

FACTORS AFFECTING SEXTING BEHAVIORS AMONG SELECTED
UNDERGRADUATE STUDENTS

by

Heather K. Hudson

B.S., Eastern Illinois University, 2006
M.P.H., University of Illinois Springfield, 2008

A Dissertation

Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy in Education degree with a concentration in Health Education.

Department of Health Education and Recreation
in the Graduate School
Southern Illinois University Carbondale
June 2011

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
LIST OF TABLES	iv
LIST OF FIGURES	vii
CHAPTER 1 – INTRODUCTION	1
Background of the Problem	1
Need for the Study	3
Purpose of the Study	5
Research Questions.....	5
Significance to Health Education.....	6
Research Design.....	8
Study Sample	8
Data Collection	9
Data Analysis	9
Assumptions.....	10
Limitations	10
Delimitations.....	11
Definitions.....	11
Summary	13
CHAPTER 2 – LITERATURE REVIEW	14
Overview.....	14
Purpose of the Study	14
Research Questions.....	14

Computer Mediated Communication.....	15
Sexual Communication.....	20
Consequences of Sexting	24
Review of Sexting Research	31
Self-Esteem.....	44
Intentions to Sext	47
Summary.....	49
CHAPTER 3 – METHODS	51
Overview.....	51
Purpose of the Study	51
Research Questions.....	51
Research Design.....	52
Sample.....	52
Instrumentation	53
Pilot Study.....	58
Data Collection	59
Data Analysis	59
Summary	64
CHAPTER 4 – RESULTS	65
Overview.....	65
Purpose of the Study	65
Research Questions.....	65
Sample Demographics	66

Analysis of Research Questions.....	67
Summary	102
CHAPTER 5 – SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS	104
Introduction.....	104
Summary of the Study	104
Conclusions.....	107
Discussion	110
Recommendations for Future Research	120
Recommendations for the Field of Health Education.....	122
REFERENCES	126
APPENDICES.....	150
Appendix A – Sexting Survey Instrument.....	151
Appendix B – <i>Sex and Tech</i> Survey Instrument	161
Appendix C – E-mail Correspondence with Representatives from The National Campaign Granting Permission to Use Instrument	169
Appendix D –Screenshot View of Permission to Use RSE Scale	171

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
Table 1 <i>Sexting Behaviors of Teenagers and Young Adults Regarding Sexually Suggestive Messages (N=1,262)</i>	38
Table 2 <i>Sexting Behaviors of Teenagers and Young Adults Regarding Nude or Semi-Nude Pictures or Videos (N=1,262)</i>	39
Table 3 <i>Prevalence of Sexting Behaviors in Previous Studies</i>	43
Table 4 <i>Attitudes, Subjective Norms, and Behaviors Component Adapted from the Sex and Tech Survey Instrument</i>	54
Table 5 <i>Rosenberg Self-Esteem Scale Questions</i>	56
Table 6 <i>Behavioral Intention Questions and Possible Responses</i>	57
Table 7 <i>Instrument Scoring Method</i>	60
Table 8 <i>Research Questions Statistical Analysis Summary</i>	62
Table 9 <i>Demographic Characteristics of Study Participants</i>	68
Table 10 <i>Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Attitudes Toward Sexting</i>	71
Table 11 <i>Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Subjective Norms Toward Sexting</i>	74
Table 12 <i>Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Global Self-Esteem Levels</i>	76
Table 13 <i>Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Sexting Behavioral Intentions</i>	78

Table 14 <i>Descriptive Statistics for Instrument Items Assessing Sexting Behavioral Intentions for Lifetime Non-Sexters</i>	79
Table 15 <i>Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Sexting Behavioral Intentions to be More Sexually Forward/Aggressive When Sexting</i>	81
Table 16 <i>Frequencies and Percentages of Instrument Items Assessing Lifetime and Current Sexting Behaviors</i>	83
Table 17 <i>Frequencies and Percentages of Instrument Items Assessing Reasons for Sending Sext Messages</i>	84
Table 18 <i>Frequencies and Percentages of Instrument Items Regarding Those Who Received Participants' Sexts</i>	86
Table 19 <i>Independent Sample T-test Results Comparing Mean Sexting Behavior Scores for Demographic Variables</i>	87
Table 20 <i>One-way ANOVA Results Comparing Mean Scores for Demographic Variables</i>	89
Table 21 <i>Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales</i>	91
Table 22 <i>Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales Among Lifetime Sexters</i>	93
Table 23 <i>Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales Among Current Sexters</i>	93

Table 24 <i>Summary of Logistic Regression Analysis Predicting Lifetime Sexters</i>	95
Table 25 <i>Summary of Logistic Regression Analysis Predicting Current Sexters</i>	96
Table 26 <i>Summary of Linear Regression Analysis for All Sexting Behaviors</i>	97
Table 27 <i>Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions Subscales Among Lifetime Non-Sexters</i>	98
Table 28 <i>Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions Subscales Among Current Non-Sexters</i>	99
Table 29 <i>Summary of Linear Regression Analysis for Behavioral Intentions Among Lifetime Non-Sexters</i>	101
Table 30 <i>Summary of Linear Regression Analysis for Behavioral Intentions Among Current Non-Sexters</i>	102
Table 31 <i>Comparisons of Current Study's Sexting Behaviors Among Previous Studies on Sexting Behaviors</i>	111
Table 32 <i>Comparison of Lifetime Sexting Behaviors Between Sex and Tech Survey and Current Study Results Regarding Sexy Messages</i>	112
Table 33 <i>Comparison of Lifetime Sexting Behaviors Between Sex and Tech Survey and Current Study Results Regarding Sexy Images</i>	112

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
Figure 1 <i>Comic Strip Related to a Potential Sexting Scenario</i>	23

CHAPTER 1

INTRODUCTION

On September 22, 2010, Tyler Clementi, a Rutgers's University freshman, ended his life (Balkham, 2010). Clementi posted a message on Facebook® reading "Jumping off the gw bridge sorry" before committing suicide by jumping off the George Washington Bridge (Friedman, 2010). On September 19, 2010, Clementi's roommate revealed on his Twitter® page that he secretly videotaped Clementi in his dorm room during a "sexual encounter" (Friedman, 2010). Two days later, the roommate "tweeted" that he was going to tape Clementi again and live-stream whatever happened on iChat®, and dared his friends to view the live online video (Friedman, 2010). Once Clementi discovered he was unknowingly involved in the sexting incident, the freshman boy took his life (Balkam, 2010). This incident was the first nationally reported suicide resulting from sexting among college students.

Background of the Problem

"Sexting" was listed in *Time*® magazine as the number one buzzword of 2009 (Stephey, 2009) and was also a finalist for the 2009 "word of the year" by the New Oxford American Dictionary® (Stanglin, 2009). Sexting is a play on the words "sex-texting" (Siegle, 2010), and has many different definitions. For this study, sexting was defined as electronically sending, posting, or sharing/forwarding sexually explicit messages or semi-nude/nude images. Sexting has frequently been linked to the term "cyberbullying," which is bullying with the use of any type of technology (Peckham, 2010). Sexting as cyberbullying (also referred to as "sextbullying") occurs when a person or group purposely attempts to harm, distress, threaten, or disgrace someone else as a direct result of the sexting content, or solicited to pose or perform sexual acts which makes the recipient feel distress (Beatbullying, 2009).

In 2008, a non-random online survey of 653 teenagers (age 13-19 years) and 627 young adults (age 20-26 years) found that 20% of teenagers and 33% of young adults self-reported sending or posting nude or semi-nude pictures or videos of themselves, and 38% of teens and 58% of young adults

admitted to sending or posting sexually suggestive messages (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008). Similar results were reported in another online survey, conducted by the Associated Press (AP) and Music Television™ (MTV) of 1,247 teenagers and young adults (age 14-24) (AP-MTV, 2009). The AP-MTV study recruited participants randomly from Knowledge Panel®, which is a nationally representative online panel. Twenty-four percent of teenagers 14-17 year old and 33% of young adults 18-24 year old reported being involved in some type of naked sexting, and 29% of respondents reported receiving sexually suggestive messages (AP-MTV, 2009). These data revealed that a substantial proportion of teens and young adults were engaging in sexting.

Text messaging, e-mail, instant messaging (IM), and social networking sites (SNS) are known as computer mediated communication (Thurlow, Lengel, Tomic, 2004). Computer mediated communication (CMC) is a trendy and commonly-used mode of communication among college students (Auter, 2007; Massimini & Peterson, 2009). For college undergraduates, communication through technology provides a way to have intimate personal contact while also being detached, to control self-presentation and connection (Ling & Yttri, 2002; Thurlow, 2003). However, within intimate relationships, undergraduate students are using CMC as a mode for enhancing and sustaining intimate relationships by staying constantly connected more so than using CMC for practical or functional goals (Ling & Yttri, 2002; Thurlow, 2003).

CMC has allowed young adults to build, maintain, and sustain relationships, organize events and social gatherings, and share new and exciting experiences with their friends and peers (Horstmanshof & Power, 2005). College students especially like the enhanced sense of control that CMC gives them, such as giving them the the power to reply when they want and not be put on the spot. They identify other benefits, such as privacy, sense of protection, entertainment, efficiency, cost, convenience, and the ability to store special sentimental messages (Horstmanshof & Power, 2005; Mahatanankoon & O'Sullivan, 2008; Massimini & Peterson, 2009). Sexting is a part of sexual communication using CMC, such as text/picture/videos messages sent via cell phone, e-mail, IM, or SNS (Beatbullying, 2009; Lenhart, 2009c). However, CMC usage in the form of sexting involves many risks that could negatively affect a person emotionally, socially, physically, and legally.

Sexting can have severe implications on one's health, such as emotional problems like depression and suicide, if the sext message gets forwarded to persons other than intended (Kaye 2010; Keys, 2009; Friedman, 2010; Mobile Media Guard, 2010). Seventeen percent of teenagers and young adults reported sharing a nude or semi-nude picture or video (AP-MTV, 2009; The National Campaign, 2008) and 55% of those who have shared images of others forwarded the images to more than one person (AP-MTV, 2009). Twenty-three percent of teenagers and young adults have shared sexually suggestive messages with others (The National Campaign, 2009). Social and legal consequences of cyberbullying and sexual harassment have been associated with the sexter whose recipient forwarded the sext to others (Brown, Keller, & Stern, 2009; Cox, 2009; Muscari, 2010; Siegle, 2010).

In the first public study about sexual communication and technology, The National Campaign to Prevent Teen and Unplanned Pregnancy (also referred to as "The National Campaign") reported that 22% of teens (13-19) and 28% of young adults (20-26) said they were more aggressive and forward sexually through text messaging or e-mail than they were in "real life." The study also implied that sexual communication via communication technology messaging was not just innocent flirtation, but could impact their behavior. Forty percent of young adults admitted that sending and receiving sexually suggestive content and pictures/videos made "hooking up" or dating more likely (The National Campaign, 2009). Over half (61%) of those who sent a naked picture or video of themselves had been pressured more than once by someone else (AP-MTV, 2009).

Need for the Study

Among college students, sexting is becoming increasingly popular, as CMC remains a key mode for interpersonal communication (Auter, 2007; Massimini & Peterson, 2009). To date, few research studies have been completed about the topic of sexting (Brown, Keller, & Stern, 2009), and most of these studies only assessed sexting behaviors (Cox, 2009; AP-MTV, 2009; Hinduja & Patchin, 2010; Lenhart, 2009c; LG-TRU, 2009). The current study will measure self-esteem levels, attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors of all participants. This study also will determine the relationship among these variables and sexting

behaviors for those who sext (also referred to as “sexters”), and behavioral intentions for those who do not sext (also referred to as “non-sexters”)

This study was guided by the Theory of Reasoned Action. The Theory of Reasoned Action (TRA) is an accurate model used across many areas to predict and understand behaviors as well as behavior change (Fisher, Fisher, and Rye, 1995; Sheppard, Hartwick, & Warshaw, 1988). The TRA that suggests that any voluntary behavior can be determined by intentions to perform the behavior; and that behavioral intentions are a function of the person’s attitude about that behavior combined with the person’s subjective norm (Ajzen & Fishbein, 1975). Attitudes are made up of the beliefs people hold about the behavior and the perceived positive or negative consequences associated with the behavior (Ajzen, 1988). Subjective norms reflect the influence of a person’s social environment; the evaluation of perceived social norms and attitudes of how people they care about will view the behavior and whether or not those people support that behavior (Ajzen, 1988; Fisher, Fisher, & Rye, 1995). Therefore, positive and negative attitudes and subjective norms toward the behavior play a role in forming intentions of the behavior (Ajzen & Fishbein, 1975). Thus, behavioral intention to perform or not perform the behavior depends on subjective norms and attitudes toward the behavior.

Since intentions are the single most important predictor of volitional behavior (Ajzen & Fishbein, 1975), this study will assess sexting behavioral intentions of those who do not sext to see if different situations or circumstances will make them more likely to sext. Behavioral intention expresses a highly accurate prediction of whether or not the behavior will be performed (Ajzen, 1988). Behavioral intention measures a person’s strength of intention to perform the behavior (Ajzen & Fishbein, 1975). Typically, the more positive the attitude and subjective norm, the stronger the intention is to perform the behavior in question (Ajzen, 1988).

More research needed to be conducted to better understand why young adults (age 18-24) have the highest prevalence of sexting behaviors. Assessing attitudes and subjective norms toward sexting will help understand why sexting has become so rapidly popular among this age group, regardless of this behavior’s potential negative consequences. Also, there is a need for research on intentions to sext among those who have not yet engaged in this risky behavior, since behavioral intention is the best

predictor of actual behavior (Ajzen & Fishbein, 1975). Assessing sexting behavioral intentions will help determine whether intentions to sext are increased given different scenarios or circumstances.

Lastly, there is a major gap in the research about sexting and self-esteem levels. Knowing the relationship between levels of self-esteem and sexting behaviors could help understand reasons for sexting (i.e. sexting as a “sexy” present for boyfriend/girlfriend, to feel sexy, or because of pressure or blackmail, etc). This information would be valuable in determining whether or not people with low self-esteem sext for different reasons than those with high self-esteem. Speculations have been made about self-esteem levels being factor as to why people engage in sexting and for what purposes (Duncan, 2010; Klausner, 2010; O’Crowley, 2009; Spags, 2010); however, no previous research has assessed this relationship. This study was the first known study to assess the relationship between self-esteem levels and sexting behaviors.

Purpose of the Study

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

Research Questions

The following research questions were assessed:

1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?

3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?
4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?
5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

Significance to Health Education

There could be several health education implications if significant relationships exist among sexting behaviors/behavioral intentions, self-esteem levels, attitudes toward sexting, and subjective norms toward sexting. From a health education perspective, this study will help health educators prevent negative consequences associated with sexting and promote healthy sexual communication strategies using communication technologies. Results from this study also could help design an empowering curriculum that addresses sexting behaviors. The curriculum could encourage students to evaluate reasons for which they are sexting as well as evaluate potential positive/negative, short-term/long-term consequences of sending a sext message. A curriculum that addresses sexting also could equip students with skills necessary to make informed decisions about whether or not to engage in sexting.

Understanding the prevalence of sexting and reasons for engaging in sexting will be beneficial for the field of health education. Health educators could develop practices that will help reduce persons engaging in sexting behaviors as a result of being pressured or coerced. Reducing these situations could help persons avoid unfavorable outcomes as a result of sexting that could affect one's health and future.

These practices also could support responsible sexting behaviors that facilitate healthy sexual communication among adults with mutual respect as an opportunity to discuss sexual desires. Further, health educators could use the opportunity to support and encourage communication about topics that could help lower risk of disease and/or unplanned pregnancy that a person considers too “uncomfortable” to discuss face-to-face.

Knowing the relationship between levels of self-esteem and sexting behaviors could help assess how self-esteem levels might be related to sexting, and which controllable sexting behaviors (i.e. sending/posting/forwarding/sharing sexy messages or images) youth and young adults more likely to perform depending on their self-esteem level. This information will be helpful in terms of tailoring sexting prevention programs for situations, such as sextbullying, illegal sexting, and at-risk sexting.

Sextbullying, which is a subset cyberbullying, is online harassment or exploitation by sharing/forwarding other persons’ sexts with other people (Dunn, 2009; Eraker, 2010; Muscari, 2010). Sharing/forwarding sext messages of individuals can lead to the victims committing suicide out of shame, harassment, and embarrassment (Brown, Keller, & Stern, 2009). Also, there are many other instances of sharing/forwarding sexts that resulted in other negative consequences such as divorce, public humiliation, job loss, felony convictions, prison sentences, and sex offender registration (Brown, Keller, & Stern, 2009; Muscari, 2010; NCMEC, 2009).

Illegal sexting is sexting involving persons under the age of 18 years that violate child pornography laws (Greenberg, 2011). The law prohibits any person under the age of 18 to send or forward sexts or for any person to possess sexts of minors because of child pornography laws (18 U. S. C. §§ 1466A, 2251, 2252, 2252A, 2008). More specifically, illegal sexting is sexting that involves a minor including possession of sext involving a minor; distribution of a sext of a minor; promoting, coercing, or soliciting a sext from a minor; or receiving a sext from or of a minor (Mobile Media Guard, 2011). All 50 states have some type of legal enforcement for illegal sexting (Mobile Media Guard, 2011) and in 2011, at least 21 states introduced resolutions or bills aimed at sexting (National Conference of State Legislators, 2011). However, the laws and severity of the punishment varies from among states (Mobile Media Guard, 2011). Illegal sexting can have severe consequences such as

felony penalties and sext offender registration. As of April 2011, 21 states introduced sexting bills or resolutions (NCSL, 2011).

