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Txt Now, Pay L8R: An Exploratory Study of Teenage Participation in Sexting

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TXT NOW, PAY L&R: AN EXPLORATORY STUDY OF TEENAGE
PARTICIPATION IN SEXTING

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Philosophy

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August 2012

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This study explores participation in sexting by teenagers in the United States. The term ‘sexting’ was coined by the popular media to describe the dissemination of sexually explicit or suggestive messages via cellular phone (Shafron-Perez, 2009; Boucek, 2009; Dilberto & Matthey, 2009). The person who originates the ‘sext’ is often unable to control where the message is forwarded, which can result in the content of the messages being seen by others besides the intended viewer (Shafron-Perez, 2009). A number of states have taken a punitive approach to sexting by charging minors (those under age 18) with child pornography for their participation in sexting (Wastler, 2010). Empirical research on this topic is limited, with existing studies suggesting rates of sexting participation from as low as 1% (Mitchell, et al., 2011) to as high as 39% (The National Campaign, 2009). This study utilized a mixed-methods research approach, where surveys were administered to a group of freshmen-level college students (N = 207), and focus groups were conducted. A total of 33.8% of the respondents reported sending nude, semi-nude, or sexually suggestive pictures to someone else while under the age of 18. Also, self-control emerged as a significant variable in explaining teenage sexting. Based on these results, a number of policy implications are made regarding the best approach to handling teenage sexting.

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DEDICATION

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CHAPTER I

INTRODUCTION

One of the primary uses of mobile phones among young people is sending text messages (Davidson & Lutman, 2007). These messages can contain text, sound, video, or pictures, and are a form of mobile phone communication that does not involve verbal communication. As discussed by Shafron-Perez (2009), a number of stories of sexually explicit material being disseminated among teenagers via text messages have gained attention in the mainstream media. The dissemination of sexually explicit or suggestive messages has been coined by the popular media as ‘sexting’ (Shafron-Perez, 2009; Wastler, 2010). Often, the teenager who originated the ‘sext’ is unable to control where the message is forwarded. This can lead to messages being distributed downstream to others beyond the person for whom it was intended. In addition to being a source of embarrassment for the text originator, sending and receiving messages of a sexually explicit nature can pose a legal dilemma as well (Shafron-Perez, 2009). A brief summary of the empirical research is next on adolescent cellular phone use and participation in sexting behaviors, and it is discussed to demonstrate the increasing problems youth are encountering with this modern digital medium.

Teenage Sexting as a Legal Issue

The act of teenage sexting has created a major legal dilemma in the United States. According to Shafron-Perez (2009), the debate over sexting is whether this behavior, when engaged in by adolescents, should be considered child pornography. Many child pornography laws were developed during the 1980s as a means of protecting minors from sexual exploitation by adults. Heck (2009) wrote that when child pornography laws were

created, it was not anticipated that minors would generate and distribute their own form of pornography, essentially exploiting themselves. While some states have created legal exemptions for minors and some strictly refrain from prosecution, other states have chosen to take a punitive approach and prosecute minors who sext for child pornography (Wastler, 2010). The effects of being charged with such a serious crime can be extremely detrimental to the minor being charged (Shafron-Perez, 2009).

There is considerable evidence to document that sexting is occurring among young people in the United States, and participation in these acts can have considerable legal, ethical, medical, and social costs. Although there has been much media attention regarding sexting recently, according to Brown and colleagues (2009), there is reason to believe that sexting may just be another “moral panic.” The authors discuss the fact that young people have been taking sexually suggestive pictures of themselves for a long time, at least as far back as the Polaroid camera. The difference now is that teenagers have the ability to disseminate these images to a large number of individuals with the tap of the “send” button, often forgetting to take into account the consequences of such actions (Brown, et al., 2009). Whether sexting is a serious legal problem or “just another moral panic” cannot be known until further research is done on the prevalence of sexting among teenagers. This is one of the primary goals of the current study.

Empirical Research

To date, there has been little attention paid to sexting in mainstream academic literature. As with many topics involving media technology, the research on sexting has not had time to ‘catch up’ with the actual behavior. Further, the literature that does exist is mainly descriptive in nature, meaning sexting is discussed in terms of prevalence rates,

without the testing of predictor variables. In addition, while the studies establish a clear problem with sexting, they fall short of actions and policies that might be implemented to reduce teenage sexting.

Currently there have only been three major studies regarding teenage sexting, both of which were designed and administered by private research companies. In 2008, The National Campaign to Prevent Teen and Unplanned Pregnancy, in conjunction with *Cosmopolitan* magazine and the TRU research company, surveyed teens and young adults on their participation in sexting. The key finding is that 20% of respondents had electronically sent nude or semi-nude pictures or videos of themselves to another person, and 39% admitted to sending sexually suggestive messages (The National Campaign, 2008). While the findings from The National Campaign study do indicate teenage participation in sexting, the sampling problems associated with the study inhibit the reliability of the measures (Brown, et al., 2009; O'Donovan, 2010).

Another study on sexting was conducted by the Pew Research Group in 2009. The Pew Research Group study utilized a mixed methodological approach, using telephone-based surveys and focus groups to gauge the respondents' participation in sexting. Results from the Pew Research Center (2009) study were similar to those of The National Campaign (2008) survey, with a smaller percentage of teens sending nude/semi-nude/sexually suggestive pictures (4%), and sexually suggestive text messages (8%).

A more recent study by Mitchell and colleagues suggests that teen sexting is not as predominant as The National Campaign (2008) or the Pew Research Center (2009) studies indicate (Mitchell, Finkelhor, Jones, & Wolak, 2012). The recent study used a national survey firm to conduct the sampling, screening, and phone interviews for the

study. A nationally based sample was developed by random digit dialing, and a total of 1560 teens ages 10 to 17 were interviewed, as well as their parents. The results showed that 5.9% of the youth reported receiving sexually explicit images on their phone, and 2.5% reported appearing in or creating sexually explicit images while under the age of 18. However, when the participants who created the images were asked if the images “showed breast, genitals, or someone’s bottom”, the 2.5% drops down to 1.3%, or 19 of the 1560 total participants (Mitchell, et al., 2012).

As stated previously, while there has been research to indicate that teens are engaging in sexting, there are essentially no current studies that attempt to identify causal factors for teenage sexting participation. In response, this study, while exploratory in nature, offers a conceptual framework to formulate the research design and model toward examining factors that increase or decrease the likelihood of teenage sexting. The theoretical framework for this study is presented next.

Theoretical Framework

From the available literature, it is apparent that teenagers in the United States are participation in sexting. In examining a theoretical framework to study sexting, the relative simplicity and ease of sending sext messages was recognized. In essence, with a few clicks of button on a cellular phone, teenagers are able to both send and receive sext messages. While sexting may be “easy”, not all teenagers with cell phone participate in sexting. In searching for a difference between “sexters” and “non-sexters” and factoring in the ease of sexting, it may be an element like self-control that distinguishes these two groups. Further, legally, sexting is a status offense, meaning it is only illegal to send and receive sexually explicit picture and messages if someone is under the age of 18. In fact,

some consider sexting to be a healthy form of sexual intimacy among adults (Shafron-Perez, 2009). Finally, prior research by The Pew Center (2009) indicates that parental management is related to sexting. Given these three elements (self-control, analogous behaviors to crime, parental management), Gottfredson and Hirschi's (1990) general theory of crime is an appropriate theoretical framework for the current study.

As discussed by Pratt & Cullen (2000), "Gottfredson and Hirschi's (1990) *A General Theory of Crime* has been the focus of considerable academic attention and considerable controversy" (931). Numerous empirical studies demonstrate that measures of low self-control (Grasmick, et al., 1993; Keane et al., 1993) are related to general violations of the law (Gibbs & Giever, 1995; Gibbs, et al., 1998; Grasmick, et al., 1993; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996), as well as behaviors analogous to crime (Cochran, et al., 1996; Tremblay, et al., 1995; Wood, et al., 1993). Further, low self-control measures have had a statistically significant effect on measures of low self-control, even when controlling for measures of other criminological theories, such as strain and social learning theories (Brownfield & Sorrenson, 1993; Burton, et al., 1998; Evans et al., 1997; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996).

Gottfredson & Hirschi (1990) describe criminal acts as being short lived and immediately gratifying. An individual's level of self-control is instilled in childhood, and poor parenting is the key element in lack of self-control. The current study sought to measure teenage participation in sexting as an act that is both easy and immediately gratifying. Although this behavior is relatively easy to perform, there are serious (potentially legal) consequences to engaging in sexting, much as there is to engaging in criminal acts. The research that does exist on this topic indicates that parental

management of cell phone plans and services effects a teenager's participation in sexting (The Pew Center, 2010). While cellular phone ownership rates among teenagers are at an all-time high (Sanchez-Martinez & Ortera, 2009; Clark, 2009), not all teenagers who have cellular phone are sexting. In attempting to understand why some teenager's sext and some do not, a possible answer might come from Gottfredson and Hirschi's (1990) theoretical model and the connection between parental management, delinquency, and low self-control.

Purpose of the Study

The purpose of this study is to explore the phenomenon of sexting among teenagers in the United States. In order to fully examine this topic, a multi-method research approach is used. A survey instrument was administered to 207 undergraduate freshmen. Additionally, focus groups were conducted with a number of survey participants to further understand their participation in and attitudes toward sexting. This included one male-only, one female-only, and one mixed male/female group. The intent of this research was to uncover the frequency of these behaviors across the sample population and to discover what motivates participation in sexting. A key component of the design is the identification of the underlying variables and theoretical concepts that correlate with this behavior. The ultimate goal is not only to add to the limited research in this area, but also understand this behavior to develop future policy recommendations.

The population of interest for the current study included all freshmen students enrolled at a medium sized state university in Fall 2011. A list of pre-requisite courses for freshman was generated, and applying a random number table to this list, courses were selected for inclusion in the study (until the desired sample size was reached). The survey

questioned respondents on their sexting participation and attitudes toward sexting, and knowledge of anti-sexting legislation. In addition, a parental management scale (consisting of both original items and borrowed items from Gibbs, Giever, and Martin, 1998), and a self-control scale (Grasmick, et al., 1993) were included in the survey. These scales are used to test for Gottfredson and Hirschi's (1990) general theory of crime.

The current study utilized a multi-method approach, applying both quantitative (survey instrument) and qualitative (focus group) methodologies. The focus group participants were individuals who volunteered to participate following the administration of the survey instrument. However, due to a limited response from survey participants, the mixed male/female group consisted of twelve freshmen-level students enrolled in an introduction to criminal justice course in Fall 2011. The main purpose of the focus group was to help individuals explore and clarify their feelings, views, and attitudes via a group process (Freeman, 2006). Since sexting has not been studied empirically in any extensive manner, the focus groups were used to supplement data gathered from the survey to suggest relationships between key variables. In general, focus groups have also been used to uncover variables and their relationships that had not been initially hypothesized by a researcher.

It is expected that the current study will significantly contribute to the literature on teenage sexting, particularly because of the overall lack of research on this relatively new topic. The purpose of the current study is to explore the prevalence of sexting among teenagers and to explore possible causal factors that relate to sexting. The causal factors of interest are parental management and self-control, which are guided by Gottfredson &

Hirschi's (1990) theoretical framework. The ultimate goal is to guide policies that will reduce sexting among teenagers, as well as inform policy-makers as they create future anti-sexting legislation.

The next chapter of this dissertation will examine sexting among teenagers in the United States. This includes a brief overview of teenage cell phone ownership and communication habits, a discussion of the conceptualization of sexting, and a summary of the relevant literature on sexting. In addition, a brief overview of the relevant legislation and preventative efforts by the government and law enforcement agencies to prevent teenage sexting is presented. Chapter III discusses Gottfredson and Hirschi's (1990) general theory of crime (including self-control and parental management), the theoretical framework for this thesis. In Chapter IV, the specific methods that were used in this study are explained in detail. Chapter V presents the quantitative and qualitative results, and Chapter VI includes a discussion of the findings and final conclusions.

CHAPTER II

LITERATURE REVIEW

Mobile Phone Usage among American Youth

According to recent research, the average American adolescent spends six to seven hours a day with some form of media, including music, television, movies, the Internet, and cell phones, among others (Brown, Keller, & Stern, 2009). Through media, adolescents are exposed to sexuality and sexual behavior on a regular basis. Studies have shown that exposure to this content is often related to sexual outcomes such as early engagement in sexual intercourse, use of less contraception, and teenage pregnancy (Brown & Strasburger, 2007). Adolescent exposure to media is further complicated by the introduction of the “new media”, or digital technologies such as MySpace, Facebook, Twitter, and text messaging. These digital outlets allow young people to present their sexuality in a way adolescents were not able to before these technologies (Shafron-Perez, 2009).

Of all of the forms of “new” digital media, the ownership of mobile phones among young people has become one of the most widespread. According to Sanchez-Martinez & Otera (2009), there are approximately 1.8 billion cell phones on the market throughout the world. This number was expected to rise to over 3 billion by the end of 2010, equating to approximately half of the people in the world owning and using a cellular phone. By the year 2003, there were more cell phones globally than traditional landline phones, with most European countries having ownership rates of more than 75 %. For many people throughout the world, the introduction of the cellular phone has meant an affordable opportunity for many, especially those who did not previously have

access to landline phones, to possess and access telephone communication (Horst & Miller, 2006). The cellular phone is growing in popularity and prevalence throughout the world, and will continue to do so in the future.

Cellular phone use is especially prominent among teenagers in the United States. There is evidence that children ages 11-16 are more likely than adults to have a cell phone, with some countries having as high as a 98 % ownership rate among adolescents and young adults (Sanchez-Martinez & Otera, 2009). According to Clark (2009), in 2007, over 16 million teenagers in the United States were cellular phone subscribers. Further research in 2008 found that 84 % of teens ages 14 to 18 have access to a cell phone, and 80 % use it on a daily basis. A 2009 study by the Pew Research Center corroborates the high cellular phone ownership rates of teens. In the sample of 800 youth ages 12 to 17, 75 % owned a cellular phone (Pew Research Center, 2009).

As discussed by Schiano and colleagues (2002), children and teenagers use cell phones for multiple reasons. One of the primary uses of cellular phones is to allow parents to stay connected with their children, especially for security purposes and in emergency situations. While some teens want to stay connected with family, many teenagers prefer communication with friends and peers via cell phone. The phone is used as a means of coordinating plans and staying directly connected with peers (Schiano, Chen, Ginsberg, Gretarsdottir, Huddleston, & Isaacs, 2002). From this information, it appears that teenagers are using cellular phones for much the same reasons that many adults use these devices.

Cell Phone Usage on College Campuses

As discussed by Chen & Katz (2009), mobile phones are ever-present among college campuses in America. When mobile phones came into popularity, they were primarily used for safety and accessibility; recent research has shown that networking has also been a reason for the increasing popularity of mobile phones. In regard to mobile phone ownership, there are many studies to suggest that college students have a high rate of cell phone ownership. Mobile phones provide a direct channel of communication between parents and children, which is essential for young adults as they begin a college career (Chen & Katz, 2009).

Estimates of the actual mobile phone usage rates among college students differ, but in general are very high. A 2007 study by Davidson & Lutman of cell phone usage among college students discovered that of the 117 participants, all but two had used a cellular phone. More recent research by George-Palilonis and colleagues found that 99.8% of college student have some type of cell phone (George-Palilonis, Hanley, & Tanksale, 2009). Text-messaging appeared to be more popular than talking, with 41 % of the subjects using their mobile phone primarily for text-messaging. Similar trends were found in a study by Chen & Katz (2009), in which the authors discovered that among the 40 focus group participants, 100 % owned and used a cellular phone. This study found that female participants (n=30) had a usage rate that was three to four times greater than the male participants.

Text Messaging

One of the primary uses of mobile phones among young people is to send messages that contain digital data (Davidson & Lutman, 2007). These data include text,

sound, video, or pictures, and are a form of communication between mobile phones that does not involve direct verbal communication. The increased capabilities of cellular phones have come with increased use of non-verbal communication options, such as text messaging (Horst & Miller, 2006; Davidson & Lutman, 2007). Sending a text message involves the use of Short Message Service (SMS) capabilities, which is standard on most cellular phones. In general, text messages are limited to 160 text characters (dependent on text messaging plans), and can be sent from any mobile phone to another phone on a wireless network. It is interesting to note that messages can typically be sent between phones irrespective on the service provider for the sender or receiver (Grinter & Eldridge, 2003), and messages can also be sent to cellular phones via the Internet (Grinter & Eldridge, 2002).

As discussed by Grinter & Eldridge (2002), although SMS technology was first deployed in the early 1990s, the technology was used infrequently. As cellular phone ownership gained in popularity in the late 1990s, so did the use of text messaging. For example, in August of 1999, residents of the United Kingdom sent 90 million text messages. This number skyrocketed to 560 million text messages sent one year later in August of 2000 (Grinter & Eldridge, 2002). From the early 2000s until more recently, teenage use of SMS (text) messaging has continued to increase. This trend is not limited to the United States, as studies have been done throughout the world (Finland, Japan, Norway, China, Scandinavia, and the United Kingdom, among others) indicate repeatedly that texting is “embedded” into the lives of teenagers (Grinter & Eldridge, 2003; Horst & Miller, 2006). Recent research by the Pew Research Center (2009) found that of 800 U.S. teenagers surveyed, 66 % use text messaging on their cellular phone.

Defining 'Sexting'

Teenagers in the United States have increasing access to cellular phones. While some teenagers use their cell phones for communication between friends, peer groups, and family members, there is a growing phenomenon of cellular phones being used for less traditional means. As discussed by Shafron-Perez (2009), many teenagers are beginning to use cellular phones as a means of sexual expression. A pop culture phenomenon has grown that is known as "sexting", which is marriage of the words "sex" and "texting". While teenagers of all generations participated in trends that concerned parents and fascinated the media, some would argue that few generational trends have come with the serious consequences that are associated with sexting (Wastler, 2010). While this behavior is seen as a form of sexual creativity among adult couples, it is deemed obscene, and sometimes criminal, when it involves individuals under the age of 18 (Shafron-Perez, 2009).

According to Boucek (2009), sexting is defined as "The phenomenon...of forwarding nude or seminude photographs of other students in school via cell phone or other electronic media..." (10). A similar definition is adapted by Shafron-Perez (2009), who defines sexting as "nude photos taken by teens and posted or sent to others over the Internet or cell phone" (433). While these definitions specifically mention photographs, Dilberto & Matthey (2009) define sexting as "...the act of sending, receiving, or forwarding nude photos or sexually suggestive messages via cell phone" (263). This definition includes not only photographs, but also sexually explicit messages, and limits the digital medium to a cellular phone. Sexting research by the Pew Research Center (2009) also limited the message medium to cellular phone "...because the policy

advocates are primarily concerned with the legality of sharing images and because the mobile phone is increasingly the locus of teens' personal, seemingly private communication" (4). While all of these definitions are describing similar behavior, the definition provided by Dilberto and Matthey (2009) is the conceptual definition of sexting utilized in this study.

A recent study by Mitchell and colleagues (2012) highlights the importance of clear conceptualizations of sexting in studying this behavior. In particular, the authors of this study were especially critical of the conceptualization of sexting used in The National Campaign (2008) study, which defined sexually suggestive messages as being "nude or semi-nude" in nature. Mitchell and colleagues suggest that using terms like those used in The National Campaign study may confuse participants, as an individual might conceptualize semi-nude pictures as being, "...no more revealing than what someone might see at the beach" (Mitchell, et al., 2012; p. 5).

The Problem with Sexting

A number of stories have gained attentions in the mainstream media of sexually explicit material being disseminated among teenagers via text messages (Shafron-Perez, 2009). Often, the teenager who originated the 'sext' is unable to control where the message is forwarded. This can lead to messages being "downstream distributed" to a number of others besides the person for whom it was intended (Wastler, 2010). In addition to being a source of embarrassment for the originator of the text, sending and receiving messages of a sexually explicit nature can pose a legal dilemma as well (Shafron-Perez, 2009). This aspect which will be discussed in detail later.

One point that must be considered is the fact that the actual act of sending a nude photo or sexual message is not what makes these acts illegal, but rather the age of the subject in the sext, or if the person sending or receiving the sext is a minor. Shafron-Perez (2009) discusses the fact that using sexual communication as a creative means to expressing intimacy is a common practice among adults. Sending and receiving nude photos, while some may argue is an obscene act, is nonetheless a right that is protected fully by the First Amendment of the United States Constitution, which gives citizens the right to free speech (Wastler, 2010). In essence, the question becomes whether sexting is a common dating ritual among adolescents and young adults, or is bad behavior that should come with legal consequences?

Empirical Research

To date, there has been little information on sexting in mainstream academic literature. As with many topics involving technology, the literature on sexting has not had time to 'catch up' with the actual behaviors. Further, the literature that does exist is mainly descriptive in nature, meaning sexting is discussed but evaluation of this phenomenon is not done (O'Donovan, 2010). To date, there have been three major studies on sexting. One of the most commonly cited studies was conducted by The National Campaign (2008), and consisted of a survey administered to a non-probability sample of adolescents and young adults (O'Donovan, 2010; Bauerline, 2009; Pew Research Center, 2009; Shafron-Perez, 2009). After reviewing the limited research, it is abundantly clear that sexting, something that comes with such severe consequences, has been underexplored in the field of criminology.

In 2008, The National Campaign to Prevent Teen and Unplanned Pregnancy, in conjunction with *Cosmopolitan* magazine, conducted a large-scale research study on sexting. According to The National Campaign (2008), this was the first public study of its kind to survey teens and young adults regarding their participation in sexting activities. A total of 1,280 respondent's ages 13-26 were surveyed between September 25 and October 3, 2008. The group was comprised of 653 teenagers (ages 13-19) and 627 young adults (ages 20-26). The survey was conducted by TRU, a private global research company that regularly administers surveys to online participants. For this study, the participants were selected from those who were previously registered on the TRU website as volunteer survey participants. U.S. Census data were used to stratify the respondents and weight the data to reflect the general demographics of teens and young adults in the United States. The researchers state that the respondents did not constitute a probability sample, which can be interpreted as a potential limitation to this study (The National Campaign, 2009).

As previously discussed, the conceptual definition of 'sexting' has varied in the empirical literature. To ensure accurate interpretation of key terms, The National Campaign (2008) provides specific definitions of acts normally associated with the term 'sexting'. 'Sexually suggestive picture/video' is defined as "semi-nude or nude personal pictures/video taken of oneself and not found on the Internet, or received from a stranger". A 'sexually suggestive message' is defined as "sexually suggestive written personal texts, emails, IM's, etc – and not those that might be received from a stranger (like spam), etc". Finally, 'message' specifically "only refers to those written electronically (in emails, texts, IM's etc.) – and 'pictures/video' only refers to those

captured electronically (on a cell phone or digital camera/camcorder), etc” (The National Campaign, 2009). It is important to note that these definitions referred to those acts that happened via electronic media, and does not include acts committed by a stranger.

There were a number of key findings from The National Campaign survey. First, 20 % of the participants had electronically sent or posted online nude or semi-nude pictures or videos of themselves. An additional 39 % admitted to sending and posting sexually suggestive messages of themselves via text, email, and instant messenger. It also was apparent from this study that young people who receive these explicit images and texts are sharing them with people for whom they were not intended. An astonishing 38 % of teen girls and 29 % of teen boys said they had sexually suggestive texts and emails originally meant for someone else shared with them, while 25 % and 22 % of teen girls and boys respectively had a nude or semi-nude image meant for someone else shared with them. In regard to the consequences of sexting, 75 % of the teenagers surveyed said it could have serious negative consequences, despite the fact that a number had sent sexually suggestive photos and texts (The National Campaign, 2009).

It is interesting to note that the behavior of the teenage portion of the sample population aligned with the responses of non-teenage participants who were over the age of 18. Of these respondents, 36 % of young adult women and 31 % of young adult men sent or posted nude or semi-nude images of themselves. Related to sexually suggestive messages, 56 % of young adult women, and 62 % of young adult men sent these messages, while 64 % of young adults overall reported having received such messages. Teenagers are not the only group forwarding these messages, 37 % of young adult

women and 47 % of young adult men has had sexually explicit messages intended for someone else shared with them.

As discussed by O'Donovan (2010) and Mitchell and colleagues (2012), The National Campaign survey should be "taken with a grain of salt", meaning problems with sampling may hinder the study's generalizability. Brown, et al. (2009) spoke to the fact that recent studies on sexting have failed to employ a true probability sample. O'Donovan (2010) further asserts that by sampling strictly online, a researcher is most likely to tap into a demographic of computer-savvy participants who may be more likely to participate in risky online behavior. This increased risk may be due to increased opportunity to access digital technologies, or familiarity with these technologies that make individuals more likely to participate. While the research methodologies and survey instruments show promise of being valid, problems with sampling inhibits the reliability of these measures (Brown, et al., 2009; O'Donovan, 2010).

Another more empirically based study on sexting was conducted by the Pew Research Group in 2009. This particular study used a mixed methodological approach, with telephone based surveys between June and September of 2009, and focus groups conducted in three major U.S. cities in October of 2009. The sample consisted of 800 teens and pre-teens, ages twelve to seventeen, and a parent or legal guardian. A combination of landline and cellular phone random digit dial was used to obtain a randomized sample, with both samples of numbers being provided by Survey Sampling International, LLC (Pew Research Center, 2009).

In the Pew Research Group survey, parents and guardians were called first to screen for eligibility, as those households without teenagers or those with teens but

without parents or legal guardians present were ineligible to participate. Following the quantitative phone interviews, six focus groups were conducted by faculty and graduate students from the University of Michigan, as well as researchers from the Pew Internet & American Life Project. The single sex groups – three groups with each sex – consisted of middle and high school students from across the United States, with effort made to include a variety of racial, ethnic, and socio-economic backgrounds. Each focus groups lasted approximately 90 minutes, and participants were offered a cash incentive upon completion of the session (Pew Research Center, 2009).

The results of the Pew Research Center study were similar to those found in the study by The National Campaign (2008). Pew Researchers (2009) found that 4 % of the surveyed teens reported sending a sexually suggestive (nude or nearly-nude) photo or video of themselves to another person. The participants who were 17 were most likely to report sending a sexually suggestive text message, though the difference is small (8 % of 17 year olds versus 4 % of 12 year olds). Interestingly, in comparison to the National Campaign Study (2009), the data from the Pew Research study revealed no difference in sexting related to gender. That is, both male and female participants were equally as likely to send a sext message.

The most recently published study done to date was conducted by Mitchell and colleagues in 2012. As with the previous studies this one gained popular media attention, and was even featured in USA Today (Painter, 2011). The purpose of the research was to obtain a nationally based estimate of youth involvement in sexting. The results showed that sexting was not occurring among a large number of youth. It specifically mentioned

an over-inflation of participation found in The National Campaign study (Mitchell, et al., 2012).

The participants for this study came from the third Youth Internet Safety Survey (YISS-3), a nationally administered phone survey conducted annually to detail unwanted or problematic technologically related experiences, including sexting. Abt Schulman, Ronca and Bucuvalas, Inc., a national survey research firm, conducted the sampling, screening, and phone interviews for the YISS-3. The data collection occurred between August 2010 and January 2011. A telephone sample of 1,560 youth Internet users ages 10 to 17, and their parents, were interviewed for this study. Both a cell phones and landlines were included in the random digit dial, and a total of 45 cell phone interviews and 1,515 landline interviews were included in the data analysis.

