seriousness score, but may also leave too much room for participants to make comparative errors. For example, when working through the list, the participants' responses may be altered by which items came before and after the item in question. Inadvertently, a participant may scale two crimes with the same score that he or she would not have if asked to compare to two items together. This problem may be avoided by randomizing the lists of items given to all participants (Byers, 1993).

CHAPTER III

FACTORS RELATED TO CRIME SERIOUSNESS

A part of understanding how crimes are perceived, the goals of seriousness studies, is determining predictors of variation in seriousness scores. Just as seriousness levels contribute to levels of punishment (McDavid & Stipak, 1982), the already-existing sentences and likelihood of punishment may also play a role in how serious the public believes a crime to be. One's perceptions of crime can be largely affected by how the crime is portrayed in the public. Similarly, past findings show strong existing correlations between perceptions of seriousness and economic costs (Cohen, 2000) as well as sentence length (McDavid & Stipak, 1982).

As an example, in Rossi's original study, one particular item was scored higher on its overall seriousness scale result than other crimes, such as murder. This crime, 'the selling of crack cocaine', seems oddly unique compared to the crimes with the near-same seriousness score given. Specifically, the selling of crack cocaine as a crime is not a 'crime against persons', which was a category determined to be perceived as more severe than other types of crimes (Musto, 1989; Rossi, et al. 1974). Speculation and investigation of drug laws at the time suggest that the disproportionate severity of the

punishment of crimes related to crack cocaine may have played a role in the participants' perception of the crime seriousness (Musto, 1989; Rossi, et al. 1974).

How such factors may relate to perceived seriousness of computer crime, however, has not yet been studied. The idea of perceived seriousness of these crimes, specifically, has not been touched upon in research. But, much like other crimes, their perceived seriousness can play a large role in how these crimes are handled. Therefore, the purpose of the current research was to gain perspective on how these new and important crimes are perceived.

THE CURRENT STUDY

While past research has found patterns of crime seriousness perceptions (Rossi, et al. 1974; Sellin & Wolfgang, 1964; Wolfgang et al., 1985) no research has been conducted recently enough to include perceptions of computer crime. Although peer offending rates have been found to predict self offending rates and views of computer crime (Skinner & Fream, 1997), no study has determined how such experience and the experience of friends affects how computer crimes are perceived. With ever-changing technology and the increasing challenges law enforcement face to keep up with computer criminals, understanding how computer crimes are perceived is especially important. The primary goal of the current study was determining if the seriousness ratings of computer crimes are different from seriousness ratings of traditional crimes. Secondly, the goal of the current study was to determine if and how personal experiences, perceptions and characteristics of participants affect seriousness perceptions. Because this is exploratory research, the hypotheses are stated in the form of research questions. To understand if computer crimes are perceived as different from traditional crime in seriousness, the current study collected data from participants of how they perceive the seriousness levels of a number of traditional crimes as well as those same crimes with a cyber-component to them. To investigate the factors that were hypothesized to affect seriousness ratings, participants also reported their victimization and offending

experiences as well as their friends' offending experiences. Finally they reported their perceptions of the U.S. offending rate and likelihood of offender punishment.

CHAPTER IV

METHOD

Participants

A total of 320 University of New Hampshire undergraduate students completed the survey. After eliminating entries for missing values, data for the analyses came from the entries of 313 participants. Data was taken only from those participants who completed the entire survey. For those who did not complete the survey, the smallest number of missing data entries was 92 out of a possible 101 entries. The participants were made up of a total of 193 women, 119 men, with one participant's sex not identified. The mean age of the participants was 19.83 (SD = 1.16).

As expected, the UNH College with the most representation within the sample was the College of Liberal Arts with roughly 54% of participants. The College of Life Sciences and Agriculture and the Whittemore School of Business and Economics each represented roughly 15% of the participants. The remaining 31% of participants were from the College of Engineering and Physical Sciences, College of Health and Human Services, and the Thompson School of Applied Science. The distribution of class standing was less varying; 39% were sophomores, 27% were first-year students, 21% were juniors and 13% were seniors.

Both scales of experience with computers and experience with the Internet showed normally distributed results. Roughly 85% of participants reported having between five and 15 years of experience with computers. The remaining 15% reported between less than one year to five years of experience or between 15 and 20+ years of experience. Roughly two-thirds of participants reported between five and ten years of experience with the internet, with the last third reporting less than one year to five years or ten to 15 years of experience with the internet. A total of seven participants reported between 15 and 20 years of experience with the Internet.

The data from three participants were deleted from the study after examining the outliers for all friend offending data. Each of the three participants' data included at least eight outliers: outliers are defined as entries which include only three or fewer in total number responded. No participants were eliminated while examining personal offending data; participants with the most number of outliers had only three at the most. This was not viewed as a large enough number to be considered possible false data. In all cases where there was no variation in reports of personal offending rates for a crime, all reports were of "None" (or no offending in the last 6 months). In all cases where there was no variation in reports of friend offending rates for a crime, all participants reported "None", or none of their friends offended within the last 6 months.

Participant Selection

Only UNH undergraduate students over the age of 18 were permitted to participate in the study. Two methods were used to recruit participants. The first method recruited participants enrolled in the courses of roughly 11 UNH professors instructing general education courses. All eligible students enrolled in these professors' courses

were given an equal opportunity to complete the survey and a total of 102 students completed the survey. The second method involved recruiting students from one particular general education course and total of 214 students completed the survey out of a possible 260 through this method.

For the first recruiting method, instructors of selected UNH courses were asked to advertise the survey to their enrolled students to recruit participants during the Spring semester of 2009. The courses from which participants were recruited were chosen based on characteristics of the course to attempt to reach a population representative of the actual current UNH undergraduate population. Courses that were targeted were introductory and from varying colleges with a high course enrollment. Professors of the selected varying courses were asked to distribute advertisements (including a link to the survey) to their enrolled students. In total, 11 professors agreed to send the advertisements to their students. Students were offered an opportunity to enter a gift card raffle as compensation for their time. After all participant entries were submitted using this method one participant was chosen at random and was awarded a gift card.

The second set of data collection was conducted in the UNH course Technology, Crime and Society (JUST 405) during the beginning of the Fall semester of 2009. With permission of the instructor, all enrolled students of the course were offered the opportunity to complete the survey for one bonus point applied to their final grade for the course. Students were offered the opportunity to complete a short written assignment related to computer crime as an alternative option to completing the survey for the same compensation.

Materials

The survey instrument was constructed for the purposes of this study and consisted of 16 identical Likert scales, each measuring seriousness ratings on a 10-point scale. Additional 5-point Likert scales were created and used to measure two experience factor scales (personal offending and friend offending) as well as two perception factor scales (perceived U.S. offending rate and perceived likelihood of offender punishment). A scale using only “yes” or “no” (or “N/A”) entries was used to measure a third experience factor scale: personal victimization.