Further, at-risk sexting is referred to when persons self-objectify themselves by posting or uploading nude or semi-nude images of themselves or posting sexually explicit messages about themselves, especially on SNS. At-risk sexting situations occur when sexting is not sextbullying or illegal, yet still have negative consequences, such as victimization, cyberstalking, humiliation, job loss, or divorce (Brown, Keller, & Stern, 2009; Leshnoff, 2009; Muscari, 2010; NCMEC, 2009).

Research Design

This exploratory study was a descriptive, cross-sectional, correlational design. A correlational design was appropriate for determining how sexting behaviors and sexting behavioral intentions relate to attitudes and subjective norms toward sexting, and self-esteem levels of selected undergraduate students. Correlation is an “empirical relationship between two variables such that (a) changes in one are associated with changes in another or (b) particular attributes of one variable are associated with particular attributes of another” (Babbie, 2007). Participants completed a survey instrument that measured self-reported sexting behaviors, sexting behavioral intentions, global self-esteem levels, attitudes toward sexting, and subjective norms toward sexting. The survey instrument used for this study was a combination of a previously-used sexting instrument was partially adapted and revised for this study (The National Campaign, 2008), Rosenberg’s self-esteem scale (Rosenberg, 1965), and sexting behavioral intention questions.

Study Sample

A non-random, convenience sample at a mid-sized university in the Midwest was used. The sample included male and female undergraduates enrolled in one of the following introductory-level Human Health required core courses during the Spring 2011 semester: personal health, nutrition, or physical fitness. Students 18 years and older were eligible to participate in this research study. Also, participants had to complete a minimum of 95% of the survey instrument to be eligible for data analysis. Of the 760 survey instruments collected for this study, 697 participants met these requirements, yielding a 91.7% response rate. This study’s sample of 697 participants exceeded the

sample size calculation considered appropriate (375-444 participants) for this population size of 15,141 undergraduate students (Alreck& Settle, 2004; Raosoft, 2004).

Data Collection

Upon receiving approval from the doctoral dissertation committee, the university Institutional Review Board, and classroom instructors, data was collected during the Spring 2011 semester. Students who volunteered to take the survey instrument were read the consent form by the researcher. Informed consent forms attached to the survey provided further information and explanation of the research study. Participants also received their own copy of the informed consent document that they were instructed to use to cover their responses on their Scantron® sheets and then to keep after completing the survey instrument.

Classroom teachers were asked to leave the room while students were taking the survey so students did not feel that they would be penalized for not participating in the research study. Instructions given to students who chose not to participate in the survey were left to the discretion of the class instructor. Generally, instructors relayed instructions to students before stepping out of the classroom about whether or not they were permitted to leave after completion of the survey or if they chose not to take the survey. However, some instructors told the researcher what instructions to relay to the class about what to do after completion of the survey or if they choose not to participate. After completion of the survey instrument, participants dropped their survey instrument and Scantron® sheet into a covered box. Once all survey instruments and Scantron® sheets were collected, the box was closed and sealed by the researcher and stored in a secure location.

Data Analysis

Data collected was analyzed using SPSS® 17.0 (SPSS Inc, 2009). Frequencies, percentages, and mean scores calculated the attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors. T-tests and analysis of variances determined differences in sexting behaviors based on demographic variables. Pearson correlations assessed the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem

levels, sexting behavioral intentions, and lifetime and current sexting behaviors. Logistic regressions assessed whether attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions were predictive of lifetime and current sexters. Multiple regression analyses tested variation in sexting behaviors explained by attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions. For those who have never sexted, Pearson correlations assessed the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions. Multiple regression analysis was used to determine how much variation in sexting behavioral intentions could be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels for those who do not sext.

Assumptions

The following assumptions were made:

- 1) Participants responded to items in the survey based on their current perceptions and behaviors.
- 2) Participants enrolled in the required Human Health core courses (i.e. HED 101, KIN 101, and HND 101) were similar to other students within the university.
- 3) Participants understood each item as intended.
- 4) Students' memories of sexting behaviors were accurate.
- 5) Survey items accurately measured what they are intended to measure.
- 6) The survey instrument was reliable and valid.

Limitations

The following limitations apply to this study:

- 1) Instrument length (111 items, mostly Likert-type scales) and completion time (20-35 minutes) could have been a limitation.
- 2) Participants' sexting behaviors could have been influenced by variables other than those assessed in this study.
- 3) The sample was a convenience sample; therefore, students may not have been representative of the population, which could have limited the generalizability of the study.

- 4) Students selected in the college/university setting may have been more liberal than the general population.

Delimitations

The researcher imposed the following delimitations on this study:

- 1) Participants were delimited to students taking one of the mandatory general Human Health core courses during the Spring 2011 semester.
- 2) Nude and semi-nude images, in regard to pictures and videos, were combined together in the survey instrument in order to shorten the lengthy survey instrument. However, not separating the different visuals may limit analysis of sexting behaviors.

Definitions

The following operational definitions will be used in this study:

- *Computer Mediated Communication (CMC)*: Written or visual communication that occurs through computer-based or text-based interaction (Thurlow, Lengel, Tomic, 2004). Traditional CMC forms include instant messages, chat rooms, e-mails, text messaging, and social networking sites.
- *Cyberbullying*: Intentional cruelty to others by sending or posting harmful material or engaging in other forms of social aggression using the Internet or other digital technologies (Willard, 2007, p. 1). The eight different forms of cyberbullying are (Willard, 2007, pp.1-2): flaming, harassment, denigration, impersonation, outing, trickery, exclusion, and cyberstalking, and sextbullying (Muscari, 2010).
- *Instant messaging (IM)*: A form direct text-based communication that occurs in real-time between two or more people using IM devices that connects over the Internet (Nardi, Whittaker, & Bradner, 2000, p. 80).
- *Sexting or sexting behaviors*: Sexting is electronically sending, posting, or sharing/forwarding sexually explicit messages or semi-nude/nude images. Sexting is also linked to the term cyberbullying, referred to as “sextbullying” (Muscari, 2010), when a person or group purposely attempts to harm, distress, threaten, or disgrace someone else as a direct result of the sexting

content, or solicited to pose or perform sexual acts which makes the recipient feel upset (Beatbullying, 2009).

- *Sexts (or sext messages)*: For this study, sexts included sexy messages and sexy images (see definitions below).
- *Sexting behavioral intention*: Intentions of whether or not to perform sexting behaviors in the future.
- *Sextortion*: The practice of using a person's explicit photograph against the person to extort sexual favors or more picture from the person (Mobile Media Guard, 2011).
- *Sexual communication*: The means by which individuals come to select potential partners for sexual relations, and through which the meanings, functions, and effects of sexual relations are negotiated (Metts & Spitzberg, 1996, p. 49).
- *Sexy messages*: Sexually suggestive written personal text messages, e-mails, IM, etc- and not those received from spam (The National Campaign, 2008).
- *Sexy images*: Sexually suggestive, semi-nude, or nude personal pictures or videos taken of oneself (alone or by another person)- and not those found on the Internet, received spam, etc (The National Campaign, 2008).
- *Social media*: a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content (Kaplan & Haenlein, 2010).
- *Social Networking Sites (SNS)*: Online sites, services, or platforms, where users construct public or semi-public profiles, that focus on reflecting and building social relations within those who share the same activities or interests (Boyd & Ellison, 2007).
- *Text messaging (or texting)*: Sending of short text, or Short Message Services (SMS), messages electronically consisting of less than 160 characters between cell phone recipients (Lenhart, 2009a; Pettigrew, 2009). Text messages can also be sent on laptop or desktops through e-mail clients, or social networks, or IM (Lenhart, 2009a, p. 12).

- *Viral*: Term describing when content, often user-generated, reach large audiences spreading rapidly, widely, and organically (Calvert, 2009, p. 4).

Summary

Most forms of communication technology have been researched extensively; however, there is a gap in the literature in the specific area of sexting. For the field of health education, understanding the prevalence of sexting and reasons for engaging in sexting is beneficial to health educators when developing practices or curriculums that address sexting. To address the need of literature addressing sexting behaviors, this correlational study assessed the relationship among sexting behaviors and self-esteem levels, attitudes toward sexting, and subjective norms toward sexting. To address the need of literature addressing sexting behavioral intentions of those who do not sext message, this study assessed the relationship among sexting behavioral intentions and self-esteem levels, attitudes toward sexting, and subjective norms toward sexting.

CHAPTER 2

LITERATURE REVIEW

Overview

The purpose of this chapter is to provide basis and justification for the need of this study through a review of related literature. This chapter includes the following sections: computer mediated communication, sexual communication, sexting consequences, review of sexting research, self-esteem, and intentions to sext.

Purpose of the Study

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

Research Questions

The following research questions were answered:

1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?
3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?

4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?
5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

Computer Mediated Communication

Computer mediated communication (CMC) is written or visual communication that occurs through computer-based or text-based interaction (Thurlow, Lengel, & Tomic, 2004). Traditional CMC forms include instant messaging (IM), chat rooms, e-mails, text messaging, and social networking sites (SNS). Today's traditional college students have grown up to be known as the "Millennial generation", or those born between 1982 and 2003 (Marantz-Henig; 2010). This generation was said to be tech-savvy and over-reliant on peer relationships (Marantz-Henig; 2010). The combination of these two characteristics might explain why this generation is the biggest users of modern computer mediated communication (Warner, 2010).

Uses and Gratifications Theory

Uses and Gratifications Theory attempts to describe the practices and purposes of media with the basic idea that users know media content and which media they can use to meet their need (McQuail, 1983). In other words, people use many different forms of media for many different reasons. Uses and Gratifications Theory provides a framework for understanding the processes by which media participants seek content or information selectively making motivated choices, corresponding with their interests and perceived needs (Katz, Blumler, & Gurevitch, 1974).

In 1983, McQuail came up with four classifications of common reasons for media use including: information, personal identity, integration and social interaction, and entertainment.

Information reasons include a variety of reasons to use media including seeking information, advice, knowledge, and self-education. Personal identity includes using media to gain self-insight, reinforcement for personal values, and identifying with others. Common reasons for integration and social interaction include connecting with family, friends, and society, finding a basis for social interaction and conversation, and gaining insight into the circumstances of others. Lastly, reasons for media usage for entertainment include escape, relaxation, fix for boredom, emotional release, and sexual arousal (McQuail, 1983). Uses and Gratifications Theory emphasizes that individuals can use the same communication message for to fulfill different needs for different reasons (Blumler & Katz, 1974).

This theory could be applied to sexting to describe the practices and purposes of sexting using CMC. There are many different forms of CMC that can be used to sext, such as text message, picture/video message, IM, webcam, e-mail, SNS, etc. Also, different persons may sext for different reasons. One may choose to sext in order to connect with their significant other to communicate their sexual desires, while another person might choose to sext for entertainment and sexual arousal.

Cellular Phones

Cell phone usage and text messaging among college students is at an all-time high. Recent studies have found that cell phones and text messaging is dominating college campuses where 97-99.7% of college students own a cell phone and 94% text message daily (Hargittai, 2007; Salaway, Caruso, & Nelson, 2007; Ransford, 2009a). Another study reported that 88% of adults age 18-29 text message, and the median number of text messages sent per day is 20 (Lenhart, Ling, & Campbell, 2010). In 2005, 30% of college students took and sent photographs and 4% took and sent videos from their cell phone (Ransford, 2005). In 2009, the number of college students who took and sent photographs from their cell phone increased to 72%, and videos increased to 39% (Ransford, 2009a). Students are using their mobile devices several hours a day; in fact, one study found that students used their cell phone over ten hours a week, mostly for interpersonal communication (Auter, 2007).

Research shows that text messages have been used to initiate, advance, maintain, and influence interpersonal relationships, as well as end them (Gershon, 2010). Even though most college students

agree than face-to-face communication is more helpful than a text message, this group of young adults' behaviors still favors text messaging (Massimini & Peterson, 2009). To young adults, texting has many benefits. Text messaging allows young adults to build, maintain, and sustain relationships, organize events and social gatherings, and share new and exciting experiences with their friends and peers (Horstmanshof & Power, 2005). College students especially like the enhanced sense of control that sending text messages enables (Massimini & Peterson, 2009). They also identify other benefits, such as privacy (as opposed to a phone conversation where others can hear), sense of protection, entertainment, efficient, cost, convenience, and the ability to store special sentimental messages (Horstmanshof & Power, 2005; Mahatanankoon & O'Sullivan, 2008; Massimini & Peterson, 2009).

While text messaging does have many benefits for college students, evidence is showing that text messaging is positively related to a variety of physical and psychological health issues. Increased stress and anxiety levels, interrupted sleep, hand and neck pain, increased heart and breathing rate, psychological discomfort, depression, and social anxiety have been associated with text messaging behaviors (Horstmanshof & Power, 2005; Massimini & Peterson, 2009; Lin & Peper, 2009; Pierce, 2009; Sanchez-Martinez & Otero, 2007). A large international study of adolescents 13-20 years old found that intensive cell phone use was associated with health-risk behaviors, such as excessive alcohol consumption, smoking tobacco, cell phone dependence, and school failure (Sanchez-Martinez & Otero, 2007).

In 2004, Reid and Reid surveyed over 1,000 participants to explore social and psychological effects of texting. Findings of this study indicated that even though texting helped develop new relationships, increased social agendas, and helped maintain old relationships, those who preferred texting over talking on the phone were more likely to report that texting had negatively affected relationships with their family and friends (Reid & Reid, 2004). Those who preferred texting to talking on the phone also preferred self-expression via text messaging rather than face-to-face. They reported feeling more comfortable saying certain things and having more intimate social contact through texting than face-to-face (Reid & Reid, 2004). These subjects also reported that their families would be

surprised to read their texts- proposing that they present a different self-image than what familiar family members witnessed (Reid & Reid, 2004).

For college undergraduates, texting provides a way to increase intimate personal contact while also being detached, to control self-presentation and connection (Ling & Yttri, 2002; Pettigrew, 2009; Thurlow, 2003). However, with intimate relationships, undergraduate students used texting as a mode for enhancing and sustaining intimate relationships communicating at more intimate levels of communication than just practical or functional information sharing (Ling & Yttri, 2002; Pettigrew, 2009; Thurlow, 2003), as 61% of text messages college students sent were relational rather than informational (Thurlow, 2003).

Internet Use

For young adults under 30 years old, laptops have overtaken desktops as the computer of choice, allowing users to access the Internet in more places than just their homes (Lenhart, Purcell, Smith, & Zickuhr, 2010). Further, young adults 18-29 are the most common owners and users of mobile Internet via cell phone (Ransford, 2009b). Over one-third (35%) had Internet access on their cell-phones (Lenhart, Purcell, Smith, & Zickuhr, 2010, Ransford, 2009b). In 2009, 93% of young adults, age 18-29, were reported to online, making this age group the most likely to go online among all Americans (Lenhart, Purcell, Smith, & Zickuhr, 2010). This number has increased in ten years, with only 56% of adults online in 1999 (Taylor, 1999). Ten years ago, 87%-95% of college students were online (Odell, Korgen, Schumacher, Delucchi, 2000; Taylor, 1999). This percentage has increased to nearly every college student (99%) having online access today (Johnson, 2007). With increasing number of college courses requiring Internet access as well as universities expanding Internet accessibility, college student populations typically have higher frequency of online usage compared to the general population (Hemmendiger, 2010; Hernandez, 2010; Odell, Korgen, Schumacher, Delucchi, 2000).

Research shows that college students access the Internet for various reasons daily; however, social communication seems to be the most popular. One study found that 55% of college students use e-mail daily, 35% IM daily, and 34% use search engines daily (Johnson, 2007). Several of these

communication mediums, such as e-mailing and IM, provide users with communication opportunities for which college students take advantage, averaging over two hours communicating daily (Bonebrake, 2002). A study by Hovick, Meyers, and Timmerman suggested that e-mail is an important interpersonal medium between romantic couples (2003). Similarly, one study found that IM promoted intimacy, as time spent on IM significantly correlated with effective intimacy, in terms of mutual self-disclosure, emotional bonding, and feelings of closeness (Hu, Wood, Smith, & Westbrook, 2004).

Social Networking Sites

Social networking sites (SNS) also have increased in popularity among college-age students. Social networking sites, also called “social network service,” are online sites, services, or platforms, where users build public or semi-public profiles, that focus on reflecting and building social relations within those who share the same activities or interests (Boyd & Ellison, 2007). Most SNS encourage individuals to create profiles sharing information about themselves, as well as uploading their own picture and videos to their profiles. User profiles also can post entries for others to read, search for persons with similar interests, and comment on profiles, pictures, and videos of other “friends” or users (Peluchette & Karl, 2010). Some SNS have additional communication modes, such as IM, where users can interact in real-time (Lenhart, Purcell, Smith, & Zickuhr, 2010).

As of 2010, 72% of young adults have a social networking profile, 73% have a profile on Facebook®, 48% have a profile on MySpace®, and 14% use LinkedIn®. Over half (57%) of young adults with social networking profiles have more than one profile and 45% access one or more of these sites on a typical day (Lenhart, Purcell, Smith, & Zickuhr, 2010). One-third of persons 18-29 years old who are online read or post status updates on Twitter® (Lenhart, Purcell, Smith, & Zickuhr, 2010). Facebook® remains the most popular social networking site among college students, as over 2,000 colleges have registered over 7.5 million students, with 150,000 new total users being added each day (Cassidy, 2006; Kirkpatrick, 2007; Levy, 2007).