As noted, the survey involved both youth and their parents. The parents were interviewed about their child's Internet use, and the interviewer then requested parental permission to interview the child. The parents were told that the interview with the youth would include "sexual material your child may have seen on the Internet". If the parent consented, the youth were informed that their answers would remain confidential. Also, each youth received \$10 for participation. The total cooperation rate for the study was 65% (Mitchell, et al., 2012).

The youth participants were asked many questions about their involvement in sexting. Sext messages were those that involved "nude or nearly nude images". The youth were asked if they had received, forwarded, or created such images. If a positive response was given, the youth was asked follow-up questions about the sexual explicitness of the images. A total of 39 youth (3.9%) reported appearing in or creating

images. However, when this was broken down by intensity of the image, only 1.3% of the sample had appeared in or created sexually explicit images. Of the 39 youth that appeared in or created an image, 61% were girls and 72% were age 16 or 17 at the time of the image. An additional 110 youth (7.1%) reported receiving a sext message (Mitchell, et al., 2012).

The results of the study by Mitchell and colleagues documented that sexting is not occurring at the high rate reported in The National Campaign sexting study (2008). In an interview with USA Today writer Kim Painter (2011), Janis Wolak, a co-author of the Mitchell study, states that while sexting is something parents worry about, there is not an epidemic of teenagers “unwittingly producing child pornography”. In their published article, the authors also assert that those who work with youth should not be fooled by media images of hypersexualized teenage sexters. Laws that subject youth severe punishments for status-level offenses are recognized as “draconian”, and sensible legal approaches should be taken when dealing with teenage sexting (Mitchell, et al., 2012).

The study by Mitchell and colleagues does add to the small body of literature on sexting. However, there are limitations to this study that must be noted. First, while random digit dial was used to select participants, the sampling pool derived from a group of young Internet users, so the generalizability of this sample is reduced. Also, those participants who did not speak English were excluded from participation. Finally, and what could arguably be the greatest limitations to the study are that consent for participation had to be obtained through parents, and that the survey consisted of self-report measures. The youth participants might not have disclosed their sexting because they were afraid that their parents would ultimately find out about their behavior, or

because they were embarrassed to admitting to sexting. Overall, the limitations in this study are similar to those that were found in the previously published studies on sexting.

Why do Teenagers Sext?

One of the key questions regarding the controversy over sexting is, “why would a teenager send a sext message?” The limited empirical research on sexting has explained not only at prevalence rates, but also the rationale behind sending sexually suggestive text messages (The National Campaign, 2009; The Pew Research Center, 2009). In The National Campaign survey, the reasons for sending sext messages appear to be similar for teens and young adults. Since there was not a qualitative aspect to this study, the respondents were given “reasons” for sending sexually suggestive messages that were pre-determined by the researchers, and were asked to check all of the listed reasons that applied to their behavior (The National Campaign, 2009). This is, thus, another limitation because the researcher’s pre-determined list of categories is not necessarily exhaustive in nature. Therefore, some participants may have engaged in sexting for reasons other than those listed on the survey. This is further complicated by the fact that so little is known about sexting, meaning the researchers are not even fully aware of the rationale behind teenage sexting and may not even know what it is they are trying to discover. Nevertheless, the exploratory nature of this study will be kept in mind as a rationale behind the survey choices, and the results do indicate some areas of further research interest.

From the results of The National Campaign (2008) survey, a picture of why teenagers engage in sexting begins to emerge. Among those teens that admitted to sending sexually suggestive content, the most common reason cited was to be “fun or

flirtatious”, reported by 69 % of teen girls and 60 % of teen boys. Some of the reasons reported for sending sexually suggesting content among teenage respondents includes: in response to similar content they received (44 % for both boys and girls), pressure from friends of the same sex (23 % girls and 24 % boys), and pressure from those of the other sex (51 % girls and 18 % boys). The researchers did indicate rationales for sexting that were primarily identified by female respondents (The National Campaign, 2009). This will be discussed in detail later.

The Pew Research Center (2009) sexting study differed from The National Campaign (2008) study in that the Pew study used a multi-method approach, utilizing both phone surveys and focus groups. Information regarding teenagers’ reasons for sexting was discovered through both methods, giving the researchers a broader conceptual definition of what sexting is and why teenagers participate in it. As will be discussed in a later chapter, the benefits of using a multi-method approach are often invaluable, especially when little information is known about the topic of interest.

Focus group participants in The Pew Research Center (2009) study identified three general situations when sexually suggestive images are typically shared by teenagers. One of the scenarios involves images shared between two romantic partners, and the images are in lieu of, or preface some type of sexual activity. Another scenario is that this is an experimental phase to explore sexuality, especially for those teenagers that are not sexually active. The final general scenarios are those teens who share sexually suggestive content as one part of a sexual relationship, especially among the romantic teen couples who are already sexually active. Other less common scenarios include “... [images] sent between friends, or between two people where at least one pair is hoping to

become romantically involved” (p 7). A small portion of the participants also identified “pressure from others” as a reason for sexting, such as from friends, boyfriends/girlfriends, or peers of the opposite sex (Pew Research Center, 2009).

Other interesting findings from the Pew Research Center (2009) focus groups were teens’ attitudes toward sexting. The results revealed that attitudes vary widely, with some respondents reporting sexting as non-problematic, and others believing it is completely inappropriate. For those who did not view sexting as a major problem, they reported that it can actually be a “safer” alternative to “real-life” sexual activity, in many senses of the word “safer”. While some teens fear contracting sexually transmitted diseases or unplanned pregnancy, others cited religious beliefs as well as shyness/other insecurities as reasons why they may not be comfortable with “real” sex, but would be comfortable with sexting (Pew Research Center, 2009).

In addition to this, some respondents in the Pew Research Center study made distinctions between appropriate and inappropriate sexting. For example, one participant reported the fine distinction between acceptable and unacceptable by saying, “. . . [it’s] not a big deal if [it’s] just a topless photo, but when it’s the bottom also it’s a lot more serious” (p.9). Other participants felt that sexting was unacceptable behavior, and reported concerns about legality and potential for public release of sexual images as primary reasons for not sexting. Further, some teenagers believe these images brand them with a label of being “slutty”, “gross”, and “disrespecting themselves”, and are deterred from engaging for these reasons alone (The Pew Research Center, 2009). From both of the studies it is apparent that there are a number of reasons that teenagers engage in

sexting, and there is a rationale behind the decision to participate, or not participate in sexting.

Female versus Male Sexting

There is reason to believe that there are differences between female and male participation in sexting. According to Brown and colleagues (2009), the effect of media use on sexuality can vary dramatically in terms of biological sex. Some studies have shown that early maturing girls are more likely to be interested in sexual media content than girls of similar ages who have not physical matured (Brown & Pardun, 2004). Differences were also noted in television programming preference, with girls preferring relationship oriented show and boys preferring action shows (Brown & Pardun, 2004; Brown et al., 2009). Further, while females may have been more likely to be more sexually oriented in their television preferences, a recent study by Brown & L'Engle (2009) found that 50 to 70 % of males view sexually explicit images online, as compared to 30 % of females.

As discussed by Cupples & Thompson (2010), the entire social concept of telephones and their usage has been gendered. As the authors point out, landline telephones were originally designed for males to use for business purposes. However, traditional landline phone were quickly adopted by women for their own personal use, providing them with unsupervised access to the world. This increased access is associated with greater verbal contact between the sexes and the stereotype that women enjoy talking on the phone more than men do (Cupples & Thompson, 2010).

One of the major foci of The National Campaign sexting survey (2009) was comparing the differences between males and females in their participation in sexting

behavior, particularly focusing on differences in rationale for participating in sexting. The results showed that 71 % of teen females and 67 % of teen males who sent sexually suggestive messages and images sent the content to a boyfriend or girlfriend. When asked about potential reasons for sending a sext message, 51 % of teen girls admitted that pressure from a guy is a primary reason for sending sexy messages or images, while 18 % of teen males cited pressure from females as the reason for sexting. Focusing specifically on teenage girls, 52 % said they did so as a “sexy present” for their boyfriend, 40 % did so as a “joke”, and 34 % did so to “feel sexy” (The National Campaign, 2009). From the information, it appears that males and females differ in their use and rationale for engaging in sexting behaviors.

Parental Involvement

In addition to the readily available nature of cell phones for teenagers, one logical question is, “Where are the parents of children who sext?” As discussed by Dilberto & Matthey (2009), many parents are struggling to monitor cell phone use by their teens. In research conducted by Cox Communication (2010), it was found that two out of five teens report telling their parents little to nothing about what they do online. About half of the teens surveyed were limited in their online activities by their parents, but one in four reported they had found a way to “get around” the parental controls (Cox Communication, 2009). While it appears that some parents are trying to control their children’s cell phone usage, many are not, and those who are face the difficulty of rapidly growing technology and the challenges that come with monitoring behavior in this current digital world (Dilberto & Matthey, 2009).

In discussing the family dynamics of cell phone ownership, Ribak (2009) identifies the “parent- child-mobile phone triangle.” According to the author, parents view cellular phones as a virtual “umbilical cord’, allowing parents to stay connected with their children, even when not in the immediate vicinity of their children. While parents are buying their children mobile phones to increase monitoring and ultimately a sense of “security” children, particularly teens, are using the same technology not with the primary intent of staying connected to their parents but rather to attain and foster connections with peers and friends. Ribak (2009), asserts that “...the decline of the family is attributed to the technology itself, since texting is constructed as an age specific modality that increases the power of peer group and decreases the power of the family” (186). Therefore, it appears that the technology that parents are using to “stay connected” with their children may actually be the catalyst that is driving the core family unit apart.

Other interesting findings from the Pew Research Center study (2009) concerned the financial management of participants’ cellular phone bills and types of data plans. The participants were asked to report on the management of their cellular phone bill, and it was found that those teens that paid for all the costs of their phone were more likely to send sext messages (17 %, compared to 3 % of teens who paid for a portion of the cost or did not pay at all). Of the surveyed teens, 70 % had their phone expenses paid by someone else (usually a parent), 19 % paid partial costs, and 10 % paid for all of the cost of owning their own cell phone (Pew Research Center, 2009).

In regard to text messaging plans, the Pew Research Center sexting study found that participants with unlimited text messaging plans – meaning he or she could send or receive any data to or from his or her cell phone without incurring additional monthly

charges – were more likely to report receiving sexually explicit messages (18 %). This compared to 8 % with limited data plans and 4 % who pay-per-message. Interestingly, 75 % of the participants had an unlimited text messaging/data plan, which is something that is significant when examining potential policy implications for a sexting study (Pew Research Center, 2009).

The research by the Pew Research Center (2009) focused, in part, on the relationship between parental management and sexting. While a younger teenage boy from the study said he did not participate in sexting because “my mom goes through my phone”, another older boy mentioned password-protecting sexually suggestive images and messages to prevent his parents’ from viewing them (10). Results from the Pew survey found that teens whose parents looked at their phone contents were “...no more or less likely to send or receive nude or nearly nude images on their phones” (10). While a parent “checking” the contents of a cellular phone may not be effective in preventing sexting, general parental restrictions of text messaging may affect teen participation. Pew researchers found that teens that were less likely to send sexually suggestive text messages were more likely to have parents who limited the number of texts or messages a teen could send (daily/weekly/monthly, etc.). For example, 28 % of the teens who did not send sext messages had parents who limited their texting, while just 9 % of teens who sent sext messages did have parental restrictions on the number of texts they could send (Pew Research Center, 2009).

Is Sexting “Normal” Teenage Behavior?

The utilization of mobile technologies by teenagers is more complex than a simple desire. It is clear that cell phone usage is not only highly prevalent, but also highly important to teenage youth in the United States. The average American teen spends anywhere from four to seven hours a day with some form of media (Roberts, Foehr, & Rideout, 2005; Brown, Keller & Stern, 2009; Tucker, 2009). Tucker (2009) believes the fast pace of interaction builds a need in American teens for constant technological stimulation. When a teen is disconnected from these devices and media, it is not merely an inconvenience. It leads to a sense of urgency that he or she might have “missed something” by being disconnected. (Tucker, 2009). A study found that the majority of teens age 16 to 24 would rather give up coffee, alcohol, chocolate, or sex than live without their cell phones for a month (Clark, 2009).

Bauerline (2009) reports that 80 % of teens surveyed by the Consumer Electronics Association associated going one day without technology with feelings of being “bored”, “sad”, and “uninformed”. It is important to understand this point, because a solution often associated with sexting prevention is, “if you want to stop it, take their phones away”. When a parent takes a phone away from a child it means probable social exclusion and negative feelings of isolation and not having a “real place” among peer groups (Bauerline, 2009). With the high level of attachment most American teens have to their cell phones and the negative emotions they associate with being removed from this technology this may not be the best solution.

As described, there is evidence to suggest that teenagers are sharing sexual content with each other. One of the fundamental questions is whether sharing such

information is beneficial to teenagers in any way. According to Brown and colleagues (2009), sexual expression through digital media can be a positive form of sexual self-expression for teenagers. Referring specifically to the Internet, the authors suggest that it provides a space for teenagers to explore their sexuality and express their sexual image to others. It allows the adolescent to reflect the type of sexual partner they are or would like to be when they decide to date and it allows him or her to maintain “dating” relationships online that can be seen as less intimidating than dating in the real world (Brown et al., 2009).

In addition, Brown and colleagues (2009) assert that sexual expression through digital media allows for a validation that many adolescents (particularly adolescent females) cannot find in offline relationships. Some teens may have physical, social or mental problems that prevent them from forming sexual relationships in a real-time environment. For example, some teenagers are uncomfortable about their body shape/size, or are extremely shy, or have something that they feel makes them “different”, therefore “undesirable” to others. The ability to connect virtually with someone who shares similar circumstances can offer a unique opportunity for these individuals. Further, virtual communication allows a person greater freedom of expression in a comfortable manner and taking time to reveal insecurities, which is a luxury they might not have in face-to-face communication. With the relatively high risk of suicide among youth, this can sometimes be a life-saving emotional connection (Brown, et al. 2009).

Although there may be some potential benefits to engaging in sexual exploration through digital media, there are legitimate concerns regarding teenage participation in

these acts. According to Moreno, Parks, Zimmerman, Brito & Christakis (2009), one potential issue is that the sexually charged information shared by teens may promote a false perception that sex is glamorous and risk-free. Those who view sexual practices as risk-free are more likely to adopt risky sexual practices as they fail to ignore the potential hazards of engaging in sexual acts (Brown, et al., 2009). This easy-going attitude toward sex may also increase the pressure on teens who are abstaining from sex to become sexually active, as doing so is not considered a “big deal” (Moreno, et al., 2009).

Another legitimate concern, especially for teen females, is that sharing sexual images may not result in sexual expression, but rather in an objectification that can have negative consequences. Brown and colleagues (2009) discuss how sexual content by teens may not be interpreted as a healthy expression, and can potentially affect how their friends and sexual partners treat them. The authors give an example of a teenage girl who presents herself in an overtly sexual manner to indicate interest in sex, with this portrayal being labeled as “slutty” by others. As discussed by Moreno and colleagues (2009), this self-objectification can be especially detrimental for those who participate in sexting if it results in intense scrutiny by others. When sexual images are disseminated to individual’s besides the one it was intended for, it can result in broken relationships, shattered friendships, harmed reputations, and severe embarrassment for the original sender (Moreno, et al., 2009).

The grave consequences of what can happen when sext messages are shared with other people than the intended recipient can clearly be seen in the highly publicized case of Jessica Logan (Celizic, 2009). Logan, a high school student from Ohio, sent nude pictures of herself to her boyfriend in 2008. Shortly after the couple broke up, Logan’s

then ex-boyfriend sent the nude pictures intended for him to other female students from the high school. In an interview with a Cincinnati television station on May 2008, Logan reported being harassed by the female students, and called names like “slut” and “whore”. Despite alleged efforts by Logan and her family to contact school officials to end the harassment, Jessica continued to endure what she described as “torture”. In July of 2008, at the age of 18, Jessica Logan hanged herself in her bedroom (Celizic, 2009). Jessica Logan’s story captures the essence of the issue regarding sexting. While she created a sexual image as part of her relationship with her boyfriend, she either did not see or did not regard the potential short or long-term consequences of her actions. This point will be especially important for the purpose of this research, as will be discussed in a later chapter. The next question that should be addressed is the legality of these acts.

The Legal Dilemma

In January of 2009, authorities in Greensburg, Pennsylvania pressed charges against six teenagers for their participation in sexting behavior. Local Pittsburgh affiliate wpxi.com (January 15, 2009) reported that three teenage girls from the Greensburg Salem High School allegedly sent nude or semi-nude pictures of themselves to three male classmates via a cellular phone in November, 2008. The three girls, age 14 or 15 at the time of the incident, are charged with manufacturing, disseminating, or possessing child pornography. The three boys, ages 16 and 17 at the time of the incident, face charges of possession of child pornography. The photos were discovered after school officials seized a cell phone from one of the male students as he was using it during class is a violation of school policy. The photo of the nude female classmate led school officials to

contact authorities, who were led in their investigation to other phones containing more photos (www.wpxi.com)

The Greensburg, Pennsylvania case is not the only case of teenagers risking severe legal consequences for sexting. Taylor (2009), discussed the case of a 13 year-old girl who was arrested in October 2008 on child pornography charges. The charges stemmed from an incident where the girl distributed naked photos of herself to some friends via cell phone. The official charges were possession of criminal tools and illegal use of a minor in nudity-oriented material. While the authorities eventually dropped the charges, had she been convicted, she would have had to register as a sex offender (Taylor, 2009).

The charges brought against these teenagers are the result of a growing U.S. trend, where teenagers who send sexually explicit messages face being charged under child pornography statutes. Although it should be noted that prosecutors may initially charge a teen sexter with child pornography offenses, most teens end up with less extreme dispositions like phone confiscation and community service (Eraker, 2010). However, just the threat of teenagers being charged with such extreme sanctions makes it important to examine sexting from a legal perspective. According to Wastler (2010), the laws that prohibit child pornography were enacted to prevent children from being sexually exploited and violated. They were not created with the intent that minors would be the producers and disseminators of these materials themselves. As a result, some prosecutors have brought charges against minors or used the threat of prosecution, as a means of deterring the practice of sexting to educate youth about the dangers of this activity. The handling of these cases gives rise to public debates regarding the methods used to prevent

and respond to self-exploitation by teenage sexters, as well as the constitutionality of prosecuting juveniles under existing child pornography statutes (Wastler, 2010).

Sexting and Child Pornography Laws

One of the basic freedoms provided by the United States Constitution is the freedom of speech. The First Amendment states that “Congress shall make no law...abridging the freedom of speech.” (U.S. Const. amend. I.) The purpose of this declaration is to ensure that the government does not infringe upon the peoples’ rights to express themselves without the government restricting speech or showing disapproval based on the ideas expressed. As discussed by Wastler (2010) and Eraker (2010), the Supreme Court has recognized a number of exemptions to freedom of speech that do not play a role in the expression of ideas and opinions. These classes of material are narrow, and include obscenity and exploitation of children through child pornography, which have historically not received serious constitutional objections.

One of the key concerns in the debate over sexting and child pornography surrounds state and federal regulations against child pornography. It is important to determine whether the production, dissemination, and possession of sexually explicit text messages falls under the current child pornography regulations (Wastler, 2010). Under federal law, it is a crime for “any person” to knowingly receive, possess, or distribute any visual depictions that “involve[d] the use of a minor engaging in sexually explicit conduct” (18 u.s.c. § 2251). Historically, sexually expressive material has been regulated through the doctrine of obscenity (*Roth v. The United States*, 1957), and the *Miller* standard (*Miller v. California*, 1973) to balance the state’s interest in protecting children

from unwilling sexual exposure and the dangers of government censorship through content-based laws.

The first major judicial decision regarding child pornography was the U.S. Supreme Court case of *New York v. Ferber* (1982). In this case, the Supreme Court unanimously upheld a New York state statute barring the sale of materials depicting minors engaged in sexual activity. The Court also held that this statute did not violate First and Fourteenth Amendment rights to freedom of speech, press, and assembly. Further, the Court held that New York State carefully constructed the law to protect children from mental, physical, and sexual abuse associated with child pornography, while not violating protected Constitutional freedoms.

As discussed by Wastler (2010), in *New York v. Ferber*, the Court focused on harm that faced a child. Interestingly, this focus was on the harm that occurred during the production of the pornographic material, rather than the harm that comes from the dissemination of the images. In *Ferber*, the Court held that the distribution of child pornography was not protected under the First Amendment because the production and distribution of the material both directly and indirectly perpetuated the ongoing abuse of a child. This damage is considered perpetual because it is a “permanent record” of the child’s abuse that also provides an economic motive for the continued production and dissemination of such images (Wastler, 2010).

The next key decision regarding a key Supreme Court decision child pornography came eight years later in the Supreme Court case of *Osborne v. Ohio* (1990). In this case, the Court upheld by a vote of six to three an Ohio statute that prohibited the simple possessions of materials depicting minors engaged in sexual activity. In the *Osborne* case

,the primary dilemma was whether a ban on child pornography violated protections under the First Amendment to the Constitution. As in *Ferber*, the Court held that the production of pornographic material involving children required the sexual abuse of a child (which is illegal sexual misconduct), and the distribution and possession of such material causes harm to the child victim (*Osborne v. Ohio*, 1990).

The next major case involving child pornography by the Supreme Court came two years after *Osborne*, in *Ashcroft v. Free Speech Coalition* (1992). The main argument in *Ashcroft* was whether a ban should be placed on “virtual” child pornography, which occurs when the pornographic material appears to involve a minor, though a minor is not present. An example would be pornographic material where adults were dressed as or pretending to be minors. In *Ashcroft*, the Court held that these types of acts were not technically child pornography. Further, the Court stated that speech could not be prohibited that “records no crime and creates no victim by its production” (*Ashcroft v. Free Speech Coalition*, 2002).

Given the precedent in *Ashcroft*, a problem naturally arises from the application of child pornography laws to material that was manufactured and distributed by the very underage person(s) depicted. This is true particularly when a minor is above the legal age of consent at the time of the distribution of the material. To apply *Ferber’s* precedent that any depiction of a child in a sexual manner is child pornography means to ignore that under some state laws, sexual contact with minors above the age of consent (but not necessarily age 18) does not constitute “sexual abuse”. According to Wastler (2010), even more unbelievable is to assume that minors can be thought of as a guilty party to the sexual abuse of themselves.

The Child Pornography Arguments

The argument basically comes down to whether or not sexting should be considered child pornography, or if such images, like virtual child pornography described in *Ashcroft*, do not involve the sexual abuse of a minor. Sarah Wastler (2010), of the Harvard Law Journal believes that sexting should be considered outside the scope of child pornography laws. “An adolescent taking nude or scantily clad photos of themselves...does not suffer the immediate psychological, physical, and emotional harm of the kind suffered by child sexual abuse victims,” (698). Without a criminal or coercive production of material, the invasion suffered by a minor who sexually exploits themselves is not the continuation of sexual abuse. Even in situations where the picture is disseminated without permission, or the minor regrets even participating in the self-exploitation, the harm faced by that individual is not comparable to the harm suffered by victims of continued abuse due to child pornography (Wastler, 2010).

Counter to this argument is the opinion that self-produced sexual images may very well contribute to the sexual abuse of not just the minor in question, but all sexually exploited children. Graw-Leary (2009) suggests a number of problems with excluding self-produced images as child pornography. First is the assumption that the children in the self-produced images are not being harmed. Recent media cases highlight tragedies like Jessica Logan, an Ohio teen, who committed suicide after a self-produced nude picture of the teen sent to a former boyfriend circulated to hundreds of students at her high school (Paoello, 2009). While there have been no empirical studies to date on the effects of sexting, it is believed that these children will experience many of the same

emotions that non-self produced child pornography victims feel: depression, anxiety, and low self-esteem (Graw-Leary, 2009)

A second risk of decriminalizing sexting is that it may impede on the ability of law enforcement to investigate sexual exploitation cases involving children. According to Graw-Leary (2009), before self-produced sexual images of children, there are countless images available where children appear to be willing participants and it is not until an investigation is done into the production that the actual circumstances can be known. If self-produced images are protected acts, then an officer will have difficulty obtaining a search warrant without probable cause. Though it is not the case in many self-produced images, creating exclusions for self-produced pictures may risk missing an opportunity to investigate and rescue a child who is a not a willing participant from further exploitation (Graw-Leary, 2009).

A final argument for including sexting under child pornography is that exclusionary legislation may ultimately provide a “built-in defense” or pedophiles and sexual predators (Graw-Leary, 2009). Under the exclusionary changes, a defendant caught with a self-produced sexual image of a child could claim that the image was “voluntarily produced”, and, thereby, does not meet the conditions of child pornography. Ashcroft held that virtual child pornography is not protected speech because it does not harm the child in production, with the obvious logical extension that self-produced images are not child pornography because the child is not harmed in production (Graw-Leary, 2009).

Current Legislative Efforts

There are a number of states that have taken legislative action to address the problem of teenage sexting. While some states have and continue to prosecute minors who sext under existing child pornography statutes, many states have explored or are currently exploring alternatives to criminal prosecution (National Center for State Legislatures, 2011). Currently, there are 24 states that prosecute minors who sext under existing child pornography laws.

In most of these states, a minor who is found guilty of producing or distributing child pornography can face a number of consequences, including mandatory inclusion the states sex offender registry. There are an additional 13 states that have proposed legislation that would create alternatives for prosecution and punishment of minors who sext. There are also thirteen states (Arizona, Connecticut, Florida, Illinois, Louisiana, Missouri, North Dakota, Nebraska, Nevada, Rhode Island, Texas, Utah, and Vermont) that have already passed legislation to offer alternatives to punishment for minors who sext by prosecuting outside of current child pornography statutes (NCSL, 2011). In essence, these 13 states have decided that sexting is a behavior that cannot and should not be addressed by prosecution under existing child pornography laws, and have made efforts to ensure that alternatives to sex offender registry are available for minors in these states.

One state that has been seen as a “forerunner” of anti-sexting legislation is the Commonwealth of Pennsylvania where one of the most highly publicized cases of prosecuting minors who sexted with child pornography occurred. As described by the American Civil Liberties Union (ACLU), the disputed case involved a lawsuit filed in by

the ACLU of Pennsylvania in March 2009 against the Wyoming County District Attorney. The lawsuit came after the District Attorney for Wyoming County threatened to charge 3 high school girls with child pornography charges after they appeared topless and in underwear in a number of digital photos. While the breasts of all three girls were shown in the photos, they did not depict any sexual activity and did not reveal any body parts below the waist. On March 30, 2009, the ACLU's motion for a temporary restraining order was granted, and on March 17, 2010 the Third Circuit Court of Appeals ruled the girls could not be charged with child pornography as they were the individuals depicted in the photos (ACLU, 2010). From this case, it became clear that legislation needed to be created to determine what actions, if any, to take when a minor disseminates sexual material via electronic communication.

One possible solution came on January 5th, 2010 when Pennsylvania House Bill 2189 was referred to the state Judiciary Committee. This bill sought to criminalize the dissemination of sexually prohibited materials by minors via electronic communication, essentially criminalizing the act of sexting. It would make it illegal for minors to knowingly transmit images of others, disseminate a depiction of him or her, or possess a depiction of another minor engaged in sexually explicit conduct. When this bill was introduced, minors would have been charged under §6312, *Sexual Abuse of Children*. §6312, which essentially criminalizes possession or distribution of child pornography, and comes with a punishment ranging from incarceration to mandatory registration on the state sex offender registry.