Seriousness of Computer Crime and Traditional Crime. Seriousness ratings were measured with a total of eight computer crime items and eight parallel traditional crime items. Traditional and cyber versions of the following eight crimes/deviant acts were used as the crime items: child solicitation, child pornography, stealing, identity theft via credit card, identity theft via bank account, bullying, scamming, and stalking/harassment. Stealing as a computer crime represented pirating music, movies or programs. Scamming as a computer crime is also known as phishing, and in both scamming examples used (traditional and computer versions) bank account information was compromised.

Each crime item was specifically represented in the survey by a detailed description of the crime. An example of a computer crime is “Person A takes a picture of their 4-year-old step child depicted in a sexual act and emails the photo to a friend.” All items used can be found on page 54 in the Appendix.

Experience Factor Scales. There were three experience factor scales including personal victimization, personal offending, and friend offending. Each item on these three scales related to a different individual crime, with the exception of both traditional bullying and

cyber-bullying. All experience factor items are listed on pages 56 through 58 in the Appendix.

Experience Factor: Personal Victimization Rates. Participants reported whether they (or someone close to them) had ever been a victim of the computer or traditional versions of the following crimes: child solicitation, child pornography, identity theft via credit card, identity theft via bank account, scamming, and harassment/stalking. Participants reported their own victimization as well as the victimization of anyone close to them. Each description was followed by a simple “yes” or “no” response. Keeping the number of victimization scales to only one, by asking about the victimization of both the participants and those close to them, limited the number of items inquiring about victimization, in hopes of minimizing the possibly uncomfortable questioning of each participant on this subject.

Experience Factor: Personal Offending. Participants were asked: how many times in the past six months have you engaged in the following acts? The Likert scale included the following five possible responses: “None”, “1-5”, “6-10”, “11-15” and “16+”.

Experience Factor: Friend Offending. Participants indicated what percentage of their close friends had participated in each crime in the six months prior to completing the survey. Because a participants’ knowledge of their friends’ frequency of offending would likely be limited compared to their own personal offending, a scale differing from that used for personal offending was created. The selections on the five-item Likert scales following each crime description ranged from 0 to 4 and include “none” as the item for 0, “half” as the item for 2, and “all” as the item for 4.

Perception Factor Scales. There were also two perception factor scales including perceived U.S. offending for and perceived likelihood of offender punishment. Each item on these three scales related to a different individual crime, with the exception of both traditional bullying and cyber-bullying. All perception factor items are listed on pages 59 through 60 the Appendix.

Perception Factor: Perceived U.S. Offending. For the perceived U.S. offending scale, participants were asked to indicate how often they felt each individual traditional and computer crime occurs in the U.S. The corresponding Likert scale asked participants to indicate their perceptions by selecting an item ranging from 0 (“Very Rarely”) to 4 (“Very Often”).

Perception Factor: Perceived Likelihood of Offender Punishment. Participants indicated how likely they perceived an offender of each crime would be caught/punished. The Likert scale following this question was listed from 0 to 4 and ranged from “Not Likely at All” to “Very Likely”.

Demographic Information. Demographic questions measured the year each participant was born, UNH class standing, UNH college, and sex. The survey also included questions designed to determine the number of years of experience they have with computers and with the internet. The answers were as follows: “Less than 1 year”, “1–5 years”, “5-10 years”, “10-15 years”, “15-20 years”, and “20+ years”.

Procedure

The survey was constructed using QuestionPro, an online survey program, under the password-protected account created for the current research. The consent form (as well as all original seriousness rating scales, demographic scales, perception factor and

experience factor scales) was created in QuestionPro for use in the current study. The consent form was presented prior to the survey itself. SurveyMonkey, another online web survey, was used to host a separate page asking participants to submit their name and either a phone number or email address to participate in the gift card raffle (for the first recruiting method) or only their name (for the second recruiting method).

The study was approved by the Internal Review Board of the University of New Hampshire for the use of human subjects. Participants were first required to consent to the terms of participation before continuing to the survey itself including acknowledging they were eligible students of UNH as well as over the age of 18. Once they had consented to participation, they were able to complete the survey through this online program. Participants were redirected to the SurveyMonkey survey once they completed the QuestionPro survey.

CHAPTER V

RESULTS

Preliminary Analyses

To simplify the data analysis, a factor analysis was run for computer crime and another for traditional crime. Results suggested that two factors emerged. The first factor labeled ‘crimes against adults’ included stealing, identity theft via credit card, identity theft via bank account, bullying, scamming, and harassment/stalking. The second factor labeled ‘crimes against children’ included child solicitation and child pornography. The results are presented in Table 1.

Primary Analyses

Effects of Individual Crime and Cyber Element on Seriousness Scores (Two-Way Repeated Measures ANOVA). A two-way repeated measures ANOVA was run to determine the variation in seriousness scores based on the individual crimes (8) and the type of crime (2). There was a significant main effect of crime, $F(4.41, 1375.46) = 662.76$, Wilks' $\Delta = .32$, $p < .001$, $\eta^2 = .680$. Child solicitation was rated significantly higher than all other crimes with the exception of scamming. Child pornography was rated significantly higher than all other crimes, and stealing significantly lower than all other crimes. Bullying was rated significantly higher than stealing, but significantly lower than

the remaining crimes. Scamming was rated significantly higher than both types of identity theft and harassment/stalking. Finally, harassment/stalking was rated significantly lower than all crimes except stealing and bullying. There was also a significant interaction of crimes by type, $F(4.35, 1356.52) = 220.06, p < .001, \eta^2 = .41$, Wilks' $\Delta = .59$. However, the F statistic for type alone was not statistically significant. Results suggest crime itself affected most variation in scores and type alone did not have a significant effect. However, a significant interaction called for further examination. Eight individual one-way ANOVAs were also completed. Table 2 shows the means and standard deviations for the interactions of crimes and type.

Type of crime (computer vs. traditional) affected individual crime scores in most cases. Simple effects analysis showed that the interaction was explained by differences between cyber-crime and traditional crime for all crimes except identity theft via bank account. Results also showed that participants rated most computer crimes significantly more serious than their traditional crime equivalents with the exception of stealing and harassment/stalking.

A second two-way repeated measures ANOVA was conducted on the effect of crime (computer vs. traditional) and category of crime factor (crimes against children vs. crimes against adults) on ratings of crime seriousness. There was a significant main effect for category, $F(1,312) = 667.58, p < .001, \eta^2 = .68, \Delta = .32$. Crimes against children ($M = 9.24, SD = .94$) were rated significantly more serious than crimes against adults ($M = 7.66, SD = 1.18$). The interaction of categories by type was significant, $F(1,312) = 46.61, p < .001, \eta^2 = .13$, Wilks' $\Delta = .87$. Means and standard deviations of the interactions between crime category and type are reported in Table 3.