In relation to sexting, research has shown that text messaging is the most preferred mode for sexting among young people (Beatbullying, 2009). The Internet e-mail, IM, and SNS (such as

MySpace© and Facebook©) also are commonly used for sexting among young adults (Beatbullying.org, 2009; Lenhart, 2009c; The National Campaign, 2008). For this age group, CMC is commonly used as a mode for sexual communication in terms of initiating relationships or “hook-ups,” expressing sexual desires and needs, or as high-tech flirting (Beatbullying.org, 2009; Lenhart, 2009c; AP-MTV, 2009; The National Campaign, 2008)

Sexual Communication

Sexual health is defined by the World Health Organization as:

A state of physical, emotional, mental and social well-being related to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. (2002, p. 4)

Robinson’s Sexual Health Model (2002) includes ten essential components of human sexuality necessary for positive sexual health. The essential components include: talking about sex, culture and sexual identity, sexual anatomy and functioning, sexual health care and safer sex, overcoming barriers to sexual health, body image, masturbation and fantasy, positive sexuality, intimacy and relationships, and spirituality and empowerment (Robinson, Bockting, Rosser, Miner, & Coleman, 2002). Sexual communication is related to several of these components, and necessary to achieve optimum sexual health.

Sexting is a part of sexual communication in many different ways. Sexting can be related to the aspect of sexual communication as “the means by which individuals come to select potential partners for sexual relations, and through which the meanings, functions, and effects of sexual relations are negotiated” (Metts & Spitzberg, 1996, p. 49). Also, sexting can relate to sexual communication that includes perceived communication between potential partners or actual partners about sexual history, sexually transmitted infections, safer sex, sexual pleasure, and sexual limits as well as sexual assertiveness (Boyle & O’Sullivan, 2010; Greene & Faulkner, 2005; Shafer, 1977). Sexual assertiveness is the ability to initiate sexual behavior and communicate sexual needs with a partner (Shafer, 1977). Before modern technology, sexual communication was generally discussed face-to-face

between partners. However, the advancement and popularity of technology has evolved a new form of sexual communication known as virtual sexual communication.

Virtual Sexual Communication

The quick access, capabilities, and popularity of virtual sexual communication, or virtual sex, has produced an effect so prevalent that virtual sex has been said to catalyze the next “sexual revolution” (Cooper, Boies, Maheu, & Greenfield, 2000; Hatfield, 2006), which was viewed to have both positive and negative implications associated with these behaviors. Virtual sex occurs when two or more people exchanging information digitally via text message, pictures, video, or audio with the intention of sexual arousal (Silverberg, 2008). The term virtual sex, thus, encompasses sexual communication in three forms: phone sex, cybersex, and sexting. The oldest form of virtual sex involves phone sex, which the term was first used in 1982 and defined as “sex-oriented telephone conversations” (Merriam-Webster.com, *n.d.*). In 2006, an online survey of college students found that 87% reported having had virtual sex, mainly using the telephone, webcam, and IM (CampusKiss & Tell, 2006). Previous research reported that phone sex accompanied other virtual sex behaviors, such as cybersex, and was sometimes used as an initial screening step in the decision of meeting a romantic partner (Carvalho & Gomes, 2003; Greenfield, 1999).

In 1991, the term cybersex emerged as a behavior of using the “Internet to engage in sexual gratifying activities” (Cooper, 2004, p.1). There are three forms of cybersex (Delmonico, 1997): (1) pornography exchange online, (2) electronic sexual communication, and (3) purchasing sexually explicit material or pornography. The Internet has tremendously affected human sexuality both positively and negatively (Cooper, McLoughlin, & Campbell, 2000). The Internet has been said to have altered sexual behavior patterns, sexual education and health, and social communication while simultaneously complicating interpersonal relationships and having created another form of sexual addiction known as online sexual addiction (Barak & King, 2000; Cooper, McLoughlin, & Campbell, 2000).

Cooper, an international Internet sexuality expert (Barak & King, 2000), found that key factors that “turbocharge” online sexuality as such a seductive venue for sexual quests are known as the Triple-

A Engine (Cooper, 1998). The Triple-A Engine factors are accessibility, affordability, and anonymity. In an article discussing sexuality in cyberspace, Cooper and associates provided an overview of online sexuality, stating that the Triple-A Engine factors have made the Internet “become a fertile ground on which intimate relationships can be sown and grown” (Cooper, McLoughlin, & Campbell, 2000).

Virtual sexual communication could help facilitate a sense of closeness, a greater sense of control with the ability to compose responses, and a greater sense of courage to be more open with feelings and desires. This behavior also could affect offline sexual behaviors (Cooper, McLoughlin, & Campbell, 2000). In 2000, a cybersex study of 7,037 adults 18 and older found that 31% stated their offline sexual activity increased after they began cybersexing (Cooper, Delmonico, Griffin-Shelley, and Mathy, 2004); which, depending on the amount of risk involved, may or may not be healthy. Another study examined cybersex and psychosocial functioning of 760 college students found that individuals with high usage of the Internet for cybersexing were at risk for offline social alienation as well as sexual and relational problems (Boies, Cooper, & Osborne, 2004).

Sexting

This study focuses on the newest form of virtual sex; sexting. The term sexting was first used publicly in 2005 as a term describing the practice of consensual sending nude pictures between mobile phones (Roberts, 2005). There is still no legal definition of sexting; however, since then the term has been broadened to include nude or semi-nude images, videos, or sexually suggestive messages transmitted electronically via CMC (The National Campaign, 2008).

Sexting has been described as the modern version of streaking (Muscare, 2010) with far greater consequences. New technologies have enhanced the consequences of this risky and self-objectifying behavior as a matter of digital tattooing. Instant dissemination and permanent evidence of the sexual messages and images could have the potential to get uploaded onto many different types of CMC and passed from person to person propelling the sext to go viral. Most young people who sext transmit messages via cellular phone (55%) (Beatbullying, 2009; National Center for Missing and Exploited Children, 2009). However, Internet e-mail, IM, and SNS (such as MySpace© and Facebook©) also are commonly used for sexting (Beatbullying, 2009; NCMEC, 2009; The National Campaign, 2008).

Not only are there different ways of sexting, but also different forms of sexting, such as: consensual sexting, sextbullying, illegal sexting, at-risk sexting, and sometimes a combination of the different sext forms. This study generally focuses on consensual sexting. Consensual sexting is sext exchange between persons with mutual respect and consent, and without pressure or distribution of the sext message beyond each other (Khalil, 2010; Leshoff, 2009). Consensual sexting is not intended to cause harm, but possible non-malicious acts could lead to distribution (Leshoff, 2009). Figure 1 demonstrates, through comedy, how easy consensual sexting can turn into unintentional or intentional distribution using a variety of different CMC. Recently, the focus on sexting has turned into more malicious and harmful forms of sexting, such as sextbullying, illegal sexting, and at-risk sexting. These forms of sexting will be described in the next section, along with the consequences of these situations.

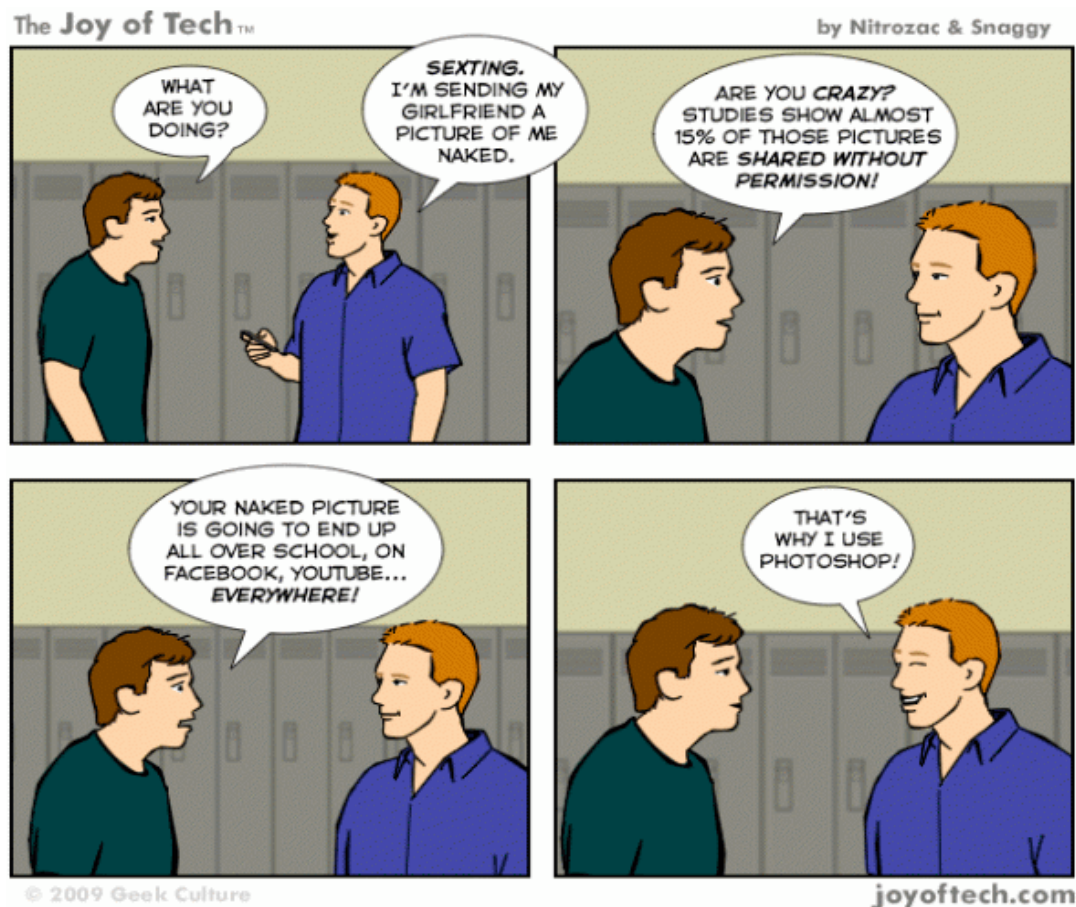


Figure 1. Comic Strip Related to a Potential Sexting Scenario

Consequences of Sexting

Popularity of sexting hit music tracks in 2010, which is a good representation of how popular sexting behaviors have quickly become. Christopher Bridges, who goes by the name of “Ludacris,” an award-winning rapper has a song on his latest platinum album where he raps about different consequences and situations involved with sexting (Bridges, 2010, Track 15). In the song titled “Sexting,” Ludacris emulates and pokes fun at famous pro-golfer Tiger Woods’s “sexting scandal” that went public at the end 2009 (Smith, 2010). This song represents both positive and negative consequences involved with sexting, and how easily a positive sexting experience can quickly turn into a negative sexting experience.

Using explicit sexting acronyms in his lyrics, Ludacris raps about sexting as a mode for arousing sexual communication. Yet, in other verses, he states that his sexting has developed into a sex addiction, ruined his romantic relationship, and disappointed his fans after his significant other found sexts on his phone from another woman. The song lyrics also called attention to the issue of pressuring to sext and then forwarding the sexts to other persons with one verse stating “and I promise I won’t show my friends (yeah right)” (Bridges, 2010, Track 15). This verse brings light to how easily one can be misguided by the promises of the receiver to keep the sext private; however, the receiver secretly has intention of forwarding/sharing the sext with others. The next two sections will highlight both the positive and negative health implications that sexting behaviors could potentially have on persons who engage in this behavior.

Positive Sexting Consequences

The Associated Press (AP) recently published articles highlighting the benefits of sexting among consensual adults in terms of initiating or promoting relationships and sexual communication. The American Association of Retired People’s magazine, *AARP Magazine*, stated that more adults over the age of 50, both married and single, from many different backgrounds, are now sexting to spice up their sex lives, and add fun and romance into a relationship (Glenn-Haas, 2010a; Glenn-Haas, 2010b; Leshnoff, 2009; Vetrini, 2010). Just like teenage and young adult sexters (i.e. those who engage in sexting behaviors), older generations are sexting to initiate a relationship, stating that sexting is “fast,

easy, and fun” (Leshnoff, 2009). No matter what age a sexter is, the behavior seems to increase comfort levels and courage to communicate sexually with a partner (Leshnoff, 2009). Several older adults admitted that they were more forward communicating their sexual needs and flirting through sexting than they were in person or over the phone (Leshnoff, 2009).

Certified relationship and sexual health experts, counselors, psychologists, and psychiatrists have been promoting sexting as an effective tool for sexual communication. Many of these health professionals also have recommended sexting to couples who have trouble connecting or to couples where one person travels frequently for work (Crawford, 2010; Golland, 2009; Leshnoff, 2009; Munro, 2010; Steinberg, 2010a). However, all health professionals were in agreement that even among consensual adults with mutual respect for each other, sexting still runs the risk of being revealed to someone other than intended (Crawford, 2010; Golland, 2009; Leshnoff, 2009; Munro, 2010; Steinberg, 2010a). Still, these professionals believe that behaviors should be considered appealing in terms of sexual communication because there is less risk of being judged and a greater opportunity for sexual expression and assertiveness (Crawford, 2010; Golland, 2009; Leshnoff, 2009; Munro, 2010; Steinberg, 2010a). Clearly, attitudes toward sexting are not concrete, even if the behavior is between two consenting adults. As one relationship and sex expert was quoted stating, “Sexting can be playful or communication between two people who love each other or it could be someone being outed and destroyed” (Watson, 2010). Although the media’s focuses most of the attention on negative consequences involved with sexting, only a small percentage of sexters report negative experiences. Most sexters (90%) have never had a negative experience sexting (Cox, 2009); however, young adults (ages 20-26) who sext reported lower incidences of negative experiences sexting (3%) compared with teenagers (ages 13-19) who sext (6%) (The National Campaign, 2008).

Negative Sexting Consequences

Even though small percentages of sexters report having had bad experiences, sexting has been referred to as a “public health issue” because sexting has the capability to cause devastating physical, social, psychological, or legal damage (Muscari, 2010, p. 1). While sexting between adults in a relationship may not be viewed as taboo and may actually have some benefits, the behavior is still risky

since there is no guarantee that the sext intentionally or unintentionally will not get into the wrong person's hands and forwarded or shared. Many instances of negative sexting experiences, and harmful effects of these experiences, are caused by cyberbullying.

Cyberbullying.

Cyberbullying is defined as "being cruel to others by sending or posting harmful material or engaging in other forms of social aggression using the Internet or other digital technologies" (Willard, 2007, p. 1). Cyberbullying used to be associated with high school students; however, more incidences of cyberbullying are being reported in the college setting (Balkam, 2010, Daniloff, 2009; Finn, 2004; Valentino-DeVries, 2010). Cyberbullying is an umbrella term for many different malicious online behaviors, such as sextbullying (Muscari, 2010), flaming cyberbullying, harassment, denigration, impersonation, outing, trickery, exclusion, and cyberstalking (Willard, 2007, pp. 1-2).

Sextbullying is a subset of the cyberbullying phenomenon in which one has malicious intent to use sexting as a means for harassment, exploitation, enticement, or coercion (Dunn, 2009; Muscari, 2010). "Flaming" cyberbullying uses cruel and vulgar language through CMC. Cyberbullying as harassment repeatedly sends insulting, mean, or sexual messages. Cyberbullying as denigration "disses" someone using CMC, or sending/posting rumors to damage a person's reputation. Impersonation cyberbullying pretends to be a different person and sending/posting material to damage someone's reputation or relationships, or to get someone in trouble or danger. Cyberbullying "outing" shares someone's embarrassing information, private pictures, or secret through CMC. Cyberbullying as "trickery" scams someone into revealing private information, pictures, or secrets via CMC. Exclusion cyberbullying purposefully and maliciously excluded a person from an online group. Lastly, cyberstalking intensely and repeatedly denigration and harassment that creates intense fear or includes threats (Willard, 2007, pp. 1-2).

Online organizations have been created to help cyberbully victims and average approximately 100 help requests weekly from adults 18 and older (Daniloff, 2009). In 2007, two organizations indicated that 57-60% of victims are White females between the ages of 18-30 years (WBI, 2010; WHOA, 2009). In 2004, a study was conducted concerning cyberbullying among college students. This

study found that 10-15% of college students reported cyberbullying by repeated e-mail or IM that “threatened, insulted, or harassed” by a stranger, acquaintance, or significant other (Finn, 2004). The study also reported that only 7% reported the online harassment to an authority (Finn, 2004).

Sextbullying.

Most of the highly publicized news surrounding sexting has been focused on more malicious or risky forms sexting from sextbullying to child pornography to extramarital affairs. Sextbullying, in the form of sharing or forwarding other persons’ sexts with other people without their knowledge, is not uncommon among young people. Two studies have reported that 17-20% of young people between that ages of 13-26 have shared a sexually suggestive message with someone else other than for whom the message was intended and 15% shared a nude or semi-nude picture or image (AP-MTV, 2009; The National Campaign, 2008). Sharing or forwarding sext messages of individuals can lead to the victims committing suicide out of shame, harassment, and embarrassment (Brown, Keller, & Stern, 2009). Also, there are many other instances of sharing or forwarding sexts that resulted in divorce, public humiliation, job loss, felony convictions, long prison sentences, and sex offender registration (Brown, Keller, & Stern, 2009; Muscari, 2010; NCMEC, 2009).