An amendment was made to PA House Bill 2189 in March of 2010. Under the newly amended bill, a new offense was created; §6321, *Dissemination of Prohibited*

Materials by Minors via Electronic Communications. The amended bill makes it a second degree misdemeanor for minors to transmit, disseminate, or possess depictions of other minors engaging in sexually explicit conduct. However, the law specifically excludes depictions of sex, relegating them to prosecution under §6312. In essence, while the newly amended bill will spare minors from being prosecuted as adults, it will still criminalize sexting among minors. At the time of this writing, the bill passed in the Pennsylvania House Judiciary Committee, and is currently in the House Appropriations Committee, awaiting a vote by the full House.

The state of Florida is the most recent state to pass anti-sexting legislation that is aimed at easing punishments for minors who are sexting. On Tuesday, June 21, 2011 Florida Governor Rick Scott signed House Bill 75 into law, a measure that passed unanimously in the Florida House and Senate (Sander, 2011). Under this new law, the punishment for first-time offenders would include a 60 dollar fine, or eight hours of community service. Those with subsequent offenses will receive a harsher punishment and be charged with a first-degree misdemeanor (National Conference of State Legislatures, 2011). As discussed by Tallahassee, Florida news reporter, Lanetra Bennett, there has been a great amount of public support for this new legislation, scheduled to go into effect on October 1, 2011 (Bennett, 2011). With the passing of this legislation, the state of Florida has taken the lead among the states that are currently grappling with the problems of anti-sexting legislation.

As discussed by Wastler (2010), based on what is known regarding child pornography and proposed exemptions for sexting behavior, the constitutional prohibition of sexting as a form of child pornography is unrealistic. It would require abandoning all

efforts to regulate these forms of conduct, which is clearly not the answer. The government is free to set up new laws and punishments to protect minors from the particular harms of sexting, without necessarily having to prosecute under the punitive guise of child pornography laws. It is also a possibility that some sexting images may be appropriately handled under existing statutes depending on the obscenity of the images. While these obscenity regulations would not reach all sexting images, they would certainly prohibit those images that are most offensive, obscene, and potentially damaging to minors. Wastler (2010) states that the most appropriate response to self-produced sexual images by minors, "...must balance the serious consequences of this conduct against the rights, if any, of adolescents to free sexual expression" (702).

Summary

The current chapter provided an overview of the conceptualization of the relatively new act of teenage sexting. While there is some research on sexting, the findings have varied, and questions have arisen regarding the research methodologies used in these studies (Clark, et al., 2009). While some may argue that sexting is normal teenage behavior, the potential problems associated with sexting have created serious problems for some teenagers who sext.

The issue of sexting and self-produced child pornography is complex and reaches far beyond the scope of current laws. Assuming that a minor who unwisely takes and distributes nude photographs of his or herself is immune from criminal liability, what about the person(s) to whom he or she potentially distributes these images to? Should they be immune from prosecution due to the fact that the material they possess was not technically the result of illegal activity? What if the minor was over the age of consent in

a state where the age of consent is 16, yet sent the photographs to a person in an adjacent state where the age of consent is 18? These are all questions that are waiting to be addressed in the policy arena, as the fate of those minors who engage in sexting activities hangs in the balance.

It is clear that developing anti-sexting legislation will prove to be a difficult for lawmakers. While policymakers are trying to change legislation to ease the punishment for minors who sext, changing these laws may not necessarily deter teenagers from sexting. With the lack of research on this topic, it is not yet clear what is causing teenagers to sext. The answer for how to best handle teenage sexting may become clearer if a differentiation could be made between those teens that sext and those who do not to discover what makes these individuals different from each other.

The next Chapter, Chapter Three, will discuss the theoretical framework of the current research, with a focus on potential predictor variables associated with sexting. This framework may help uncover what is at the route of teenage sexting, and be used to help policymakers as they formulate legislation.

CHAPTER III

THEORETICAL FRAMEWORK

The purpose of a theory, regardless of the field of interest, is to explain behavior. According to Kubrin, Stucky and Krohn (2009), theoretical explanations are "...the process of linking some observation, event, or fact to a logically related body of statements that help us understand why the phenomenon we observed occurred" (3). In addition, in order to communicate to a wide audience, precision in definition, is required to guide future research. That is, a theoretical framework gives a researcher direction because these theories present ideas that need to be supported or refuted by research (Kubrin, et al., 2009). In the field of criminology, theory serves as a guide to researching and understanding the causes of crime. With the field of criminology experiencing "unprecedented theoretical validity" (Cullen, Wright, & Blevins, 2008), there are many existing theoretical explanations for crime, with more approaching in the future. With the vast number of theories and research that exist, it can be difficult to understand what theory is the "best" explanation of crime (William & McShane, 2004).

Cullen and colleagues (2008) argue that three theories have dominated the field of criminology in America: differential association/social learning theory, anomie/strain theory, and control theory. These three perspectives, which form the foundation of American criminology, are often the basis of "newer" theories, and have generated a wealth of empirical research and inquiry (Pratt & Cullen, 2005). While differential association/social learning and anomie/strain perspectives examine what is driving an individual to commit crime, control theories take a much different approach. Theories of the control perspective are part of a trend in criminology to focus on the cause of crime

earlier in a life course (e.g. Laub & Sampson, 1988; Hagan, Simpson & Gillis, 1987; Hill and Atkinson, 1988; Rankin & Wells, 1990; Straus, 1991; Widom, 1989). Control theories are unique in that they are based on the assumption that people naturally commit crime if allowed by law, making the key question not why people commit crime, but why people do *not* commit crime. These theories focus on the “controlling” forces that hinder the commission of crime and how these forces breakdown and result in “uncontrolled” behavior (Vold, Bernard, & Snipes, 2002; Kubrin, et al., 2009).

Gottfredson & Hirschi’s (1990) General Theory of Crime

As discussed by Pratt & Cullen (2000), “Gottfredson and Hirschi’s (1990) *A General Theory of Crime* has received considerable academic attention and generated considerable controversy” (931). According to Grasmick and colleagues (1993), the general theory of crime is “...a return an emphasis found in the works of Sheldon & Eleanor Glueck (1937, 1950)” (pg. 6), referring to the famous studies by the researchers of the many routes to delinquency for adolescent males. The basis of this theory is childhood socialization within the family unit, which can produce a predisposition to crime through the term “low self-control”.

Gottfredson & Hirschi (1990) define criminal acts as being “...short lived, immediately gratifying, easy, simple, and exciting” (14). Further, acts that are immediately gratifying tend to be more pleasurable than acts where the gratification is not immediate, or delayed. They argue that behaviors that are typically viewed as “deviant” (smoking, driving fast, unprotected sexual interactions, etc) are “analogous” to crime, or equivalent in nature, because they too are accomplished with little effort and cause immediate gratification. The gratifying nature of crime and analogous behaviors is

viewed from a classic control theory perspective that emphasizes crime prevention via consequences that are painful, or displeasing to an individual. Essentially with control perspectives, the question is not why a person commits crime; it is rather why a person chooses *not* to commit crime (Gottfredson & Hirschi, 1990; Pratt & Cullen, 2000).

It is important to understand the characteristics of individuals who commit criminal acts. As discussed by Gibbs & Giever (1995), while there are many opportunities to engage in crime, not everyone who has an opportunity chooses to engage in crime. This fact leads to the key concept of Gottfredson and Hirschi's (1990) general theory of crime, "low self-control". According to Gottfredson & Hirschi (1990), individuals who commit crime and analogous behaviors as adolescents tend to continue similar behavior into adulthood. While these behaviors are labeled differently depending on age, they, nonetheless, reflect a pattern of behavior. The term "low self-control" is used to describe the "criminal propensity" that some individuals have to criminal and analogous behaviors. Accordingly, those with low self-control are impulsive, and seemingly unable to resist the gratification that comes from engaging in criminal and related behaviors. Other characteristics associated with those with low self-control (in addition to impulsivity) include a preference for simple tasks, risk-seeking behavior, physical activity, and a tendency to be short tempered, and self centered (Gottfredson & Hirschi 1990; Grasmick, et al., 1993). According to Pratt & Cullen (2000), "Because crime is easy to commit, involves little planning, requires minimal physical skills, and provides immediate gratification, it is not surprising that offenders tend to be impulsive, nonverbal, short-sighted, and so on" (932).

To further understand self-control, Gottfredson and Hirschi (1990) discuss the “elements of self-control”, agreeing that these elements uncover an underlying propensity for individual crime commission. They recognize that a propensity does not guarantee crime; crime and analogous behavior will only result in crime if an opportunity exists to engage in these behaviors. It is important to note that in the general theory of crime, neither low self-control nor opportunity is the sole explanation of crime. Rather, low self-control in *combination* with opportunity (the interaction effect) is the primary cause of criminal behavior (Gottfredson & Hirschi, 1990; Grasmick, Tittle, Bursik, & Arneklev, 1993)

Parental Management

As discussed by Gottfredson & Hirschi (1990), an individual’s propensity toward low self-control begins in childhood. The authors contend that weak direct control by parents results in weak self-control in their children. Those parents who monitor the behavior of their children and punish misbehavior will have children who exhibit self-control. This monitoring includes recognition of deviant behavior and appropriate punishment in response to inappropriate behavior (Gibbs & Giever, 1995; 233). Parental investment and proper child-rearing practices are instrumental in establishing self-control. Ultimately, children who experience proper child-rearing practices will be able to assuage the need for immediate gratification and misbehavior, leading to success in social institutions (Gottfredson & Hirschi, 1990). However, it must be kept in mind that, as discussed by Gibbs and colleagues (1998), parental monitoring is “a futile activity for developing self-control unless the parent is aware of behaviors that warrant punishment, and he or she is willing and able to implement the punishment (p. 49).

Empirical Support

As previously noted, Gottfredson & Hirschi's (1990) general theory of crime has been the source of much empirical testing (Pratt & Cullen, 2000). Some studies have found the relationship between self control and opportunity to be inconsistent, and have found other theories that mitigate the effects of self-control variables (Brownfield & Sorenson, 1993; Polakowski, 1994; Winfree & Bernat, 1998). Further, other studies have challenged the age-crime relationship of the general theory of crime (Sampson & Laub, 1995; Tittle & Grasmick, 1998). Despite these findings, there has been consistent support for a relationship between low self-control and criminal or analogous behaviors (Pratt & Cullen, 2000).

Reviewing research to support Gottfredson & Hirschi's (1990) general theory of crime, empirical studies demonstrate that measures of low self-control (Grasmick, et al., 1993; Keane et al., 1993) are related to general violations of the law (Gibbs & Giever, 1995; Gibbs, et al., 1998; Grasmick, et al., 1993; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996), as well as behaviors analogous to crime (Cochran, et al., 1996; Tremblay, et al., 1995; Wood, et al., 1993). Further, measures have shown that low-self control has a statistically significant effect on crime and deviance, even when controlling for variables of other criminological theories such as strain and social learning theories (Brownfield & Sorenson, 1993; Burton, et al., 1998; Evans et al., 1997; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996). As indicated in Pratt and Cullen's (2000) meta-analysis of general theory of crime research, "...Gottfredson and Hirschi's core proposition that low self-control increases involvement in criminal and analogous behaviors is empirically supported" (953).

Measuring Low Self-Control

As discussed by Pratt and Cullen (2000), Gottfredson and Hirschi's (1990) general theory of crime has been tested by a number of criminology researchers. A variety of operational measures of low self-control have been applied through a number of methodological approaches. Some researchers have used attitudinal measures of self-control, some use behavioral measures, while others have used a combination of both. In addition, various multivariate models have been applied, including those that measure variables from competing criminological theories. Sample populations vary by type of populations (offender or non-offender), race, age, and gender, among other things (Pratt & Cullen, 2000).

To establish the connection between low self-control and crime and analogous acts, researchers have devised differing measures of low self-control (Evans, et al., 1997; Gibbs & Giever, 1995; Grasmick, et al., 1993; Higgins, 2002; Turner & Piquero, 2002). Of these measures, the Grasmick, et al. (1993) scale has been applied as a standard measure in tests of self-control (Higgins, 2007, 2002; DeLisi et al., 2003; Pratt & Cullen, 2000). The measures of the Grasmick, et al. (1993) scale utilize attitudinal measures of low self-control which appear to be a better measure of low self-control than behavioral measures (Tittle, et al., 2003).

Based on Gottfredson & Hirschi's (1990) definition of low self-control, the Grasmick, et al. (1993) scale measures six characteristics of self-control (impulsivity, insensitivity, a preference for easy and simple tasks, a preference for physical rather than mental tasks, temper control, and risk taking). These characteristics are operationalized through the use of a 4-point Likert-type response scale (strongly disagree, disagree,

agree, strongly agree). The items on the scale are aggregated to form a low self-control score. These scores are then weighted and treated as though they fall on an interval scale (Grasmick, et al., 1993; Higgins, 2007). The original Grasmick, et al. (1993) study was used to measure opportunity, force, and fraud in a sample (n=389) of adult residents in Oklahoma. They reported that the scale formed a uni-dimensional measure of low self-control, and that the scale score had a suitable internal consistency (Grasmick, et al., 1993).

A key criticism of the Grasmick, et al. (1993) scale comes from Marcus (2004), who suggests that studies that use the Grasmick, et al. scale do not fully capture the definition of self-control provided by Gottfredson and Hirschi's (1990) general theory of crime. This means that Grasmick and colleagues do not define low self-control in terms of long-term consequences for behaviors. Rather, Marcus (2004) claims that, "...Grasmick et al.. incorrectly used Gottfredson and Hirschi's (1990) elements as a cook-book for developing their measures of low self-control, rather than using the elements as behavioral guides." (p.35). Further, Marcus (2003) argues that the Grasmick et al. (1993) scale is not based on direct observation, as Gottfredson and Hirschi (1990) suggest is the best measure of self-control. Therefore, Marcus (2003) concludes that the Grasmick et al. scale is not able to support or falsify Gottfredson and Hirschi's (1990) general theory of crime because this scale uses indirect measures of low self-control. In sum, this does not capture the original conceptual definition of self control provided by Gottfredson and Hirschi.

Despite the criticisms of the Grasmick, et al. (1993) scale, Marcus (2003, 2004), acknowledges that for studies involving large groups, attitude surveys are more efficient

in capturing generalizable data. In this regard, the Grasmick, et al. scale would be at an advantage. According to Higgins (2007), “If criminologists closely followed the methodological recommendations...of Gottfredson and Hirschi, they could have only small amounts of data that would not be generalizable to society because they were captured in a laboratory format” (160). By this, Higgins is referring to the fact that Gottfredson and Hirschi claim the best predictor of self-control would ultimately be direct observation of behaviors, which cannot be accomplished on a large scale for practical and ethical reasons. Therefore, capturing self-control and crime/deviance via attitudinal measures may be the next best viable option after direct observation.

In addition to Grasmick and colleagues (1993), other researchers have supported the findings of the Grasmick, et al. scale (Nagin & Paternoster, 1993; Piquero & Tibbets, 1996; Tibbetts & Myers, 1999). Other have used modified versions of the original Grasmick, et al. scale, and found similar results (Nagin & Paternoster, 1993; Arneklev, et al., 1993; Brownfield & Sorenson, 1993; Cochran, et al., 1998; LaGrange & Silverman, 1999). Despite results validating the Grasmick, et al. (1993) scale, other researchers have reported mixed results for the dimensionality of the Grasmick, et al. scale using structural equation modeling, otherwise known as SEM (Longshore, et al., 1996; Arneklev, et al., 1999; DeLisi, et al., 2003; Flora, et al., 2003). Given all the empirical testing and support of the Grasmick, et al. (1993) scale, a decision was made to include the scale in the quantitative portion of the current study.

Application to the Current Study

As discussed above there has been little empirical research to date on the topic of sexting (O'Donovan, 2010). The research that does exist is descriptive in nature, and is not based on any type of theoretical framework. The purpose of the current study is to provide descriptive information on sexting among teenagers and suggest areas where future research will be needed on this topic. Therefore, it was important that the current study stem from a theoretical framework to examine sexting behaviors. The decision to use Gottfredson and Hirschi's (1990) general theory of crime was made based on a number of factors.

Gottfredson & Hirschi (1990) describe criminal acts as being short lived and immediately gratifying. While many individuals can be exposed to situations and opportunities to engage in criminal behavior, the decision to participate is largely based on the individuals' level of self control. This self-control is instilled in childhood, and poor parenting is the key element in establishing self-control. While this description of the general theory is basic, it can easily be related to sexting.

Sexting is a behavior that is easy and immediately gratifying; with the simple click of a "send" button, both the sender and the receiver of a sext message accomplish their task. Although sexting is relatively easy, there are serious (potentially legal) consequences to engaging in sexting, much as there is to engaging in criminal acts. Cellular phone ownership rates among teenagers are at an all-time high (Sanchez-Martinez & Ortera, 2009; Clark, 2009), but not all teenagers who have cellular phone are sexting. In seeking to understand why some teenager's sext and some do not, a possible

answer might originate in Gottfredson and Hirschi's (1990) research and the connection between delinquency and low self-control.

A major element in Gottfredson and Hirschi's (1990) general theory of crime is the relationship between parenting and self-control. Essentially, parents are the "front-line" in establishing self-control in their children, even more so than schools and other social institutions. As previously discussed, research by The Pew Center (2009) indicates a relationship between parental management and teenage participation in sexting. The current study is focused on the link between parenting and criminal behavior, particularly in terms of parental management of cellular phone usage, and how this management effects participation in sexting. The fact that parental involvement and management is a key element of the current study was an essential factor in the use of Gottfredson and Hirschi's (1990) theory.

The current study was conducted with a large group of participants; therefore, the Grasmick, et al. (1993) scale was an appropriate measure of low self-control and deviant behavior. The Grasmick, et al. (1993) scale, which has been very important in the testing of Gottfredson and Hirschi's (1990) theory, was included in the survey instrument for the current study. The scale was used to create a composite score of self-control for each individual participant. It was expected that those individuals who have a Grasmick score that indicates low self-control would be more likely to engage in sexting.

In addition to criminal behaviors, Gottfredson and Hirschi (1990) also discuss analogous behaviors and their relationship to self-control. As described above, in the general theory, behaviors typically viewed as "deviant" (smoking cigarettes, driving fast, unprotected sexual interactions, etc) are "analogous" to crime, meaning they are

accomplished with little effort and result in immediate gratification. An argument can be made that sexting is an analogous behavior because of the relative ease and immediate gratification and because it is similar in nature to other analogous behaviors. Sexting is essentially a status offense because it is not illegal for adults to send sexually suggestive messages, much like smoking cigarettes and underage drinking..

The previous chapters of this dissertation introduced the topic of sexting and the legal dilemmas associated with it, and laid the foundations for the study's theoretical framework. The next chapter will provide the methodological framework under which the study will be conducted.

CHAPTER IV

METHODOLOGY

The purpose of this study was to examine teenage participation in sexting. The participants were freshmen-level students at a mid-sized state university in the northeast region of the United States. In order to more fully examine the phenomenon of teenage sexting, the research used a mixed-methods approach, administering both a survey instrument and conducting focus groups. Predictor variables for sexting were drawn from the propositions of Gottfredson and Hirschi's (1990) general theory of crime, and were used to explain the relationship between self control and crime (or deviance).

The following chapter provides a description and discussion of the methodology employed for this research. This includes a discussion of research questions and variables, sampling, survey design/administration, and focus group design/administration. This research involved human subjects, so human subject protections are also addressed.

Sample

Location

The location for this study was a medium sized state university in the Northeast region of the United States. This university consists of approximately 15,126 students (12,827 undergraduate, and 2,299 graduate students). According to campus statistics from fall 2010, 57 % of the student population is female, with 13 % minority populations, 8 % of non-traditional age, and 4.3 % international students. Although the university is comprised of mainly white students (over 80 %), the diversity in academic opportunity and social experiences will allow generalizations to be made from this population. There is no reason to believe that the attitudes toward sexting of participants in this region

differed greatly from those in other regions in the United States. Further, having a study that focuses on one area of the country leaves room for comparison to other geographic areas for future research. The chance that the participant characteristics of this study may not be generalized to the entire United States population is recognized as a possible limitation to this study.

While the selected site may be considered to be a convenience sample due to location and access, it is argued that the demographics of the study population made it an appropriate site to study sexting behavior. The decision to sample college students was based on a number of factors. As noted above, mobile phone ownership and use, particularly the use of text messaging, is generally high (Davidson & Lutzman, 2007; Chen & Katz, 2009; The National Campaign, 2009). Since the focus of the current study is on sexting with a mobile/cellular telephone, the high ownership rates of cell phones also made the location appealing.

Sample Selection and Exclusion

The population of interest for the current study includes all freshman students who were enrolled at the sample university in the Fall 2011 semester. An argument could be made that the ideal age group for sampling would be youth under the age of 18, as the act of sexting is only illegal if it is done by a minor (Sanchez-Martinez, & Otera, 2009; Wastler, 2010). While the current study could have used an under age 18 sample, there are a number of reasons why a youth sampling frame was not possible. First is the fact that children are considered a protected population, meaning that gaining access to this population can be rather difficult. Further, to conduct research with individuals who under the age of 18 requires consent from parents or legal guardians of the child, as well

as assent from the participant. While age 18 is generally accepted as the age of legal “adulthood”, there is literature to indicate that brain maturation and impulse control are not completely formed until after age 18 (Giedd, et al., 1999; Steinberg, 2004). Based on this information, it can be assumed that the maturity of a 17 year-old would be similar to that of someone who is 18 or 19 years old.

In addition the consent restraints, there are other reasons to believe that college age participants may be an appropriate group to study teenage sexting. Disclosing participation in sexualized activity can be a source of embarrassment for participants, which may pose a research limitation. The participants in the study were asked to report on behaviors they participated in before the age of 18 (most were still in high school). Since the participants were reporting on events that occurred in a place from which most were physically removed, it might have made the participants more likely disclose information, without fearing retribution from teachers or other high school students.

The size of the Fall 2011 freshman class was 3,150 students, which is approximately 20.8 % of the total campus population. The curriculum requirements for university require freshman to take both an introductory English class (College Writing), and an introductory History class (History: The Modern Era). These are both pre-requisite courses for other classes, so all freshmen have to take both courses during their freshmen year, but they are typically taken in separate semesters. To avoid over-scheduling, each academic department on campus is directed as to which semester their freshman majors should enroll for each. For example, freshman criminology majors may be required to take English in the fall semester, and History in the spring semester, while freshman biology majors might take History in the Fall semester, and English in the

Spring semester. Therefore, the vast majority of incoming freshman students in Fall 2011 were enrolled in either class. Rather than sampling from all available freshman courses (which could yield a higher percentage of non-freshman, and students who may have taken the survey in another entry level class), the researcher surveyed only those students enrolled in the English and History classes in the Fall 2011 semester. There were 59 sections of the English course and 34 sections of the History course offered that semester. A random number table was used to select courses to include in the study. The faculty member for each randomly selected class course was contacted in person to ask permission for participation. A total of nine courses were included in this sample; six sections of the English course and three sections of the History course. There were a total of 330 students enrolled in these courses.

The target sample size for the current study was obtained using prior estimations of the appropriate ratio of participants to independent variables used for regression analysis. While Stevens (1992) suggests a ratio of 15 to 1 is appropriate for a reliable regression equation, Meyers, Gamst, and Guarino (2005), and Hair, Anderson, Tatham, and Black (1998) suggest a 20-to-1 independent variable-to-participant ratio is most appropriate. These researchers also suggest that larger sample sizes can compensate for issues such as non-response and surveys that will be discarded due to age restrictions. Further, according to Meyers and colleagues (2005), in general, an increase in sample size allows for lower standard errors and narrower confidence intervals. Based on the number of variables in the current study (9-12 were anticipated for inclusion), prior research suggests a target sample size of approximately 180 to 240 participants

The survey instruments were administered in the last week of October and the first week of November 2011. A total of 256 students completed the survey for an overall response rate of 77.5%. While it was expected that there would be 330 students to survey, a number of students did not attend class on the day of the survey administration, resulting in the reduced number. It should be noted that there were no participants who refused to take the survey; there were five students who were ineligible to participate because they were under age 18. Therefore, the response rate of just the participants who attended class was 98.94%. Of the 256 total respondents, forty five were not freshmen-level students (26 sophomores, 15 juniors, and 4 seniors) so they were not included in the study. Of the 211 respondents remaining, four were age twenty or older, so they were also not included in the study. The final sample size for this study is 207 freshmen level participants; 170 were age 18, and 37 were age 19 at the time of the survey administration

Research Design

Cross-Sectional Analysis

For this research, a cross-sectional research design was used. This type of design involves taking a cross section of some population at one point in time and exploring the population at that moment. In comparison to cross-sectional designs, longitudinal design involves examining populations over a longer period of time, and is typically used to determine trends in a population (Carmines & Zeller, 1979). That is, the best use of longitudinal research is examining changes in patterns that occur with age over time (Menard, 2002). The purpose of this research was not to understand patterns over times,

but rather to explore perceptions and attitudes of sexting at one particular period of time. Because of the nature of this research, a longitudinal design was inappropriate.

Cross-sectional design was chosen for a number of reasons. When compared to cross sectional designs, longitudinal studies tend to be time intensive, and expensive (Menard, 2002). Since the researcher is interested in keeping time and monetary costs for this project at a minimal level, a cross-sectional design is appropriate. The research questions in the current study are not designed to explore changes in the participants over time, making a cross-sectional design the most appropriate choice. In regard to the self-control portion of this scale, according to Pratt and Cullen (2000), Gottfredson and Hirschi (1990) encouraged the use of cross-sectional research designs to test the general theory of crime. Given that this theory asserts that low self-control is consistent across time, longitudinal design would be an expensive, and unnecessary alternative. Although a longitudinal research design is not appropriate for this particular research, it may be appropriate in subsequent studies.

Multi-Method Approach

There is no perfect method for obtaining information in the social sciences. Brewer and Hunter (2006) discuss the point that there are a number of different methods for measuring social phenomenon, and each one has its own inherent strengths, as well as drawbacks. It is fortunate that many of the flaws in methods are complimentary, meaning the strength of one method can compensate for the weakness in another (Brewer & Hunter, 2006). By using multiple methods, one is often able to get a more complete picture of the research.

This study examined teenage sexting activities by using a multi-method approach. The decision on what methods to use was based on prior research and a review of the literature. Ultimately, it was decided to measure this phenomenon through the use of participant surveys and focus groups. The first section of this chapter will cover the survey design (full survey found in Appendix A), while the latter part of the chapter will concentrate on the focus group design of this study.

Research Questions and Hypotheses

The following research questions were formulated based on relevant literature and the purpose of the study.

- (1) What is the prevalence of sexting among teenagers?
- (2) Does a person's level of self-control influence their participation in sexting?
- (3) Does parental involvement/control of cellular phone usage effect a teenager's level of participation in sexting?

A null hypotheses (H_0) signifies that there are no significant relationship or effects between the variables being analyzed. The following are alternative hypotheses (H_a), which indicate that there is a relationship between the variables in question. The first alternative hypotheses tested for parental management of cellular phone activities.

$H_a(1)$ Participants who paid for all, or a portion of their cell phone bill will be more likely to send and receive sexually suggestive messages/pictures/video than participants whose parent(s) or legal guardian(s) paid the entirety of the participants' cell phone bill.