Factors Relating to Seriousness Scores: Demographic, Experience, and Perception Variables.

Correlation results. Crime seriousness of each of the crimes was correlated with demographic variables (age, sex, experience with computers and experience with the Internet), as well as experience factors (personal offending, friend offending and victimization) and perception factors (perceived likelihood offender punishment, perceived U.S. offending). The results are shown in Tables 4 and 5.

Age was found to be significantly positively related to identity theft via credit card as well as identity theft via bank account as both computer and traditional crimes. Sex was correlated with scamming as a computer crime (phishing), traditional bullying and harassment/stalking as both a computer and traditional crime such that women rated them more serious than men. See Table 4.

Results showed that perceived punishment items were significantly related to every individual crime. Perceived U.S. offending rate was significantly positively correlated to computer versions of identity theft via credit card and harassment/stalking as well as traditional stealing, identity theft via bank account and harassment/stalking. Personal offending was significantly related to stealing as a computer crime. Friend offending significantly correlated with child pornography as a computer crime, traditional identity theft via bank account, as well as both traditional and computer versions of stealing. See Table 5.

Perceived U.S. offending rate was significantly positively correlated with identity theft via credit card and harassment/stalking as computer crimes as well as identity theft via bank account and harassment/stalking as traditional crimes. This factor was also

significantly negatively correlated with traditional stealing. All correlations with individual crimes and perceived likelihood of offender punishment were positive. Decreases in personal offending of stealing as a computer crime correlated with increased seriousness score. Similarly, all significant friend offending correlations were negative.

Additionally, crime category factors ('crimes against children' or 'crimes against adults') were correlated with demographics, as well as experience factors (personal offending, friend offending and victimization) and perception factors (perceived likelihood of offender punishment, perceived U.S. offending). Results are reported in Tables 6 and 7. Results showed that sex was only significantly positively correlated with seriousness scores of computer crimes against adults. As was seen with individual crime, perceived likelihood of offender punishment was significantly positively correlated with every type of category factor. Perceived U.S. offending rate was only significantly positively correlated with both types of computer crimes. Personal offending was significantly negatively correlated with computer crimes against children and friend offending was significantly positively correlated with computer crimes against children and traditional crimes against adults.

Multiple Regression Analyses measuring crime seriousness of individual crimes based on demographic, experience, and perception variables.

To determine the effects of experience and perception factors as well as demographic information of participants on seriousness scores of individual crimes, sixteen (one for each individual crime) multiple regression analyses were run. The independent factors were age, sex, experience with computers and experience with the Internet, as well as all experience and perception factors.

All experience and perception factor data was used in comparison with its related crime. Frequencies of results for each perception and experience factor are reported in Table 8 through Table 12. The only exception regards bullying: no experience or perception factor items were created for bullying as bullying is not legally defined as a crime, which would be required.

Stepwise multiple regression analyses were run for each individual crime in order to control for certain demographic information and analyze primarily experience and perception factor data. Data for age, sex, experience with computers and experience with the Internet were entered into the first step of each multiple regression analysis and experience and perception factor data were entered into the second step of each multiple regression analysis. The standardized regression weights were examined to determine the contributions of individual factors for each individual crime on seriousness score.

First eight multiple regressions were conducted on the eight computer crimes. Table 13 presents the table of standardized regression coefficients. Child solicitation seriousness was predicted by perceived likelihood of offender punishment and personal offending. Child pornography seriousness was predicted by perceived likelihood of offender punishment, personal offending, and friend offending. Seriousness ratings of stealing were only predicted by personal offending. Identity theft via credit card seriousness was predicted by perceived U.S. offending rate and perceived likelihood of offender punishment. Identity theft via bank account seriousness was predicted by perceived likelihood of offender punishment, and personal offending. Bullying seriousness was predicted by only sex. Scamming was predicted by sex, perceived likelihood of offender punishment, personal offending, and friend offending.

Harassment/stalking was predicted by sex, perceived U.S. offending rate, and perceived likelihood of offender punishment.

Second, eight multiple regressions were conducted on the eight traditional crimes. Table 14 presented the table of standardized regression coefficients. Traditional child solicitation was predicted by perceived likelihood of offender punishment. Traditional child pornography was predicted by perceived likelihood of offender punishment, personal offending and friend offending. Traditional stealing seriousness was predicted by only friend offending. Seriousness scores of traditional identity theft via bank account was predicted by age, perceived U.S. offending rate, and perceived likelihood of offender punishment. Traditional bullying seriousness was predicted by sex only and that of traditional harassment/stalking was predicted by sex, perceived likelihood of offender punishment, and personal offending.

Multiple Regression Analyses measuring crime seriousness of categorized crimes based on demographics, experience, and perception variables. Four additional stepwise multiple regressions were conducted. A regression was run for each crime category factor across types. The four crime categories measured were: computer crimes against children, traditional crimes against children, computer crimes against adults, and traditional crimes against adults. Results are reported in Table 15. Just as the previous 16 multiple regressions conducted, these were completed using a stepwise method, controlling for demographic information.

Results show computer crimes against children scores were significantly predicted by perceived U.S. offending rates and perceived likelihood of offender punishment. Seriousness scores of computer crimes against adults were predicted by

perceived U.S. offending rate and perceived likelihood of offender punishment, as well as personal offending. Perceived likelihood of offender punishment seriousness, again, predicted seriousness scores for traditional crimes against children. Seriousness scores of traditional crimes against adults were predicted by perceived likelihood of offender punishment as well as friend offending.

CHAPTER VI

DISCUSSION

The results of the current study could be summarized into four main findings. Firstly, computer crimes were rated significantly more serious for both crime categories as well as most individual crimes. Secondly, seriousness scores varied significantly by individual crime. Also, crimes against children were rated significantly more serious than crimes against adults and, lastly, while all experience and perception factors were correlated with crime seriousness to an extent, perceived likelihood of offender punishment were the strongest factor correlated with seriousness scores.

Findings of differences in seriousness scores between crimes by their type (computer vs. traditional) could be attributed to the differences in characteristics which are automatic with the addition of a cyber-element to each crime. The higher population of possible victims, the speed of data, and the higher possibility of anonymity of computer crimes may have led to participants rating those crimes as more serious (Hick & Halpin, 2001; Langenderfer & Cook, 2001; Taylor, 2006; Reyes, 2007). Identity theft via credit card was also rated as more serious as a computer crime, as was scamming,

which may be due to anonymity as well as the number of possible victims of this crime. However, interestingly, there was no significant difference in seriousness ratings of identity theft via bank account. This is surprising as these crimes are so similar and anonymity and number of possible victims seem to be the primary characteristics which differ between traditional and computer crime versions. Participants' ratings of both computer crimes against children as higher may be due to the speed of data involved with child pornography as a computer crime as well as the anonymity involved with child solicitation.