The AP-MTV study reported that 12% of sexters (i.e. person who has sent a sext message or image) have considered ending their lives in the past year compared to 3% of those who do not sext (AP-MTV, 2009). One of the first heavily publicized cases of sextbullying that ended in suicide occurred in 2008. Ohio high school student Jesse Logan became depressed and committed suicide in 2008 after nude photos she texted to her boyfriend were transmitted to her classmates who harassed her (Keys, 2009). In 2009, 13-year-old Hope Witsell from Florida committed suicide after continuously being bullied by her middle school classmates after a topless picture she sexted to a boy, in whom she was interested, was circulated to others (Kaye, 2010). More recently, another public sextbullying incident ended in an unexpected life lost in 2010. College freshman, Tyler Clementi, took his life after finding out that his college roommate and roommate’s friend outed him by filming him engaging in intimate acts with another male and live-streamed the video on the Internet (Friedman, 2010). In April 2011, Clementi’s roommate was indicted on 15 counts of invasion of privacy, intimidation, bias,

evidence tampering, and hindering prosecution (Epstein, 2011). The trial is still in process, but the prosecutor is trying to charge two individuals involved in sextbullying with invasion of privacy and hate-crime (Epstein, 2011; Goldman, 2010).

Sextbullying might not always end in suicide; however, there have been many reported cases of sextbullying incidents that ended with jail or prison sentencing. An 18-year-old Florida high school senior e-mailed a naked picture of his underage ex-girlfriend to her entire contact list and was kicked out of college, granted probation for five years, and required to register as a sex offender after being convicted with the state's child pornography law (Durrani, 2009). Anthony Stancl, an 18-year-old male, received a 15-year prison sentence for extortion and blackmail. He posed as a girl on Facebook® and tricked male classmates into sending nude pictures or videos of themselves (Ramde, 2010). Then Stancl threatened to blackmail several male classmates if they did not have sex with him, and then took pictures on his cell phone of the sexual encounters (Ramde, 2010).

Illegal sexting.

Child pornography investigations, caused by illegal sexting, have occurred across the nation as a result of minors sexting each other or sexting adults (NCMEC, 2009). Illegal sexting is sexting that involves a minor including possession of sext involving a minor; distribution of a sext of a minor; promoting, coercing, or soliciting a sext from a minor; or receiving a sext from or of a minor (Mobile Media Guard, 2011). A 14-year-old from New Jersey posted 30 nude photos of herself on her MySpace® page and was charged with child pornography and faced potential sex offender registration (Brunker, 2009). Officials in Ohio charged a 13-year-old boy with child pornography after an image of an eighth-grade girl engaging in sexual activity was found on his cell phone (Craig & Knox, 2009). Two male students, aged 15 and 18, from Virginia were charged with electronic solicitation and child pornography after soliciting photos of girls who were minors, one in elementary school, on their phones and trading them with each other (Starks, 2009).

Under-aged couples also are getting charged with child pornography as a result of sexting. An under-aged couple was also charged with producing, directing, and promoting child pornography after they took pictures of themselves naked and engaging in sexual behavior and e-mailed them to each

other (Geyer, 2009). Even teachers and administrators have found themselves in court on child pornography charges for investigating sexting cases within their own schools. In Virginia, a vice principal was requested by the school principal to investigate a sexting case, the vice principal did not know how to file the photo so the boy involved in the sexting case e-mailed the image to the vice principal who saved the picture to his computer and was charged with downloading and distributing child pornography (Gray, 2011). A year later the case was eventually thrown out by a judge; however, the case cost over \$150,000 in legal fees and the social stigma of child pornography that followed the vice principal.

At-risk sexting.

At-risk sexting situations occur when sexting is not sextbullying or illegal, yet still have negative consequences, such as victimization or “sextortion” (Lord, 2011; Mobile Media Guard, 2011), cyberstalking, humiliation, job loss, or divorce (Brown, Keller, & Stern, 2009; Leshnoff, 2009; Muscari, 2010; NCMEC, 2009). High-profile public figures also have been targets in popular news surrounding negative implications of sexting, especially among popular public figures. Tiger Woods, professional golfer, lost several endorsement deals and his marriage as a result of a sexting affair with several mistresses that went viral (Ferguson, 2010; James, 2010; Smith, 2010). Embarrassment, divorce, resignation, and other negative consequences surrounding the sexting incident, which turned into a “sex scandal,” caused Woods to take a 20-week leave from professional golf (Ferguson, 2010; Martinez, 2010; Smith, 2010). During his leave Woods checked himself into a rehabilitation center to be treated for sex addiction (Martinez, 2010). Another married major athlete, Brett Favre, was fined by the National Football League \$50,000 for sexual harassment due to sending nude pictures of himself to a female sports reporter (Canning & Hopper, 2011).

In February 2011, a married New York Representative Christopher Lee resigned after a bare-chested photo of himself that he sent to a woman on Craigslist became viral (Canning & Hopper, 2011, Steinhauser, 2011). In late May 2011, another married New York Representative, Anthony Weiner, accidentally posted a vulgar photo in his “bulging underpants” to a 21-year old college student on Twitter© instead of sending the photo as a private message (Kearns, 2011). This photo sparked at least

six other women to come forward with sexual chats, texts, e-mails, and photos from the congressman (Kearns, 2011; Steinhauer, 2011). Representative Weiner refused to resign; however, he was called for an investigation by the Ethics Committee to determine if any violations under House rules occurred or if any official resources were used (Steinhauer, 2011).

At-risk sexting also is commonly referred to when persons self-objectify themselves by posting or uploading nude or semi-nude images of themselves or posting sexually explicit messages about themselves, especially on SNS. Sexting, in the forms of barely clothed pictures of users simulating sexual acts and sexually-charged text are not uncommon on Facebook® (Cole, 2006; Epstein, 2006; Fuller, 2006; Peluchette & Karl, 2008). A study in 2007 evaluated 200 Facebook® profiles and found that 25% had semi-nude or provocative photos and 20% had comments regarding sexual activities (Peluchette & Karl, 2008). Other studies revealed that some of the younger generations found sexting empowering to post provocative photos online (Brock, 2007) and that students intentionally post sexually appealing images and text on their Facebook® to portray a sexual image (Peluchette & Karle, 2010). The kinds of sexual content users post can affect how others treat them, such as ways that reinforce the image or behaviors presented on their profiles (Brown, Keller, & Stern, 2009). By displaying sexual content and/or images, persons also can be targeted for cyberbullying, victimization, or cyberstalking (Baker, 2010; Wolak, Finkelhor, Mitchell, & Ybarra, 2008).

In 2009, a study found that teenage girls who created provocative avatars (a digital character representing a person in cyberspace) were more likely to receive sexual solicitations from strangers (Noll, Shenk, Barnes, & Putnam, 2009). Online victimization was more likely to happen when users display sexual content on their profile. A series of national studies found that teens who talk online or send personal information to strangers about sex are at the highest risk for sexual victimization (Wolak et al., 2008). In 2010, a 53-year-old man from Pennsylvania persuaded a 13-year-old girl to send him pornographic images on the Internet after he originally found a semi-nude picture uploaded by the teenager on the Internet. This sexting crime landed the sexual predator a sentence of more than 13 years in a Federal prison (Baker, 2010).

The United States Bureau of Justice reported in 2009 that 3.4 million adults are stalked each year in the United States (Baum, Catalano, Rand, & Rose, 2009). Three-fourths of those victimized were stalked by someone they know and 30% were stalked by a former or current romantic partner (Baum, Catalano, Rand, & Rose, 2009). Technology is being used more frequently as a tool for stalking (Southworth, Finn, Dawson, Fraser, & Tucker, 2007), as 26% of stalking victims report being stalked through IM, e-mail, or monitoring through spyware, GPS, or digital surveillance (Baum, Catalano, Rand, & Rose, 2009). Cyberstalking is the use of electronic communication devices such as the Internet, e-mail, SNS, IM, or any other electronic communication devices, to stalk another person (Baum, Catalano, Rand, & Rose, 2009). College students are especially vulnerable to cyberstalking since they live in a close community where information, such as class schedules, e-mails, and phone numbers are easy to find (Daniloff, 2009).

Sexting situations also can morph into different scenarios. Sexting can start out as one type of sexting (such as consensual sexting), and then develop into a different sexting scenario (such as sextbullying). For example, two consensual college students in a relationship are sexting (consensual sexting) and one partner leaves the phone at a party where one of their peers found nude pictures of the couple and forwarded the sexts to Facebook© without the couple's knowledge (sextbullying). Even with sincere intentions, there is no guarantee a sext will remain private.

Review of Sexting Research

Since sexting is a relatively new phenomenon, there is research about this risky behavior; however, none of the research on sexting was found in peer-reviewed journals. Most research that has been conducted in the United States focuses on teen sexting behaviors since the consequences of underage sexting is more severe (Cox, 2009; AP-MTV, 2009; Hinduja & Patchin, 2010; Lenhart, 2009; LG-TRU, 2009; The National Campaign, 2008). The law prohibits any person under the age of 18 to send or forward sexts or for any person to possess sexts of minors because of child pornography laws (18 U. S. C. §§ 1466A, 2251, 2252, 2252A, 2008). Many have stated that sexting is a behavior common among the Millennial generation (Lipkins, Levy, & Jerabkova, 2010; O'Crowley, 2009) however, parents and older generations, such as the "Baby Boomer" generation, have started to embrace the act

of sexting as well (Glenn-Haas, 2010a; Glenn-Haas, 2010b; Lenhart, 2010; Leshnoff, 2009; Steinberg, 2010b). While several studies have assessed sexting behaviors among various age groups, few studies been conducted beyond the scope of assessing sexting behaviors.

Sexting Behaviors

The most recent study found on sexting was sponsored by the Cyberbullying Research Center (CRC) in the spring of 2010. A survey was conducted with 4,416 randomly selected students between the ages of 11 and 18 from a large public school district. Sexting was defined as “the sending or receiving of sexually-explicit or sexually-suggestive images or video via cell phone” (Hinduja & Patchin, 2010, p. 1). The study found that approximately 8% of teens sent a nude or semi-nude image of themselves and approximately 13% of teens received nude or semi-nude images of someone from their school in the past 30 days. In this study, boys were just as likely as girls to send naked images (8% boys vs. 7% girls); however, boys were significantly more likely to report having received naked images (16% boys vs. 10%, girls). Also noted in this study, sexting incidences increased as teenagers got older, with 2% of 11-year-olds sending and receiving nude or semi-nude images, 17% of 18 years olds having sent and 21% having received nude or semi-nude images within the past 30 days (Hinduja & Patchin, 2010).

The second most recent survey found had a dual purpose, covering the topics of sexting and digital abuse (i.e. cyberbullying) in 2009. The survey was conducted by Associated Press (AP) and Music Televisions (MTV) to provide a more in depth look at the prevalence of digital abuse, with sexting as a sub-interest (AP-MTV, 2009). *A Thin Line Digital Abuse Survey* recruited using KnowledgePanel®, which is an online panel representative of the United States population recruited by Random-Digit Dial (RDD) sampling and mail through Address-Based Sampling. Internet access was offered to households without Internet through usage of a laptop (AP-MTV, 2009). A total of 1,247 18-24 year olds participated in the survey from September 11-25, 2009.

While the study defined sexting as “messages with sexual words or images by text or on the Internet” (AP-MTV, 2009, p. 1), only answers responding to “naked photos or videos” were reported. Similarly with CRC’s study, older respondents were more likely to sext than younger respondents. The

sample was split into two different age groups; 14-17 year olds and 18-24 year olds. Roughly one-fourth (24%) of 14-17 year olds and one-third (33%) of 18-24 year olds were involved in some type of sexting and about one-third (29%) have received a sext. Unlike the CRC study, females were more likely to have sent/posted naked images (i.e. pictures or videos) of themselves (13%) than males (9%) (AP-MTV, 2009).

Most participants sent naked images to a boyfriend/girlfriend or romantic interest; however, 29% sent naked images to someone they only knew online. Also, nearly one-fourth disclosed sending naked images to someone they “wanted to hook up with.” Over half (61%) who have sent naked images of themselves reported being pressured to send naked pictures by someone else at least one time (AP-MTV, 2009).

This study also examined whether or not current sexual activity had any influence on sexting. Nearly half (45%) of sexually active participants who reported having had sex within the last seven days in this study also reported being involved in at least one sexting related activity. Those who were sexually active were also twice as likely to send naked photos of themselves (17%) compared to non-sexually active participants (8%) (AP-MTV, 2009).

In terms of receiving and forwarding sexts, males (14%) were more likely than females (9%) to have received a naked image of someone else that had been forwarded to them. Almost one in five (17%) reported they had forwarded naked images to someone else, with 55% passing the images to more than one person (AP-MTV, 2009). Of those who shared, over half (52%) assumed that others would want to see them, 25% wanted to show off, and 26% shared out of boredom (AP-MTV, 2009). Only 14% of those who sent naked images “suspect” that the sext was shared with someone else without permission (AP-MTV, 2009).

Pew Internet Project conducted a telephone survey using RDD from June to September 2009, asking 800 (after making approximately 135,000 calls) 12-17-years-olds whether or not they had “sent or received sexually suggestive nude or nearly nude photos or videos of themselves or of someone they knew on their cell phones” (Lenhart, 2009c; p. 4). Even though the response rate was low, the study stated that the sample was nationally representative (Lenhart, 2009c). Four percent of “cell-owning”

teenagers 12-17 report sending nude or semi-nude photos or videos of themselves to someone else, which is considerably lower than the previous studies possibly due to limiting the definition of sexting to only via cell phone (Lenhart, 2009c).

Also contrary to the previous studies, boys and girls were both equally as likely to send sexts. Concurrent with the previous studies, the oldest age in the sample, which was 17 years old, was the most likely to sext (8%) compared to 4% of 12 year olds. The highest percentage of sexters came from the teens who paid for all costs of their cell phones (17%) compared with those who partially paid for the cost or did not pay for any of the cost. The data from the study showed no statistically significant differences in receiving sexts by gender; however, there was a significant incline in receiving a sext messages by age. Sexts received increased with age, as 4% of 12-year-olds received sexts, which significantly increased by the age of 16 to 20%, and increased even further at the age of 17 to 30% (Lenhart, 2009c).

In October 2009, Pew collaborated with the University of Michigan and conducted a series of focus groups with teenagers 12-18 years old. Additionally, respondents were asked to write about their experiences with sexting (Lenhart, 2009b). The focus group revealed three basic scenarios in which sexts were exchanged: (1) exclusively between two romantic partners in lieu of, as prelude to, or as a part of sexual activity; (2) between partners that are shared with people outside the relationship; and (3) between two people where at least one would like to be in a relationship. The researchers stated that sexting was used as “a form of relationship currency” in an experimental phase for those who are not sexually active yet or as one part of a sexual relationship (Lenhart, 2009b). The focus group participants revealed that images were sent instead of sexual activity, as a part of sexual activity, or as a way of starting or maintaining a relationship with a romantic partner. Also, reasons for passing images along to friends included: for entertainment, for fun, or as a joke (Lenhart, 2009b).

In May, 2010, Pew Internet Project conducted another set of telephone surveys using RDD for landlines and cell phones with 2,252 adults 18 years and older (Lenhart, Ling, & Campbell, 2010). The response rate was not provided for this study. The study found that 6% had sent a “sexually suggestive nude or nearly nude image to someone else by text,” and 15% had received sexts (Lenhart, Ling, &

Campbell, 2010). Breaking down the ages, 13% of 18-29 year olds sent sexts and 31% received; 5% of 30-49 year olds sent sexts and 17% received. As with the teenager study, heavy users of cell phones for texting, calling, instant messaging, social networking, or Twittering resulted in being more likely to send or receive sexts (Lenhart, Ling, & Campbell, 2010).

The Pew study reported no differences in sending sexts by gender among adults; however, women were less likely to receive sexts (11%) than men (21%). Differences did occur based on marital status. Those who were married were least likely to sext with 3% sending and 8% receiving. Next were those separated (7% sent and 22% received), then those who lived with a partner (7% sent and 23% received). Eight percent of persons divorced had sent sexts and 20% had received sexts. Those categorized as “single/never married” were the most likely to sext with 11% having sent and 31% having received a sext message (Lenhart, Ling, & Campbell, 2010). Racial differences were also reported. African-Americans (12%) were more likely to report sending sexts than Whites (4%). African-American (27%) and Hispanic (22%) adults were more like to receive sexts than White adults (12%). In regard to income, adults earning less than \$30,000 in annual household income were more likely to receive sexts (Lenhart, Ling, & Campbell, 2010).

In 2009, Cox Communications partnered with the National Center for Missing and Exploited Children (NCMEC), and conducted a short online survey of 655 teenagers between the ages 13-18 years during April 9-21, 2009. Once again, sexting was one of three foci for this study so the depth of this topic was limited. The other two topics, cyberbullying and parental controls were the main topics for the study. The *Teen Online and Wireless Safety Survey* defined sexting as “online or cellular phone behavior of sending, receiving, or forwarding nude or nearly nude photos in a text message or e-mail” (Cox, 2009, p.34), so the study was limited to sexually explicit images only. The focus of sexting section of the study was a brief overview of sexting in terms of how many teens were sexting, what types of sexting behaviors (i.e. sending, receiving, and forwarding sext messages) in which the sexters were engaging, persons that the sexts were sent/received, reasons for sending sexts, attitudes about legal issues surrounding minors sexting, and negative implications caused by sexting (Cox, 2009).