$H_a(2)$ Participants with an unlimited text messaging plan will be more likely to send and receive sexually suggestive messages/pictures/videos than participants who do not have an unlimited text messaging plan.

H_a(3) Participants whose parent(s)/legal guardian(s) monitored the contents of their cell phone on a regular basis in high school will be less likely to send and receive sexually suggestive messages/videos/pictures.

H_a(4) Participants who feel they can “get around” parental monitoring of cell phones are more likely to send and receive sexually suggestive messages/pictures/videos.

The following alternative hypothesis tested for general parental management.

H_a(5) Participants with a high parental management score will be less likely to send and receive sexually suggestive message/videos/pictures.

The following alternative hypotheses tested for self-control among participants.

H_a(6) Participants with low self-control (as indicated by the Grasmick et al. (1993) scale) will be more likely to send and receive sexually suggestive messages/pictures/videos.

H_a(7) Participants with low self-control will be more likely to engage in behaviors that are analogous to crime.

H_a(8) Participants who participate in analogous behaviors will be more likely to send and receive sexually suggestive messages/videos/pictures.

Dependent Variables

The primary dependent variable for the current study was participation in sexting via cellular phone. Two categories of dependent variables were assessed. First is the concept of sexting, which is defined as “sending and receiving of sexually explicit pictures and text messages via cellular phone”. The frequency of these variables were

calculated so the impact of the independent variables on the frequency of particular sexting behaviors (sending, and receiving of text messages) could be examined.

A second variable that was tested as both an independent and dependent variable was self-control. As an independent variable, it was used to see the impact of self-control on participation in sexting. As a dependent variable, it was used to see if parental management had an effect on self-control.

Independent Variables

Part 1 of the survey pertains to cell phone ownership and usage by participants as high school seniors. Students were asked the following question:

- 1) When you were in high school, did you have a cell phone?

Questions regarding who primarily paid for the participant's cell phone bills and the primary use of the phone will be asked, which were accompanied by a set of pre-selected responses. In addition, participants were asked their general text messaging habits with the questions:

- 1) On average, how many texts did you send in one day?
- 2) On average, how many texts did you receive in one day?

The participants in this study were also asked to report on parental management of their cell phones while they were in high school. Parental control and involvement are an essential part of Gottfredson and Hirschi's (1990) general theory of crime, as well as recent literature regarding sexting (Pew Research Center, 2009; The National Campaign, 2009). The participants of the study were asked the following questions regarding parental management of their cell phone usage during high school:

- 1) How old were you when you received your first cellular phone?

- 2) Did you have parental/guardian permission to use a phone?
- 3) Did your parent/guardian place a limit on the number of texts you could send?
On average what was the limit?
- 4) Did you parent/guardian monitor the context of your text messages?
- 5) Did your parent/guardian ask who you were sending and receiving messages to/from?
- 6) Did you feel you could “get around” parent/guardian control?

Items regarding parental management, as well as those regarding self-control were measured using visual analogue scales (VAS). As discussed by Pritchard (2010), VAS has most commonly been used in marketing and health research. The most common type of VAS is a continuous scale, where an individual places a single mark on a straight line. According to Brunier and Graydon (1996), VAS allows participants the freedom to express their experience in a subjective manner, rather than having to pick from a pre-determined set of categories. These lines are usually 100 millimeters (or 10 centimeters) in length, and are usually placed horizontally on the page. Early published standards by Freyd (1923) suggests that VAS should have lines with no breaks or divisions, and anchor words should be used at both ends of the VAS that represent the extremes of item being tested. These standards are still very much used today (Pritchard, 2010).

In addition to questions regarding parental management of cell phone, questions were also asked about general parental management. In addition to original items, six items were borrowed from research by Gibbs and colleagues (1998). Their research examined the relationship between parental management and self-control. As discussed by the authors, the three essential elements of parental management are monitoring of the

child's behavior, recognizing behavioral problems when they occur, and correcting (or punishing) bad behavior in an appropriate manner (Gibbs, et al., 1998).

While the original researchers used a 40-item scale to obtain an overall parental management score, the purpose of the current research is not solely regarding parental management, so only 6 of the original 40 items used by Gibbs and colleagues (1998) were included in the study. There are two questions for each key component of parental management which will give a more complete picture of this behavior. It should be noted that the items that were borrowed scored an item-total correlation at above .30, and the overall scale had a Cronbach's alpha score of about .90. As reported by Gibbs and colleagues (1998), according to DeVellis (1991: pg. 85), a Cronbach's alpha of .80-.90 places the scale in a "very good" category. The following parental management items were used, and they were measured with a 10 cm VAS:

- 1) When I was in high school, at least one of the adults in my house was pretty informed about what was happening in my life. (Monitoring)
- 2) The rules about what I could get into trouble for were clear and applied consistently in my house. (Recognition)
- 3) In my house, if you were told that you would get punished for doing certain things, and you got caught doing one, you definitely got punished. (Correction)
- 4) At least one of my parents paid pretty close attention to what I was doing and who I was doing it with. (Monitoring)
- 5) When you were punished in my house, there was a good reason for it. (Correction)
- 6) When I was in ninth grade, if my parents had been notified that I was treating my teachers with disrespect, I would have been in serious trouble. (Recognition)

Again, the Grasmick, et al. (1993) scale measures six dimensions of self-control (impulsivity, insensitivity, a preference for easy and simple tasks, a preference for physical rather than mental tasks, temper control, and risk taking). In the original Grasmick scale, these characteristics were operationalized through the use of a 4-point Likert response scale (i.e. strongly disagree, disagree, agree, strongly agree). The items on the scale are aggregated to form a low self-control score, and these scores are then weighted and treated as though they fall on an interval scale (Grasmick, et al., 1993; Higgins, 2007). Based on the abundance of previous research on the Grasmick, et al. (1993) scale, it was deemed the most appropriate scale for inclusion in the current study. While the items of the original Grasmick, et al. (1993) scale were measured with a 4-point Likert scale, this study replaced the current measure with a 10 cm version of a VAS. It is noted that VAS was also used by Giever (1995) to test self-control. Based on this research, the potential benefits of using these measurements, and the desire for consistency in measurement, a VAS was used.

Demographic Survey Items

The demographic survey items in the current study asked respondents about their class standing, sex, age, race/ethnicity, and current residential status (in-state/out-of-state/international). In addition to obtaining a general profile of the research participants, the demographic information collected were compared to both participation in sexting and overall self-control of the participants.

Survey Design

According to Fowler (2002), the purpose of a survey is “to produce statistics, that is, quantitative or numerical descriptions about some aspect of the study population” (pp.1). Survey research is and continues to be a popular way to collect information from individuals. As discussed by Bachmann & Schutt (2007), survey design is popular for a number of reasons, including its versatility, efficiency, and ability to develop a representative picture of the attitudes/traits of a population. One of the goals of the current study is to generalize the findings to a larger population, making a survey an appropriate choice

One of the primary challenges to this type of research was overcoming the fact that discussing sex and sexuality could be a source of embarrassment for participants. This embarrassment might have been mediated by eliminating face-to-face contact between the participants and the researcher. Further, the research was attempting to obtain information from a large portion of the population, so interviews with a rather large sample would not have been appropriate for all practical purposes. As discussed by Brewer & Hunter (2006), survey research can be used to gain cooperation among subjects, as they may be more likely to disclose personal information on an anonymous survey.

Another aspect the researcher must be mindful of is the reactivity of the participants. Because the researcher is a college student, there may have been a desire on the part of the participants to answer in a particular way that they thought was pleasing to the researcher. Further, because the survey was administered during class time, there is a possibility that students answered a certain way because they felt pressure to do so, in

fear of a reaction from their peers or the researcher. To mitigate this, the participants were guaranteed anonymity in the informed consent. Also, the classroom instructors were asked to step outside of the class while the survey was administered so as to reduce feelings of coercion. Although there are a number of limitations with survey research, there are a number of strengths to using this type of research, and the limitations were mainly overcome by using a multi-method approach.

Survey Methodology and Administration

To date, the primary research methods used to gauge sexting has been telephone-based surveys (The National Campaign, 2009; Pew Research Center, 2009; Mitchell, et al., 2012). This research measured the respondents' participation in sexting, attitudes toward sexting, and their knowledge of anti-sexting legislation. According to Folger, Jr. (2002), the group survey administration technique generally has high cooperation rates, and tends to be more cost effective than administering surveys through the mail. Though gathering a group can be difficult and is often recognized as a limitation to this type of research, the fact that the participants were already gathered for class mitigated this limitation.

Due to the large sample size and the potential scheduling conflicts, the researcher was not able to personally administer the survey to each class. To help in the administration process, another criminology doctoral student administered the survey to two classes. The second survey administrator was given specific directions as to the manner in which the surveys were to be administered. The use of an additional administrator may have influenced the manner in which the survey was administered, which is a potential limitation to this study. Further, the differing demographics of each

administrator might have had a reactive effect on the participants; the primary administrator is female and the second administrator was male. For example, a female participant may have been less likely to disclose information because a male was the survey administrator. The fact that anonymity was granted to each participant should have eased most reactive effects that could have potentially occurred.

Following IRB protocol, there was no coercion to participate in the study. The participants were reminded that they would not be punished or rewarded for participation in this study, and they had the choice to end participation at any point without the fear of reprisal. Voluntary consent was obtained through the use of an informed consent form. Anonymity for the participants was granted because of the limited amount of personal information that was acquired through the survey. Once all of the data were compiled, it became virtually impossible to determine who completed each survey. All materials are being kept in a locked, secure location. Sieber (1998) recommends keeping items for five to ten years, and this suggestion will be followed.

Focus Group Design

There are costs of using survey methodology, both of time and money (Dillman, 2007). Since this is an exploratory topic, there may be information to be gained from studying these acts in a way that compliments a survey instrument. In looking toward an alternative method of exploring sexting, a qualitative research method approach was deemed to be an appropriate option, as these methods are often used in conjunction with quantitative research strategies to give a fuller picture of the behavior of interest (Brewer & Hunter, 2006). Based on this, focus groups were conducted in order to gain further

information from survey participants who wanted to discuss the topic of sexting in more detail.

To determine the appropriateness of utilizing focus groups in the current study, an exploration of the history and purpose of this qualitative method is necessary. As discussed by Greenbaum (1993), the earliest use of focus groups in social science research happened during World War II, as these groups were used to assess public response to wartime propaganda. After this initial use, focus group research was quickly adopted by marketing researchers, who used it as a tool for gaining consumer feedback on products and services (Greenbaum, 1993). Initially, focus groups were underutilized in the social sciences, as existing qualitative methods (i.e. individual interviews, other group interview techniques) were already being used by researchers. However, focus groups have been used with increasing frequency for research on human behavior (Locke, et al., 2007; Kreuger, 1994). This data collection method allows greater insight into the participants' feeling, attitudes, and perceptions about a topic.

While the format of focus groups may vary between researchers and studies, two major attributes that generally define a focus group are; 1) the use of organized and focused group discussion, and 2) the importance of interaction between the participants (Freeman, 2006; Powell & Single, 1996; Kitzinger, 1995). Most focus groups have carefully selected participants, a moderator using a topic guide, and a well-articulated purpose (Freeman, 2006). The typical focus group consists of six to twelve participants, as this amount of participants is small enough to allow all to contribute, but large enough to capture diverse opinions. Focus groups sessions usually last between one and two hours (Stewart & Shamdasani, 1990). It is the job of the moderator to ensure that the

conversation stays on the topic of interest, and that all the participants are given a chance to contribute to the conversation (Freeman, 2006).

Because this occurs in small groups, the participants are influenced by the others in the group, and perceptions may surface in a way they could not have without the group participation (Locke, et al., 2007). The main purpose is to help individuals explore and clarify their feelings, views, and attitudes via a group process. According to Freeman (2006), “The interpersonal communication between participants additionally helps to clarify similarities and differences in expressed opinion and/or values.” (p.493).

Conversation is facilitated as one participant may trigger responses from others, and the environment of group interactions allows others to build on the responses of other conversations. Focus groups are able to generate ideas that might not have been uncovered using other methods, such as survey instruments and personal interviews (Plumer-D’Amato, 2008; Kitzinger, 1995; Stewart & Shamdasani, 1990). Given all of these considerations a decision was made that focus groups would complement the survey methodology, and provides a more complete understanding of teenage sexting.

Focus Group Methodology and Administration

As discussed, it was intended that the focus group participants would be those individuals who volunteered to participate (following the administration of the survey instrument). The last page of each survey contained a “tear off” page which all participants had to remove and give to the survey administrator before returning the survey. It was necessary to have a separate tear-off page, as having the respondents indicate their willingness to participate in a focus group on the survey instrument would have most certainly compromised the anonymity of the survey instrument. On this tear-

off page, participants were asked if they were interested in participating in a focus group on sexting by marking the box for “yes” or “no”. If the participant marked yes, they were asked to give their name, year in college, gender, and basic contact information.

Participants were asked to provide both a telephone number and an email address. The respondents were informed that volunteering to participate did not necessarily mean they would be selected for inclusion, but it did mean they were added to the pool of potential focus group participants. If a survey participant did not want to be considered for focus group participation, he or she marked “no” in the participation box, and handed in the blank page with no identifying information

There are three incentives for individuals who volunteered for focus group participants. First, all respondents who agreed to participate (by indicating “YES” on the focus group participation page at the end of the survey) were put into a drawing for a 25 dollar gift certificate to the college store. Also, those who participated in the focus groups were eligible to win another 25 dollar certificate to the college store. All gift certificate winners were picked anonymously. The final incentive for participation was that pizza, soda, and other snacks were provided free of charge for the participants during the sessions. The inclusion of a small incentive was to encourage participation in the focus groups and help ensure that participants who did indicate that they want to participate in the focus groups would give correct contact information, as they will need to be contacted if they win the gift card incentive.

In addition to giving his or her basic demographic and contact information, the tear-off sheet also included a seven-day calendar. Participants were asked to mark an “X” through times of the week in which they were not available for the study. The researcher

selected times and dates that were most convenient for the majority of the potential participants. It was almost inevitable that there would be time conflicts among the participants, which meant that some were not be able to participate in the group. While there were enough participants to complete a male-only and female-only group, there were not enough volunteers to complete the mixed male-female group. A convenience sample of participants enrolled in an introduction to criminology course was recruited for the mixed male/female group. All of these participants were freshmen-level students and were age 18. A total of 12 participants (6 male and 6 female) participated in the mixed male/female group. While the fact that this was a convenience sample is recognized as a limitation, this was not a major restricted class, meaning freshmen of all different majors were enrolled in the course (which is a general education elective course). Therefore, it is not expected that the answers that were given by this group would vary greatly from those that would have been given by the survey participants.

Once a time has been set for each group, the participants were notified, and follow-up emails were sent in the weeks and days leading up to the focus group. According to Dillman (2007), follow-up emails help ensure that the desired size of the focus group is met. During the contact phase, a participant asked if she could be sent a text message reminder of the focus group on the day that it was supposed to be conducted. Subsequently, all other focus group participants who were contacted and scheduled for a group were asked if they wanted to receive a reminder text message. Every participant agreed to this, so all of the participants were sent a reminder text message about their group time and location four hours before the scheduled event.

There were a number of factors that went into the decision of having heterogeneous or homogenous focus groups. With a target sample size of 200 participants, it was intended that there would be enough participants for at least three focus groups; one for females, one for males, and one of both males and females. The decision to have homogeneous (male only and female only groups) was because of the sensitive nature of the topic. Prior literature indicates that males and females differ in their views of sexuality through digital mediums. There is a reasonable expectation that participants, particularly female participants, might have felt embarrassment from talking about this topic, especially in front of males of the same age group.

The focus groups were conducted in a private room on the sample university campus. As all of the participants were freshman and the majority lived on campus, having the meetings in a room on campus was most convenient for the participants. Prior to the focus group starting, each respondent was given an informed consent form explaining the voluntary nature of the research and any potential harm or benefit that could come from participation. Two copies of the informed consent form were given to the participants; one to sign and return to the researcher, and one to take home for his or her personal records. The researcher acted as the focus group moderator by asking questions that probing information from the participants.

In addition to the primary researcher, a male research assistant help to facilitate the male-only group, and a female research assistant helped facilitate the female-only group. The purpose of having multiple researchers was two-fold. In terms of the study at hand, having another focus group observer helped the primary researcher in both moderating and interpreting the discussions. Second, especially for the male-only focus

group, it was important to have a male researcher in the room, as the primary researcher for this project is female. Participants in the male-only group may not have felt comfortable talking about a sensitive and personal topic like sexting with only a female present in the room. The presence of a male researcher helped to mitigate these uncomfortable feelings, which ultimately made the participants more comfortable (and possibly more willing to talk).

To document the experience, the focus group sessions were both video and audio recorded. In addition, all focus group moderators took notes during the session of important themes or content arose during the course of the focus group. Due to the sensitive nature of the topic of interest and the detailed manner in which it was discussed, it was important to ensure the confidentiality of the participants' information. To ensure this, the video and audio recordings of the focus groups and all moderator notes were transcribed on a computer, leaving out any and all identifying information about the participants. After transcription, the original tape copies were destroyed. The tape transcriptions and moderator notes will be kept in a secure area that only the researcher has access to, and will be stored for three years in compliance with federal regulations.

Focus Group Discussion and Moderator Guide

To assist the researcher in the focus group process, a semi-structured focus group discussion guide was created, which included a detailed moderator guide and script. While the moderator guide is an instrument that guided the researcher in the focus group process, it is important to note that the instrument was modified to fit into each discussion. A number of questions and topics were added during the focus group sessions to ensure that all pertinent information was collected.

The first portion of the moderator guide was a script for the moderator to read to the focus group participants at the beginning of the session. The introduction script explained the scope of the project, and explained the value of focus group participation. The focus group participation directions gave specific information on what the participants could have expected during the session, and reiterated both the importance of active participation and the confidentiality of the study.

Two main discussion topics were used in the focus group sessions. Both research topics were general, with the goal that the focus group conversation would develop and flow as participants added their opinions to the discussion. The first general topic asked the participants to discuss sexting, and guided the participants in defining sexting and identifying sexting participants. The second discussion topic presented a hypothetical situation in which the focus group participants were asked to play the part of policy-makers and give suggestions on how teenage sexting could be prevented. While the researcher expected each discussion topic introduction to create a conversation, there were a number of additional questions included on the moderator guide. These questions were used to assist the focus group moderator in facilitating discussion only when there was a need to do so during the focus group for issues like lack of participation and lulls in the conversation. After the main focus group conversation, the moderator thanked everyone for their participation and reminded the participants that they could contact the researcher with any questions or comments he or she had about this study.

Human Subject Protections

Participation in social science research can involve a number of human subject issues for participants. (Bachman & Schutt, 2007; Dillman, 2007; Maxfield & Babbie,

2005). The researcher did a number of things to eliminate, or mitigate the risks involved in participating in this research study. Although the current study involved behavior in high school, all participants were required to be at least 18 years of age to participate. This requirement eliminated the need for parental consent. Those participants who are freshmen, but are under the age of 18, were asked to not accept or fill out a survey, therefore making them ineligible for focus group participation as well.

Participants in the current study were informed, both verbally by the survey administrator and by the informed consent form, that participation in this project was completely voluntary. There were no classroom incentive for participating, and no punishment for those who did not want to participate. Respondents were informed that if they did choose to participate, but did not want to complete the survey, they simply had to hand the incomplete survey to the administrator and that survey would have been destroyed.

The researcher granted full anonymity to those who completed the survey instrument. The survey participants were not required to disclose identifying information. The surveys will be kept in a locked filing cabinet where only the researcher will have access to them. While anonymity could be granted for survey participants, those who participated in the focus group were not able maintain anonymity, as they had to give identifying information and contact information in order to participate. Focus group participants were, however, granted complete confidentiality on behalf of the researcher. All information obtained through a focus group setting will be kept in the same secure area as the survey instruments, which can only be accessed by the researcher. The focus group conversations were transcribed so that names and personal identifying information

were excluded from the transcripts. After transcription, all audio and visual tapes were destroyed.

Finally, as previously stated, there are a number of potential negative psychological conditions associated with sex and sexuality. Since this study involves a sensitive topic, it was important that safeguards were put in place to ensure the mental well-being of the participants. Before the survey was administered or focus groups were conducted, the participants were reminded that they could stop at any time if they chose. All participants were given information for resources they could contact after both survey administration and focus group participation if they required medical or psychological attention.

The next chapter of this dissertation, Chapter Five, will present the data analyses. First, the quantitative data analyses will be discussed. This discussion is followed by a presentation of the qualitative findings from this study.

CHAPTER V

ANALYSIS

The purpose of this chapter is to present the results of the analyses of the survey and focus group data. First, a report of the descriptive statistics of the survey will be presented, followed by results for tests of multicollinearity between the independent and dependent variables. The outcomes of the logistical regression analyses of the survey data will also be presented. This chapter will also present the finding of the focus group sessions on sexting. The focus group transcriptions are used to uncover common themes, and the themes that are deemed to be important to understanding teenage sexting are supported by quotes from the focus group participants.

Survey Instrument Analysis Plan

In analyzing this data, a combination of descriptive statistics and multi-variate techniques are used. First, descriptive statistics are calculated, to provide a summary of the data collected. This yielded the most common score in the distribution and the dispersion of the data (Bachman & Paternoster, 2004). Descriptive statistics are calculated for demographic variables, as well as those that describe participation in sexting behaviors. Descriptive statistics are calculated to examine the characteristics of the sample population, and determine the shape of the distribution for each variable (Bachman & Paternoster, 2004). The use of descriptive statistics answered one of the research questions in the current study, what is the prevalence rate of sexting among teenagers?

Bivariate correlations are also analyzed to determine the strength and direction of the relationship between the variables. While there are a number of statistics available for

describing these relationships, the interval-level nature of the data makes Pearson correlation coefficients (r) statistic the best choice. The correlation coefficients can take on a value from -1.00 to +1.00, with a correlation of +1.00 indicating a perfect positive relationship, a 0.00 indicating no relationship, and a -1.00 indicating a perfect negative correlation between the variables. When two variables are highly correlated, it suggests a strong linear relationship. In terms of what constitutes a high correlation, Cohen (1988) gives the following guidelines for interpreting Pearson's correlations coefficient: if $r = .10$ to $.29$ it is a small effect, if $r = .30$ to $.49$ it is a medium effect, and if $r = .50$ -1.00 it is a large effect size (pp.79-81). In the current study, Pearson product-moment correlation coefficients are calculated to describe the relationship between the dependent variables, the independent variables, and both the dependent and independent variables combined.

Another important component of the current study was to address the reliability of the scales being used in the survey instrument. Cronbach's alpha are used to measure the internal consistency of both the self-control scale (Grasmick, et al., 1993) and the parental management scale (with items borrowed from Gibbs, et al., 1998). It is important to include Cronbach's alpha, as this statistical tool is used to determine the level to which individual scale items reflect the underlying construct that is being measured (DeVellis, 1991; Spector, 1992). Cronbach's alpha coefficient ranges between 0 and 1.0, and, in general, the closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the scale items (Nunnally & Bernstein, 1994). While a debate has existed in academic research involving what is a "good" Cronbach's alpha score, Nunnally (1978) indicates a 0.7 is an acceptable reliability coefficient. This number was used as a reference point in the current study, while taking into account that both lower

and high thresholds for what constitutes a “good” Cronbach’s alpha are sometimes used in academic research.

The original intent was to use OLS regression in the current study. However, since the dependent variable (sexting) was skewed toward zero, there was minimal variance of level of participation in sexting. Since the variables were highly skewed, the dependent variable was dichotomized (0=no participation in sexting, 1= participation in sexting), and logistic regression was used in place of OLS regression.

Descriptive Statistics

This section presents the descriptive statistics for the demographic variables, as well as the independent and dependent variables. Table 1 presents the frequencies and percentages of the demographic variables, including current class standing in college, current age, sex, race, and current residency status. The respondents in this sample are 18 (82.1%) and 19 (17.9%) years of age, as this was the target sampling age for this study.

Table 1

Descriptive Statistics for the Sample

Variable	Frequency	%
Class Standing		
Freshman	207	100
Current Age		
18 Years	170	82.1
19 Years	37	17.9
Sex		
Female (Coded: 1)	134	64.7
Male (Coded: 0)	73	35.3
Race		
White, Non-Hispanic	180	87.0
White, Hispanic	9	4.3
African American/Black	11	5.3
Asian/Pacific Islander	2	1.0
Bi-Racial	4	1.9
Other	1	.5
Residency Status		
Pennsylvania Resident	188	90.8
Non-Pennsylvania Resident	19	9.2
International Resident	0	0
Cell Phone Ownership		
Yes (Coded 1)	205	99.0
No (Coded 0)	2	1.0

Only participants who indicated that they were of freshman class standing are included in this analysis, as this is the target sample for this study. There are a higher percentage of females (64.7%) than males (35.3%), which is expected given that the general demographics of the university population include more females than males (57% and 43% respectively). The racial composition of the population is also similar to the general university demographics, with 87% of the respondents indicating they are white, non-Hispanic. The majority of participants are Pennsylvania residents (90.8%), while 9.2% of the participants indicated they were non-Pennsylvania residents, but still resided somewhere within the continental United States. There were no international students in

this sample. Finally, the overwhelming majority (99%) of the participants reported cell phone ownership prior to age 18.

Conceptualization and Description of the Independent Variables

This section will review the conceptualization and measurement of the independent variables. Scale reliability will be addressed in this section, as well as important descriptive statistics for the non-demographic independent variables.

Self-Control

The theoretical framework guiding the current study is Gottfredson and Hirschi's (1990) general theory of crime. As discussed in previous chapters, the general theory of crime posits a relationship between low self-control and criminal behaviors. A number of empirical studies have found support for the general theory of crime (for example see Keane, et al, 1993; Gibbs & Giever, 1995; Gibbs, et al, 1998; Grasmick, et al, 1993; Nagin & Paternoster, 1993; Piquero & Tibbetts, 1996; Cochran, et al, 1996; Brownfield, & Sorrenson, 1993; and Evans, et al, 1997, among others). While many measures of self-control exist, the Grasmick, et al (1993) scale has been applied as a standard measure in tests of self-control (Higgins, 2007, 2002; DeLisi, et al, 2003; Pratt & Cullen, 2000). This scale measures for six dimensions of self-control described by Gottfredson & Hirschi (1990).

As referenced in chapter four, the original Grasmick scale utilized a four-point Likert response scale, where respondents could strongly agree, agree, disagree, or strongly disagree with a statement. The current study uses a 10 centimeter version of a visual analog scale (VAS). This allowed for a higher level of measurement than was provided by the response categories of the original scale. Rather than being limited by

four choices, each item was measured to the nearest millimeter, meaning each response could potentially have a score ranging from “0” to “100”. The respondents were asked to place a slash on the line indicating their level of agreement with each scale item, and the researcher hand- measured each line to determine a score for each individual item.

In order to obtain a self-control score for each participant, the score for each Grasmick, et al (1993) scale item was aggregated (with a possible high score of 2,400), and then divided by the total number of items on the scale (twenty-four). With the potential of a low score of zero and a high of 100, the mean self-control score for this sample was 60.51 (SD = 12.716). The actual Grasmick scores based on the respondents’ answers ranged from a low of 19.54 to a high of 90.87. It is important to note that due to the wording of the scale questions, those participants with a higher Grasmick score would have lower levels of self control. To ease the data interpretation process, the scores were reverse-coded so that higher scores correlate with higher levels of self-control.