Seriousness ratings of stealing and harassment/stalking, however, were rated significantly higher as traditional crimes. Those results of stealing could be speculated to reflect the commonality of pirating as opposed to shoplifting among the participants of the current study, especially as personal and friend offending were found to be negatively correlated with pirating. Also, anonymity may be an important factor in the seriousness results of these two crimes. While anonymity may make white collar crimes seem more serious as computer crimes (identity theft via credit card, and scamming), lower chances of anonymity for harassment/stalking and stealing as traditional crimes may make those crimes seem more serious. The personal closeness of offender and victim (either stalking victim or record store as used in the current study) may have made those crimes seem more serious.

Another characteristic of computer crimes which may have affected the difference in seriousness scores is the perceived SES of the offender in the crime items. Past research found varying conclusions on the effects of offender SES on seriousness scores (Carlson & Williams, 1993; Wharman, 1970). The current study, similarly, does not draw

any strong conclusions about the possible effects of offender SES on seriousness scores, there can be only speculation on these effects. Although the SES of the offenders were not described in the items and participants were not asked to report any personal perceptions of the offenders, higher seriousness scores on five of the eight crime items may be telling. Such an effect may be due to participants' own assumptions of offender SES in the crime items. Because Internet users (and, thus computer crime offenders) have to be of a certain higher SES than the average person (Carlson & Williams, 1993), higher seriousness scores on most computer versions of crime may suggest higher SES of offenders predicts higher seriousness scores. However, this may not be true in the cases of stealing and harassment/stalking, where traditional crimes had higher seriousness scores. In the cases of these two crimes, possible perceptions of lower offender SES might predict higher seriousness scores.

Scores of individual crimes were shown to parallel those of the Rossi, et al. study. Those crime items used in the Rossi et al. study (1974) which related to those used in the current study include traditional versions of child solicitation, identity theft via credit card, and stealing items. In both the Rossi et al. and the current study those three crimes were ordered in the same fashion: child solicitation items were seen as the most serious, followed by identity theft via credit card, and traditional stealing was seen as the least serious.

However, comparing scores across the current study and the Rossi, et al. study showed some variation. Specifically, for child solicitation, the results of current study rated the crime slightly higher than that of the Rossi, et al. study. Identity theft via credit card in the current study was rated much higher than in the Rossi, et al. study. Finally,

for stealing, the current study resulted in slightly higher seriousness scores. Methodical differences are strongly assumed to account for the differences in scores between studies. However, the same ordering of those items which could be closely translated between both studies suggest perceptions of how those items compare remains stable over the decades.

Perceived likelihood of offender punishment was the strongest predictor of seriousness. This perception factor significantly predicted scores for every possible crime. All correlations were positive, suggesting a participants' perception of higher likelihood of offender punishment of any crime predicted higher seriousness perceptions of that crime. These strong findings support past research showing perceived consequences of the offender (Ramchand, et al. 2008) and the degree of punishment for every crime (McDavid & Stipak, 1982) were related to perceived seriousness. Although this can be considered the strongest factor correlating with seriousness scores, other factors emerged from the current study as significantly correlated with seriousness to an extent.

Viewing a crime as a norm, resulting, in part, from high offending rates of peers, is suggested to predict perceptions of lower seriousness (Taylor, 2006). Skinner and Fream (1997), conversely, suggested personal offending could be predicted from seriousness perceptions while offenders are believed to offend those crimes which they perceive as less serious (Ramchand, et al. 2008; Skinner & Fream, 1997).

In the current study, personal and friend offending were not very strong factors relating to seriousness scores. Personal offending only negatively correlated with seriousness for stealing as a computer crime. Friend offending was significantly and

negatively correlated with child pornography and stealing as computer crimes as well as stealing and identity theft via bank account as traditional crimes. From these results, the current study does not strongly support past research drawing possible connections between seriousness perceptions and personal or peer offending. However, correlations of these predictors may be limited by the little variation in participant reports of personal and friend offending of many crimes.

The harmfulness of a crime (or the extent or frequency of a crime) was theorized in past research to relate to seriousness (Manis, 1974). The current study found only in the instance of a few crimes, did perceived U.S. offending rate relate to seriousness. Among those significant correlations, identity theft via credit card and harassment/stalking as computer crimes as well as identity theft via bank account and harassment/stalking as traditional crimes were positively correlated with perceived U.S. offending rate. The only instance showing lower perceived U.S. offending rates predicting higher seriousness scores occurred with traditional stealing. Thus, only in a few instances did the results support past research theories.

Limitations of Study

The sample population will be limited in this research due, mainly, to accessibility. University of New Hampshire undergraduates were chosen to participate as they were the largest, easily-accessible population to study. Such a population was expected to be limited in variation of characteristics, and the limited population sample itself was expected to yield a low level of variation in demographic and experience factors, especially personal and friend offending. The number of crimes used in the survey was limited. There are many more computer crimes that exist beyond the eight

primary crimes chosen for this research which would also be important to study.

However, the eight used were chosen as they were all similarly translatable into those traditional crimes which were most useful in the study. Also, the number of items in the survey was limited to keep the time commitment for participants minimal.

Internet crimes have not existed for nearly as long as traditional crimes; thus, the likelihood any participant would have offended or been victimized by a computer crime may be significantly less than a traditional crime. However, with the relatively young age of the participant sample, the opposite may, in fact, be true as well.

Additional limitations include the varying ways in which data was recorded for experience and perception factors. No two factors used identical scales. As an example, personal offending was recorded using a 5-point Likert scale, while victimization called only for a yes or no answer. Also, personal and friend offending asked participants specifically about offending in the past six months, where victimization did not limit a time frame. Finally, personal and friend offending rates were distinguished between two scales, while only one victimization scale was used asking about participant victimization and/or the victimization of anyone close to them.

Future Research Directions

On an exploratory note, whether a crime could be considered a 'crime against children' or 'crime against adults' does seem to play a role in those predictors which are significant according to the results of correlations with crime categories and experience or perception factors. As an example, only computer crimes correlated with perceived U.S. offending rate. More research should explore these results.

As the current study showed variation in seriousness scores based on an additional computer element, findings of past research may not apply strongly to computer crimes as it did for traditional crime. Thus, predictors of variation in seriousness scores as discussed in past research should be studied separately for computer crimes (Rossi, et al. 1974; Sellin & Wolfgang, 1964; Wolfgang et al., 1985).