Findings of this survey showed that 19% of teens have engaged in at least one of the following sexting behaviors: sent (9%), received (17%), or forwarded (3%) nude or nearly nude images via text message or e-mail. Girls (65%) were twice as likely as boys (35%) to send sexts. Of all sexters, 6% had only sent sexts, 51% had only received sexts, and 43% had both sent and received sexts (Cox, 2009). Sexters were more likely to be older, 61% of ages 16-18, and 39% of ages 13-15. Also, sexters were more likely to have been bullied (30% vs. 19% of overall teenagers) and had bullied someone (16% vs. 10% of overall teenagers) (Cox, 2009).

Majority of sexts were sent to close persons, or people they knew, such as a boyfriend/girlfriend (60%), a “crush” (21%), or an ex-boyfriend/ex-girlfriend (19%). However, more than one in ten sexters (11%) sent sexts to someone they did not know (Cox, 2009). Larger percentages of sexts were received by persons to whom they were close or knew, such as a boyfriend/girlfriend (75%), a “crush” (49%), and or by a friend other than a best friend (23%). Also, there was an increase in sexts received from someone they did not know (18%) (Cox, 2009).

The top reasons given for sending sexts were: someone asked (43%), to have fun (40%), to impress someone (21%), and to feel good about themselves (18%). Almost all (90%) of sexters had experienced no negative consequences (Cox, 2009). Four percent of sexters reported being threatened, by the receiver, to forward the sext to someone else, 2% got in trouble by an authority figure, 2% accidentally sent the photo to the wrong person, 2% had their photo forwarded to someone they did not want to see, and 1% had their photo posted publicly online (Cox, 2009). This study concluded in stating that the media over-exaggerates sexting as being a problem among teenagers.

LG Mobile Phones™ partnered with TRU-Insights research company to conduct an online survey between April 8-13, 2009, of 1,017 teenagers ages 13-17 years old and 1,049 parents of teenagers ages 13-17 about their text messaging habits, adding two questions referring to sexting. Focus groups of teenagers also were conducted to discuss sexting behavior and attitudes. Sexting was defined as “sending, receiving, or forwarding a message that is sexual in nature; sending, receiving, or forwarding a message with naked/sexual photos and/or videos of someone else; sending, receiving, or forwarding naked/sexual photos and/or videos of themselves” (LG-TRU, 2009, p. 2). Results of the

survey found that 41% of teenagers and 28% of parents had sent, received, or forwarded a text message of a sexual nature (LG-TRU, 2009). Results were not broken down further to separate specific sexting behaviors.

The National Campaign to Prevent Teen and Unplanned Pregnancy partnered with Cosmogirl.com to conduct the first and most extensive study to date exploring beyond sexting behaviors and assessing attitudes and subjective norms toward sexting among teenagers and young adults in the United States (The National Campaign, 2008). The *Sex and Tech Survey* was an online survey representing a convenience sample of 635 13-19 year old teenagers and 627 20-26 year old young adults from September 25-October 3, 2008 (The National Campaign, 2008). This study had the broadest definition of sexting which included sexually suggestive messages as well as nude or semi-nude pictures or videos using text messaging, instant messaging, e-mail, and social networking sites, and not messages sent as “spam” (The National Campaign, 2008).

The study divided the participants into “teens” and “young adults.” Teens were participants ages 12-19 years and young adults were participants ages 20-26 years. Regarding sexting behaviors, this study showed that 20% of teens and 33% of young adults sent or posted nude or semi-nude images (either photos or videos) of themselves, and 31% of teens and 46% of young adults have received such images. Overall, girls were more likely than boys to send images with 22% teenage girls compared to 18% of teenage boys sending sexy images and 36% of young adult women sending sexy images compared to 31% of young adult men (The National Campaign, 2008).

The study also showed that sending or posting sexually suggestive messages was more prevalent than sending or posting images. Over half of young adults (58%) have sent or posted sexually suggestive messages, and 64% stated that they had received such messages. Thirty-eight percent of all teens have sent or posted sexually suggestive messages, and almost half (48%) reported having received such messages. Regarding sexually suggestive messages, in both groups, the males reported a higher prevalence of sending or posting such messages. Compared to 56% of young adult women, 62% of young adult men reported sending or posting sexually suggestive messages. Forty percent of teenage boys stated they sent or posted sexually suggestive messages compared with 37% of teenage girls (The

National Campaign, 2008). Tables 1 and 2 represent all sexting behaviors of teenagers and young adults assessed from this study, separated by sexually suggestive messages and nude or semi-nude pictures or videos.

The National Campaign's *Sex and Tech Survey* reported 75% of teenagers and 71% of young adults stated that sexting "can have serious negative consequences;" however, the majority of responses gave positive reasons for sexting (The National Campaign, 2008). To be fun and flirtatious was most popular reason for sexting for 71% of young adults and 63% of teenagers. The second most popular reason given for sexting was "a 'sexy' present for boyfriend/girlfriend" for 53% of young adults and 43% of teenagers. Almost half (46%) sexted as a response to one that was received by them. Even though nearly one-third of all sexters reported sexting as a joke, teenagers reported this reason more so than young adults (26% vs. 38% of teenagers). Others seemed to have sexted as a way of getting attention, as 15% reported to get a guy/girl to like me and 12% reported to get noticed (The National Campaign, 2008).

Table 1

Sexting Behaviors of Teenagers and Young Adults Regarding Sexually Suggestive Messages (N=1,262)

Sexting Behaviors	Teens (%) (n=635)	Young Adults (%) (n=627)	Total (%)
Sent a sexy message to someone (via e-mail, IM, text, etc)	38	58	48
Posted a sexy message to someone's online profile or private message (like on MySpace, Facebook, etc)	11	17	14
Received a sexy message from someone (via e-mail, IM, text, etc)	48	64	56
Shared a sexy message with someone other than the one(s) it was originally meant for	18	23	20
Had a sexy message (originally meant to be private) shared with me	39	42	40
None of these	39	25	32

Source: The National Campaign, 2008

Table 2

*Sexting Behaviors of Teenagers and Young Adults Regarding Nude or Semi-Nude Pictures or Videos**(N=1,262)*

Sexting Behaviors	Teens (%) (n=635)	Young Adults (%) (n=627)	Total (%)
Sent a sexy picture or video of yourself to someone (via e-mail, IM, text, etc)	19	32	26
Posted a sexy picture or video of yourself to someone's online profile or private message (like on MySpace, Facebook, etc)	4	7	5
Received a sexy picture or video from someone of himself/herself (via e-mail, IM, text, etc)	31	46	39
Shared a sexy picture or video with someone other than the one(s) it was originally meant for	14	17	15
Had a sexy picture (originally meant to be private) shared with me	29	32	30
None of these	55	38	46

Source: The National Campaign, 2008

Sexting could impact sexual behaviors, as 38% of teenagers and 40% of young adults believed sexting made dating or hooking up with others more likely, and 29% of teenagers and 24% of young adults believed that when exchanging sexts those persons are “expected” to date or hook up. Further, 22% of teenagers and 28% of young adults said they were personally more forward and aggressive sexting than they are in “real life” (The National Campaign, 2008).

Like previous studies, the *Sex and Tech Survey* showed that most sexts were being received by a boyfriend or girlfriend (69% of teenagers and 79% of young adults). Sexts were also being received by someone they dated or “hooked up with” (39% of teenagers and 37% of young adults), someone they wanted to date or “hook up with” (30% of teenagers and 26% of young adults), and someone they had a “crush” on (29% of teenagers and 20% of young adults). Fifteen percent of teenagers and 19% of young adults reported sexting “someone I only knew online” (The National Campaign, 2008). Over half (51%) of teenage girls stated a reason they sexted was because they were pressured from a boy, compared to only 18% of boys stating that the opposite sex pressured them into sexting. Teenage boys and girls were

equally likely (23% of girls vs. 24% of boys) to be pressured by friends to sext (The National Campaign, 2008).

Attitudes Toward Sexting

While there were some mixed feelings toward receiving sexts, the overall attitude toward receiving sexts remained positive. In The National Campaign's *Sex and Tech* survey (2008), among those who had ever received a sext, over half reported feeling turned on (56%), amused (53%), surprised (52%), and excited (50%). Nearly a quarter felt more interested in dating the sender (22%) and an even higher number felt more interested in "hooking up" with the sender (29%). Only 11% felt less interested in dating sender and 12% felt less interested in hooking up with the sender after receiving their sext (The National Campaign, 2008).

Attitudes toward the activity of sexting had mixed responses. Over half strongly agreed or somewhat agreed that the activity itself was flirty (68%), exciting (54%), or hot (51%), with each of these positive responses being higher in young adults than in teenagers. Half of respondents also stated that the activity of sexting was dangerous (66%) and stupid (54%), with each of these negative responses being higher in teenagers than young adults. Even though minors' sexting is illegal for minors to sext, there was not much difference (23% of teenagers and 27% of young adults) between attitudes of sexting as "harmless" (The National Campaign, 2008).

In the AP-MTV *A Thin Line Digital Abuse Survey* (2009), attitudes differed among persons who sexted and those who did not. Sexters were more likely to use words with positive connotations, such as "exciting," "trusting," "hot," "flirty," and "fun" to describe sexting. Those who do not sext reported the behavior as "stupid," "uncomfortable," and "gross." There was a distinct gender difference in the words describing sexting. Even though females were more likely than males to sext images, males described sexting as "hot," and more than half of females described sexting in negative terms, such as "dangerous," "stupid," or "slutty" (AP-MTV, 2009). Explanations for the gender differences were not explored further.

The *Cox Teen Online and Wireless Safety Survey* (2009) reported that nearly all participants (90%) believed that sexting was dangerous; however, although only half (55%) knew that legal

consequences were involved with minors sexting. Three-fourths (74%) felt that people their age were too young to be sexting, yet half (52%) also felt they were old enough to decide for themselves whether or not to sext. The majority of participants (74%) agreed that, for people under the age of 18, “sexting is wrong,” and almost half (48%) believed sexting was not only wrong, but should also be illegal. Nearly one-fourth (24%) believed sexting by minors was fine as long as the sexting was consensual, and only 3% believed there was nothing wrong with underage sexting (Cox, 2009).

The LG™ *Teens and Text* survey (2010) found that a quarter of teens believed that sexting was normal and that there was nothing wrong with the behavior (Sophy, 2010). Results reported “for many teens, sending, receiving, and forwarding these types of messages –and even being the target of such messages –is indicative of a higher social status” (LG-TRU, 2010). In the focus groups, results showed that sexting was “relatively common” throughout all age groups; sexting behaviors become more frequent and explicit in older age groups, however. The results of the focus groups stated that “greater independence, increased sexual activity, and alcohol all seem to play a role” in sexting behaviors (LG-TRU, 2010).

In summary, the limited research on attitudes still shows a trend that teenagers and young adults who have a more positive attitude toward sexting are more likely to engage in sexting behaviors. Attitudes toward sexting behaviors and attitudes toward those who sext remain mixed; however, in some cases attitudes toward sexting are overtly positive relating sexting to high social status (LG-TRU, 2010). Among those who have received sexts, the majority’s attitude toward the sexts received is positive, with few reporting negative reactions toward the sext (The National Campaign, 2008). The generalizability of these research findings are limited because few of the previous sexting research asked the same questions regarding attitudes toward sexting.

Subjective Norms Toward Sexting

Subjective norms reflect the influence of a person’s social environment (Ajzen, 1988). Subjective norms are the evaluation of perceived social norms and attitudes of how people they care about will view the behavior (Ajzen, 1988; Fisher, Fisher, & Rye, 1995). Social influences are essential in shaping how persons use new media, with whom, and for what purpose (Baym, 2010). Most

participants in The National Campaign's *Sex and Tech* survey (2008) believed that sexting was a common practice; however, more so with young people aged 20-26, over teenagers aged 13-19. Seventy-two percent of respondents believed that sending "sexy messages" was either "very" or "fairly common" among people their age (The National Campaign, 2008).

Thirty-five percent believed sexting was common among girls, and half agreed that the behavior was just as common among boys as girls. Over half (57%) believed that sending sexy pictures or videos of oneself was also a common practice among people the same age, and 62% felt sending sexy images was more common among girls than boys. A little less than half (47%) believed that posting sexy pictures and videos to the Internet was a common practice among their peers, and 61% felt that Internet posting was more common among girls than boys. Forty percent of participants "strongly agreed" or "somewhat agreed" that there is a pressure among people their age to post sexy pictures or videos on their social networking profiles. Nearly half (46%) "strongly agreed" or "somewhat agreed" that their friends have sent sexy pictures or videos to someone and 38% "strongly agreed" or "somewhat agreed" that their friends have posted a sexy picture or video to the Internet. This study was the only study identified that assessed subjective norms toward sexting (The National Campaign, 2008).

Differences and Commonalities Among Previous Studies on Sexting

After reviewing the existing sexting research, sexting data was inconsistent and varied across studies. Differences in prevalence of sexting among teens and young adults can be contributed to differences in methodology and sampling, age groups, and definitions of sexting. Statistics for sexting sexy images among the different studies are shown in Table 3. The National Campaign's *Sex and Tech* survey (2008) was the most inclusive and detailed on the topic of sexting including questions beyond sexting behaviors, such as questions assessing attitudes and subjective norms toward sexting. The National Campaign was the also only study that assessed sending or posting sexually explicit messages and nude or semi-nude images, while every other survey assessed nude or semi-nude images.

Differences occurred in CMC modes assessed for sexting behaviors. All studies included cell phones in their definitions of sexting; however, The National Campaign AP-MTV, and Cox's study extended their definition to an additional CMC mode used for sexting; Internet. Broadening the

definition of sexting could have had an effect on the increased prevalence of sexting behaviors in these two studies, compared with the other studies. The National Campaign and AP-MTV studies also allowed older participants to take the surveys, which might also account for the higher sexting prevalence in these studies. However, Pew also allowed adults to participate and the results were substantially lower than the other two studies that assessed adults.

Table 3

Prevalence of Sexting Behaviors in Previous Studies

Study:	Ages:	Modes of Sexting Assessed:	% Images Sent:	% Images Received:	% Images Forwarded/ Shared:
LG*	13-17	Cell phone	10%	33%	N/A
The National Campaign	13-26	Cell phone and Internet	26%	39%	15%
AP-MTV	14-24	Cell phone and Internet	10%	29%	17%
Pew	12-17; 18+	Cell phone	4%; 6%	15%; 15%	N/A
Cox	12-18	Cell phone and Internet	9%	17%	N/A
CRC	11-18	Cell phone	8%	13%	N/A

*Parents were left out of the table because data was not broken down into specific sexting behaviors for this sample.

Even though the previous studies differed in terms of methodology and sampling, age groups, and definitions of sexting, there were several similarities among the studies. First, the majority of teenagers and young adults were not sexting images. Second, the prevalence of sexting behaviors increased with age. Also, receiving sexts was more prevalent among all age groups than sending sexts. Next, in most studies, females were just as likely or more likely than males to engage in sexting sexy images. Females also were more likely than males to report being pressured by the opposite sex to send nude or semi-nude images of themselves. Further, the majority of teenagers and young adults were aware of negative consequences that were involved with sexting; however, their attitudes were split about whether the sexting behaviors were good or bad. Finally, the main reason for sexting involved romantic relationships or romantic interests; even though some sext persons they have never met or found on the Internet.

The main difference across the studies was the extent of sexting behaviors among teenagers and young adults. Sexting behaviors varied depending on the ages studied, sampling and methodology, and whether or not the definition of sexting included nude or semi-nude images, sexually suggestive messages, or both as well as inclusion of cell phones, the Internet, or both. Between the previous studies, overall prevalence of sexting images ranges from 4-26% senders and 15-39% of receivers. Not enough studies assessed other variables, such as attitudes toward sexting and subjective norms toward sexting, or factors that influence sexting behaviors, such as self-esteem levels.

Self-Esteem

Global self-esteem is the general positive or negative feelings about oneself (Rosenberg, 1965, p. 30). Researchers also have identified global self-esteem as a central part of one's personal self (Branden, 1969) and as an element necessary for healthy sexual functioning (Hally & Pollack, 1993). Many articles have hinted that sexting behaviors might be connected to self-esteem, yet no research has examined the correlation between self-esteem levels and sexting behaviors. The National Campaign's *Sex and Tech* survey asked teenagers and young adults what they thought of people who sext, and received mixed results between those who perceived sexters had attributes associated more closely with high self-esteem (such as "bold" or "confident") or low self-esteem (such as "desperate" and "insecure") (The National Campaign, 2008).

The National Campaign's *Sex and Tech* survey (2008) results showed that attitudes toward persons who sext were mixed. Majority of respondents felt that persons who sext were flirty (69%), bold (66%), and confident (49%), with young adults reporting each positive descriptor more than teenagers. On the other hand, majority of respondents also felt that persons who sext were slutty (65%), desperate (59%), and insecure (51%), with teenagers reporting each negative descriptor more so than young adults (The National Campaign, 2008). In terms of perceived self-esteem of the sexter, attitudes are closely split between determining whether the sexter is bold (66%) or desperate (59%), confident (49%) or insecure (51%), which suggests that there was uncertainty in whether persons with high self-esteem are more likely to sext than persons with low self-esteem, or vice-versa (The National Campaign, 2008). From this data, the possibility that both extreme levels of self-esteem (i.e. persons

with high self-esteem and persons with low self-esteem) are more likely to sext than a person with average self-esteem could be true; however, this assumption was not assessed in any studies.

The only book published to date on sexting, *Sexting 101*, is a short book designed to provide awareness to parents about sexting to prevent their children from underage sexting (Duncan, 2010). This text also discussed self-esteem. After providing statistics from The National Campaign's survey (2008) and scripts of teenage girl sexters featured on the *Tyra Show*, a popular talk show that featured an episode on teenager's sexting (Duncan, 2010, p.47), the author suggested that not all girls who sext have low-esteem, "in fact, many are confident about their bodies" (Duncan, 2010, p.26), yet did not follow with any research backing this statement.