Prior to undergoing data analysis, the reliability of the scale was checked. In general, one of the main issues that relate to scales instruments is internal consistency. Internal consistency is the degree to which the items in a scale are consistently measuring the same underlying construct (Shaddish, Cook, & Campbell, 2002). A commonly used test for internal consistency is Cronbach’s alpha coefficient (Cronbach, 1951). While factors such as the number of items in a scale can affect it, the ideal Cronbach alpha coefficient of a scale should be above a .7 (Nunnally, 1978; DeVellis, 2003).

The item-total correlations in the current study were acceptable, with only two correlations falling below .30. The Grasmick, et al (1993) scale had good internal consistency, with a Cronbach’s alpha coefficient of .868. According to Nunnally (1978),

if all the assumptions of classical test theory are met, the square root of coefficient alpha is a measure of the correlation between the sum of the items in the scale and all the items that are representative of self-control. In this case, the square root of coefficient alpha is substantial at .932. Table 2 presents the item-total correlations for the self-control scale and alpha.

Table 2

Item- Total Correlations for Self-Control Scale and Alpha

Item	Item-Total Correlation
I sometimes find it exciting to do things for which I might get in trouble.	.483
I often act on the spur of the moment without stopping to think.	.518
When I'm really angry, other people better stay away from me.	.499
I almost always feel better when I am on the move than when I am sitting and thinking.	.235
I'm more concerned with what happens to me in the short run than in the long run.	.436
When things get complicated, I tend to quit or withdraw.	.331
I will try to get things I want even when I know it's causing problems for other people.	.556
If I had a choice, I would always rather do something physical than something mental.	.403
I like to test myself every now and then by doing something a little risky.	.565
I often do whatever brings me pleasure here and now, even at the cost of some distant goal.	.601
Sometimes I will take a risk just for the fun of it.	.625
If the things I do upset people, it's their problem not mine	.492
Excitement and adventure are more important to me than security	.532

When I have a serious disagreement with someone, it is usually hard for me to talk calmly about it without getting upset.	.391
I lose my temper pretty easily.	.448
I seem to have more energy and a greater need for activity than most other people my age.	.203
I dislike really hard tasks that stretch my abilities to the limit.	.355
I try to look out for myself first, even if it means making things difficult for other people.	.344
I don't devote much thought and effort to preparing for the future.	.412
I'm not very sympathetic to other people when they are having problems.	.308
Often, when I'm angry at people I feel more like hurting them than talking to them about why I'm angry.	.476
The things in life that are easiest to do bring me the most pleasure.	.434
I frequently try to avoid projects that I know will be difficult.	.430
I like to get out and do things more than I like to read or contemplate ideas.	.332
Cronbach's Alpha = .868	
N = 207	

Parental Management

In addition to the self-control component of Gottfredson & Hirschi's (1990) general theory of crime, the role of parental management is also important. To measure parental management, six items were borrowed from the Gibbs, Giever, and Martin (1998) parental management scale. The original 40-item scale used by Gibbs and colleagues was designed to test for the three essential elements of parental management (monitoring, recognition, and correction of behavior).

The current study utilizes six items from the Gibbs, et al (1998) parental management scale; two from each essential element of parental management. While these questions were used to measure general parental management, the author of the current study added additional questions about parental management of cellular phones. These items asked if parents monitored the contents of a cell phone on a regular (daily/weekly) basis, if parents asked a participant who they were sending text messages to, and if parents regularly asked who a participant was receiving text messages from when he or she was in high school and under the age of 18. Both the modified version of the Gibbs, et al (1998) parental management scale and the original scale items designed by the author utilized a ten centimeter visual analog scale, and these responses were hand-measured (in millimeters) by the author.

In order to obtain a parental management score for each participant, the score for each Gibbs, et al (1998) scale item used in the current study, as well as the three original parental management of cell phone questions, were aggregated (with a possible high score of 900) and then divided by the total number of items on the scale (nine). With the potential of a low score of zero and a high of 100, the mean parental management score for this sample was 56.87 (SD = 13.539). The actual parental management scores based on the respondents' answers ranged from a low of 8.00 to a high of 88.78. Table 3 presents the item total correlations for the parental management variable, and alpha.

Table 3

Item- Total Correlations for Parental Management Scale and Alpha

Item	Item-Total Correlation
When I was in high school, at least one of the adults in my house was pretty informed about what was happening in my life	.432
The rules about what I could get into trouble for were clear and applied consistently in my house.	.542
In my house, if you were told that you would get punished for doing certain things, and you got caught doing on, you definitely got punished.	.451
At least one of my parents paid pretty close attention to what I was doing and who I was doing it with.	.610
When you were punished in my house, there was a good reason for it.	.263
When I was in ninth grade, if my parents had been notified that I was treating my teachers with disrespect, I would have been in serious trouble.	.374
My parent(s)/legal guardian(s) monitored the contents of my cell phone on a regular (daily/weekly) basis when I was under age 18.	.322
My parent(s)/legal guardian(s) regularly asked who I was sending text messages to when I was under age 18.	.632
My parent(s)/legal guardian(s) regularly asked who I was receiving text messages from when I was under age 18.	.599
Cronbach's Alpha = .787	
N = 207	

Analogous Behavior

As covered in the previous chapter, a major component of Gottfredson & Hirschi's (1990) general theory of crime involves the relationship between self-control and analogous behaviors. According to the theorist, behaviors that are typically viewed as "deviant" are often considered to be "analogous" to crime in that they are similar to criminal behaviors, but do not (usually) carry a criminal sentence. Since these analogous behaviors are closely related to participation in criminal behaviors and participation in criminal behaviors is indicative of a person's level of self-control, it should also be closely related to participation in analogous behaviors. In the current study, the participants were asked to report on their participation in a number of analogous behaviors while he or she was under the age of 18. These behaviors included: drinking alcoholic beverages, cheating on a school assignment or exam, violating parental curfew, cutting class or skipping school, smoking marijuana, smoking cigarettes or using other tobacco products, stealing an item worth less than five dollar, and engaging in high-risk sexual behavior (multiple partners; without a condom). The participants responded "Yes" or "No" when asked if he or she had participated in each separate behavior. The responses were coded and put into SPSS ("No" = 0; "Yes" = 1).

As the analogous behavior items were presented on the survey, they were nominal in nature. If Gottfredson & Hirschi's (1990) claims of the general theory of crime are to hold true, participation in analogous behaviors should also be an indication of one's level of self-control. According to Giever (1995), "... [If] a person's level of self-control is an indication of the level of risk they are willing to take, one would expect that participation in risky or illegal activity would follow a specific pattern" (p. 82). When the analogous

behaviors used in this research were indexed in order of most frequent participation to least frequent participation, a pattern in the order in which participants engaged in analogous behaviors emerged.

Table 4 presents the percentage of respondent participation in analogous behavior from most to least frequent participation levels. The most frequently reported behaviors was drinking alcoholic beverages (66.7%), with engaging in high-risk sexual activity being the least frequently reported behavior (22.7% of all participants). Examining the face validity of items ordering from most to least frequent levels of participation, one could argue that the items are logically ordered from what one would expect to be “least severe” (drinking alcohol, cheating on an exam, skipping school) to the “most severe” (Smoking marijuana and cigarettes, stealing, and high-risk sex) behaviors. Based on this, an argument can be made that the analogous behaviors measured in the current study are at least ordinal, if not interval-level in nature.

Table 4

Frequency of Respondents' Participation in Analogous Behaviors

Item (0 = No; 1 = Yes)	Frequency	%
Drank Alcoholic Beverage	138	66.7
Cheated on a School Assignment or Exam	121	58.5
Violated Parental Curfew	103	49.8
Cut Class or Skipped School	98	47.3
Smoke Marijuana	84	40.6
Smoked Cigarettes or Used Other Tobacco Products	64	30.9
Stole an Item Worth \$5 Dollars or Less	61	29.5
Engaged in High-Risk Sexual Activity	47	22.7
Did Not Participate In Any Behaviors	27	13.0
N = 207		

To strengthen the argument regarding level of measurement, a Guttman (1944) scaling technique was used. According to Hindelang and colleagues (1981), Guttman scaling is used to determine whether a series of response items show a configuration indicative of unidimensionality (pp. 47-48). Essentially, Guttman scaling allows a set of items or statements to be ordered so that if a respondent participates in any behavior in the list, he or she would also participate in all behaviors ordered prior to that particular behavior. For example, if items were numbered from one to four, and a respondent chooses four, it should mean that he or she participated in behaviors one, two and three as well. Guttman scaling is used to produce a Coefficient of Reproducibility (CR), which is a measure of the unidimensionality of the items in a scale. The following equation was used to calculate the CR of the analogous behaviors:

$$CR = 1 - \text{Number of Prediction Errors} / \text{Number of Entries}$$

It should also be noted that the number of entries was calculated by multiplying the total number of response items by the total number of respondents. While a general guideline for the CR to represent scale unidimensionality is that of .9 or higher (Nie, et al, 1975), a CR of .8 or above has been used to declare scale unidimensionality (Champion, 1993; Giever, 1995; Gibbs, Giever, & Higgins, 2003).

The respondents in the current study were asked to report on their participation in nine separate analogous behaviors. When the CR was calculated using all nine behaviors, a CR of .49 was produced. The researcher made the decision to exclude “violated parental curfew” from the equation and re-calculated the CR. The modified CR was .82, which fits the criteria for declaring scale unidimensionality. The decision to exclude the curfew question was due to the fact that not all participants had a parental curfew. While

a respondent may have answered “No” if he or she had not violated curfew, that respondent might also have respond with “No” if he or she did not have a parental curfew at all. If one does not have a curfew, he or she cannot violate a curfew, which may have resulted in an over-or-under inflated report of that particular item. Therefore, the CR (minus curfew) of .82 is an indicator of scale unidimensionality, which further supports the assertion that the analogous behavior responses can be interpreted as an interval-level scale. The interval nature of the analogous behavior scale allows it to be included in the logistic regression analysis included in the current study.

Phone Bill Responsibility

One variable of interest is bill responsibility. This was measured by the percentage of respondents’ cell phone bill for which they were responsible for paying while under age 18. The respondents had five choices that varied in 25% increments, from 0% (respondents’ parents paid the entire bill on their behalf) to 100% (the respondent was solely responsible for paying their entire bill). Of the 207 respondents, 80.2% (166) report 0% responsibility for their cell phone bill when he or she was under age 18. In addition, 29 respondents (14%) reported responsibility for paying a portion of their cell phone bill (25%, 50%, or 75%), and 12 respondents (5.8%) were 100% responsible for paying his or her cell phone bill. Due to the ordinal nature of this variable, it is necessary to transform it to run the logistic regression models. This variable was dichotomized as “0” and “1”, with “0” representing responses of 0% phone bill responsibility, and “1” representing all other types of phone bill responsibility (“0” = 80.2%; “1” = 19.8%).

“Getting Around” Parental Monitoring

A VAS was also used to measure the respondents' level of agreement that he or she could “get around” parental monitoring of his or her cell phone while under age 18. The wording of this question required it to be reverse coded in SPSS, so that a low of 0 indicated a respondent felt that he or she could “get around” monitoring and 100 indicated he or she could not “get around” monitoring. The range of responses ran from 0 to 100, with a mean score of 40.04 (SD = 28.488).

The conceptualization of this particular variable developed during the data analysis process. The variable was originally intended to be used as a measurement of parental monitoring of cell phones, but it could be argued that this variable is not actually measuring monitoring behavior. During analysis, a pattern emerged in which respondents reporting high levels of parental-monitoring of cell phone in the other original monitoring-based questions (i.e. parents monitored phone regularly; asked who I was sending message to; asked who I am was receiving messages from), while also indicating that they felt they could “get around” parental monitoring with relative ease. It became apparent that the questions about getting around parental monitoring is not necessarily an indication of parental cell phone management as much as it is an indication of how tech-savvy the participant is.

The rapid rate of technology growth, particularly in relationship to cell phone devices leaves teenagers in a position where they might have more knowledge about the inner-working of their phone than their parents. As discussed in the Pew Research Center (2009) study on sexting, some teenagers are using phone features (such as password protection) to prevent parents from viewing the contents of their cell phones. When this

“get around” parental monitoring variable was omitted from the modified version of the Gibbs et al. (1998) parental management scale, a higher Cronbach’s alpha was produced. Also, the omission of this variable from the logistic regression models resulted in the models having higher powers of explanation. Therefore, while the variable is used for general descriptive purposes, it will not be included in the parental management scale or the logistic regression models presents later in this chapter.

Phone Bill Plans

The survey respondents were also asked about types of phone plans that they had while under age 18. When asked about text message plans, the majority of respondents (196; 94.7%) indicate that they had an unlimited text messaging plan while under the age of 18. While this variable was initially intended to be included in the logistic regression models, the lack of variability in responses will affect all of the variables in the model. For this reason, phone bill responsibility is not included in the final logistic regression models. Respondents’ sex/gender is also included in the logistic regression models. Table 5 presents the descriptive statistic findings for the independent variables for inclusion in the logistic regression models.

Table 5

Descriptive Statistics for Independent Variables in the Logistic Regression Models

Variable	Frequency	%
Bill Payment Responsibility		
None	166	80.2
Some or All	41	19.8
Monitor Daily Basis	M = 18.88 (SD = 21.667)	
“Get Around” Monitoring	M = 40.04 (SD = 28.488)	
Parental Management	M = 54.99 (SD = 14.461)	
Self-Control	M = 60.51 (SD = 12.716)	
Analogous Behaviors	M = 3.46 (SD = 2.379)	
Sex/Gender		
Male	73	35.3
Female	134	64.7
Unlimited Plan		
Yes	196	94.7
No	11	5.3

Descriptive Statistics for the Dependent Variables

The current study has two dependent variables. The primary dependent variable in this study is the respondents' participation in sexting. This participation is broken down into four categories: sending sext text messages, sending sext pictures/video, receiving sext text messages, and receiving sext pictures/videos. The second dependent variable (which will also be used as an independent variable) is self-control. A discussion of the self-control dependent variable is presented later in this chapter.

Examining first sending sext text messages, the vast majority of respondents (90.3%) reported that when they were under age 18, they knew someone else under age 18 that had sent a sexually suggestive message. Of the 207 respondents, 98 (47.3%) reported that they personally had sent sexually suggestive messages of themselves to someone else via cell phone while they were under age 18. The average age at which the respondents reported sending their first sext text message was 15.71 (SD=1.065). When

the 98 respondents who reported sending a sexually suggestive message were asked to whom they sent the messages, 82 respondents reported they sent a message to a boyfriend or girlfriend, 39 to someone they dated or “hooked up” with, and 32 to someone they wanted to date or “hook up” with. Table 6 presents the frequencies and percentages of the “sending messages” variable, which includes respondent participation and recipients of respondent generated sext messages.

Table 6

Descriptive Statistics for Sending Sext Text Messages

Variable	Frequency	%
Someone Else Sent Message		
Yes	187	90.3
No	20	9.7
Respondent Sent Message		
Yes	98	47.3
No	109	52.7
Age Respondent Sent First Msg ^a		
13-17 years	M = 15.71 (SD = 1.065)	
13	3	3.2
14	8	8.4
15	21	22.1
16	41	43.2
17	22	23.2
Respondent Sent Msg To ^a		
Boyfriend/Girlfriend	82	83.7
Dated/Hooked Up With	39	39.8
Wanted to Date/Hook Up	32	32.7
Crush	25	25.5
Friend	9	9.2
Other	2	2.0

a. percentage is of the 98 respondents who reported “Yes” when asked if they personally sent a sext message.

The respondents were also asked about receiving sexually suggestive messages from other individuals while they were under age 18. A total of 140 respondents (67.6%) reported that they had received a sext message. The average age at which the respondents reported received their first sext text message is 15.62 years of age (SD=1.041). Of the

140 respondents who answered “yes” to receiving a sext message, 92 (65.7%) reported receiving a message from a boyfriend or girlfriend, 51 (36.4%) from someone they had previously dated or hooked up with, 32 (22.9%) from someone they had a crush on, and 31 (22.1%) from someone they wanted to date or hook up with. Table 7 presents the descriptive statistics for respondents who received sexually suggestive messages while under age 18.

Table 7

Descriptive Statistics for Receiving Sext Text Messages

Variable	Frequency	%
Respondent Receive Message		
Yes	140	67.6
No	67	32.4
Respondent Receive From ^a		
Boyfriend/Girlfriend	92	65.7
Dated/Hooked Up With	51	36.4
Wanted to Date/Hook Up	31	32.7
Crush	32	22.1
Friend	32	22.9
Other	9	6.4

a. percentage is of the 140 respondents who reported “Yes” when asked if they received a sext message.

Sending and Receiving Sext Pictures/Videos

The respondents were also asked questions regarding sending and receiving sexually suggestive pictures and videos while under age 18. Of the 207 respondents, 188 (90.8%) reported that they knew someone else under age 18 who sent sext pictures and/or pictures to someone else. When asked, 70 respondents, or 33.8%, reported sending sext pictures and/or videos of themselves to someone else. The mean age that respondents sent sext pictures and/or videos is 15.80 (SD = 1.051). Of the 70 respondents who reported sending sext pictures and/or videos, 54 (76.1%) sent to a boyfriend/girlfriend, 25 (35.2%) to someone they previously dated or hooked up with, 16 (22.5%) to someone

they wanted to date or hook up with, and 13 (18.3%) to someone the respondent had a crush on. Table 8 presents the descriptive statistics for respondents who personally sent a picture and/or video of themselves to someone else via cell phone when they were under age 18.

Table 8

Descriptive Statistics for Sending Sext Pictures and/or Video Messages

Variable	Frequency	%
Someone Else Sent Picture/Video		
Yes	188	90.8
No	19	9.2
Respondent Sent Picture/Video		
Yes	70	33.8
No	137	66.2
Age Sent first Picture/Video Sext Msg ^a		
13-17 years	M = 15.80 (SD = 1.051)	
13	3	2.8
14	11	10.2
15	28	25.9
16	43	39.8
17	23	21.3
Sent Picture/Video To ^a		
Boyfriend/Girlfriend	82	83.7
Dated/Hooked Up With	39	39.8
Wanted to Date/Hook Up	32	32.7
Crush	25	25.5
Friend	9	9.2
Other	2	2.0

a. percentage is of the 98 respondents who reported “Yes” when asked if they personally sent messages.

Examining receiving message, 112 respondents (54.1%) reported receiving a picture and/or video via cell phone of someone else when they were under age 18. The average age the respondents reported receiving their first sext picture/video was age 15.67 (SD = 2.143). Of the 112 respondents who received a picture and/or video, the majority of respondents (71 respondents; 64.5%) reported receiving a picture/video from a boyfriend or girlfriend. In addition, 39 respondents (35.8%) received a picture/video

from someone they previously dated or hooked up with, 28 (25.7%) from a friend, and 28 (25.7%) from a friend. Table 9 presents the descriptive statistics for respondents who received sext pictures and/or video prior to age 18.

Table 9

Descriptive Statistics for Receiving Sext Picture and/or VideoMessages

Variable	Frequency	%
Respondent Receive Pic/Video		
Yes	112	54.1
No	95	45.9
Respondent Receive From ^a		
Boyfriend/Girlfriend	71	64.5
Dated/Hooked Up With	39	35.8
Wanted to Date/Hook Up	22	20.2
Crush	23	21.1
Friend	28	25.7
Other	9	8.3

a. percentage is of the 112 respondents who reported “Yes” when asked if they received a sext picture/video.

Other Descriptive Statistics of Interest

While the independent variables noted above are the variables that are included in the logistic regression models, there are other questions on the survey that are not included in these models. These questions were included so that interesting descriptive statistics about teen cell phone use could be calculated in the current study. The respondents reported the amount of time they spent talking on their phone versus texting on their phone. The response categories range in 25% increments, with a response of “100%” indicating the respondent used his or her phone for texting only, and a response of “0%” meaning the respondent used his or her phone for talking only, and did not text. It is interesting to note that 136 respondents (65.7%) of the total respondents gave the answer “75%”, which indicate that they used their phones primarily for texting while

under the age of 18. Table 10 presents the descriptive statistics for talking versus texting usage of cell phones.

Table 10

Descriptive Statistics for Phone Usage (Talking versus Texting)

Variable	Frequency	%
Respondent Phone Usage		
0% (Talking Only)	2	1.0
25% (More Talk than Text)	12	5.8
50% (Equal Talk and Text)	51	24.6
75% (More Text than Talk)	136	65.7
100% (Text Only)	6	2.9

The survey also tapped into some general phone usage and ownership demographics of this sample. Examining age of initial cell phone ownership, the age ranged from a low of age 8 to a high of age 18. The average age of initial cell phone ownership in this sample is 13.52 years of age ($SD=1.840$). The respondents were also asked to report on the number of general text messages that he or she would send and receive on average while under age 18. The responses in both categories ranged from sending and receiving zero messages to a high of 1,000 messages. The upper limit of 1,000 messages a day seems unrealistic. Research by Lenhart and colleagues (2010) indicates that sending more than 200 texts in a day is uncommon, and the average teen in their sample sent 3,000 text messages in a month (Lenhart, Ling, Campbell, & Purcell, 2010). With an average of 1,000 texts sent and received in one day, a teen who reported this number would theoretically send and receive around 30,000 messages a month, which is a feat that would gather public attention.

The above information is taken into consideration when reporting the average number of text messages the respondents reported sending and receiving in one day.

Three respondents indicated that they both sent and received more than 1,000 texts in a day. When those respondents are included, the average number of texts the respondents reported sending in one day is 143.41 (SD=149.26), and the average number of received messages in one day is 143.71 (SD = 155.42). Examining the same variable but excluding the participants who reported more than 1,000 messages sent or received in a month, the average number of messages sent daily is 134.15 (SD=120.25) and the average number of received messages is 130.80 (SD=115.08). In exploring the number of messages sent in one day, Lenhart and colleagues (2010) found the average number of messages sent daily by teens is 112 (Lenhart, et al, 2010). Given the findings by Lenhart and colleagues, the average number of messages, excluding the three participants who reported sending/receiving 1,000 messages daily, results in a more accurate depiction of the number of texts the respondents sent and received daily when they were under age 18.

In addition to direct information about participation in sexting, the respondents were also asked a question about why they would not have participated in sexting while under age 18. In the survey, the respondents were given a number of response categories and asked to indicate the top three reasons that he or she would have been concerned about sending sexually suggestive messages, picture, or videos. The top reason chosen by the participants is “It would have disappointed my parents” (55.1%, n = 114), followed closely by “I might regret it later” (54.1%, n = 112), and “It would have potentially embarrassed me” (52.2%, n = 108). Interestingly, the response categories “I could have gotten in trouble with the law” (34.3%, n = 71), and “I could have gotten in trouble with the school” (12.1%, n = 25) were not in the top three responses. The interesting nature of this finding will be discussed in further detail in Chapter VI, as these questions directly

deal with the legal aspect of teenage sexting. Table 11 presents the descriptive statistics of the reasons the respondents were concerned about sexting.

Table 11

Descriptive Statistics for Respondents' Concerns about Sexting

Variable	Frequency	%
Disappointed Parents	114	55.1
Regret it Later	112	54.1
Embarrass me	108	52.2
Hurt Reputation with Peers	91	44.0
Trouble with the Law	71	34.3
Employers See It	50	24.2
Trouble with the School	25	12.1
Disappoint Teacher/Coach	15	7.2

Male versus Female Sexting

In the current study, differences in receiving and sending messages are noted when comparing male and female participation in sexting. Table 12 presents the raw numbers for sexting participation for males and females. Due to the fact that there are more females than males in the current study, it is important to report both the raw number of respondents participating in sexting and the percentage of this number in comparison to the total number of males or females. Of the 73 male respondents, 32, or 43.84% reported sending a sext text message, and 56 (76.71%) reported receiving a sext text message while under age 18. Of the 134 female survey respondents, 66 (49.25%) reported sending a sext text message, and 83 (61.94%) reported receiving sext text messages. These statistics indicate that more females than males are sending and more males than female are receiving the sext text messages,

Table 12

Cross-Tabulation of Sex/Gender and Sext Messaging

	Males	Females
Sent Message		
Total Number	32	66
% of Total Sex/Gender	43.84%	49.25%
Received Message		
Total Number	56	83
% of Total Sex/Gender	76.71%	61.94%
Sent Pic/Video Message		
Total Number	17	53
% of Total Sex/Gender	23.28%	39.55%
Received Pic/Video Msg		
Total Number	50	62
% of Total Sex/Gender	68.49%	46.27%

Table 12 also presents the descriptive statistics for male and females sending and receiving a sext picture and/or video. A total of 17 males reported sending a picture/video sext message (23.28% of all males), while 50 (68.49%) reported receiving a picture/video sext message while under age 18. A total of 53 females (39.55%) reported sending a picture/video message, while 62 (46.27%) reported receiving a picture/video sext message. As was seen with sext text messages, a higher percentage of females reported sending sext pictures/videos, and a higher percentage of males reported receiving sext pictures/videos while under age 18.

Bivariate Results

Tables 13, 14, and 15 present the correlations among the variables in the study. The values presented represent statistical association between variables. This, however, does not control for the potential effects of other variables. Despite this, these results provide a preliminary general description between the study variables. Table 13 presents the correlations between the independent variables in the study. Table 14 presents the

correlations between the dependent variables. Table 15 presents the correlations between the independent and dependent variables in the study, and will highlight the statistically significant correlations.

Table 13 presents the correlations between the independent variables in the study. Examining significant variables with a medium effect size, parental management is positively associated with parents monitoring cell phones on a regular basis ($r = .455, p < .01$), which also lends support to the decision to include this particular variable in the total parental management score. Self-control is positively correlated with “getting around” parental monitoring ($r = .365, p < .01$), but it is important to mention that due to reverse coding of the “get around” variable, higher “get around” scores means the respondent felt he or she *could not* “get around” monitoring. Finally, a medium size correlation was found between participation in analogous behavior and self-control ($r = -.394, p < .01$), which is also a relationship one would expect to emerge under the premises of the general theory of crime. Also noted is a small but significant participation in analogous behaviors and parental management ($r = -.172, p < .01$). The correlation between self-control, parental management and analogous behaviors indicate support for the premises of Gottfredson & Hirschi’s (1990) general theory of crime (increased parental management is related to increased self-control; increased parental management and self-control are related to decreased participation in analogous behaviors).

Table 13

Pearson Product-Moment Correlations between the Independent Variables

	1	2	3	4	5	6	7	8
(1) Respondent Phone Bill Responsibility	1.00							
(2) Unlimited Text Messaging Plan	.064	1.00						
(3) Parents Monitored Phone Daily	.025	.045	1.00					
(4) "Get Around" Parental Monitoring	-.066	.085	.207**	1.00				
(5) Parental Management Score	.091	.031	.455**	-.075	1.00			
(6) Self-Control (Grasmick) Score	-.153*	-.032	.036	.365**	.097	1.00		
(7) Participation in Analogous Behavior	.078	.016	.010	-.289**	-.172**	-.394**	1.00	
(8) Participant Sex/ Gender	-.166*	.051	.033	.135	-.011	.142*	-.114	1.00

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table 14 presents the significant correlations between the sexting dependent variables in Chapter IV. There is a statistically significant correlation between all of the dependent variables, and all of these correlations are below the .01 alpha level.