Future research should focus on the possible reasoning behind the variation of results from this study's multiple regression analyses. This may be especially true for the U.S. offending rate. Breaking the U.S. offending perception factor into more detailed factors could shed light on the logic behind the relationship between this factor and seriousness scores. For example, asking participants for their perception of the victimization rate in the U.S. of each crime may show whether higher offending in the U.S. related to higher seriousness scores for the two computer crimes due to, in fact, perceived higher victimization in the U.S.

Such future research should be conducted to include a wider population with more variation in the reported experience and perception factors. Studies focusing on victims of computer crime and offenders would be especially beneficial. This way, the strength of experience and perception factors on predicting variation in seriousness perception would be better determined. Future research should also incorporate a wider variety of computer crimes and look at specific variations between traditional and computer crime to further isolate a 'cyber-element'.

Internet behavior and how it relates to Internet crime is also an important in understanding how computer crimes are perceived. The Online Victimization of Youth study looked at instances of youth victimization via the Internet and trends associated

(Wolak, et al. 2006). Their Youth Internet Safety Survey 1 and 2 results found that certain risky behaviors engaged in by youth put those young Internet users at higher risk of becoming online victims. Those risks range from 'posting personal information online' to 'making rude or nasty comments to someone online'. Potential research, that may be worthwhile to conduct in the future, would be to try to gauge the perceived seriousness of these risky behaviors. Whether frequent Internet users find these behaviors to be severe and dangerous could shed light on what it is about behavior online that determines how serious we find that behavior to be (Wolak, et al. 2006).

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Table 1
Rotated Factor Loadings of Computer Crime and Traditional Crime Seriousness.

Crime	Type of Crime			
	Computer Crime		Traditional Crime	
	Factor 1	Factor 2	Factor 1	Factor 2
Child Solicitation	.09	.84^b	.16	.79^b
Child Pornography	.12	.76^b	.16	.84^b
Stealing	.53^a	.04	.81^a	-.02
Identity Theft via Credit Card	.86^a	.18	.78^a	.41
Identity Theft via Bank Account	.80^a	.20	.77^a	.42
Bullying	.54^a	.47	.68^a	.06
Scamming	.71^a	.16	.70^a	.30
Harassment/Stalking	.55^a	.51	.64^a	.42
α	.78^a	.57	.84^a	.63

Note. ^a Crimes against Adults. ^b Crimes against Children.

Table 2
Crime x Type Means and Standard Deviations.

Crime	Computer		Traditional	
	Mean	SD	Mean	SD
Child Solicitation	9.18 ^a	1.21	8.81 ^b	1.50
Child Pornography	9.51 ^a	.97	9.38 ^b	1.14
Stealing	3.61 ^a	2.21	5.92 ^b	2.33
Identity Theft via Credit Card	8.63 ^a	1.35	8.48 ^b	1.46
Identity Theft via Bank Account	8.59 ^a	1.35	8.63 ^a	1.33
Bullying	7.37 ^a	1.88	5.75 ^b	2.38
Scamming	8.97 ^a	1.27	8.69 ^b	1.41
Harassment/Stalking	8.30 ^a	1.56	8.75 ^b	1.33

Note. Means that are significantly different ($p < .05$) have different letters; means that are not significantly different have the same letters.

Table 3
 Crime Category x Type Means and Standard Deviations (Using individual mean square errors).

Crime	Computer		Traditional	
	Mean	SD	Mean	SD
Crimes against children	9.36 ^a	.92	9.12 ^b	1.10
Crimes against adults	7.60 ^a	1.13	7.72 ^b	1.31

Note. Means that are significantly different ($p < .05$) have different letters; means that are not significantly different have the same letters.

Table 4
Correlation Results between Seriousness Ratings of Crimes and Demographics.

Crimes	Demographics			
	Age	Sex	Experience w/ Computer	Experience w/ Internet
Child Solicitation (Computer)	-.11	.07	.03	.03
Child Pornography (Computer)	.01	.05	.04	.05
Stealing (Computer)	-.05	.07	-.06	-.09
I.D. Theft via Credit Card (Computer)	.14*	-.02	.02	.01
I.D. Theft via Bank Account (Computer)	.12*	.01	.04	.05
Bullying (Computer)	.06	.11	.02	.06
Scamming (Computer)	.01	.14*	-.09	-.07
Harassment/Stalking (Computer)	-.04	.18**	.02	.06
Child Solicitation (Traditional)	.08	-.06	.01	.01
Child Pornography (Traditional)	-.03	-.02	.06	.04
Stealing (Traditional)	.02	.04	.05	.01
I.D. Theft via Credit Card (Traditional)	.17**	-.04	.04	.06
I.D. Theft via Bank Account (Traditional)	.16**	-.04	.12	.01
Bullying (Traditional)	.05	.14*	.08	.06
Scamming (Traditional)	-.01	.09	-.01	-.12
Harassment/Stalking (Traditional)	.05	.12*	.09	.06

Note. * p<.05; ** p<.01, *** p < .001.

Table 5
Correlation Results between Seriousness Ratings of Crimes and Experience, Perception Factors.

Crimes	Perception Factors			Experience Factors		
	"U.S."	"Punish."	"Victim."	"Self"	"Friend"	
Child Solicitation (Computer)	.08	.18**	-.03	^a	.05	
Child Pornography (Computer)	.07	.24**	.04	^a	-.26**	
Stealing (Computer)	.03	.18**	^b	-.25**	-.21**	
I.D. Theft via Credit Card (Computer)	.13*	.16**	.01	-.03	.02	
I.D. Theft via Bank Account (Computer)	.07	.19**	^b	^a	-.04	
Bullying (Computer)	^b	^b		^b	^b	
Scamming (Computer)	.07	.20**	-.07	^a	^a	
Harassment/Stalking (Computer)	.12*	.17**	-.00	.04	-.02	
Child Solicitation (Traditional)	.06	.24**	-.05	^a	-.03	
Child Pornography (Traditional)	.06	.24**	.05	-.08	.04	
Stealing (Traditional)	-.14*	.14*	^b	-.04	-.17**	
I.D. Theft via Credit Card (Traditional)	.09	.21**	.03	-.06	-.02	
I.D. Theft via Bank Account (Traditional)	.14*	.25**	-.01	^a	-.16**	
Bullying (Traditional)	^b	^b	^b	^b	^b	
Scamming (Traditional)	.05	.23**	-.10	^a	^a	
Harassment/Stalking (Traditional)	.14*	.18**	-.02	.02	.02	

Note. * p < .05, ** p < .01, *** p < .001. "U.S." = Perceived U.S. offending rate. "Punish" = Perceived likelihood of offender punishment. "Victim" = Personal victimization. "Self" = Personal offending. "Friend" = Friend offending. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

Table 6
Correlation Results between Seriousness Ratings of Crime Categories and Demographics.