Sexting can provide a means of sexual communication where individuals can discuss their sexual thoughts and desires with one another. Sexting also can involve sexual behaviors, such as using the webcam to record sexual intercourse. Previous studies are mixed as to how self-esteem levels can influence sexual communication and sexual behaviors, or whether or not self-esteem has any effect at all (Abel, Adams, & Stevenson, 1994; Adler & Hendrick, 1991; Ethier Kershaw, Lewis, Milan, Niccolai, & Ickovics, 2006; Ferroni & Taffe, 1997; Hollar & Snizek, 1996; Holmbeck, Crossman, Wandreim, & Gasiewiski, 1994; Kalichman & Rompa, 1995; Keeling, 1987; Larson, Anderson, Holman, & Neimann, 1998; Oattes & Offman, 2007; Orr, Wilbrandt, Brack, Rauch, & Ingersoll, 1989; Robinson & Frank, 1994; Rosenthal, Moore, & Flynn, 1991; Seal, Minichiello & Omodei, 1997; Zeanah & Schwarz, 1996).

Studies on global self-esteem and sexual communication have found that self-esteem is a characteristic that facilitates sexual communications (Ferroni & Taffe, 1997; Larson, Anderson, Holman, & Neimann, 1998). Persons with global self-esteem tend to value their lives, health, physical and mental capabilities, and childbearing potential (Keeling, 1987). Having these characteristics, in turn, may increase the likelihood for sexual communication (Oattes & Offman, 2007).

Previous research on global self-esteem and sexual behaviors were mixed between high self-esteem as a protective factor or as a risk factor. Rosenfield suggested that self-esteem and sexual behaviors are non-linear; with both low and high levels of self-esteem related to sexual and safer sex

behaviors (2004, p. 29). Some studies have shown that individuals with high self-esteem are more likely to use some form of contraception during sexual intercourse than those with low self-esteem (Adler & Hendrick, 1991; Ethier et al., 2006; Holmbeck et al., 1994). In contrast, some studies have shown that persons with high self-esteem also were less likely to practice safer sexual intercourse (Hollar & Snizek, 1996; Kalichman & Rompa, 1995; Rosenthal, Moore, & Flynn, 1991; Seal, Minichiello & Omodei, 1997). Finally, other studies have found no statistically significant relationship between self-esteem and sexual behaviors (Abel, Adams, & Stevenson, 1994; Ethier et al., 2006; Orr et al., 1989; Robinson & Frank, 1994).

Oattes and Offman (2007) conducted research on college students to predict the ability to communicate about satisfying sexual behaviors with a partner. The study found that with both males and females, those who demonstrated high global self-esteem also had high sexual self-esteem. Sexual self-esteem is defined as “one’s affective reactions to one’s sexual thoughts, feelings and behaviors” (Zeanah & Schwarz, 1996, p. 3). Further, sexual self-esteem has been described as “the tendency to value, versus devalue, one’s own sexuality, thereby being able to approach rather than avoid sexual experiences both with self and others” (Gaynor & Underwood, 1995, p. 334). The study also reported that both global self-esteem and sexual self-esteem were predictors of sexual communication; however, sexual self-esteem was a unique predictor over and above global self-esteem (Oattes & Offman, 2007).

The findings of Oattes and Offman (2007) were consistent with previous research (Adler & Hendrick, 1991; Zeanah & Schwarz, 1996). The researchers stated that that a person’s ability to communicate sexually could “increase their feelings of self-worth, both global and sexual” (Oattes & Offman, 2007). However, the researchers found that sexual self-esteem was a better predictor than global self-esteem, in which they attributed these results to their sample population (Oattes & Offman, 2007). Unlike global self-esteem, sexual self-esteem may not be stable until later in adulthood (Coopersmith, 1967). Many college-age individuals are still experiencing early sexual interactions, which helps form a sense of sexual self-esteem (Oattes & Offman, 2007). Therefore, college students are still in the process of forming sexual self-esteem, whereas their global self-esteem should already be stable.

Intentions to Sext

Intentions are the single most important predictor of volitional behavior (Ajzen & Fishbein, 1975). Behavioral intention expresses a highly accurate prediction of the related volitional action (Ajzen, 1988). Intentions predicting behaviors are generally significantly stronger than attitudes predicting behaviors. However, attitudes toward the behavior help predict behavioral intentions (Ajzen, 1988). In 1975, Ajzen and Fishbein developed the Theory of Reasoned Action (TRA) that suggests that any volitional, or voluntary, behavior can be predicted by subjective norms combined with the person's attitude about that behavior. Thus, behavioral intention to perform or not perform that behavior depends on subjective norms and attitudes toward the behavior. Behavioral intention measures a person's strength of intention to perform the behavior (Ajzen & Fishbein, 1975). Typically, people have positive intentions to perform the behavior when they evaluate the behavior positively and when they believe that important persons think they should perform the behavior (Ajzen, 1988).

Attitudes are made up of the perceived positive or negative consequences associated with the behavior and the value the person places on those consequences (Ajzen, 1988). Subjective norms reflect the attitudes of influential people toward the behavior (e.g., friends, peers, parents, siblings, etc), which in turn are affected by the person's motivation to comply with each influential person (Fisher, Fisher, & Rye, 1995). Therefore, positive and negative attitudes and subjective norms play a role in forming intentions of the behavior (Ajzen & Fishbein, 1975). Theory of Reasoned Action has been used to predict and understand many different behaviors as well as behavior change (Fisher, Fisher, and Rye, 1995; Sheppard, Hartwick, & Warsaw, 1988).

Studies have used TRA in predicting CMC behavioral intentions like social networking sites (SNS) and instant messaging (IM) usage (Baker & White, 2009; Lu, Zhou, & Wang, 2009; Pelling & White, 2009). High SNS use among participants 17-24 years old found that attitudes and subjective norms toward SNS significantly predicted intentions (Pelling & White, 2009). In turn, SNS behavioral intentions significantly predicted high SNS usage (Pelling & White, 2009). Another study used a sample of high school students and assessed attitudes, subjective norms, and behavioral intentions of frequent SNS usage (Baker & White, 2010). This study also confirmed that those with more favorable

attitudes and subjective norms toward SNS had stronger intentions to engage in frequent SNS use (Baker & White, 2010). Further, participants who had stronger intentions to frequently use SNS were more likely to act in accordance with their intentions to do so (Baker & White, 2010).

Constructs from the TRA were used to determine IM usage among high school students, undergraduate students, and working professionals in a high school and university (Lu, Zhou, & Wang, 2009). Results from this study illustrated that IM usage could be predicted based on users' attitudes and subjective norms toward IM. Positive attitudes toward IM as well as peers acceptance and peer usage of IM determined positive behavioral intention toward using IM. Behavioral intention toward using IM was significantly related to actual IM usage (Lu, Zhou, & Wang, 2009). Hence, using the constructs of TRA has been beneficial predicting CMC behavioral intentions, as well as CMC behaviors.

Studies also have used constructs from TRA to predict sexual behaviors (Cha, Kim, & Patrick, 2008; Fisher, Fisher, & Rye, 1995; Rye, 1999; Wallace, Miller, & Forehand, 2008). A study of college women used the TRA as well as the Theory of Planned Behavior (TPB), which is an extension of TRA adding perceived behavioral control (Rye, 1999). This study found that TRA was a better predictor of predicting safer sex behaviors since perceived control did not interact with any other construct in the theory to predict future intentions of safer sex behaviors (Rye, 1999). This study also supported intention as a predictor of safer sexual practices, with attitudes and subjective norms as predictor of intentions (Rye, 1999).

Another study strongly confirmed the theorized relationship of TRA in that AIDS-prevention behaviors are a function of attitudes and subjective norms concerning performance of the behaviors (Fisher, Fisher, & Rye, 1995). Those who had high intentions to abstain from intercourse and buy and use condoms during vaginal and anal intercourse were more likely to perform those behaviors across the sample of heterosexual high school and college students, and gay men (Fisher, Fisher, & Rye, 1995). A study of safer sex practices regarding condom uses was conducted among Korean college students (Cha, Kim, & Patrick, 2008). The study found that all TPB components significantly predicted condom use intentions in men; however, TRA was a better predictor for females as only attitudes and

subjective norms components predicted intentions of condom use in females (Cha, Kim, & Patrick, 2008).

To determine a relationship among young person's subjective norms, attitudes, and intentions to engage in precoital and sexual behaviors, TRA was used and found that those individuals who had higher intentions to engage in precoital and sexual behaviors were more likely to perform these behaviors (Wallace, Miller, and Forehand, 2008). The study also found that youth with sexually active peers and peers who were dating were more likely to approve of precoital behaviors and sexual behaviors and dating (Wallace, Miller, and Forehand, 2008). While TRA constructs may not have been tested on sexting behaviors, this theory has been applicable to areas surrounding sexting behaviors, such as CMC usage, sexual communication, and sexual behaviors.

Summary

This chapter highlights the gaps in the literature regarding sexting, which are substantial, considering no empirical research studies related to sexting were found in scholarly journals. Most of the research regarding sexting assesses sexting behaviors solely. Research that only focused on sexting behaviors fails to examine the factors that influence why a person sexts or variables that influence different sexting behaviors. Existing research has shown that those with positive attitudes toward sexting are more likely to sext than those with more negative attitudes toward the behavior. Also, there was some literature documenting both low and high self-esteem correlating with risky sexual behaviors, which might be reflected on sexting behaviors if researched. Other research has shown that behavioral intentions are good predictors of behaviors surrounding areas involved with sexting, such as CMC usage, sexual communication, and sexual behaviors.

A correlational study determining the relationships among attitudes toward sexting, subjective norms toward sexting, and self-esteem levels, sexting behavioral intentions, and sexting behaviors would help answer the question as to reasons for engaging in sexting, as well as to predict personality traits of someone more likely to engage in this behavior. For those who do not sext, there would be benefits in determining whether or not there are certain situations or circumstances that are perceived to have a strong influence on their intentions toward sexting. The next chapter will describe the methods

used for this correlational study including population, sample, instrumentation, data collection and data analysis.

CHAPTER 3

METHODS

Overview

This chapter provides a detailed overview of the methodological protocol that will be used for this study. This chapter includes the purpose of the study, research questions, research design, sampling methods, instrumentation, data collection procedures, statistical analyses, and summary.

Purpose of the Study

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

Research Questions

The following research questions were assessed:

1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?
3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?

4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?
5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

Research Design

This exploratory research study used a descriptive, cross-sectional, correlational design. The purpose of a descriptive study is “to describe systematically a situation or area of interest factually and accurately” (Isaac & Michael, 1995, p. 46). Cross-sectional studies are “based on observations representing a single point in time” (Babbie, 2007, p. 102). The purpose of correlational research is “to investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients” (Isaac & Michael, 1995, p. 46). Correlational research is appropriate when variables are complex and/or inappropriate for controlled manipulation or the experimental method (Isaac & Michael, 1995). A correlational design was the best fit for this research study because this design focused on how self-esteem levels, attitudes toward sexting, and subjective norms toward sexting were associated with sexting behaviors, sexting behavioral intentions, or both.

Sample

The university under study was a mid-sized university in the Midwest. The total university enrollment in Fall 2010 was 20,037 students. Undergraduate student enrollment was 15,141 (75.6%) with 13,260 (87.6%) of undergraduate students considered full-time. Males represent more than half (56.0%) of the undergraduate population. Racial/ethnic demographics include: 66.7% White, non-Hispanic; 20.5% Black, non-Hispanic; 5.4% Hispanic; 1.8% Asian; 0.6% race unknown or selected as

“other;” 0.5% American Indian or Alaska Native; and 0.3% Native Hawaiian or Pacific Islander (Southern Illinois University- Carbondale, 2011).

The study sample included a non-random, convenience sample of undergraduate students enrolled during the Spring 2011 semester in one of the following required introductory-level Human Health core courses: personal health, nutrition, or physical fitness. Participants should represent a sample generalizable to the university, since all undergraduates are mandated to take one of these three courses, or the transfer equivalent, to satisfy the Human Health requirement for graduation. Of the 760 participants solicited for this study, a total of 697 usable survey instruments were obtained for data analysis. This study’s sample of 697 participants exceeded the sample size calculation considered appropriate (375-444 participants) for this population size of 15,141 undergraduate students (Alreck & Settle, 2004; Raosoft, 2004).

Instrumentation

The sexting survey instrument that was used for this study (Appendix A) was adapted from the *Sex and Tech* survey instrument and revised. The *Sex and Tech* survey (Appendix B) was a self-report survey instrument commissioned by The National Campaign to Prevent Teen and Unplanned Pregnancy and CosmoGirl.com to explore teens and young adults and the electronic activity of sending or posting sexually suggestive messages and images (The National Campaign, 2008). The National Campaign to Prevent Teen and Unplanned Pregnancy launched in 1996, and is a private, not-for-profit, non-partisan organization “that seeks to improve the lives and future prospects of children and families” (The National Campaign, 2009, p. 2).

Teenage Research Unlimited (TRU), a world leader in teen and young adult research, administered the survey online on the CosmoGirl.com website. The survey instrument was initiated on September 25, 2008, and ended October 3, 2008, yielding 1,280 voluntary respondents between the ages of 13 and 26 (The National Campaign, 2008). Respondents did not constitute a probability sample; however, they were stratified and weighted according to the United States census and demographic composition of teenagers and young adults (The National Campaign, 2009).

Two representatives from The National Campaign were contacted and gave the researcher permission to use and adapt the *Sex and Tech* survey instrument (Appendix C). Although solicited by the researcher, no further information was given about the survey instrument nor was information provided about established validity and reliability of the survey instrument.

The sexting survey instrument used for this study combined and revised parts of the *Sex and Tech* survey instrument measuring sexting behaviors, attitudes toward sexting, subjective norms toward sexting, an additional section measuring sexting behavioral intentions, a valid and reliable instrument measuring global self-esteem, and demographics variables. This study's sexting survey instrument adapted and revised some attitude, subjective norms, and behavior items from the *Sex and Tech* (see Table 4) as well as added attitude, subjective norms, and behavior items designed by the researcher. Rosenberg Self-Esteem Scale (1965) was included in the survey instrument to assess participants' global self-esteem levels. In addition, questions regarding sexting behavioral intentions (regarding situations that could influence intentions to sext message) were added to capture information regarding perceptions of situations that may or may not influence those who have never sexted.

Table 4

Attitudes, Subjective Norms, and Behaviors Components Adapted from the Sex and Tech Survey

Instrument

Sex and Tech Component	Questions
Attitudes	<ul style="list-style-type: none"> • Opinions of sexting behaviors • Opinions of sexting consequences • Opinions those who sext
Subjective Norm	<ul style="list-style-type: none"> • Popularity of sexting behaviors among peers • Popularity of sexting behaviors among friends • Social expectations to hook up with person sexted
Behavior	<ul style="list-style-type: none"> • Sexting behaviors • Recipients of the sext • Reasons for sexting

Source: The National Campaign, 2008

The present study assessed self-esteem levels by using Rosenberg's Self-Esteem Scale (RSE) to determine the relationship between sexting behaviors and self-esteem levels. Dr. Morris Rosenberg

(1965) published a world-renowned 10-item Likert-type scale to measure global self-esteem, called the Rosenberg Self-Esteem Scale. Responses for global self-esteem are selected based on general positive or negative feelings about oneself (Rosenberg, 1965; p. 30) and reflected on a four-point scale from “Strongly Agree” to “Strongly Disagree,” where higher scores indicate higher self-esteem (Rosenberg, 1965). Scores between 15-25 are considered “normal” levels of self-esteem, scores from 0-14 indicates “low” levels of self-esteem (Rosenberg, 1989). Scores for “high” levels of self-esteem were not stated; however, scores between 26-30 indicates “high” levels of self-esteem for this study.

Items in the RSE correspond to self-worth statements on a continuum ranging from high self-esteem statements to low self-esteem statements (see Table 5). To control for response bias, half of the items were reversed. Global self-esteem is the overall positive or negative attitude toward oneself (Rosenberg, 1979). Situational self-esteem is defined as a person’s view of his or her capability and worthiness (Overholser, Adams, Lehnert, and Brinkman, 1995), whereas global self-esteem measures a person’s feeling of self-worth (Rosenberg, 1965). Global self-esteem is normally constant, as opposed to situational self-esteem (Gross, 2006). Thus, using global self-esteem is more beneficial for this study since situational (i.e. sexual) self-esteem of the participants is not appropriate, as sexual self-esteem is not fully developed among traditional college students 18-24 years old (Oattes, & Offman, 2007), and therefore not stable enough to use for the population used in this study.

The Morris Rosenberg Foundation stated that the RSE scale could be used without explicit permission (Appendix D). The scale was developed using a sample of 5,024 junior and senior high school students from 10 randomly-selected high schools in New York. The RSE also has been used with samples of college students reporting a 0.88 Cronbach’s alpha score (Gray-Little, Williams, & Hancock, 1997; Petrie, Greenleaf, Reel, & Carter, 2009) and a test-retest reliability score of 0.82 (Gray-Little, Williams & Hancock, 1997). Many previous studies have used RSE scale examining the relationship between sexual behaviors and self-esteem levels and reported high internal reliability that ranged from .85-.90 (Adler & Hendrick, 1991; Hally & Pollack, 1993; Hollar & Snizek, 1996; Oattes & Offman, 2007; Orr et al., 1989).