Examining those variables with a large effect size, receiving sext messages is positively associated with sending sext messages ($r = .601$) sending pictures/videos is positively correlated with sending messages ($r = .713$); and receiving pictures/videos is positively correlated with receiving sext messages ($r = .739$). The strong correlation between these variables was also expected as the act of sending a text message implies that a text message is received.

Table 14

Pearson Product-Moment Correlations between the Dependent Variables

	1	2	3	4	5
(1)Participant Sent Sext Text Message	1.00				
(2)Participant Received Sext Text Message	.601**	1.00			
(3)Participant Sent Sext Picture/Video	.713**	.456**	1.00		
(4)Participant Received Sext Picture/Video	.524**	.739**	.494**	1.00	

** . Correlation is significant at the 0.01 level (2-tailed).

Table 15 presents the correlations between the dependent and independent variables in the current study. Looking first at variables with a medium effect size: “get around” monitoring is negatively correlated with receiving a sext text message ($r = -.417$,

$p < .01$) as well as receiving sext pictures/videos ($r = -.300, p < .01$), which indicates that those participants who felt they could “get around” monitoring are more likely to send and receive these types of messages. Self-control is negatively correlated with receiving sext text messages ($r = .359, p < .01$) and participation in analogous behavior is positively correlated with sending a sext text message ($r = .378, p < .01$), receiving a sext text message ($r = .409, p < .01$), or a sext picture/video message ($r = .404, p < .01$). The correlations that emerged between the variables were all expected given past research on self-control, parental management, and sexting.

Table 15

Pearson Product-Moment Correlations between the Independent/Dependent Variables

	Sent Message	Received Message	Sent Pic/Video	Received Pic/Video
Respondent Phone Bill Responsibility	-.010	.090	-.022	.141*
Unlimited Text Messaging Plan	.009	.155*	.078	.128
Parents Monitored Phone Daily	-.027	.077	-.016	.097
“Get Around” Parental Monitoring	-.260**	-.417**	-.194**	-.300**
Parental Management Score	-.065	.074	-.057	.043
Grasmick Self-Control Score	-.269**	-.359**	-.192**	-.222**
Participation in Analogous Behavior	.378**	.409**	.278**	.404**
Participant Sex/ Gender	.052	-.150*	.164*	-.213**

. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Tests for Multicollinearity

An assumption that must be met before running the logistic regression models involves testing for multicollinearity between the independent variables. Multicollinearity exists when the independent variables are highly correlated. While there is no universal cutoff value, as a general rule, correlations between the independent variables that are less than .80 do not have problems with multicollinearity (Lewis-Beck, 1980; Studenmund, 1997) Referring to the bivariate correlations between the independent variables (table 9), it appears that there are no problems with multicollinearity in the current study.

In addition to computing the bivariate correlations, the variance inflation factors (VIF) for the variables in the study are examined. In general, if a VIF is above a 4, there is a problem with multicollinearity among the variables (Allison, 1999; Hair, et al, 1998). Linear regression models were run for all of the variables in the study, and none of the VIF's are above a 4, indicating there is not a problem with multicollinearity in the sample.

Logistic Regression Analyses

As discussed in chapter IV, participant responses for amount/rate of participation in sexting while under age 18 were greatly skewed for a variety of reasons. The variability of the dependent variable violated a major assumption of OLS regression regarding the distribution of variables. Given this, the dependent variable is dichotomized in the current study to indicate whether or not a respondent participated in sexting, and not necessarily his or her rate of participation. Logistic regression, unlike OLS regression, allows for an interpretation of the relationship between dichotomous

dependent variables, and multiple independent variables (Liae, 1994; Menard, 2002). In the current study, parental management, cell phone management, and self-control variables are used to predict involvement in different types of sexting behaviors. The logistic regression equation below represents the full model, which includes all of the independent variables of interest. The regression equation is as follows:

$$\text{logit}(y) = a_0 + b_1X_1 + b_2X_2 + \dots + b_kX_k$$

Where:

logit (y) = the log odds of the dependent variables; participation in sexting (sending sext messages, receiving sext messages, sending sext pictures/videos, receiving sext pictures/videos).

a_0 = the constant

b = the coefficient for each independent variable

X_1 = parents monitored phone on daily basis

X_2 = unlimited text messaging plan

X_3 = phone bill responsibility

X_4 = “get around” parental monitoring

X_5 = parental management score

X_6 = self-control score

X_7 = participation in analogous behavior

X_8 = sex/gender

A total of four logistic regression models were run to understand the relationship between the independent variables and the different facets of sexting being explored in the current study. While it was intended originally that all of the independent variables be

included in the logistic regression models, changes were made to the models during the analysis process. There was a lack of variance in responses for the unlimited text messaging plan and phone bill responsibility variables, which could potentially affect the results of the models. Also, as mentioned earlier, the “get around” parental monitoring variable may be more of an indication of tech-savvy participants than parental monitoring, so this variable was also left out of each model. While excluding these variables reduced the overall potential explanatory value of the full model, excluding these variables also presents more parsimonious models that use fewer variables to explain teenage participation in sexting.

The dichotomous variables in the equation are presented as percentages of odd changes. Pampel (2000) suggests that dichotomous variables in a logistic regression model can be interpreted by subtracting one from the exponentiated coefficient, and multiplying it by 100. This allows for a comparison between the reference category and the category of interest, and it is interpreted as a percentage change in the odds. The results of the logistic regression models are presented below.

The first logistic regression model was run for involvement in sending sext text messages, and is presented in Table 16. This includes parental monitoring of a cell phone on a daily basis, parental management, self-control, participation in analogous behaviors, and sex/gender.

Table 16

Logistic Regression Results for Sending Sext Text Messages

	B	S.E.	Exp (B)
Monitor Daily	-.005	.008	.995
Parental Mgmt.	.006	.013	1.005
Self-Control	*-.029	.013	.971
Analogous Beh.	***.362	.083	1.437
Sex/Gender	.559	.329	1.750
Constant	.031	1.157	1.032
Cox/Snell R ²	.170		
Nagelkerke R ²	.227		

* p < .05

**p < .01

***p < .001

Two variables emerged as statistically significant in the model presented in Table 16; self-control and participation in analogous behavior. Examining self-control, the logistic regression coefficient is negative ($b = -.029$, $p < .05$), meaning to odds of sending a sext text message is -2.9% less likely for each increase in self-control. The other significant variable that emerged is participation in analogous behaviors ($b = .362$, $p < .001$). Examining this variable in terms of the percentage of odds change, for each increase in participation in analogous behavior the odds of sending a sext text message increases by 43.7%. This model as a whole explained between 17.0% (Cox and Snell R square) and 22.7% (Nagelkerke R square) of the variance in sending sext text messages.

Table 17 presents the logistic regression results for receiving sext text messages. The same independent variables used in the first model are used in this model, with the exception of the parental monitoring of cell phones variable. Excluding that variable from

the model resulted in variable emerging as significant that would not be if it was included.

Table 17

Logistic Regression Results for Receiving Sext Text Messages

	B	S.E.	Exp (B)
Parental Mgmt.	*.034	.014	1.034
Self-Control	***-.055	.017	.946
Analogous Beh.	***.462	.102	1.587
Sex/Gender	-.400	.373	.671
Constant	1.342	1.291	3.826
Cox/Snell R ²	.248		
Nagelkerke R ²	.346		

* p < .05

**p < .01

*** p < .001

There are a total of three significant variables in Table 17. Self-control again emerged as a negative significant variable ($b = -.055$, $p < .001$), meaning the odds of sending a sext text decrease by 5.4% for each unit increase in self-control. Participation in analogous behaviors was also a positively significant variable in this model ($b = .462$, $p < .001$). For each increase in participation in analogous behavior, the odds of receiving a sext text message increases by 58.7%. Parental management also emerged as a significant variable in this model ($b = .034$, $p < .05$). Interestingly, this variable is positively significant, which indicates that the odds of receiving a sext text message increases by 3.4% for each unit increase in the overall parental management score. Possible explanations for this relationship will be explored later in this study. Overall, the model explained between 24.8% (Cox and Snell R square) and 34.6% (Nagelkerke R square) of the variance in receiving sext text messages.

The next dependent variable of interest is sending sext picture/video while under age 18. The logistic regression results for sending sext picture/video are presented in Table 18. In this model, analogous behavior again emerges as a significant independent variable ($b = .282, p < .01$), with the odds of sending a sext picture/video message increasing by 32.6% for each increase in the number of analogous behaviors a respondent participated in. In this model, sex/gender of the respondent is also a significant variable ($b = 1.081, p < .001$); the odds of sending a sext picture/video increasing by almost 200% (195.8) by being female rather than male. This finding is supported by both prior research on this subject as well as the qualitative portion of the current study. The model explained between 13.3% (Cox and Snell R square) and 18.5% (Nagelkerke R square) of the total variance in sending sext pictures/videos.

Table 18

Logistic Regression Results for Sending Sext Pictures/VideoMessages

	B	S.E.	Exp (B)
Monitor Daily	-.004	.008	.996
Parental Mgmt.	.002	.013	1.002
Self-Control	-.022	.013	.979
Analogous Beh.	** .282	.084	1.326
Sex/Gender	***1.081	.358	2.948
Constant	-1.067	1.177	.344
Cox/Snell R ²	.127		
Nagelkerke R ²	.176		

* $p < .05$;
 ** $p < .01$
 *** $P < .001$

The final dependent variable of interest is receiving sext pictures/videos. Table 19 presents the logistic regression results for receiving sext pictures/videos. There were two significant independent variables in this model. As with prior models mentioned above, the analogous behavior variable was significant ($b = .431, p > .001$), with the odds of

receiving a sext picture/video increasing by 53.9% for each additional increase in participation in analogous behaviors. The sex/gender of the respondents also emerged as significant, but this time it was a negative variable ($b = -.840, p < .05$). The odds of receiving a sext picture/video message decreases by 56.8% by being female rather than male. The model as a whole explained between 24.7% (Cox and Snell R square) and 33.0% (Nagelkerke R square) of the variance in receiving sext text messages.

Table 19

Logistic Regression Results for Receiving Sext Picture/Video Messages

	B	S.E.	Exp (B)
Monitor Daily	.008	.008	1.008
Parental Mgmt.	.015	.013	1.015
Self-Control	-.013	.014	.988
Analogous Beh.	***.431	.089	1.539
Sex/Gender	*-.840	.336	.432
Constant	-.734	1.190	.667
Cox/Snell R ²	.206		
Nagelkerke R ²	.276		

* $p < .05$
 ** $p < .01$
 *** $p < .001$

Focus Group Analyses

The following section presents the qualitative analysis results of the focus groups conducted for this dissertation. There were a total of three focus group sessions; one male-only group (4 participants), one female-only group (4 participants), and one group of both males and females (12 participants; 6 male, 6 female). The male-only and female-only groups consisted of individuals who completed the survey portion of the study and volunteered to participate in a focus group. For a number of reasons there were not enough survey participants to create the mixed male/female group, so the participants

for this group were recruited from an introductory criminology course (CRIM 101). All of the participants in this group were freshman and either 18 or 19 years old.

The information collected in the focus groups is used primarily to support the data collected by the survey instrument. As discussed by Maxfield and Babbie (2005), focus group data can be used to support data collected by a survey instrument by guiding the interpretation of some of the results. Since sexting has not been studied empirically in any extensive manner, focus groups are used to supplement information gained through the survey by examining further variable relationships. Focus groups can also be used to guide the direction of future research. For example, a focus group may uncover a relationship between variables that could not have predicted because of limited prior research. Potential future survey questions will be developed through the data obtained in the focus group. This documents the strength of using a multi-method research approach.

One of the more popular forms of analyzing qualitative data like interviews is through the use of thematic content analyses (Creswell, 2003). In this type of analysis, reoccurring themes and concepts are drawn from the transcripts to discover what, if any, relationships exists between the content of the transcripts and the research topic. The themes are coded, which is essentially organizing the qualitative data into “chunks” with similar themes (Creswell, 2003; Rossman & Rallis, 1998). These “chunks” are categorized and labeled, and themes and relationships between the variables are discussed to uncover relationships between sexting and other variables that might not have been discovered through the use of a survey instrument alone.

All of the focus group sessions were video and audio recorded, and these conversations were transcribed on Microsoft Word. The transcripts were then uploaded into NVivo, a program that is used in qualitative research analysis. The NVivo program allowed the researcher to easily sort information and uncover underlying themes that developed from the focus group sessions. The following section will present the results of the thematic content analysis.

Defining Sexting

An important part of studying sexting is to understand what sexting is. As discussed in Chapter 2, the exact definition of sexting varies between studies. In the current study, sexting is defined as “sending or receiving nude, semi-nude, or sexually suggestive pictures, videos, or text messages via cell phone”. When asked to define sexting, there were differences between the different focus groups. The female-only group felt that sexting was not only pictures and videos, but also included “suggestive texts” (F2).

The mixed male/female group had a similar definition to the female-only group, but their definition included clearly defined parameters. Sext picture messages created by females had to show the breast or vaginal area, while sext pictures from males had to include a picture of his penis. A male participant clarified this definition by stating that someone in a sext message is, “Naked, no clothes on, it’s pretty clear”, adding, “...not bathing suits, that’s just a cute pic” (M4). The male-only group shared similar views. One male participant suggested that a sext is, “...not just nudity, but anything that is a fetish for someone”, mentioning that he had a friend in high school who would, “...asked

girls for pictures of their feet” (M2). The definition of sexting, as conceptualized by the focus groups, was similar to the definition used in the current study.

When asked about the devices used to send sext messages, the mixed male/female group unanimously agreed that sexting is something that is one done via cell phone. This group also made the distinction between sending pictures and videos, where pictures are considered the “true” definition of sexting, whereas sending video is something that goes beyond the confines of sexting. As one female participant stated, “If you send it by video, that’s a sex tape” (F2). The male-only group agreed that sexting is not something that is done solely via cellular phone, as one participant said “I’d consider it to be Facebook and stuff too... really any type of social media” (M1).

The female-only group also mentioned social media sites, as well as Skype, a computer program that allows users to chat over the computer via webcam. The different descriptions of sexting mediums is of interest, as defining and measuring sexting via cell phone may not be capturing all modes of transmission. A participant in the male-only group articulated this very important point, stating “I think to focus on finding out about [sexting] you need a clear cut definition of what sexting is. If you’re getting into sexual humor or anything you might be opening it up to more people” (M2).

Age and Sexting

There was a general consensus among all three focus groups that sexting is something that is done at a relatively young age. The mixed male/female group felt that sexting was something that started in middle school, with the age of 13 being mentioned as a general starting point. The male-only group also agreed with the mixed group, stating that they felt it began in middle school, or between 7th and 9th grade. The female-only

group agreed with middle school as a general age of commencement, with one participant mentioning that she saw her classmate's sexting as early as age 8. The survey results of this study gave the mean age for sending the first sext text message as 15.71 years of age (SD = 1.065), and the first sext picture/video message at 15.80 years of age (SD = 1.051). The ages identified in the survey are around the time a teenager would be in 9th grade or 10th grade. From this, it appears that the focus group participants believed sexting is starting at an earlier age than was found in the survey results. The significance of this finding will be discussed in detail in the final chapter.

Gender and Sexting

With a few exceptions, all three focus groups had a general consensus on sex/gender difference in participation in sexting. In general, the groups believed that sexting, particularly sexting involving pictures, is something that is sent by females, and received by males. Conversely, sext text messages are often originated by males, and sent to females. As a male participant in the mixed male/female group said:

Most of the time it's the guy just saying the dirty stuff and it's usually the female that's sending stuff. Very rarely is it the other way around. The girls are sending the guys the picture messages. Non-picture messages are mostly male to female. It's just usually how it goes (M4).

Other participants in the mixed male/female group also shared in this sentiment, with a female participant, referring to sext picture/video messages, saying, "it's always the guy that asks for them" (F2), with a male participant agreeing that "mostly males provoke it" (M3). The male-only group also agreed with the mixed group on males requesting picture messages from girls, with one participant saying, "I think guys are

primarily initiating it” (M3), with one male participant stating, “I think it’s a 70/30 % guy to girl initiation” (M4).

Two of the groups mentioned that there are some exceptions where males will send the first picture/video to a female. As one participant in the female-only group put it, “Guys who send it first...send it to get pictures [from girls]” (F2). In the male-only group, a participant stated that he initiated sext picture messaging with females as a “trick”, adding that pictures he sent were often accompanied with the assumption of, “I’ll show you mine, you show me yours” (M3). In these situations, the pictures are sent with the expectation that a follow-up picture from the original receiver will be sent to the originating sender. The expectation of reciprocation is a very interesting concept that deserves further exploration in future research.

Why are Teenagers Sexting?

The focus group participants gave a number of reasons why a teenager would sext. Many participants made a clear distinction between those who sext within the context of a dating relationship, and those who sext who are not in a relationships. The female-only group labeled girls who sexted in high school as being “sluts” (F2), “scumbags” (F1), “whores” (F3), and “social-climbers” (F4). Interestingly, while the focus group participants were not asked to share their participation in sexting, three of the four females in the group admitted to sending nude or semi-nude pictures while in high school. As one participant put it, “I wasn’t a whore in high school so it was ok... and, I mean, it’s pretty funny when it’s not happening to you” (F2). It was interesting to hear how the labels that the girls applied to other girls who had sexted were not the same labels the girls applied to their own behavior. The mixed male/female group shared much

the same sentiment as the female-only group, referring to people, particularly girls, who sexted as “scummy” (M4), or “dirty” (F3).

Looking further at those who sexted outside the context of a relationship, several themes emerged as to why these individuals sexted. Primarily referring to females as the sext originators, the participants identified “pressure” and “acceptance” as a possible explanation. Both male and female participants agreed that males pressure females into sending them sext picture messages. According to a male participant in the mixed group, “I know a lot of girls who if they get asked [to send a picture] they feel like they’re under pressure because if they don’t send it, they’re not going to date the guy after,” (M3). The female group shared this sentiment, but also added that “...self-esteem issues are important [to study] because the girls who will send them are girl that...don’t necessarily want that reputation, they just want to be noticed by guys” (F2).

The male-only group had a different theory as to why people sext outside of relationships. Mainly, they felt that females sent these messages purely to gain attention. While the female-only and mixed male/female groups both referred to this concept, the male-only group was especially vocal on this topic. One participant started the conversation by saying he felt females sexted as “an attention thing” (M1). This was reaffirmed by another participant, who stated that girls did this because “...it sets them apart from the rest of the people in their grade because everyone knows about it...it’s a way of getting sexual attention without having to do anything (M4). In fact, one male participant claimed that “...sometimes the girls will just send [a sext picture] without being asked” (M3). This particular part of the male-only focus group session introduced

the topic of unsolicited sexting, which deserved further consideration in research and public policy.

The other major population of sexters identified in the focus group session are those who sext within a relationship. The female-only group characterized sexting within a relationship as being a normal part of a relationship. Each female participant admitted to sending sext pictures to their significant others while in high school, but again emphasized that it is usually the male who asked for the message. The male-only group agreed with the female-only group on this point, stating that “Almost every couple I knew in high school sexted” (M2). The mixed male/female group shared these ideas, but also went as far as to say that sexting is not only normal, but might also be something that is expected in a relationship. A male participant in this group posed a question to the female participants; “Say you’re in a relationship, and he’s already seen you naked. So if you send him a picture [via cell phone], what’s the difference?” (M1). Only one female responded by saying “I guess there is no difference” (F1), which affirmed the male participant’s point of view.

The mixed male/female group also brought up a relationship-based topic that is of interest. According to this group of participants, sexting can be used as a method of affirming the status of a relationship. A female participant said that “If the relationship is a good one, they [guys] wouldn’t send it to other people” (F2), while another affirmed this point; “If I send a guy a message and he doesn’t send it to other people, it means I can trust him” (F1). In response a male participant agreed with the females, stating “...it means you can send him more and nothing will happen” (M4). This portion of the conversation was very relevant to this topic, especially given the serious consequences

that can accompany sexting. It appears that teenagers who do this are taking extreme measures to merely confirm the status of a relationship.

Legal Issues Related to Sexting

In addition to responding to general questions about sexting, the focus group participants also discussed the legal issues associated with sexting. When asked if they knew the potential legal responses of sexting, the answers varied from having no knowledge of potential repercussions to having a strong general knowledge base on the topic. Despite their knowledge of the laws, the participants in every group believed that solving the issue through legal means is not an effective response to sexting.

Several of the participants in the male-only group seemed to have an understanding of potential legal consequences, but they all agreed that these consequences did not deter them from sexting while in high school. The female-only group also opposed legal action for the intended originator or receiver of a sext message, with one participant stating “If you’re consenting to it [sexting] it’s not like it should be a problem... as long as it’s not being distributed I don’t see how it’s considered pornography” (F2). Another sentiment shared by the female-only group that was also shared by the mixed male/female group was that making sexting illegal isn’t deterring sexting, but may actually be encouraging teenagers to sext. Both groups believed that doing something illegal can be thrilling at times. A participant in the mixed group affirmed this feeling when she said “I think making things illegal just makes people want to do it more...it’s like the thrill of doing something illegal” (F3).

While the male-only and mixed male/female group did not mention it, the female-only group made a distinction between legal consequences for those who intent to

originate or receive a message, and those who forward those messages. Essentially, if someone is sending it to someone else that he or she has some sort of “relationship” with that information should be protected from legal consequences. However, if someone is forwarding the message to someone it was not intended for that behavior should come with consequences. One female participant stated that, “...if a guy sends it to all his friend there are consequences for that, and I feel like there should be” (F2). This notion was affirmed by the other participants, with another female saying that “I feel someone should get prosecuted for that [forwarding]” (F4). Interestingly, this same female participant also brought up a good point when she said, “...if someone takes someone else’s phone and sends it to other people, that could a problem, and something that...could be fought in court” (F4). Differentiating potential consequences for senders, receivers, and forwarders is an interesting concept, and one that will be explored further in Chapter 6.

Parental Management/Monitoring of Cell Phones

An important element of this study is the role of parents in a teenager’s decision to sext. Each focus group brought up parenting and the role that parenting plays in preventing sexting. In terms of parental monitoring of cell phones, the groups had some common perceptions. In the mixed group, one participant believed that direct parental monitoring of a cell phone could prevent sexting. She said “I think if your parents have a hold of your phone records you’re definitely not going to be able to [sext] because they’re going to know that you’re doing it, and that is embarrassing” (F4). The female-only group also believed that parents need to directly monitor cell phone activity in order

to stop sexting, as one participant stated that "...I think parents, especially in this generation, need to grab their kids' phone and see what they're talking about.

While some participants felt that direct parental monitoring of a cell phone was an effective way to curb teenage sexting, many believed that doing such things would be an invasion of the teenagers' privacy. In the mixed male/female group, a couple of male participants were adamant that "going through" a cell phone is severe violation of privacy, and again brought up the notion that doing something like that would just "...make people want to do it more" (M6). The male-only group also agreed that it was an invasion of privacy that only "...tears apart parent-teen relationships" (M3).

A significant theme that emerged that was of significant interest is that some participants who described having a close relationship with their parents believed that the relationship made it easier for them to participate in not only sexting, but other types of minor/status offenses. In the female-only group a participant ,who shared that she had sexted numerous times in high school, described her mother as being her "best friend", and their relationship as being "very open" (F1). She explained that because her relationship was so good, she felt that they trusted her, so she could sext freely without the fear of her parents finding out. An interesting conversation happened in the mixed male/female group after a female participant stated that she did not sext in high school because "...I don't think it's acceptable, and that's directly from how I was raised". She described herself as coming from a "strict, conservative Christian family." It was at this point that another female participant, who had been relatively quiet in comparison to other group members, refuted the first female's comments. She shared the following with the group:

My dad's a pastor and it never stopped me from partying or doing drugs or anything so I don't think that's fair to say. I feel like because they were so strict with me, that is why I rebelled more. Ever since high school, I partied every weekend and I'd just hide it from them. When they found out, the punishment was actually less of a punishment than I thought I would get...because all they would say is 'you can't do this again', and they grounded me for like a week. They were just more forgiving. They didn't really trust me, but they know I'm going to do it either way (F5).

This statement was especially interesting because it provided another insight into parent-child relationships and how they affect participation in sexting. A similar theme was found in the quantitative portion of this analysis, where teens who reported high levels of parental management also felt they could easily "get around" parental monitoring. This theme will be further explored in the next chapter.

A final important theme emerged during the male-only focus group is also of particular interest. The participants in this group brought up the differences between parents and children in regard to technological capabilities. The group argued that youth of their generation have better knowledge when it comes to using cell phones. Essentially, even if they were sending or receiving sext messages, the participants felt that they had the ability to hide those messages from their parents based solely on the fact that they had a better understanding of cell phone technologies. One participant summed this up when he said:

I think children are more capable with their technology skills than parents are. It's sort of giving the children a one-up to do these sorts of things. I know my parents

barely know how to send a text message, and they've had a cell phone for five years. (M2)

Responses to Teen Sexting

The final portion of each focus group focused on what the participants thought could be done to prevent teenage sexting. As mentioned earlier, many of the participants felt that sexting is just something that happens, and cannot be stopped. All of the groups had members that felt it was just “normal” teenage behavior. Further, they recognize that while the technology exists to complicate the process, sexting, in one form or another, has been happening for a long time. As one male in the mixed male/female group stated, “Before cell phones and stuff, people found a way to show things off. They'd go behind the bleachers at school or whatever. It's going to happen regardless whether you have phones or not. It always has” (M2).

Beyond this point, the participants did generate some suggestions for handling teenage sexting. As far as punishment, the groups varied on their definition of appropriate sanctions. The mixed male/female group was unanimously against formal legal responses to sexting, especially for sexts that stayed between the intended originator and receiver. While they did not mention consequences for those who do forward messages, they stated that the social consequences of sexting were an adequate punishment. One male participant summed this up by saying, “...once it goes around the school and everything, that's enough punishment because everyone's going to see you” (M5). The female-only group shared similar views on this issue. A female participant reiterated this theme when she said, “I feel like if you put yourself out there, you should have to suffer the consequences...if it falls into the wrong hands” (F3).

In addition to the legal responses, some participants also discussed proactive approaches that can be taken to try to prevent sexting. In each group, the idea of awareness was introduced, with some feeling that this topic needs to be brought to the attention of youth in America. In addition to parents becoming educated on sexting, the participants felt that middle and high schools had to also be a part of this awareness, as school is the primary place for socialization for most teens. All groups agreed that early intervention is essential to this process. Some suggested that going into school and discussing the consequences of sexting would help teens make a better decision about whether or not to sext.

Further, it is not only the short-term legal and social consequences that can affect a teen sexter, but the long-term effects (that are often unforeseen by the teens) can be equally devastating. This point also has to be delivered when talking to teenagers. According to one participant in the female-only group, "...you don't have a lot to lose when you're in middle school, but when you get to college it's a lot different. You can lose a scholarship, or you might not be able to find a job because people find out about stuff (F1).

A final, over-arching theme to appropriate responses to teenage sexting emerged; that is, the participants, much like parents and researchers, recognize that sexting is behavior that is not going away. As a participant in the female-only group stated,

I think [sexting] is an issue that is not going to go away easily, or as easily as everyone would like it to be...there are a lot of consequences for it and kids need to realize it, but they don't yet. Once they get older, they will look back and think 'man, was I really that stupid' (F2).