Crimes	Demographics			
	Age	Sex	Experience w/ Computer	Experience w/ Internet
Crimes against children (Computer)	-.07	.07	.04	.05
Crimes against adults (Computer)	.04	.12*	-.01	.00
Crimes against children (Traditional)	.04	-.05	.04	.03
Crimes against adults (Traditional)	.09	.08	.06	.04

Note. * $p < .05$; ** $p < .01$, *** $p < .001$. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

Table 7
Correlation Results between Seriousness Ratings of Crime Categories and Experience, Perception Factors.

Crimes	Perception Factors			Experience Factors		
	"U.S."	"Punish."	"Victim."	"Self"	"Friend"	
Crimes against children (Computer)	.15**	.24**	-.00	^a	-.08	
Crimes against adults (Computer)	.18**	.19**	-.03	-.19**	-.14*	
Crimes against children (Traditional)	-.03	.15**	.01	-.03	-.01	
Crimes against adults (Traditional)	.11	.25**	.02	-.00	-.12*	

Note. * p < .05, ** p < .01, *** p < .001. "U.S." = Perceived U.S. offending rate. "Punish" = Perceived likelihood of offender punishment. "Victim" = Personal victimization. "Self" = Personal offending. "Friend" = Friend offending. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

Table 8
Response Frequencies of Friend Offending by Individual Crimes (n = 113).

Crime	Response				
	1: "None"	2	3: "Half"	4	5: "All" (Missing)
Child Solicitation (Computer)	310	2	0	0	1
Child Pornography (Computer)	312	1	0	0	0
Stealing (Computer)	82	36	67	65	3
I.D. Theft via Credit Card (Computer)	311	0	0	0	2
I.D. Theft via Bank Account (Computer)	308 _b	5 _b	0 _b	0 _b	0 _b
Bullying (Computer)	313	0	0	0	0
Scamming (Computer)	288	20	5	0	0
Harassment/Stalking (Computer)					
Child Solicitation (Traditional)	306	4	1	0	2
Child Pornography (Traditional)	308	3	0	0	1
Stealing (Traditional)	236	66	8	2	0
I.D. Theft via Credit Card (Traditional)	305	7	1	0	0
I.D. Theft via Bank Account (Traditional)	312 _b	1 _b	0 _b	0 _b	0 _b
Bullying (Traditional)					
Scamming (Traditional)	311	0	0	0	2
Harassment/Stalking (Traditional)	292	17	3	0	0

Note. ^b Factor item was not created or measured.

Table 9
Response Frequencies of Personal Offending by Individual Crimes (n = 313).

Crime	Response ("... within the last six months.")					(Missing)
	"None"	"1-5"	"6-10"	"11-15"	"16+"	
Child Solicitation (Computer)	311	0	0	0	0	2
Child Pornography (Computer)	313	0	0	0	0	0
Stealing (Computer)	197	55	19	13	27	2
I.D. Theft via Credit Card (Computer)	310	1	0	0	0	2
I.D. Theft via Bank Account (Computer)	312	0	0	0	0	1
Bullying (Computer)	b	b	b	b	b	b
Scamming (Computer)	312	0	0	0	0	1
Harassment/Stalking (Computer)	308	3	0	0	0	2
Child Solicitation (Traditional)	313	0	0	0	0	0
Child Pornography (Traditional)	310	1	0	0	0	2
Stealing (Traditional)	307	5	1	0	0	0
I.D. Theft via Credit Card (Traditional)	310	2	0	0	0	1
I.D. Theft via Bank Account (Traditional)	313	0	0	0	0	0
Bullying (Traditional)	b	b	b	b	b	b
Scamming (Traditional)	313	0	0	0	0	0
Harassment/Stalking (Traditional)	310	2	1	0	0	0

Note. ^b Factor item was not created or measured.

Table 10
 Response Frequencies of Victimization by Individual Crimes (n = 313).

Crime	Responses		"N/A" (Missing)
	"Yes"	"No"	
Child Solicitation	30	279	4
Child Pornography	5 ^b	304 ^b	4 ^b
Stealing	140	168	5
Identity Theft via Credit Card	83 ^b	223 ^b	7 ^b
Identity Theft via Bank Account	46	260	7
Bullying	69	238	6
Scamming			
Harassment/Stalking			

Note. ^b Factor item was not created or measured.

Table 11
Response Frequencies of Perceived Likelihood of Offender Punishment by Individual Crimes (n = 313).

Crime	Responses				
	1: "Not Likely at All"	2	3	4	5: "Very Likely" (Missing)
Child Solicitation (Computer)	18	41	88	101	64
Child Pornography (Computer)	24	56	70	95	63
Stealing (Computer)	155	88	38	19	10
I.D. Theft via Credit Card (Computer)	20	56	84	91	59
I.D. Theft via Bank Account (Computer)	34 _b	71 _b	105 _b	66 _b	35 _b
Bullying (Computer)	26	59	91	89	45
Scamming (Computer)	44	69	96	66	35
Harassment/Stalking (Computer)					
Child Solicitation (Traditional)	23	36	86	108	56
Child Pornography (Traditional)	30	54	73	71	82
Stealing (Traditional)	73	106	68	39	24
I.D. Theft via Credit Card (Traditional)	45	81	93	63	27
I.D. Theft via Bank Account (Traditional)	40 _b	86 _b	86 _b	75 _b	21 _b
Bullying (Traditional)					
Scamming (Traditional)	26	73	90	84	37
Harassment/Stalking (Traditional)	17	33	69	118	74

Note. ^b Factor item was not created or measured.

Table 12
Response Frequencies of Perceived U.S. Offending Rates by Individual Crimes (n = 313).

Crime	Responses					5: "Very Often"	(Missing)
	1: "Very Rarely"	2	3	4	5: "Very Often"		
Child Solicitation (Computer)	6	32	87	110	78	0	
Child Pornography (Computer)	11	42	96	84	79	1	
Stealing (Computer)	10	4	12	24	263	0	
I.D. Theft via Credit Card (Computer)	19	64	91	85	54	0	
I.D. Theft via Bank Account (Computer)	9	32	80	101	89	2	
Bullying (Computer)	^b	^b	^b	^b	^b	^b	
Scamming (Computer)	8	38	90	95	82	0	
Harassment/Stalking (Computer)	8	24	80	114	87	0	
Child Solicitation (Traditional)	11	42	85	95	78	2	
Child Pornography (Traditional)	15	63	92	82	61	0	
Stealing (Traditional)	6	20	43	67	177	0	
I.D. Theft via Credit Card (Traditional)	10	33	84	92	94	0	
I.D. Theft via Bank Account (Traditional)	16	56	89	87	65	0	
Bullying (Traditional)	^b	^b	^b	^b	^b	^b	
Scamming (Traditional)	18	74	86	81	54	0	
Harassment/Stalking (Traditional)	8	42	85	96	81	1	

Note. ^b Factor item was not created or measured.