Table 5

Rosenberg Self-Esteem (RSE) Scale Questions

Rosenberg Self-Esteem Scale Items
On the whole, I am satisfied with myself.
At times, I think I am no good at all.
I feel that I have a number of good qualities.
I am able to do things as well as most other people.
I feel I do not have much to be proud of.
I certainly feel useless at times.
I feel that I'm a person of worth, at least on an equal plane with others.
I wish I could have more respect for myself.
All in all, I am inclined to feel that I am a failure.
I take a positive attitude toward myself.

Source: Rosenberg, 1965

Dissertation committee members from the Department of Health Education reviewed the instrument for issues related to content and format. Changes in wording were made to ensure that instrument responses were gender neutral and did not imply only heterosexual relationships and responses. Survey instrument formatting was changed in some sections, separating “sexy messages” from “sexy pictures/videos” for a more detailed analysis. Changes also were made in formatting and wording to make the instrument less repetitive and provide more clarity. Questions on the *Sex and Tech* instrument that elicited detail on uncontrollable sexting behaviors, such as receiving sext messages, were omitted from the current sexting survey instrument. Items perceived as having a strong bias against sexting or implied sexting as a negative behavior were omitted to avoid social desirability response bias. Also, most item response choices within the sections that received less than a 20% response from the *Sex and Tech* survey instrument results were omitted to shorten the survey instrument length.

Sections added to this study's instrument were behavioral intention items and demographic information including relationship status, sexual orientation and number of previous partners. A few additional response options and modifications were made to various items and responses on the *Sex and Tech* survey instrument. Items to measure sexting behavioral intentions were added to assess the

strength of intention to perform sexting behaviors as “very unlikely,” “somewhat unlikely,” “no effect,” “somewhat likely,” or “very likely” in the given situation on a five-point Likert-type scale (see Table 6). Questions regarding current (within the past 30 days) sexting behaviors and lifetime and current (within the past 30 days) number of sexual partners were added to the instrument to determine if there is a relationship between number of sexual partners and sexting behaviors.

Table 6

Behavioral Intention Questions and Possible Responses

Which of the following answers describes how likely you are to sext in the given situation?

- If I trust the receiver
 - If I find the right person
 - If someone I like asks me
 - If I am married
 - If people who are important to me approve
 - If I receive a sexy message from someone I like
 - If I am drunk
 - If I am high
 - If I my self-esteem is higher
 - If my face is more attractive
 - If my body is in better physical shape
 - If I am in a relationship
 - If someone pressures me
 - If I am sole owner of my cell phone or computer
 - If I am 100% sure it would be kept & remain private
 - Other reason not listed
-

Also, assessing the number of current sexual partners indicated whether or not the participant was sexually active, as well as how many sexual partners the participant currently has. Adding questions asking about current sexting behaviors and number current sexual partners helped determine the relationship between current sexting behaviors and current sexual partners; as well as implied current sexual activity. Further, assessing current sexting behaviors allowed more insight as to whether or not participants were still actively engaging in these behaviors. Knowing whether or not participants have recently sexted provided a more accurate description of how popular recent sexting behaviors were at the time of the survey.

Pilot Study

After receiving approval from the dissertation committee and Human Subjects Committee, the researcher conducted a pilot study. Forty undergraduate students in two sections of a Spring 2011 upper-level health course were surveyed to determine overall quality and clarity of the survey instrument, and to determine how long the survey would take to fill in all items. Those who chose not to take the survey instrument were asked to sit quietly or do other work until the discussion was over. After the pilot study, appropriate revisions were made to the instrument before the major study commenced. Pilot participants completed the survey using a Scantron© sheet and made comments directly on the instrument. After all Scantron© sheets were turned in, comments and feedback was provided verbally to the researcher.

Participants finished completing the survey in 20-35 minutes. Feedback from the participants was overall positive. One participant made the comment that she appreciated that the survey instrument was “neutral,” in that the survey questions were not biased toward sexting behaviors and did not lean toward sexting behaviors being either negative or positive behaviors. Most of the participants agreed that the survey instrument was not biased.

Other participants suggested different or additional response options (such as adding a question about sexting someone other than significant other, etc). A few participants requested wording and formatting changes to make items more clear and inclusive. For example, highlighting “sexy messages” (for questions 20-30) and “sexy pictures/videos” (for questions 31-42) in the instructions to distinguish the difference between the two sexting behaviors since the questions for each section were nearly the same. Another suggestion was to add “describes the behavior” to the instructions for questions 9-19 in bold print and underlined to make the question more clear as to whether they were giving their opinions on the behavior of sexting or those who sext. Also, a question indicating the participants’ academic status was suggested to be included in the survey instrument in order to prohibit graduate students from participating. After the researcher collected all feedback, changes to the survey instrument were made with approval from the dissertation chair.

Data Collection

After permission was obtained from nearly every Spring 2011 instructors of the personal health, nutrition, and physical fitness sections, the researcher scheduled a day with the instructors, and arrived at the beginning of the class period in order to allow participants as much time as they needed to complete the survey. The class instructor was asked to leave the room during data collection. All survey instruments were completed during class time. The researcher distributed the informed consent documents, number two pencils, Scantron© sheets, and survey instruments to students who volunteered to participate. The researcher explained the purpose of the study, read aloud the informed consent, asked the participants if they had any questions, and suggested that participants use their copy of the informed consent to cover their responses. Upon completion, the researcher collected unmarked survey instruments to reuse. Then, participants dropped their Scantron© sheet into the covered box to maintain anonymity and confidentiality. After all Scantron© sheets were collected, the box was closed and sealed by the researcher and stored in a secure location.

To increase instructor participation in allowing class-time for the research, every instructor who volunteered the use of class-time for this study was entered into a drawing for a HP Photosmart C4680® printer/scanner/copier paid for by the researcher. The drawing was held after all of the surveys were collected. Someone not affiliated with the departments of the instructors was blindfolded and drew an instructor's name from a bowl. The researcher delivered the prize to the instructor's office.

Data Analyses

Statistical analyses will be conducted using the International Business Machine (IBM®) Statistical Package for the Social Sciences (SPSS®), version 17.0. Missing entries from the survey instruments were replaced with the mean score of that respective item. Surveys missing more than 5%, or 6 items, of the total data will be excluded from analysis (Alreck & Settle, 2004). An alpha level of .05 was used to determine statistical significance.

Demographic data included gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners. Frequencies, percentages, t-tests and ANOVAs were used to

determine differences in sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, and number of sexual partners. All survey instrument subscales were tested for normality. Skewness and kurtosis statistics for each subscale remained between -1 and 1, indicative that the data was normally distributed. Subscales scores for each construct included: attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors will be computed by adding all items in each component together (see Table 7).

Table 7

Instrument Scoring Method

Component	Scoring
Attitudes	<p>Items 9-23, 31-34</p> <ul style="list-style-type: none"> • Combined score of all 19 items (total = 76 points) • Raw score; higher scores indicate more positive attitude toward sexting • All items: 0=SD, 1=D, 2=U, 3=A, 4=SA (Items 10, 12, 15, 17, 20, 23, 31 and 34 reverse coded)
Subjective Norms	<p>Items 1-8, 24-28, 35-40</p> <ul style="list-style-type: none"> • Combined score of all 19 items (total = 68 points) • Raw score; higher scores indicate more positive subjective norms toward sexting • Items 1-8: 0=NCA, 1=NVC, 2=FC, 3=VC • Items 25-28, 35-40: 0=SD, 1=D, 2=U, 3=A, 4=SA (Items 25 and 37 reverse coded)
Self-Esteem	<p>Items 94-103</p> <ul style="list-style-type: none"> • Combined score of all 10 items (total = 30 points) • Raw score; higher scores indicate higher self-esteem • All items 92-101: 0=SD, 1=D, 2=A, 3=SA (Items 95, 98, 99, 101, and 102 reverse coded)
Behavioral Intentions	<p>Items 29-30, 41-58</p> <ul style="list-style-type: none"> • Combined score of all 20 items (total = 80 points) • Raw score; higher scores indicate stronger intentions to perform sexting behaviors • Items 29-30, 41-42: 0=SD, 1=D, 2=U, 3=A, 4=SA • Items 43-58: 0=VU, 1=SU, 2=NE, 3=SL, 4=VL
Behaviors	<p>Items 59-61, 63, 66-89, 91</p> <ul style="list-style-type: none"> • Combined score of all 35 items (total = 49 points) • Raw score; higher scores indicate more sexting behaviors • Items 59-61, 63, 66-77, 87-89, 91: 0=No, 1=SM or SPV, 2=Both • Items 78-86: 0=No, 1=Yes

To measure the intensity of each component, items were coded according to the appropriate scale (depending on the item) where higher scores indicated stronger intensity of the respective component. All items in the survey instrument measuring attitudes toward sexting (items 9-23, 31-34) were scored on a five-point Likert-type scale and combined to form the attitude subscale, which ranged from 0-76 total points. All items measuring subjective norms toward sexting (items 1-8, 24-28, 35-40) were combined into a subjective norm subscale. Items 1-8 were scored on a four-point Likert-type scale and items 24-28 and 35-40 were scored on a five-point Likert-type scale. The combination of these two scales ranged from 0-68 total points. Rosenberg's Self-Esteem scale was the self-esteem subscale used for this study. The self-esteem subscale (items 94-103) was scored on a four-point Likert-type scale and ranged from 0-30 total points. All items measuring sexting behavioral intentions (items 29-30, 41-58) were combined into the behavioral intention subscale, which was scored on a five-point Likert-type scale and ranged from 0-80 total points.

Finally, all items measuring sexting behaviors (59-61, 63, 66-89, 91) were scored into the behavior subscale. The combination of all behavior items ranged from 0-49 points. Behavioral items 59-76 and 85-91 were reflected on a three-point scale; "0" for "Neither," "1" for "Yes, for sexy message" (indicating that only verbal messages were sexted) or "Yes, for sexy picture or video" (indicating only images were sexted), and "2" for "Yes, for both" (indicating both messages and images were sexted). Items 78-86 were scored a "0" for "No" and a "1" for "Yes" responses. After determining the values for each type of sexting behavior, frequencies and percentages were computed and presented for a more detailed and clear understanding of lifetime and current sexting behaviors.

Pearson product moment coefficients were used to determine the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions and sexting behaviors. Logistic regression analyses were conducted to determine whether self-esteem levels, attitudes toward sexting, subjective norms toward sexting, and sexting behavioral intentions are predictive of those who sext (i.e. lifetime and current sexters). Multiple regression analyses were used to determine how much variation in self-reported sexting behaviors can be attributed to self-esteem

levels, attitudes toward sexting, subjective norms toward sexting, and sexting behavioral intentions to determine predictors of sexting behaviors.

For students who do not sext, Pearson product moment coefficients also will be used to determine the relationship among self-esteem levels, attitudes toward sexting, subjective norms toward sexting, and sexting behavioral intentions. Multiple regression analysis will be run to determine how much variation in sexting behavioral intention can be attributed to self-esteem levels, attitudes toward sexting, and subjective norms toward sexting of participants who do not sext. Table 8 provides a summary of the statistical analysis of this study.

Table 8

Research Questions Statistical Analyses Summary

Research Question	Data Collection	Data Analysis
1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?	Attitude subscale <ul style="list-style-type: none"> • Items 9-23, 31-34 Subjective norms subscale <ul style="list-style-type: none"> • Items 1-8, 24-28, 35-40 Self-esteem subscale <ul style="list-style-type: none"> • Items 94-103 Behavioral intention subscale <ul style="list-style-type: none"> • Items 29-30, 41-58 Behavior subscale <ul style="list-style-type: none"> • Items 59-61, 63, 66-77, 87-89, 9 	Descriptive statistics (frequencies, percentages, and mean scores)
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?	Behavior subscale <ul style="list-style-type: none"> • Items 59-61, 63, 66-77, 87-89, 91 Demographics <ul style="list-style-type: none"> • Items 104-111 	<ol style="list-style-type: none"> 1. Gender <ul style="list-style-type: none"> • T-test 2. Age <ul style="list-style-type: none"> • ANOVA 3. Race <ul style="list-style-type: none"> • ANOVA 4. Sexual orientation <ul style="list-style-type: none"> • T-test 5. Current relationship status <ul style="list-style-type: none"> • ANOVA 6. Number of lifetime sexual partners <ul style="list-style-type: none"> • ANOVA 7. Number of current (within the past 30 days) sexual partners <ul style="list-style-type: none"> • ANOVA

Table 8 Continued

Research Questions Statistical Analyses Summary

Research Question	Data Collection	Data Analysis
3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?	Attitude subscale <ul style="list-style-type: none"> • Items 9-23, 31-34 Subjective norms subscale <ul style="list-style-type: none"> • Items 1-8, 24-28, 35-40 Self-esteem subscale <ul style="list-style-type: none"> • Items 94-103 Behavioral intention subscale <ul style="list-style-type: none"> • Items 29-30, 41-58 Behavior subscale <ul style="list-style-type: none"> • Items 59-61, 63, 66-77, 87-89, 91 	Pearson Product Moment Correlation
4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?	Attitude subscale <ul style="list-style-type: none"> • Items 9-23, 31-34 Subjective norms subscale <ul style="list-style-type: none"> • Items 1-8, 24-28, 35-40 Self-esteem subscale <ul style="list-style-type: none"> • Items 94-103 Behavioral intention subscale <ul style="list-style-type: none"> • Items 29-30, 41-58 Behavior subscale <ul style="list-style-type: none"> • Items 59-61, 63, 66-77, 87-89, 91 	Logistic Regression <ul style="list-style-type: none"> • Lifetime sexters • Current sexters Multiple Regression <ul style="list-style-type: none"> • Behavior subscale
5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?	Attitude subscale <ul style="list-style-type: none"> • Items 9-23, 31-34 Subjective norms subscale <ul style="list-style-type: none"> • Items 1-8, 24-28, 35-40 Self-esteem subscale <ul style="list-style-type: none"> • Items 94-103 Behavioral intention subscale <ul style="list-style-type: none"> • Items 29-30, 41-58 	Pearson Product Moment Correlation
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?	Attitude subscale <ul style="list-style-type: none"> • Items 9-23, 31-34 Subjective norms subscale <ul style="list-style-type: none"> • Items 1-8, 24-28, 35-40 Self-esteem subscale <ul style="list-style-type: none"> • Items 94-103 Behavioral intention subscale <ul style="list-style-type: none"> • Items 29-30, 41-58 	Multiple regression

Summary

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors. This survey research study used a descriptive, cross-sectional, correlational design. The self-report instrument assessed self-esteem levels, attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors. Selected undergraduate students at a mid-sized, Midwestern university were solicited in the classroom of the three mandatory introductory-level Human Health core courses (personal health, nutrition, and physical fitness) to voluntarily take the instrument.

A pilot study using the survey instrument was initiated, upon doctoral committee and Human Subjects Committee approval, in order to establish overall quality and clarity of the instrument. Once the final edits were made on the survey instrument, the research commenced Spring semester of 2011. Usable survey instruments were analyzed to answer the six research questions using a series of descriptive statistics, t-tests, ANOVAs, Pearson product moment correlations, logistic regression analysis, and multiple regression analyses. The following two chapters provide information about the study's results, conclusions, suggestions for future research, and recommendations.

CHAPTER 4

RESULTS

Overview

This chapter provides a detailed review of the sample demographics and study results based on the research questions. Information related to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors was gathered from 697 completed surveys of selected undergraduate students in one of the three core health courses: Health 101, Nutrition 101, and Kinesiology 101. This chapter will summarize results of this study.

Purpose of the Study

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

Research Questions

The following research questions were assessed:

1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?
3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?

4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?
5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

Sample Demographics

Participants were recruited from 32 sections of the three introductory Human Health core courses at a mid-sized, Midwestern university over two months during the Spring 2011 semester. Initially, 764 individuals were solicited; however, four individuals were ineligible to take the survey instrument so they were not included from the sample population (N=760). These individuals were deemed ineligible because one individual was a minor and three individuals were graduate students, and therefore, unable to take the survey instrument. An additional 17 people (2.2%) opted not to take the survey. Forty-six participants (6.0%) were omitted because they did not complete at least 95% of the survey instrument. Additionally, eight participants were identified as repeats since they signed up for more than one of the Human Health core courses and had already taken the survey. A total of 697 usable survey instruments were retained and included in the analysis, providing a 91.7% response rate. For those who had less than 5% missing items (less than six questions), the mean score was entered in place of the missing data and then rounded to the most appropriate score. For example, a mean score of 1.17 was rounded to a score of 1 to indicate the mean response option for the question. However, all missing demographic variables were not replaced.

The sample was close to an even split between males and females, with 345 males (49.8%), 348 females (50.2%), and three (0.6%) participants missing information. Over half of the participants were ages 18 (29.4%) or 19 (29.1%). Slightly more than half (52.9%) of participants were freshman. The

proportion of sophomores, juniors, and seniors were near even, with 17.6% sophomores, 13.2% juniors, and 16.3% seniors. White/Caucasian participants made up the majority of the racial/ethnic sample with 53.4%. Black/African American participants made up 31.4%. The remaining 15.2% indicated that their race/ethnicity were multiracial (6.5%), Hispanic/Latino (4.7%), Asian/Pacific Islander (2.0%), or Alaskan Native/Native American (0.9%).