As this statement demonstrates, in addition to sexting being an enduring issue, a number of participants felt it was an issue that deserves more attention. A participant in the male-only group expressed this point eloquently:

I feel that sexting is one of the top issues to talk about, especially with younger generations. The technology curve is always improving and we need to educate people, specifically students, on how to use this technology appropriately...and instruct parents and educators to spot is something is amiss, and help kids rehabilitate their way. (M2).

Focus Group Reliability

To help ensure the overall reliability of the thematic content analysis, a second reader was utilized. As discussed by Armstrong & colleagues (1997), inter-coder reliability is a process where data are independently coded by separate readers. These codes are then compared for agreement. The researchers noted that while multiple readers may yield similar results in terms of basic themes, each analyst will “package” the themes differently; meaning readers may approach the same themes from a different viewpoint. While Morse (1994) argues that inter-rater reliability is better suited for quantitative research, a number of researchers affirm the importance of inter-rater reliability in qualitative research analysis (Auerback & Silverstein, 2003; Armstrong, et al, 1997; Mays & Pope, 1995; Daly, et al, 1992).

In the current study, the basic themes identified by the lead researcher were also identified by the second reader. The NVivo software was used to check for intercoder reliability. After the author coded the data, a random sample of statements (n = 100) were given to another researcher to code. The second coder was familiar with the current

project as he was also the second survey administrator in the study. He has also been involved in other qualitative based studies that involved coding data, making him a reliable co-reader for this purpose. When he had finished coding the data using the highlight feature of Microsoft Word, the researcher calculated the number in each category and compared them with the NVivo coded data. There was an 89% level of agreement (89 out of 100 statements). After a discussion between the coders, the level of agreement was 100%. In addition, the male and female co-moderators that helped with the focus group sessions took notes during the sessions of important themes and concepts. The themes identified by the co-moderators were also very similar to those found by the researcher and the second reader. Given this high level of agreement, the researcher is confident that the relevant themes that emerged from the groups are presented in the current analysis.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The purpose of this study is to explore the relatively new phenomenon of teenage sexting. The prior research on this topic is limited, with only a handful of researchers looking at sexting. Further, the research that does exist on this topic, in particular the rate of teenage sexting varies greatly from study to study. In addition, there has been little to no research on possible causal factors that influence teenage participation in sexting. Given the serious social and legal consequences that are often associated with teenage sexting, it is very important to have a clear understanding of this behavior. The purpose of this study is to enhance research while also exploring causal factors that strengthen our understanding of teenage sexting behaviors.

The current study used a mixed-methods approach to exploring teenage sexting. A survey was created to measure teenage participation in sexting. Since the purpose of the study is not only to gauge sexting rates but also to identify possible causal factors for participation, a theoretical framework was developed. Whereas a number of criminological theories could have been tested, Gottfredson and Hirschi's (1990) general theory of crime was applied to this study. This theory posits that individuals with low self-control are more likely to engage in criminal or similar (analogous) behaviors, and that self-control is instilled at an early age via parental management. Therefore, in addition the original items used to measure the rate of teenage sexting, the Grasmick, et al (1993) self-control scale, as well as the Gibbs, et al (1996) parental management scale were included in the survey.

The surveys were administered to a random sample of participants in freshman-level classes on the campus. A total of 207 surveys were included in the final analysis. During the survey administration, the participants were given a chance to participate in follow-up focus groups to delve further into the topic. A total of three focus groups were conducted; one male-only, one female-only, and one mixed male/female group. Through these focus group sessions, a number of themes emerged that are important to the general understanding of teenage participation in sexting. This chapter will briefly summarize the findings of the survey and focus group analyses. Also, this chapter will present the implications of the findings, discuss the limitations of the study, and give suggestions for future research on this topic.

Summary of the Findings

How Prevalent is Teenage Sexting?

The first research question asked was “what is the prevalence of sexting among teenagers”. This question is answered primarily by the descriptive statistics. Reviewing text only sext messages, 47% of the respondents report sending a sext message while under age 18, while 90.3% of the sample population report that they knew someone else under the age of 18 who had sent a sext text message. Also, a total of 67.6% of the sample reported receiving a sext text message when under the age of 18. The results also show that 33.8% of the respondents reported that they had sent a sext picture/video at this one age level and 90.8% said that they knew someone else who had sent a sext/picture video while under age 18. Additionally, 54.1% of the sample reported receiving a sext picture/video message while under age 18. Overall, the prevalence rate of sexting in the

current study is considerably high when compared to previous findings on teenage participation in sexting (The National Campaign, 2009; Pew Research Center, 2009).

Who is Sexting?

The sample of 207 participants consisted of 134 female and 73 male participants (64.7% and 35.3% respectively). On sending and receiving picture/video sext messages, it appears that females in this sample were primarily the senders of these types of messages (39.55% female; 23.28% male), while male participants tended to be the receivers of picture/video messages (68.49% male; 46.27% female). This was also true for sending (49.25% female; 43.84% male) and receiving (76.71% male; 39.55% female) sext text messages. However, the percentage differences between males and females in this type of sexting are not as great as when sext pictures/videos messages were sent. Of those who sent picture/video sext messages, the average age at which they sent their first message was 15.8 years. Similarly, the average age of the first sent sext text message was 15.71 years of age. High school students, ages 15 and 16, were probably in 9th or 10th grade at the time of sending their first sext message.

The participants gave much insight into circumstances in which teenage sexting is likely to occur. Examining the quantitative portion of the study, the most frequently cited context in which sexting occurred was within a boyfriend/girlfriend relationship. For example, of the respondents who reported sending a sext picture/video message, (83.7%) reported sending it to a boyfriend or girlfriend. The next most cited recipients of teenage sexters images were someone the participant had dated or hooked up with (39.8%), or someone the participant wanted to date or hook up with (32.7%). The order of percentage

rates remained the same for senders of sext text messages, receivers of sext text messages, and receivers of sext pictures/videos.

The focus groups validated the survey analysis and provided a more detailed description of why teens sext. The female-only group and the mixed male/female group identified two primary categories of sexters; “relationship sexters” and, as coined by a female-only group member, “social-climber sexters”. The relationship sexters are those who sext within the context of a boyfriend/girlfriend relationship.

While sexting is something that can be done as part of a boyfriend/girlfriend relationship, the participants in the mixed male/female group also suggested that sexting is something that helps determine the “status” of a relationship. Essentially, sexting can be used as a test of a relationship; if a message is sent and that message is not subsequently forwarded to other individuals outside of the relationship, then the status of the relationship is verified. The emphasis on these points during the focus group session solidifies the notion that sexting is something that is occurring in the context of a boyfriend/girlfriend relationship. It is important to recognize this fact, especially when making policies and laws that can significantly affect teenagers who participate in sexting.

The second, but apparently less common type of sexter identified by the focus group participants is referred to as the “social climber sexters”. This theme appeared in all three focus group sessions. According to the participants, this type of sexter is usually female, and she is identified as “having poor self-esteem”, ultimately leaving her “craving for attention”. Further, the “social climber sexters” were described with unfavorable labels such as “scummy” and “dirty”. Basically, this type of sexter will send

messages to individuals outside of her “clique” (or group of friends/peers) to a person who is a member of a more popular clique than the sext originator. Ultimately, the goal of the sext originator is that her sext message will be received favorably by the members of the more popular clique and they will want to invite her to become a part of their group.

In instances involving social climber sexting, the cliques of a school were usually organized in a hierarchal manner from least to most popular. Those in the less popular cliques were trying to “climb the social ladder” into higher social group status by sending these messages to members of the popular groups. Unfortunately, as discussed by participants in all three focus groups, the social climber sexters did not usually accomplish their goal of elevating to a higher clique status. More often than not, the social climber sexter’s message was viewed as a “joke” by popular clique members, and was often forwarded to other members of the popular clique. Rather than making the social climber sexter more popular, these instances typically backfired and the sext originator was left feeling embarrassed. Therefore, in the process of trying to climb the social ladder, a social climber sexter may actually fall down the social ladder by being labeled negatively for engaging in sexting. The concept of sexting and social status in high school is fascinating, and something that deserves to be explored in future research.

Self-Control and Sexting

The theoretical framework of this study is self-control theory, particularly Gottfredson & Hirschi’s (1990) general theory of crime. To measure self-control, the 24-point scale created by Grasmick and colleagues (1993) was included in the survey instrument. A 10 centimeter version of a visual analog scale was used to replace the Liker-type responses found in the original Grasmick scale. Measuring this 10 centimeter

line in millimeters allowed for each participant to have a total self-control score that could vary from a low of zero (lowest self-control) to a high of 100 (highest self-control). The average self-control score for this sample was 60.51, with a low score of 19.54 and a high score of 90.87.

Reporting the Pearson product-moment correlation between self-control and sexting behavior, self-control was negatively correlated with all types of sexting (sending or receiving sext text messages and sending or receiving sext picture/video messages). By a negative correlation, this means that increases in a participants' level of self-control are associated with decreases in their participation in sexting. If the basic tenants of the general theory of crime hold true, then this relationship would be expected, as an increase in self-control should lead to decreases in criminal activity.

Self-control again emerged as a negative significant variable in the logistic regression model. Looking at sending and receiving sext text messages, the odds of sending a sext text message decreased by 2.9%. The odds of receiving a sext text message decreased by 5.4% for each unit increase in self-control. Interestingly, self-control was not a significant variable when looking at sending and receiving picture/video sext messages. Given the Pearson product-moment correlation results it was expected that this would emerge as a significant variable. Searching for a statistical explanation, the number of variables used in the logistic regression models was minimal. While using fewer variables does result in a more parsimonious explanation of the variance, fewer variables can also affect the statistical power of each individual variable. Further exploration of this will be needed in future research to help understand if the difference between sext text messages and sext picture/video messages in the logistic

regression model is statistical in nature, or if there truly is a difference between these two categories of sexting.

Sexting and Analogous Behaviors

Another key component of Gottfredson & Hirschi's (1990) general theory of crime is the concept of analogous behaviors, or behaviors that are similar to crime. Based on the basic tenants of the general theory, a relationship was expected between analogous behavior, self-control, and sexting. Next, examining the Pearson product-moment correlation between the independent variables found a medium size correlation between participation in analogous behavior and self-control. When the correlations between the independent and dependent variable were calculated, participation in analogous behavior was correlated with all categories of sexting. This correlation was positive; meaning increases in the number of analogous behaviors in which a participant engaged was correlated with all of the sexting categories.

Using a coefficient of reproducibility, the analogous behaviors measured in the current study emerged as interval-level, so they were included in the logistic regression models. As with the Pearson product-moment correlations, there were significant relationships between analogous behavior and all of the sexting categories. Examining first the sending of sext text messages, each increase in participation in analogous behavior increased the odds of sending sext text message by almost 44%. Similarly, the odds of sending a sext picture/video message increased by approximately 33% for each increase in analogous behaviors.

While it was expected that a relationship would emerge between analogous behaviors and sexting, the extent to which these variables are related was not necessarily

anticipated. This relationship may be important in helping to identify and understand teenage sexting. From a policy perspective it is important to know because participation in analogous behaviors may ultimately be used to identify those who are at-risk for participating in sexting. For example, if a parent is noticing an increase in their child's participation in analogous behaviors it may be an indication that the child is also sexting, or is at risk of participating in sexting. Based on this, the parent might be more vigilant in the monitoring of their child's phone activities. This might ultimately give the parent a chance to intervene on or possibly prevent their child from engaging in sexting.

From a theoretical perspective, uncovering the relationship between sexting and analogous behaviors also has significant value. Future researchers who study self-control may want to include sexting when measuring for participation in analogous behaviors. Much like the other behaviors included in analogous behavior measures, sexting is also a status offense. Also, the current generation of children and teenagers are highly technologically advanced, so included measures of deviance that capture their online and technology behavior might yield more accurate measurements.

Parental Management and Sexting

According to the general theory of crime, parents play an important role in helping their children establish self-control. The survey instrument included a revised version of the Gibbs, Giever, and Martin (1998) parental management scale. The Pearson product-moment correlation showed a small but significant negative correlation between participation in analogous behaviors and parental management. This means that engaging in more analogous behaviors is related to a decrease in parental management. However, unlike self-control and analogous behaviors, parental management was not significantly

correlated with any of the included categories of sexting. Also, in the logistic regression model, the only sexting category that parental management was significant in was receiving sext text messages. Not only was this relationship significant, it was positively significant, with the odds of receiving a sext text message increasing by 3.4% for each increase in parental management.

The reason for the positive correlation between receiving sext text messages and parental management might be explained by the fact that parental management might have no real effect on whether or not a teenager receives a message. Unless there is message blocking on a cell phone, a person has little control over the messages that are sent to their phone. A teenager could have the highest level of parental management possible and still be technically capable of receiving a sext message. Recognizing this may help explain the lack of a relationship between receiving sext messages and parental management. Further, while there is a lack of relationship between the sending sext text or picture/video messages, this does not mean that parental management is not important in this study. Under the theoretical framework of this study, parental management, analogous behaviors, and self-control are all closely related. Although parental management might not have the direct effect on sexting, parental management is essential in developing self-control and participation in analogous behaviors, which are factors that are more directly related to sexting. The important role that parents play in teen's decision to sext was affirmed in all of the focus group sessions. It is clear that the relationship between parental management and sexting needs further exploration in future research to uncover the extent to which parents can stop or prevent teenage sexting.

Policy Implications

Taking Sensible Legal Approaches to Teenage Sexting

As mentioned in Chapter Two, there can be a number of legal consequences associated with teenage sexting. While there has been a change seen in some states, there are still a number of states where teenagers who sex could be charged under existing child pornography statutes. Being charged as a sex offender not only comes with legal consequences, but also social consequences that can seriously affect a person's life. The argument basically comes down to whether or not sexting should be considered child pornography.

An important part in deciding how sexting should be handled legally is to know how sexting will be legally defined. Policymakers who want to desist in the practice of using child pornography laws to prosecute teenage sexters will need to make a clear distinction between sexting and other types of images of children. In 2009, the National Center for Missing and Exploited Children (NCMEC) released a policy statement on teenage sexting. This statement defined as, "...youth writing sexually explicit messages, taking sexually explicit photos of themselves or others in their peer group, and transmitting those messages to their peers". Interestingly, this same policy statement also states what is not sexting by noting that, "sexting is not the appropriate term to describe youth sending sexually explicit images of themselves to others as a result of blackmail, duress, coercion, or enticement". Further, sexting does also not include "...situations in which young people send sexually explicit images of themselves to adults" (NCMEC, 2009). Rather than trying to focus on what sexting is, it might be of use to focus on what is not sexting.

In the current study sexting was broken down into not only different types of sext messages, but also the different roles that a participant could play in sexting (sender or receiver). As discussed by Muscari (2009), a distinction must also be made between sexting and what is popularly referred to as “cyberbullying”. Muscari argues that there is a significant difference between teenagers who exchange sexually explicit messages in the context of a high school relationship, and teenage girls who secretly take and send nude pictures of other girls changing in a locker-room. The difference in these scenarios is that one involves individuals who voluntarily agreed to the production and distribution of the photos, and the other has no consent for production or distribution of the photos (Muscari, 2009). Eraker (2010) coined the word “sextbully” to describe individuals in the latter scenario.

Eraker (2010) gives a number of suggestions for policymakers on how “typical” sexting incidents should be dealt with legally. First, and arguably most important, is that directing a teen sexter to juvenile court and exempting them from sex offender registration is the most sensible legal approach to teenage sexting. The author states that this is particularly important for first-time offenders, as their participation in sexting may be more of an example of youthful indiscretion than sexual exploitation. Further, by handling sexting through the juvenile court system it may offer further opportunities for teenagers to be rehabilitated rather than punished for their behavior (Eraker, 2010).

In order to take any of the sensible legal approaches to teenage sexting mentioned it will be important to have policymakers “on board” with proposed changes to laws and policies. In addition to avoided sex offender registration, Eraker (2010) posits that the benefit of creating new sexting offense categories can be beneficial for both teenagers

and legislators. Rather than “decriminalizing” sexting and risk facing public backlash for allowing offenders to go unpunished, the creation of new laws allows for legislators to still look “tough on crime”, while teenage offenders are not unnecessarily punished for their crimes . To help aid legislators, the author suggests that a clear policy statement is needed by the United States Attorney General. As stated by Eraker, a clear policy statement would “...most likely be influential in disciplining the zealous policymaker bent on pursuing the most hard-line penalties against sexting teens” (2010; p. 591).

In discussing the plausibility of changing legislation to handle issues of sexting one need look no further than laws enacted to prohibit cell phone use by drivers. As discussed by Levinson (2004), the controversy surrounding handheld cell phone driving laws were a lesson of media trade-off. The American public recognized that the cell phone is an innovative piece of technology that has many benefits. The solution to the dangers and drawbacks of using handheld cellular phones while driving is clearly not to cease from using cell phones all together, but rather to deploy new technologies (i.e. hands-free headsets) and modify existing driving laws to regulate the behavior. While it is recognized that neither of the solutions mentioned are completely effective, both solutions recognize the importance of mobile phone technology, and both look to solutions other than abolishment of cellular phones to remedy the problem (Levinson, 2004). This is the direction that needs to be taken with anti-sexting legislation; while we cannot ban cell phones or stop teenager from sexual exploration, the solution is not excessive legal sanctions for teens who sext. Evaluations of more sensible legal approaches, such as those discussed in this study, should be done to demonstrate the effectiveness of these laws.

Education for Teenagers, Parents, and School Administrators

A theme that emerged during the focus group session was that participants felt that education on sexting is important to preventing teenage sexting. Due to the technology gap that was described between parents and teenagers, the participants believed that education was important for both teens and parents. O'Donovan (2010) and Siegle (2010) would agree with this assertion, as both authors argue that educating a school community about the dangers of sexting is the best approach to sexting prevention. Not only is it important to understand general issues of cyberspace, privacy, and personal safety, it is also important that teens, parents, and educators know about the prevalence, legal consequences, and social consequences of sexting in particular. The sexting element is especially important because while some schools have Internet safety programs, these programs tend to focus on the threat of sexual predators online rather than harassment by peers (O'Donovan, 2010).

While education may be an important in combating teenage sexting, there is no consensus on who is the best person to educate teenagers about sexting. Taylor (2009) suggests that police officers may be the best people to talk to teenagers about sexting, as the authoritative nature of a police officer's occupation could help convey the seriousness of the consequences associated with sexting. Conversely, Siegle (2010) suggests that peer mentoring might be a better approach to educating teens about sexting. The author proposes that older students could informally teach lessons to younger students by sharing their learning experiences when it comes to technological interactions. Hearing the information from a peer who has practical experiences with the behavior might be more effective than having an adult educate teenagers (Siegle, 2010). Despite this lack of

consensus on who is the best to teach, ultimately there is a consensus that education, particularly for teenagers, is important in sexting prevention.

In terms of parental education, it is important that parents who have a teenager with a cell phone understand the vast amount of technology that is available to today's typical teenager. As mentioned in the previous chapter, while a parent might be monitoring their child's cell phone activity, some teens feel they can still get around this monitoring. For example, a recent newspaper article by Wimbley (2012) discussed how it is getting significantly easier for teenagers to hide their cell phone activities from their parents. The ever increasing use of Smartphone applications is assisting teens in hiding these activities. For example, an application called "Text Free" allows users to send messages to each other through the application and then password protect the conversations, making it difficult for parents to know what their teenagers are sexting (Wimbley, 2012).

While applications like "Text Free" are impeding on parental monitoring of teenagers' cell phone, there is technology emerging that is allowing parents to combat teen sexting. For example, Wyd Eye Software Company recently introduced an anti-sexting phone application that is available through most major cell phone carriers. The application is called "PicsChecker", and it gives parents a day-by-day history of their child's text messaging and downloading habits. The PicsChecker software delivers an easy-to-read email to parents on a daily basis, though the parents can securely connect to the program at any time (www.picschecker.com, N.D.). As technology develops more anti-sexting applications with parental monitoring capabilities are certain to emerge. While these programs might not directly prevent teenage sexting, it gives parents an

opportunity to view what their children are doing with their cell phones, which might ultimately reduce the likelihood of a teenager engaging in sexting.

Understanding sexting and its potential ramifications is also important for school administrators and educators. O'Donovan (2010) reiterates this importance when he discusses the case of Ting-Yei Oei, an assistant high school principle from Loudoun County, Virginia. When one student sent a sext message to another student, Oei asked that the student who received the message forward the message to Oei's cell phone, thinking it was a tech-savvy way to preserve the physical evidence. However, this decision led to angry accusations by a number of parents, and Oei was subsequently charged with failure to report child abuse, and felony possession of child pornography (O'Donovan, 2010). While Oei was eventually exonerated on all charges, this story demonstrates how critical it is for educators to be aware of the possible legal consequences that can result in sexting both for the teenage sexters and the educator's themselves.

According to O'Donovan (2010), high school students do not view a separation between their life during school hours and their life outside of school, as, "Conversations begun off campus continue at school, and again after school, and so on" (p. 60). Both Siegle (2010) and O'Donovan (2010) maintain that high schools, particularly administrators, need to take steps to help educate teachers about sexting to not only prevent teenage sexting but also to protect educators from situations that Mr. Oei found himself in. As was mentioned multiple times in the current study, defining exactly what sexting is plays an important part in understanding sexting.

O'Donovan (2010) suggests that high school districts should regularly review and update their policies on cell phone usage at school so that students and teachers alike are aware of what sexting is and what the consequences are for doing it. In addition to education, Siegle (2010) also suggests that high schools should increase their use of filtering and blocking software on school related equipment as a safeguard against sexting. It is clear that sexting is something that is not clearly defined, and this can be problematic for high school teachers and administrators who may essentially be the first line in defense against teenage sexting. Educating teachers and administrators about sexting and using existing technologies to impeded on teenage sexting (at least during high school hours) is essential.

Direction of Future Research

A re-occurring theme of this dissertation is the lack of empirical research on teenage sexting. While the current study will certainly add to the limited research, it is just the beginning of the research that needs to be done to fully understand this problem. The survey used in this study could easily be administered on a larger scale. It is of interest to see if the results of this study, particularly the high rate of sending picture/video messages among the current population, could be replicated with other populations. While the survey could easily be modified and administered to students who are under the age of 18, surveying college freshmen may give us a more complete picture of teenage sexting. As was mentioned in the previous chapter, some focus group participants believed that the current survey results may actually underestimate the true rate of sexting. A participant from the male-only focus group affirmed this notion with the following statement:

With your [current] survey, people might lie and say they didn't do it when they did. We're just coming out of high school where people watch us like children. Even if you said it was anonymous, a lot of people might not have thought it really was. Especially if you've done it [sexting], it might be embarrassing to write it down on paper. Maybe they're in denial themselves and don't want to see it. (M4)

This statement reiterates the point that the current study population may be the ideal population to study to get a better picture of teenage sexting. The fact that the participants are removed from an environment where they may have been directly monitored by teachers and parents might incline the participants to be more open about their behaviors.

From a criminological standpoint, it is important that sexting be studied in the context of other theoretical frameworks. While Gottfredson & Hirschi's general theory of crime is useful in explaining some of the variance between sexters and non-sexters, looking at other theoretical explanations either alone, or in combination with this framework may explain a larger portion of this variance. At the 2012 annual meeting of the Academy of Criminal Justice Sciences, Dr. Rebecca Headley and colleagues presented finding from a study they conducted on teen sexting where social learning theory was used as the theoretical framework. They found social learning theory to be a moderate predictor of teen sexting, much like the current studies finding with self-control theory. The authors of this study pointed out the lack of empirical research on sexting, and also noted that further research needs to be conducted under theoretical frameworks that explore potential correlates of sexting (Headley, Hilinksi-Rosick, & Freiburger, 2012).

The focus group sessions conducted in the current study gave valuable insight into teenager's thoughts on sexting. In hindsight, it would have been interesting to conduct the focus groups prior to the survey administration portion of the study. The respondents provided insight into many different aspects of sexting that were not explored in the current study. The information gained in the focus groups would have been beneficial prior to survey administration as these results could be used to refine the survey. As discussed by Mitchell and colleagues (2011) and reiterated many times in the dissertation, the conceptualization of sexting is important, as differing definitions of what sexting is would change the results of a study. Future researchers may want to explore this topic qualitatively, especially before conducting theoretical testing, to gain more insight into the conceptualization of key terms prior to survey administration.

Strengths of the Current Study

Multi-Method Approach

One of the strengths the researcher finds in this study is the use of a multi-method approach to triangulate sensitive information. Though there is much information that can be gained about sexting through quantitative style research, there is much information that can only be obtained through qualitative research. Being granted the opportunity to engage in conversation with the subject helps build a personal rapport that may not be available through less personal quantitative methods. Conversely, due to fear of embarrassment on part of the focus group participants, the anonymity afforded by a survey instrument will be beneficial to the validity of the study results. Also, the researcher is suggesting that the true nature of sexting and sexuality is still being conceptualized, so quantitative methodologies employed may not fully measure sexuality

as it actually manifests. Using a mixed-methods approach will give a more complete view of what sexting actually is and how it is effecting youth in America today.

Expanding on Limited Research

As previously discussed, the literature that exists on the topic of sexting is minimal. The major studies that do exist on this topic (The National Campaign, 2009; Pew Research Center, 2009) are descriptive in nature, meaning there is no explanation of possible causal factors that relate to participation in sexting. Further, issues with sampling and research procedures have hindered the generalizability of these studies (O'Donovan, 2010; Brown, et al., 2009). This study aims to improve upon these prior studies by using a random sample of incoming freshman, many of whom will come from differing racial, ethnic, and socioeconomic backgrounds. The survey created for the current study will draw upon the strengths of the prior research, while being attempting to mitigate the issues that have been associated with previous research on this topic. In addition, causal factors (self-control and parental management) were explored, which is something that has not been done in the current research on sexting. The results will add to the existing research with the ultimate goal of improving and guiding future research on teenage sexting.

Limitations of the Current Study

Retrospective Recall

One aspect of this research that must be considered is the retrospective nature of the data. Each participant was asked to report on events that occurred while he or she was in high school. At the time of the initial survey administration, the recall period for participants was anywhere from 3 to 6 months, depending on the date of their graduation

from high school. As discussed by Menard (2002), there can be major problems associated with respondent recall. Retrospective data is plagued with problems such as memory issues and telescoping (reporting an event occurred at one period for a more recent period). Other problems include issues with memory construction, false memories, and underreporting of certain events (Menard, 2002).

Despite the shortcomings of using retrospective data, there are a number of steps the researcher has put in place to increase the validity of the research data. In addition to the limitations discussed, Menard (2002) also discusses way in which these issues can be mitigated. Retrospective data can be inaccurate, but it tends to be more accurate when asking a person to report behaviors as opposed to attitudes. For example, it is easier for a person to accurately report that he or she participated in drug use in the past, but not as easy to accurately report how he or she felt about their drug use at that time. Further, the construction of a measurement instrument can affect participant recall. Asking detailed questions about an event tend to give more accurate results, as does establishing clear reference periods for the subject (Menard, 2002).

The age of 18 is often a time of celebration, so was expected that the respondents were able to draw a clear line between events that occurred before or after that time. Further, though the age of 18 is generally, and often legally considered the age of official adulthood, research on brain development indicates that section of the brain that control impulse control and maturation continue to develop well past age 18 (Steinberg, 2004). If this is true, than an 18 year old should not differ significantly in behavior an maturation than a 17 year old, meaning studying someone at age 18 should yield similar results than age 17.