Table 13
Standardized Regression Coefficients for Multiple Regression Analyses of Computer Crime.

Predictors	Computer Crimes									
	Child Solicitation	Child Pornography	Stealing	I.D. Theft (C.Card)	I.D. Theft (Bank A.)	Bullying	Scamming	Harass./ Stalking		
Step 1										
Age	-.08	.07	-.05	.14*	.16*	.07	.08	.02		
Sex	.03	.05	.01	-.01	.04	.13*	.14	.18**		
Experience w/ Comp.	.00	-.03	.03	.02	.00	-.02	-.12	-.05		
Experience w/ Internet	.03	.07	-.08	-.02	.11	.09	-.01	.11		
Step 2										
U.S. Offending Rate	.02	.04	.10	.13*	.09	b	.06	.13*		
Offender Punishment	.20**	.23***	.09	.15*	.15*	b	.17**	.16**		
Victimization	-.02	.09	b	-.03	-.09	b	-.03	-.03		
Personal Offending	a	a	-.18*	-.04	a	b	a	.08		
Friend Offending	.06	-.27***	-.15*	.02	-.04	b	a	.09		

Note. * p<.05, ** p<.01, *** p<.001. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

Table 14
Standardized Regression Coefficients for Multiple Regression Analyses for Traditional Crime.

Predictors	Traditional Crime							
	Child Solicitation	Child Pornography	Stealing	I.D. Theft (C. Card)	I.D. Theft (Bank A.)	Bullying	Scamming	Harass./ Stalking
Step 1								
Age	.06	-.03	-.01	.17**	.18**	.06	.04	.09
Sex	-.07	-.04	.04	.01	-.03	.16**	.07	.13*
Experience w/ Comp.	-.03	-.03	.07	-.07	-.04	.07	-.03	.08
Experience w/ Internet	.02	.06	-.01	.10	.02	.03	-.00	.01
Step 2								
U.S. Offending Rate	.08	.05	-.09	.08	.12*	b	.02	.09
Offender Punishment	.25***	.27	.09	.22***	.22***	b	.22***	.16*
Victimization	.00	.09	b	.04	.13	b	-.08	-.09
Personal Offending	a	-.07	-.02	-.03	a	b	a	.06
Friend Offending	.00	.01	-.14*	-.06	-.15*	b	a	.02

Note. * p<.05, ** p<.01, *** p<.001. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

Table 15
Standardized Regression Coefficients for Multiple Regression Analyses for Computer Crime Categories.

Predictors	Computer Crimes		Traditional Crimes	
	Crimes against Children	Crimes against Adults	Crimes against Children	Crimes against Adults
Step 1				
Age	-.01	.07	.03	.09
Sex	.02	.08	-.07	.12
Experience w/ Comp.	-.03	-.04	-.04	-.01
Experience w/ Internet	.08	.02	.04	.08
Step 2				
U.S. Offending Rate	.12*	.20**	.10	.05
Offender Punishment	.23***	.13*	.27***	.21**
Victimization	.04 ^a	-.04	.08	.13
Personal Offending		-.17*	-.03	.05
Friend Offending	-.07	-.08	-.03	-.14*

Note. * p<.05, ** p<.01, *** p<.001. ^a Could not be calculated because factor variable was constant. ^b Factor item was not created or measured.

APPENDIX

Survey Crime Items and Labels.

aC (Child Solicitation as a Computer Crime)

Person A, a middle aged adult begins talking to Person B, a 14-year-old, online through an instant message program. Person A gathers personal information on Person B, and has personal conversations about sex and sexual behaviors. Eventually, they meet in person to further their relationship sexually.

bC (Child Pornography as a Computer Crime)

Person A takes a digital picture of their 4-year-old step child depicted in a sexual act and emails the photo to a friend.

cC (Stealing as a Computer Crime)

Person A downloads a newly-released album with the help of a file-sharing program.

dC (Identity Theft via Credit Card as a Computer Crime)

Person A acquires Person B's credit card number without their permission by hacking into a company's computer and purchases \$1,000 worth of merchandise with the credit card.

eC (Identity Theft via Bank Account as a Computer Crime)

Person A hacks into Person B's computer and gets access to their online bank account username and password. Using this information, Person A purchases \$1,000 worth of merchandise using Person B's bank account information.

fC (Bullying as a Computer Crime)

Student A, a high school student, creates a public website, for the purpose of posting photographs and false, embarrassing information about Student B. Student A has emailed the website link to several other students, and often updates the page with new false information throughout the school year.

gC (Scamming as a Computer Crime)

Person A creates an email falsely designed to look like it is from Person B's bank, and emails it to Person B. The email claims that their account has been compromised and instructs Person B to validate their account. The email provides a link to a website made to look like that of Person B's bank, and asks for account information. Person A uses the fake site to record Person B's bank account number and social security number.

hC (Harassment/Stalking as a Computer Crime)

Person B lives, works, shops, etc. Person A then begins to send threatening emails and messages repeatedly to Person B.

aT (Child Solicitation as a Traditional Crime)

Person A, a middle-aged adult, begins forming a relationship with a co-worker, Person B, a 14-year-old. They talk frequently at work personally about sex and

sexual behaviors. Eventually, they meet outside of work to further their relationship sexually.

bT (Child Pornography as a Traditional Crime)

Person A takes a Polaroid of their 4-year-old step child depicted in a sexual act and gives the photo to a friend.

cT (Stealing as a Traditional Crime)

Person A takes a newly-released CD from a record store without paying.

dT (Identity Theft via Credit Card as a Traditional Crime)

Person A takes Person B's credit card from their wallet without their permission and purchases \$1,000 worth of merchandise with the credit card.

eT (Identity Theft via Bank Account as a Traditional Crime)

Person A gains access to Person B's checkbook without their permission and purchases \$1,000 worth of merchandise with checks from B's checkbook.

fT (Bullying as a Traditional Crime)

Over the course of the school year, Student A, a high school student, begins spreading false and embarrassing rumors about fellow Student B throughout their school.

gT (Scamming as a Traditional Crime)

Person A calls the home phone of Person B and falsely claims to be an employee at Person B's bank. Person A claims there has been a problem with Person B's bank account and manages to get Person B's bank account number and social security number.

hT (Harassment/Stalking as a Traditional Crime)

Person A spends several months following Person B in their daily life without Person B's knowledge. Person A gathers personal information on Person B during this time including where Person B lives, works, shops, etc. Person A then begins contacting and threatening Person B through letters repeatedly and notes on their doorstep.

Experience Factor Scales Items and Labels.

Friend offending experience factor scales.

“To the best of your knowledge, how many of your CLOSE FRIENDS have engaged in the following behaviors in the past 6 MONTHS?”