It must also be noted that while the entire sample of respondents were freshman-level students, 37 respondents (or 17.9% of the total respondents) were age 19 at the time of survey administration. As mentioned in a previous chapter, the information gathered by the 37 participants who were 19 years of age did not differ in any significant way from those who were age 18, so they were included in the current analysis. This is recognized as a limitation. Though the use of retrospective data can be considered a limitation, the researcher has done a number of things to mitigate this limitation.

Generalizability

The generalizability of the survey sample population to the general population may be problematic because the sample will consist of participants from the Northeast region of the United States. As mentioned earlier, though this may not be a racially diverse institution, the fact that it is a public university brings a greater sense of diversity to the sample population than may be found at other universities. There is no clear reason to believe that the behaviors of participants from this particular institution or region will differ than those who participate in sexting in other regions of the United States. The sample for this population is randomly selected meaning all of the 100-level classes at the university will have an equal chance of being picked. As these classes span a number of majors, the sample population is expected to be similar to that of the general campus population.

Another challenge to generalizability involves the tech-savvyness of the participants in the current study. The participants are college students, most of whom have relatively easy access to cellular phones, computers, and other forms of digital communication. The rates of sexting for this particular sample may be due to greater

access to cell phones by college students. However, recent research by Dr. Anita Gurian suggests that the cell phone ownership rate among high school students is extremely high. Estimates of middle student students' ownership rates are upwards of 75%, with even high rates for high school students (Gurian, 2012). Therefore, the generalizability of the current sample to general high school populations may be better than expected. Again, only further research and replication of this study will reveal the true generalizability of the current study.

Focus Group Participation

One of the greatest limitations of the qualitative portion of this research pertains to the recruitment of the focus group participants. A total of 10 males and 22 females stated they were interested in focus group participation, which would have been an adequate number of participants to complete all three focus groups. However, when it came time to contact the participants to see if they were still interested, there was not as much willingness to participate as had been originally indicated. There are a couple of reasons for this. The first major challenge was contacting all of the participants. While an attempt was made to contact each participant both through email and telephone not all of the participants responded to these request. Also, due to the variability in their schedules, it was difficult to find a mutual time slot that was convenient for all of the participants. It should also be noted that by participating in the focus group, the participants were required to discuss a topic that is sensitive, particularly for young adults who are still forming their sexuality. This might have played a role in why the number of participants was limited.

An important component of the qualitative data collection is the fact that focus groups were designed to interview males and females separately, but also interview them together in a mixed male/female group. While there were enough participants to conduct the male and female-only groups, there was a need for participants for the mixed male/female group. As mentioned in chapter four, a convenience sample was taken from a freshman level introductory criminology course (CRIM 101). The convenient nature of this sample has to be mentioned as a possible limitation. However, mitigating this limitation is the fact that the sample course was not major restricted, so students from many different academic majors were enrolled in this class. The themes that were presented in the mixed focus group session were similar to those in the male-only and female-only group. While this was a convenience sample, there is no reason to believe that the participants in the mixed male/female group differed greatly in their thoughts and feelings on sexting in comparison to the other two groups. Future studies on sexting using a qualitative component should explore ways in which to increase participation in these activities, as they play an important role in the overall understanding of teenage sexting.

Conclusion

If teenagers are looking for a way to verify their participation in sexting, they need look no further than the popular media. While older celebrities such as Tiger Woods, Cheryl Cole, and Ashton Kutcher have been caught up in media reports of sexting, younger celebrities such as Scarlett Johansson, Blake Lively, Vanessa Hudgens, and Miley Cyrus have been caught up in leaked nude picture scandals in recent years. For many people, especially those who did not grow up in the new millennium, these celebrity names are just that; the names of celebrities. However, Miley Cyrus isn't just

Miley Cyrus; she is also *Hannah Montana*, a character from a popular Disney Channel show. Vanessa Hudgens is better known by some teenagers as Gabriella Montez, a lead character in the popular *High School Musical* series. For a generation that spends multiple hours being immersed in social and popular media, these individuals are role models to look up to. If the person someone looks up to is modeling inappropriate behavior, it may encourage the young person to engage in that behavior as well.

A recent study by Shelley Walker out of the University of Melbourne, Australia, reiterates the idea what a highly sexualized media culture might influence teenage sexting. Her research involved a qualitative study of 33 young people (15 males and 18 females) ages 15 to 20. The participants in this study reported feeling “bombarded” by sexual images in the media. A number of participants, particularly the female participants, reported experiencing pressure, or an expectation, to recreate the images they saw on television. The fact that new technologies are constantly emerging that allow video and Internet images on cellular phones only increases the chance that a teenager will see the celebrity images (The University of Melbourne, 2011). Future research on the role of media and sexting is also needed, especially when looking for causal factors that relate to teenage sexting.

This research will greatly add to the existing literature on teenage sexting. Given the serious legal and social ramifications that can result from sexting, it is essential this topic is studied more in-depth. The emergence of new technologies will not only give teenagers different avenues to engage in sexting but will also give parents and teachers new tools to prevent teenage sexting. The fast pace nature of technology means that the

current study will need to be modified and replicated in order to have a better overall understanding of teenage sexting.

While the results do not yield a definitive answer on what to do regarding teenage sexting, it does give more insight into the problem than has been seen in prior literature. Self-control does not fully explain why teenagers are sexting, but it is related to the likelihood of a teenager sexting, meaning it is of significant importance to this topic. It is important that the field of criminology continue to explore this up and coming issue from differing theoretical perspectives in order to uncover more (or better) explanations of why teenagers are sexting. While an argument could be made that sexting is simply a “normal” aspect of teenage sexual exploration, it is still illegal behavior in many states. Therefore, it is essential that research and information on this topic continues while the legislation is “catching up” with teenage sexting. The current legal responses by many states may not be the most appropriate responses to this problem, but regardless they are the responses. For now, prevention of sexting is vital to this discussion, and the current study gives direction for future theoretical and policy related approaches that can be taken to prevent sexting, and ultimately reconceptualize the appropriate legal responses to this behavior.

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18 u.s.c. § 2251

18 u.s.c. § 225

Definitions of Terms

Sexually Suggestive Pictures/Video: Semi-nude or nude personal pictures/videos taken of oneself, and sent to someone else via cell phone. This does not include images found on the Internet, or received from a stranger (like SPAM).

Sexually Suggestive Text Messages: Text messages sent from one cell phone to another that are sexually suggestive in nature. This does not include messages you might receive from a stranger (like SPAM).

Text Messages refer only to those *written in a text message on a cell phone*, and **Picture/Video** refers only to those *captured and shared on a cell phone*.

Cell phone(s) includes the use of Smartphones (Blackberry, PDA, Droid, etc).

Part 1 – Cell Phone Ownership and Usage

The questions below pertain to your cell phone ownership and usage. Please answer all of the following questions regarding your experiences before you were under age 18 (i.e. age 17 or younger).

WHEN YOU WERE UNDER AGE 18 (I.E. AGE 17 OR YOUNGER):

- 1) Did you have a cell phone when you were under age 18?
 - YES
 - NO

- 2) What portion of your cell phone bill were you personally responsible for paying when you were under age 18?
 - 100 % (You were responsible for paying your entire bill).
 - 75% (You paid for most of your bill, and your parents paid for a portion of it).
 - 50% (You and your parent split the bill in half).
 - 25% (Your parents paid for most of your bill, and you paid for a portion of it).
 - 0% (your parents paid for your entire bill).

3) Did you use your phone for text messaging when you were under age 18?

YES

NO

a) If yes, on average, how many texts did you receive in one day?

_____.

b) If yes, on average, how many texts did you send in one day?

_____.

4) What percentage of the time would you say you used your cell phone for texting when you were under age 18?

100 % (You used your phone for texting only, and did not talk on it).

75% (You used your phone primarily for texting, but talked on it sometimes too).

50% (You used your phone equally for talking and texting).

25% (You used your phone primarily for talking, but texted sometimes too).

0% (You used your phone for talking only, and did not text).

5) Did you have an unlimited text messaging plan on your cell phone when you were under age 18? (i.e. you could send or receive as many texts as you wanted for no additional charges as part of your monthly phone plan)

YES

NO

I don't know/I'm not sure

Part 2 – Cell Phone Activities/Behaviors

The following questions are regarding behaviors that happened prior to you were under age 18 (i.e. 17 years old or younger). This should not include any experiences that happened after you turned 18 years of age.

- 1) When you were under age 18, did you know anyone else who also under the age of 18 who sent a sexually suggestive message to someone via cell phone?
 YES
 NO

- 2) When you were under age 18, did you know anyone else under the age of 18 who sent a sexually suggestive picture or video of themselves to someone else via cell phone?
 YES
 NO

- 3) When you were under age 18, did you personally send a sexually suggestive message to someone else via cell phone that was also under age 18?
 YES
 NO
 - a.) If yes, how many times total did you send a sexually suggestive message to someone else via cell phone when you were under age 18? _____.

 - i. On average, how many times a week did you send a sexually suggestive message to someone else via cell phone? _____.

 - b.) If yes, what age were you when you sent your *first* sexually suggestive message to someone else via cell phone? _____.

 - c.) If yes, who did you send sexually suggestive messages to via cell phone when you were under age 18? (Check all that apply)
 Boyfriend/Girlfriend
 Someone I had a crush on
 Someone I dated or hooked up with
 Someone I wanted to hook up with

- A friend
- Other (Fill in): _____

4) When you were under age 18, did you personally send a sexually suggestive picture or video of yourself to someone else via cell phone that was also under age 18?

- YES
- NO

a.) If yes, how many times total did you send a sexually suggestive picture or video to someone else via cell phone when you were under age 18?

_____.

i. On average, how many times a week did you send sexually suggestive picture or video to someone else via cell phone?

_____.

b.) If yes, what age were you when you sent your *first* sexually suggestive picture or video to someone else via cell phone? _____.

c.) If yes, who did you send sexually suggestive pictures or videos to via cell phone when you were under age 18?

- Boyfriend/Girlfriend
- Someone I had a crush on
- Someone I dated or hooked up with
- Someone I wanted to hook up with
- A friend
- Other (Fill In): _____

5) When you were under age 18, did you personally ever receive a sexually suggestive message from someone else via cell phone that was also under age 18?

- YES
- NO

a.) If yes, what age were you when you received your *first* sexually suggestive message from someone else on your cell phone? _____.

b.) If yes, who did you receive sexually suggestive messages from on your cell phone when you were under age 18?

- Boyfriend/Girlfriend
- Someone I had a crush on
- Someone I dated or hooked up with
- Someone I wanted to hook up with
- A friend
- Other (Fill In): _____

6) While under age 18, did you ever receive a sexually suggestive picture or video from someone else via cell phone that was also under age 18?

- YES
- NO

a.) If yes, what age were you when you received your *first* sexually suggestive picture or video from someone else on your cell phone? _____.

b.) If yes, who did you receive sexually suggestive pictures or videos from on your cell phone when you were under age 18?

- Boyfriend/Girlfriend
- Someone I had a crush on
- Someone I dated or hooked up with
- Someone I wanted to date hook up with
- A friend
- Other (Fill In): _____

7) What are the **top 3 reasons** would you have been concerned about sending sexually suggestive messages, picture, or videos of yourself to someone else via cell phone when you were under age 18? (Check 3 reasons only)

- It would have disappointed my parent(s)
- It would have disappointed a teacher or coach
- It would have hurt my reputation with my peers
- I could have gotten in trouble with the law
- I could have gotten in trouble at school
- My current (or future) employers could have seen it
- It would have potentially embarrassed me
- I might have regretted it later
- Other (Fill In):_____
- Other (Fill In):_____
- Other (Fill In):_____

Part 3 – Parental Management

Please answer the following question regarding your parent(s)/legal guardian(s) and your personal cell phone usage when you were under age 18 (i.e. age 17 or younger).

- 1) What age were you when you received your first cell phone? _____.
- 2) Did your parent(s)/legal guardian(s) place a limit on the number of texts you could send or receive in a month, week, or day?
 - YES
 - NO

a. If yes, what was your text messaging limit?

The following questions are regarding your personal feelings when you were under the age of 18. Please indicate how much you disagree or agree with the following statements by placing a vertical slash mark on the line below each statement. PLEASE DO NOT SIMPLY CIRCLE ONE OF THE CHOICES AT THE TWO ENDS OF THE LINE. Rather, draw a vertical line on the continuum where it most accurately represents your disagreement or agreement with each statement.

Here is a hypothetical example, for which you would probably place your slash mark toward the right side of the line.

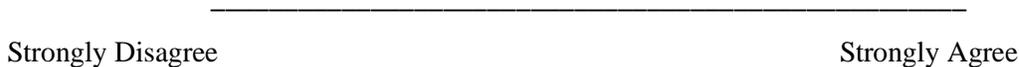
A. I like pizza.



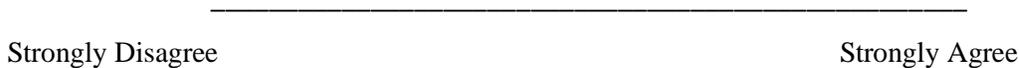
3) My parent(s)/legal guardian(s) monitored the contents of my cell phone on a regular (daily/weekly) basis when I was under age 18.



4) My parent(s)/legal guardian(s) regularly asked who I was sending text messages to when I was under age 18.



5) My parent(s)/legal guardian(s) regularly asked who I was receiving text messages from when I was under age 18.



6) I felt I could “get around” parental/guardian monitoring of my cell phone messages.

Strongly Disagree Strongly Agree

7) When I was in high school, at least one of the adults in my house was pretty informed about what was happening in my life.

Strongly Disagree Strongly Agree

8) The rules about what I could get into trouble for were clear and applied consistently in my house.

Strongly Disagree Strongly Agree

9) In my house, if you were told that you would get punished for doing certain things, and you got caught doing one, you definitely got punished.

Strongly Disagree Strongly Agree

10) At least one of my parents paid pretty close attention to what I was doing and who I was doing it with.

Strongly Disagree Strongly Agree

11) When you were punished in my house, there was a good reason for it.

Strongly Disagree Strongly Agree

12) When I was in ninth grade, if my parents had been notified that I was treating my teachers with disrespect, I would have been in serious trouble.

Strongly Disagree Strongly Agree

Part 4 – Self-Control

Regarding your personal feelings currently as a college student, please indicate how much you disagree or agree with the following statements by placing a vertical slash mark on the line below each statement. PLEASE DO NOT SIMPLY CIRCLE ONE OF THE CHOICES AT THE TWO ENDS OF THE LINE. Rather, draw a vertical line on the continuum where it most accurately represents your disagreement or agreement with each statement.

1) I sometimes find it exciting to do things for which I might get in trouble.

Strongly Disagree Strongly Agree

2) I often act on the spur of the moment without stopping to think.

Strongly Disagree Strongly Agree

3) When I'm really angry, other people better stay away from me.

Strongly Disagree Strongly Agree

4) I almost always feel better when I am on the move than when I am sitting and thinking.

Strongly Disagree Strongly Agree

5) I'm more concerned with what happens to me in the short run than in the long run.

Strongly Disagree Strongly Agree

6) When things get complicated, I tend to quit or withdraw.

Strongly Disagree Strongly Agree

7) I will try to get the things I want even when I know it's causing problems for other people.

Strongly Disagree Strongly Agree

8) If I had a choice, I would always rather do something physical than something mental.

Strongly Disagree Strongly Agree

9) I like to test myself every now and then by doing something a little risky.

Strongly Disagree Strongly Agree

10) I often do whatever brings me pleasure here and now, even at the cost of some distant goal.

Strongly Disagree Strongly Agree

11) Sometimes I will take a risk just for the fun of it.

Strongly Disagree Strongly Agree

12) If things I do upset people, it's their problem not mine.

Strongly Disagree

Strongly Agree

13) Excitement and adventure are more important to me than security.

Strongly Disagree

Strongly Agree

14) When I have a serious disagreement with someone, it's usually hard for me to talk calmly about it without getting upset.

Strongly Disagree

Strongly Agree

15) I lose my temper pretty easily.

Strongly Disagree

Strongly Agree

16) I seem to have more energy and a greater need for activity than most other people my age.

Strongly Disagree

Strongly Agree

17) I dislike really hard tasks that stretch my abilities to the limit.

Strongly Disagree

Strongly Agree

18) I try to look out for myself first, even if it means making things difficult for other people.

Strongly Disagree

Strongly Agree

19) I don't devote much thought and effort to preparing for the future.

Strongly Disagree

Strongly Agree

20) I'm not very sympathetic to other people when they are having problems.

Strongly Disagree

Strongly Agree

21) Often, when I'm angry at people I feel more like hurting them than talking to them about why I am angry.

Strongly Disagree

Strongly Agree

22) The things in life that are easiest to do bring me the most pleasure.

Strongly Disagree

Strongly Agree

23) I frequently try to avoid projects that I know will be difficult.

Strongly Disagree

Strongly Agree

24) I like to get out and do things more than I like to read or contemplate ideas.

Strongly Disagree

Strongly Agree

25) Which of the following behaviors did you do while you were under age 18? (Check all that apply)

- Drank alcoholic beverages
- Cut class or skipped school
- Smoked cigarettes or used other tobacco products
- Engaged in high-risk sexual activity (multiple partners; without a condom)
- Stole an item worth \$5 dollars or less
- Smoked marijuana
- Violated parental curfew
- Cheated on a school assignment or exam
- I did not participate in any of these behaviors while in high school

26) Did you engage in sexual intercourse when you were under age 18?

- YES
- NO

a.) If yes, what age were you the first time you had sexual intercourse? _____.

Part 5 – Personal Characteristics

Please answer the following questions regarding your personal characteristics.

1) What is your current class standing?

- Freshman (0-28 credits completed)
- Sophomore (29-56 credits completed)
- Junior (57-90 credits completed)
- Senior (91 credits or more completed)

2) What is your sex?

- Male
- Female

3) What is your current age? _____

4) Please mark the choice that best portrays your race/ethnicity?

- White, Non-Hispanic
- White, Hispanic
- American Indian or Alaska Native
- African American/Black
- Asian/Pacific Islander
- Bi-racial
- Other/Not Listed (Fill In): _____

5) What is your current student status?

- Pennsylvania resident
- Out-of-State resident (somewhere in the USA, other than Pennsylvania)
- International student (from a country other than the USA)

Appendix B – Focus Group Participation Form

Thank you for your participation in this survey!
Now, we would like to hear **MORE** of your opinion!

You are invited to participate in a focus group discussion on cell phone usage and behaviors among college students. Participation in focus group discussions is completely voluntary, meaning you are free to decide to participate without affecting your relationship with the researcher or the university. The focus groups will be conducted over the next few weeks, and all discussions will be done on the main campus. Each focus group is expected to last between 60-90 minutes. Those who choose to participate by indicating “Yes” for participation, and providing your contact information, will be entered into a drawing to receive a \$25 gift card to the school store. There will be **FREE DINNER** (pizza, soda, and snacks) for those who participate in this project!. Indicating that you would like to participate does not necessarily mean you will be selected for participation in a focus group, but it does ensure that you will be entered into the gift card drawing.

Would you like to be contacted to participate in a focus group?

YES

NO

If you answered “YES” to the above question, please fill in your:

Name: _____

College Class Standing: _____ (Freshman, Sophomore, Junior, Senior).

Sex you most identify with: _____ (Male or Female).

Valid Email Address: _____

Telephone Number: _____

You will be contacted if you are selected to participate. On the reverse side is a seven-day calendar. Please mark an “X” through the times of the week in which

you are **NOT** available to participate. Please mark an “X” through the times of the week where you are **NOT** available to participate in a focus group. Include any times that you **CANNOT** participate because of class/work/sports/extra-curricular activities, etc. Even if you would be available for a portion of a time block, please “X” out the entire block. For example, if you have a class on Monday from 10:20a-11:15a, you would mark an “X” through both the 10am and 11am blocks on Monday to indicate you **CAN NOT** participate.

	MON.	TUES.	WED.	THURS.	FRI.	SAT.	SUN.
8am							
9am							
10am							
11am							
12am							
1pm							
2pm							
3pm							
4pm							
5pm							
6pm							
7pm							

Appendix C - Informed Consent for Survey Instrument

Dear Student,

You are invited to participate in this research study. The following information is provided in order to help you to make an informed decision whether or not to participate. If you have any questions, please do not hesitate to ask. You are eligible to participate because you are a student at this university however, you must be at least 18 years old to participate.

The purpose of this study is to examine cell phone usage and behaviors among teenagers. Specifically, you will be asked questions about sexting during your high school career. Participation in this study will require approximately 20 minutes of your time, and is not considered a part of your coursework. Participation or non-participation will not affect the evaluation of your performance in this class. You will be asked to complete an anonymous survey about behaviors and perceptions of cell phone usage. All answers will be kept completely anonymous. No identifying information (i.e., name, birth date, student ID #) will be requested in the survey, so all information you provide will be anonymous. There are no known risks associated with this research. The information gained will help raise awareness about victimization via cellular phone, and will add to the current literature and aide in future research on this topic.

Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators or the university. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose not to participate simply turn in your incomplete survey and it will be destroyed by the researcher. If you choose to participate, all information will be held in strict confidence and will have no bearing on your academic standing or services you receive from the University. Your responses will be considered only in combination with those from other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings, but your identity will be kept strictly confidential.

If you suffer emotional distress from participation in this study, a sheet containing contact information for various mental health providers is attached.

If you are willing to participate in this study, please tear this Informed Consent Form off the attached survey and keep for your own files. If you have any questions regarding the survey, please feel free to contact the researchers below:

Reneè D. Lamphere, Doctoral Candidate
Indiana University of Pennsylvania
Department of Criminology
111 Wilson Hall
Indiana, PA 15705
Phone: 724-357-7741
Email: r.d.lamphere@iup.edu

Dennis M. Giever, Ph.D.
Indiana University of Pennsylvania
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G-12 Wilson Hall
Indiana, PA 15705
Phone: 724-357-6941
Email: dgiever@iup.edu

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724-357-7730).

Counseling Services

If you suffer emotional distress from participation in this study, you may contact the following mental health providers located both on and off Campus:

The Counseling Center
Indiana University of Pennsylvania
Suites on Maple East, G31
901 Maple Street
Indiana, PA 15705
Telephone: 724-357-2621

Indiana County Guidance Center
793 Old Route 119 Highway North
Indiana, PA 15701
Telephone: 725-465-5576

Appendix E – Focus Group Discussion Guide

Semi-Structured Focus Group Discussion Guide

This research instrument is a guide for the focus group discussions. The instrument is subject to change as data collection and analysis continues throughout the project. Depending on focus group discussions (and the research process), questions may be added during the focus group sessions to collect pertinent information.

Moderator Guide and Script

Introduction: Explanation of the Current Project

First, I would like to thank you for your participation in this focus group. The goal of this focus group session is to obtain your opinions and feedback (both positive and negative) on the topic of sexting among teenagers in the United States today. Any and all comments you make today will be valuable as they will help shed light on the rather unexplored topic of sexting among US teens.

Focus Group Participant Directions

In the next hour to hour and a half, I will be taking notes and video taping the discussion you are about to have. I would like everyone in the group to talk and contribute to the conversation as much as possible. Everyone's opinion on this topic is important to the conversation, and the more of your opinions we can get the better. Please keep in mind that anything you say during this group is considered confidential, meaning that the other moderator(s) and I will not discuss what is said during this focus group. Information that identifies who you are (like video tapes and transcripts) will be kept secret, so there is no way for others outside of this group to know what you said during the conversation. All of the video tapes we capture you on today will be destroyed after we transcribe the information you have to say.

Ice Breaker Activity

Each of you has been given a pen and a piece of paper. I would like you to write down three things about yourself; two things that are true, and one thing that is a lie. Each of us will take turns reading our papers to the group, while the rest of us try to guess which statement is a false statement about you.

Discussion Topic 1

Sexting is a problem in the United States that has recently gained a lot of media attention. For the purpose of this discussion, sexting will be defined as "sending nude, semi-nude, or sexually explicit messages, pictures, and videos to someone else through a cell phone". As a group, I would like to discuss sexting to get your opinion on what you think it is, and who you think is participating in sexting. Remember, sexting is something that is illegal only if someone is under the age of 18 when they do it.

Discussion Topic 2

Pretend that we are policy makers, and our job is to tell US legislators what needs to be done to prevent or stop teenage sexting. What are some suggestions that you would give on how we can prevent or stop teenagers from participating in sexting?

Additional Questions

The following questions will be used to assist the focus group moderators in facilitating discussion only if there is a need to do so during the focus group (not enough participation, lulls in conversation, etc).

- 1) What do you think of when you hear the word “sexting”
 - a. Is there a difference between sending pictures/videos vs. messages?
 - b. What needs to be included/excluded from a picture in order for it to be considered sexting?
- 2) What are some of the reasons that a person would chose to send a sext?
 - a. Is there “pressure” to participate in sexting? From who?
- 3) How does sexting relate to your social standing in school?
 - a. What are the differences between those who sext and those who do not?
 - i. Is there a difference between senders and receivers of sext messages?
- 4) What do you think deters people from participating in sexting?
- 5) Are you aware of any legal consequences associated with sexting?
 - a. Do you think these consequences are fair?
 - i. If not, how should sexting be handled?

Moderator will tell participants the legal consequences of sexting

Closing Remarks

Thank you all for your participation in this focus group. It was very insightful, and the answers and opinions that you gave today will be very valuable to research on this topic. Please feel free to contact us if you have any questions or comments.

Appendix F – Focus Group Informed Consent Form

Voluntary Informed Consent Form Focus Group Discussions

I would like to invite you to participate in a research study. I ask that you please review the following information so that you can make an informed decision in regard to your participation in this project. If you choose to participate, please keep in mind that if you have any questions, about this study at any time, please do not hesitate to ask. You are eligible to participate because you are a student at this university; however, you must be at least 18 years old to participate.

The purpose of this study is to examine cell phone usage and behaviors among college students. The focus group is expected to last between 60-90 minutes. However, this is only an estimate, and the actual time of the focus group could last longer.

Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators or the university. Your decision will not result in any loss of benefits to which you are otherwise entitled. You will receive two copies of this consent form. One will be signed by you and kept on file with the researcher, and one copy you will keep for your personal records. There are no known risks associated with this research. The information gained will help raise awareness about victimization via cellular phone, and will add to the current literature and aid in future research on this topic.

All focus group sessions will be videotaped, and the focus group moderators will be making notes during the focus group session. Following the focus group session, all video tapes and notes will be transcribed on a computer and will exclude any information that can be used to identify you. After transcription, all video tapes and field notes will be destroyed. I will use quotes in my dissertation, but no identifying information will be used in the dissertation or future publications. To protect the participants, information will be stored under lock and key for a period of three years. This is procedure under federal law.

If you are willing to participate please sign and date the attached form. If you do not wish to proceed with participation in this study, I would like to thank you for your time and consideration of this matter.

If you suffer emotional distress from participation in this study, a sheet containing contact information for various mental health providers is attached.

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This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724-357-7730).

After reviewing the following information provided by the researcher, I volunteer to participate in this research study. I understand that information I provide will be kept confidential and no indentifying information will be used. I understand that my participation is completely voluntary and that I may withdraw from participation in this study at any time without adversely affecting my relationship with the investigators or the university.

Name (Please Print): _____

Signature: _____

Date: _____

I hereby certify that I have explained to the participant the nature of this study, potential benefits, and possible risks associated with participation. I have given the opportunity for questions to be asked and answered in regard to this study.

Signed: _____

Date: _____

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