<i>FaC</i>	As an adult, tricking a minor into beginning a sexual relationship with them online.
<i>FbC</i>	Sharing child pornography involving young children with a friend via the Internet/email.
<i>FcC</i>	Using an illegal online file sharing program to download an album for free without permission.
<i>FdC</i>	‘Hacking’ into a department store chain’s database and stealing a person’s credit card number and personal.
<i>FeC</i>	Stealing someone’s online bank account username and password from their personal computer.
<i>FgC</i>	Creating and sending fraudulent emails posing as a bank for the purpose of tricking someone into giving their bank account information.
<i>FhC</i>	Utilizing personal information obtained from someone’s online webpages to harass and repeatedly threaten them.
<i>FaT</i>	As an adult, tricking a minor they know personally into beginning a sexual relationship with them in person.
<i>FbT</i>	Sharing hard copy (photographs) versions of child pornography involving young children with a friend.
<i>FcT</i>	Stealing a CD from a record store.
<i>FdT</i>	Stealing another person’s credit card from his/her wallet.
<i>FeT</i>	Stealing another persons’ checkbook.
<i>FgT</i>	Posing as a bank employee over the phone and tricking someone into giving their bank account information.
<i>FhT</i>	Following a person in their daily life then harassing and repeatedly threatening them.

Personal offending experience factor scale.

“In the past 6 months, how many times have YOU engaged in the following acts?”

<i>SaC</i>	Tricking a minor into beginning a sexual relationship with you online.
<i>SbC</i>	Sharing child pornography involving young children with a friend via the Internet/email.
<i>ScC</i>	Using an illegal online file sharing program to download an album for free without permission.
<i>SdC</i>	‘Hacking’ into a department store chain’s database and stealing a person’s credit card number and personal information.
<i>SeC</i>	Stealing someone’s online bank account username and password from their personal computer.
<i>SgC</i>	Creating and sending fraudulent emails posing as a bank for the purpose of tricking someone into giving their bank account information.
<i>ShC</i>	Utilizing personal information obtained from someone’s online webpages to harass and repeatedly threaten them.
<i>SaT</i>	Tricking a minor you know personally into beginning a sexual relationship with you in person.
<i>SbT</i>	Sharing hard copy (photographs) versions of child pornography involving young children with a friend.
<i>ScT</i>	Stealing a CD from a record store.
<i>SdT</i>	Stealing another person’s credit card from his/her wallet.
<i>SeT</i>	Stealing another person’s checkbook.
<i>SgT</i>	Posing as a bank employee over the phone and tricking someone into giving their bank account information.
<i>ShT</i>	Following a person in their daily life then harassing and repeatedly threatening them.

Victimization experience factor scale.

“Have you, or someone close to you, ever been a victim of the following crimes?”

<i>VaC_VaT</i>	As a minor, been tricked by an adult into (or was targeted for being tricked into) forming a sexual relationship with him/her.
<i>VbC_VbT</i>	Forced to be involved in the creation of child pornography of young children.
<i>VdC_VdT</i>	Identity Theft via credit card information with or without unwanted charges.
<i>VeC_VeT</i>	Identity Theft via bank account information with or without unwanted use of account funds.
<i>VgC_VgT</i>	Been scammed into giving bank account or other information either over the Internet/email or over the phone.
<i>VhC_VhT</i>	Been harassed or stalked by another person who used personal information acquired from the Internet or daily life.

Perception Factor Scales Items and Labels.

Perceived likelihood of offender punishment perception factor scale.

“What, do you believe, is the likelihood an offender of the following crimes would be caught/punished?”

<i>PaC</i>	(Middle-aged adult offender) Tricking a teenage minor into beginning a sexual relationship with them online.
<i>PbC</i>	Emailing child pornography photographs of his/her 4-year-old stepchild to a friend.
<i>PcC</i>	Using an illegal online file sharing program to download an album for free without permission.
<i>PdC</i>	‘Hacking’ into a department store chain’s database and stealing a person’s credit card number and personal information.
<i>PeC</i>	Stealing someone’s online bank account username and password from their personal computer.
<i>PgC</i>	Creating and sending fraudulent emails posing as a bank for the purpose of tricking someone into giving their bank account information.
<i>PhC</i>	Utilizing personal information obtained from someone’s online webpages to harass and repeatedly threaten them.
<i>PaT</i>	(Middle-aged adult offender) Begins forming a sexual relationship with a teenage minor coworker.
<i>PbT</i>	Giving child pornography Polaroids of his/her 4-year-old stepchild to a friend.
<i>PcT</i>	Stealing a CD from a record store.
<i>PdT</i>	Stealing another person’s credit card from his/her wallet.
<i>PeT</i>	Stealing another person’s checkbook.
<i>PgT</i>	Posing as a bank employee over the phone and tricking someone into giving their bank account information.
<i>PhT</i>	Following a person in their daily life for months then harassing and repeatedly threatening them.

Perceived U.S. offending rate perception factor scale.

“How often, do you believe, the following crimes occur in the US?”

<i>UaC</i>	An adult offender tricks a teenage minor into beginning a sexual relationship with them online.
<i>UbC</i>	An adult offender shares child pornography photographs of young children to a friend via email/Internet.
<i>UcC</i>	An offender uses an illegal online file sharing program to download an album for free without permission.
<i>UdC</i>	An offender ‘hacks’ into a department store chain’s database and steals others' credit card numbers and personal information.
<i>UeC</i>	An offender steals someone’s online bank account username and password from their personal computer.
<i>UgC</i>	An offender creates and sends fraudulent emails posing as a bank for the purpose of tricking someone into giving their bank account information (eg. "Phishing").
<i>UhC</i>	An offender utilizes personal information obtained from someone’s online webpages to harass and repeatedly threaten them.
<i>UaT</i>	An adult offender forms a sexual relationship with a coworker who is a teenage minor.
<i>UbT</i>	An adult offender shares hard copy versions (photographs) of child pornography of young children.
<i>UcT</i>	An offender steals a CD from a record store.
<i>UdT</i>	An offender steals another person’s credit card from his/her wallet.
<i>UeT</i>	An offender steals another person’s checkbook.
<i>UgT</i>	An offender poses as a bank employee over the phone and tricks someone into giving their bank account information.
<i>UhT</i>	An offender follows a person in their daily life for a significant amount of time, then harasses and repeatedly threatens them.

University of New Hampshire

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Fax: 603-862-3564

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Beaulieu, Abbie
Justice Studies, Huddleston
91 Hillcrest Road
Litchfield, NH 03052

IRB #: 4568

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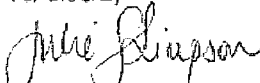
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Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,



Julie F. Simpson
Manager

cc: File

Cohn, Ellen