The majority of participants identified their sexual orientation as heterosexual (n=617, 89.0%), with the rest indicating their sexual orientation as bisexual (3.6%), preferred not to answer (3.6%), did not know (3.0%), or homosexual (1.7%). Just under half of participants (42.8%) were not in a relationship, with about a third (30.7%) indicating that they were in a serious relationship, and about one-fifth (19.7%) indicating they were in a casual/dating relationship. A little over one-tenth (11.7%) of participants indicated having zero lifetime sexual (vaginal/anal/oral sex) partners, whereas nearly a quarter (21.6%) indicated having nine or more lifetime sexual partners. Slightly over a third (34.1%) indicated they had no current sexual partners, while about half (51.2%) indicated one sexual partner within the past 30 days. A detailed description of the sample population is described in Table 9. Demographic variables of age, race, sexual orientation, relationship status, and current sexual partners were recoded into fewer and more condensed groups for data analysis.

Analysis of Research Questions

All data was analyzed using SPSS© 17.0 (SPSS Inc, 2009). To address the research questions, frequencies, percentages, t-tests, analysis of variances, correlations, logistic regressions, and multiple regression analyses were conducted with appropriate data variables. An alpha level of .05 was used to determine statistical significance.

Research Question #1: What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?

Frequencies, percentages, and mean scores were calculated for all survey items. The following sections will provide detail for self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

Table 9

Demographic Characteristics of Study Participants (n=697 total)

Demographic Variables	Frequency (n)	Percentage (%)
Gender (n=693)		
Male	345	49.8
Female	348	50.2
Age (n=697)		
18	205	29.4
19	203	29.1
20	90	12.9
21	71	10.2
22	59	8.5
23	21	3
24	10	1.4
25	8	1.1
26	5	0.7
27+	25	3.6
Academic Status (n=695)		
Freshman	368	52.9
Sophomore	122	17.6
Junior	92	13.2
Senior	113	16.3
Ethnicity/Race (n=689)		
Alaskan Native/American Islander	6	0.9
Asian/Pacific Islander	14	2
Black/African American	219	31.4
Hispanic/Latino	33	4.7
White/Caucasian	372	53.4
Multi-racial	37	6.5
Hispanic/White	7	1.0
Black/White	12	2.0
Black/Hispanic	6	0.9
Asian/White	3	0.4
Hispanic/White	1	0.1
Asian/Black	1	0.1
Alaskan Native/White	4	0.6
Alaskan Native/Black	4	0.6
Alaskan/Hispanic/White	1	0.1
Black/Hispanic/White	2	0.3
Alaskan/Asian/Black/Hispanic	1	0.1
All five races	1	0.1
Sexual Orientation (n=693)		
Heterosexual	617	89.0
Homosexual	12	1.7
Bisexual	25	3.6
Do not know	21	3.0
Prefer not to answer	18	3.6

Table 9 Continued

Demographic Characteristics of Study Participants (n=697 total)

Demographic Variables	Frequency (n)	Percentage (%)
Current Relationship Status (n=696)		
Not in a relationship	298	42.8
In a casual/dating relationship	137	19.7
In a serious relationship	214	30.7
Engaged	21	3.0
Married	18	2.6
Partnered	2	0.3
Separated	3	0.4
Divorced and not in a relationship	2	0.3
Divorced and in a casual/dating relationship	0	0.0
Lifetime Sexual Partners (n=691)		
0	81	11.7
1	91	13.2
2	79	11.4
3	73	10.6
4	77	11.1
5	50	7.2
6	30	4.3
7	35	5.1
8	26	3.8
9+	149	21.6
Current Sexual Partners* (n=689)		
0	235	34.1
1	353	51.2
2	67	9.7
3	15	2.2
4	8	1.2
5	5	0.7
6	1	0.1
7	1	0.1
8	0	0.0
9+	4	0.6

*Within the last 30 days

Attitudes toward sexting.

Overall attitudes toward sexting remained more positive than negative even though participants were aware of the potential negative aspects of sexting. When asked about the behavior of sexting, the majority of participants leaned more toward favorable attitudes to describe sexting. For the word “flirty,” 70.9% of participants “strongly agreed” or “somewhat agreed” that the word described the behavior of sexting. Over 50% of participants “strongly agreed” or “somewhat agreed” that sexting also

was “arousing” (63.6%), “exciting” (52.8%), and “hot” (51.1%). Participants did, however, recognize the risk involved with sexting, as 58.4% “strongly agreed” or “somewhat agreed” that sexting was “dangerous” and 58.1% “strongly disagreed” or “somewhat disagreed” that sexting was “harmless.” A quarter of participants “strongly agreed” or “somewhat agreed” that the behavior of sexting was “lame” (25.7%) and “gross” (24.0%).

The majority of participants were aware that sexts sometimes do not remain private. Most participants “strongly agreed” or “somewhat agreed” that sending personal sexy images (81.0%) and sexy messages (76.0%) usually end up being seen by more than just those to whom they were sent. Most participants also were aware of potential consequences involved with sexting. Almost three-fourths of participants “strongly agreed” or “somewhat agreed” that sending personal sexy images (i.e. pictures/videos) (74.9%) and sexy messages (73.1%) could have serious negative consequences. Many participants “strongly disagreed” or “somewhat disagreed” that sending sexy images (54.3%) or sending sexy messages (37.1%) was “no big deal”. Conversely, several participants “strongly agreed” or “somewhat agreed” that sending sexy messages (31.9%) or sexy images (20.2%) was “no big deal.” Finally, most participants “strongly agreed” or “somewhat agreed” that people their age were more forward/aggressive using sexy messages (72.7%) and sexy images (63.3%). See Table 10 for more detailed information on attitudes toward sexting.

Subjective norms toward sexting.

Regarding subjective norms toward sexting, most participants’ perceived sending sexy messages (86.8%), sexy images (76.1%), posting sexy images online (56.8%), and sharing/forwarding sexts (50.6%) was “very common” or “fairly common” among females their age. Participants perceived sexting behaviors as less common among males than females, with the exception of sharing/forwarding sexts. Participants perceived sending sexy messages (73.8%), sexy images (55.5%), posting sexy images online (39.3%), and sharing/forwarding sexts (55.3%) as “very common” or “fairly common” among males their age.

Over half of participants “strongly agreed” or “somewhat agreed” that people who exchange sexy messages (61.4%) or sexy images (54.1%) are more likely to date or hook-up with each other

Table 10

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Attitudes Toward Sexting (n=697)

How much do you agree or disagree that each of the following describes the behavior of sexting?						
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean
Flirty	51(7.3)	67(9.6)	85(12.2)	237(34.0)	257(36.9)	2.84
Arousing	54(7.7)	57(8.2)	143(20.5)	268(38.5)	175(25.1)	2.65
Hot	63(9.0)	75(10.8)	203(29.1)	246(35.3)	110(15.8)	2.38
Exciting	75(10.8)	82(11.8)	173(24.8)	265(38.0)	102(14.8)	2.34
Gross*	135(19.4)	158(22.7)	237(24.0)	114(16.4)	53(7.6)	2.30
Lame*	137(19.7)	149(21.4)	232(33.3)	115(16.5)	64(9.2)	2.26
Fun	91(13.1)	75(10.8)	207(29.7)	236(33.9)	88(12.6)	2.22
Immoral*	101(14.5)	135(19.4)	287(41.2)	98(14.1)	76(10.9)	2.12
Healthy	166(23.8)	142(20.4)	293(42.0)	79(11.3)	17(2.4)	1.48
Dangerous*	62(8.9)	77(11.0)	151(21.7)	196(28.1)	211(30.3)	1.40
Harmless	208(29.8)	197(28.3)	158(22.7)	103(14.8)	31(4.4)	1.36

*Items reverse coded when computing scores

Note: SD=Strongly Disagree (value=0), D=Disagree (value=1), N=Neither Agree Nor Disagree (value=2), A=Somewhat Agree (value=3), SA=Strongly Agree (value=4)

Table 10 Continued

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Attitudes Toward Sexting (n=697)

How much do you agree or disagree with each of the following statements?						
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean
People my age are more forward/aggressive using sexy messages than they are in real life	27(3.9)	38(5.5)	125(17.9)	270(38.7)	237(34.0)	2.94
People my age are more forward/aggressive using sexy pictures/videos than they are in real life	31(4.4)	63(9.0)	162(23.2)	283(40.6)	158(22.7)	2.68
Sending personal sexy messages is no big deal	111(15.9)	148(21.2)	215(30.8)	169(24.2)	54(7.7)	1.87
Sending personal sexy pictures/videos is no big deal	202(29.0)	176(25.3)	178(25.5)	106(15.2)	35(5.0)	1.42
Sending personal sexy messages can have serious negative consequences*	32(4.6)	58(8.3)	98(14.1)	222(31.9)	287(41.2)	1.03
Personal sexy messages usually end up being seen by more than just those to whom they were sent*	27(3.9)	68(9.8)	72(10.3)	263(37.7)	267(38.3)	1.03
Sending personal sexy pictures/videos can have serious negative consequences*	39(5.6)	33(4.7)	103(14.8)	195(28.0)	327(46.9)	0.94
Personal sexy pictures/videos usually end up being seen by more than just those to whom they were sent*	33(4.7)	31(4.4)	68(9.8)	217(31.1)	348(49.9)	0.83

*Items reverse coded when computing scores

Note: SD=Strongly Disagree (value=0), D=Disagree (value=1), N=Neither Agree Nor Disagree (value=2), A=Somewhat Agree (value=3), SA=Strongly Agree (value=4)

in real life. Over half (55.5%) “strongly agreed” or “somewhat agreed” that all of their close friends have sent sexy messages to someone, while less than half (35.9%) agreed that all of their close friends have sent sexy images to someone. The majority “strongly agreed” or “somewhat agreed” that people who are important to them would disapprove of them sending sexy images (65.2%) or sexy messages (53.5%).

Some participants felt that there was a pressure among people their age to post sexy images or sexy messages on social networking sites (SNS) profiles. Nearly a third of participants (32.5%) “strongly agreed” or “somewhat agreed” there was a pressure to post sexy images on SNS profiles and a-fourth of participants (26.7%) “strongly agreed” or “somewhat agreed” there was a pressure to post sexy messages on SNS profiles. See Table 11 for more details on subjective norms toward sexting.

Self-esteems levels.

The Rosenberg self-esteem subscale (RSE) determined that most participants had high self-esteem. The average self-esteem score among participants in this study was a 23.7 (range=30), which is considered on the high-end of “normal” self-esteem levels (Rosenberg, 1989). Even though “high” self-esteem on the RSE scale has only a five-point range (compared to 15 point range for “low” self-esteem and a 10 point range for “normal” self-esteem), nearly half (49.4%) of participants were identified as having “high” self-esteem levels (scoring 26-30). Half of the participants were identified as having “normal” self-esteem levels (scoring 15-25). A small portion of the study’s sample (6.7%) was identified as having “low” self-esteem levels (scoring 0-14). See Table 12 for more details on the specific questions and responses on the RSE subscale assessing global self-esteem.

Table 11

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Subjective Norms Toward Sexting (n=697)

How common would you say each of the following is among GIRLS your age?					
Item	NCAA n(%)	NVC n(%)	FC n(%)	VC n(%)	Mean
Sending sexy messages to someone else	16(2.3)	76(10.9)	334(47.9)	271(38.9)	2.23
Sending of sexy pictures/videos of oneself to someone else	27(3.9)	139(19.9)	360(51.6)	171(24.5)	1.97
Posting sexy pictures/videos of oneself online	86(12.3)	215(30.8)	249(35.7)	147(21.1)	1.66
Sharing sexy messages/pictures/videos with people other than the one(s) they were meant for	96(13.8)	248(35.8)	244(35.0)	109(15.6)	1.53
How common would you say each of the following is among GUYS your age?					
Item	NCAA n(%)	NVC n(%)	FC n(%)	VC n(%)	Mean
Sending sexy messages to someone else	48(6.9)	135(19.4)	255(36.6)	259(37.2)	2.04
Sharing sexy messages/pictures/videos with people other than the one(s) they were meant for	117(16.8)	194(27.8)	178(25.5)	208(29.8)	1.68
Sending of sexy pictures/videos of oneself to someone else	90(12.9)	220(31.6)	242(34.7)	145(20.8)	1.63
Posting sexy pictures/videos of oneself online	148(21.2)	275(39.5)	184(26.4)	90(12.9)	1.31

Note: NCAA= Not Common At All (value=0), NVC=Not Very Common (value=1), FC= Fairly Common (value=2), VC=Very Common (value=3)

Table 11 Continued

Frequencies, Percentages, and Mean Scores for Instrument Items Assessing Subjective Norms Toward Sexting (n=697)

How much do you agree or disagree with each of the following statements?						
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean
People who exchange sexy messages are more likely to date or hook up with each other in real life	30(4.3)	74(10.6)	165(23.7)	285(40.9)	143(20.5)	2.63
To my knowledge, all of my close friends have sent sexy messages to someone	73(10.5)	84(12.1)	153(22.0)	218(31.3)	169(24.2)	2.47
People who exchange sexy pictures/videos are more likely to date or hook up with each other in real life	43(6.2)	111(15.9)	166(23.8)	239(34.3)	138(19.8)	2.46
People who exchange sexy messages are expected to date or hook up with each other in real life	80(11.5)	143(20.5)	203(29.1)	194(27.8)	77(11.0)	2.06
People who exchange sexy pictures/videos are expected to date or hook up with each other in real life	79(11.3)	149(21.4)	209(30.0)	169(24.2)	91(13.1)	2.06
To my knowledge, all of my close friends have sent sexy pictures/videos to someone	121(17.4)	128(18.4)	198(28.4)	160(23.0)	90(12.9)	1.96
There is pressure among people my age to post sexy pictures/videos in their social networking site profiles	155(22.2)	133(19.1)	182(26.1)	162(23.2)	65(9.3)	1.78
There is pressure among people my age to post sexy messages on social networking site profiles	211(30.3)	145(20.8)	155(22.2)	129(18.5)	57(8.2)	1.54
People who are important to me would disapprove of me sending sexy messages*	38(5.5)	84(12.1)	202(29.0)	148(21.2)	225(32.3)	1.37
To my knowledge, all of my close friends have posted sexy pictures/videos on the Internet	251(36.0)	167(24.0)	151(21.7)	84(12.1)	44(6.3)	1.29
People who are important to me would disapprove of me sending pictures/videos*	31(4.4)	56(8.0)	156(22.4)	165(23.7)	289(41.5)	1.10

*Items reverse coded when computing scores

Note: SD=Strongly Disagree (value=0), D=Disagree (value=1), N=Neither Agree Nor Disagree (value=2), A=Somewhat Agree (value=3), SA=Strongly Agree (value=4)

Table 12

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Global Self-Esteem Levels (n=697)

How much do you agree or disagree with the following statements? (n=697)					
Item	SD n(%)	D n(%)	A n(%)	SA n(%)	Mean
I feel that I have a number of good qualities.	21(3.0)	24(3.4)	159(22.8)	493(70.7)	2.61
All in all, I am inclined to feel that I am a failure. *	551(73.3)	97(13.9)	46(6.6)	43(6.2)	2.54
I feel that I'm a person of worth, at least on an equal plane with others.	29(4.2)	31(4.4)	183(26.3)	454(65.1)	2.52
I am able to do things as well as most other people.	23(3.3)	37(5.3)	192(27.5)	445(63.8)	2.52
I take a positive attitude toward myself.	28(4.0)	35(5.3)	209(30.0)	423(60.7)	2.47
On the whole, I am satisfied with myself.	27(3.9)	45(6.5)	245(35.2)	380(54.5)	2.40
I feel I do not have much to be proud of.*	438(62.8)	133(19.1)	71(10.2)	55(7.9)	2.37
I certainly feel useless at times. *	376(53.9)	129(18.5)	130(18.7)	62(8.9)	2.18
I wish I could have more respect for myself.*	336(48.2)	131(18.8)	139(19.9)	91(13.1)	2.02
At times, I think I am no good at all.*	331(44.6)	157(22.5)	164(23.5)	65(9.3)	2.02

*Items reverse coded when computing scores

Note: SD=Strongly Disagree (value=0), D=Disagree (value=1), A=Somewhat Agree (value=2), SA=Strongly Agree (value=3)

Sexting behavioral intentions.

Certain situations were found to increase the likelihood for sexting, based on participants' responses to sexting behavioral intentions. Regarding sexting behavioral intentions, most participants revealed that they would be "very likely" or "somewhat likely" to sext if they trust the receiver (68.0%), if they found the right person (64.6%), if they were married (63.1%), if they were 100% sure the sext would be kept and remain private (60.6%), or if they were in a relationship (52.6%). Other situations in which many participants reported being "very likely" or "somewhat likely" to sext were: if they received a sexy message from someone they liked (47.1%), if they were drunk (40.7%), if their bodies were in better physical shape (36.7%), if someone they liked asked (32.7%), or if they were sole owner of their cell phone or computer (31.4%). See Table 13 for more details on sexting behavioral intentions of all participants.

For those who have never sexted (n=133), many would become more likely to sext under the given circumstance. For instance, over a quarter of lifetime non-sexters reported they were "very likely" or "somewhat likely" to sext if the: were married (40.6%), were 100% sure the sext would be kept and remain private (30.8%), found the right person (28.6%), trusted the receiver (27.8%), were in a relationship (26.4%). See Table 14 for more details on sexting behavioral intentions of non-sexters.

Access to computer mediated communication device (i.e. cell phone, Internet, webcam, social networking site, etc) indicated playing a roll in how forward/aggressive the participants would be. Some participants "strongly agreed" or "somewhat agreed" that they are likely to be more forward/aggressive through sexy messages (29.0%) or sexy images (22.6%) than they would be if the technology were not available, meaning

Table 13

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Sexting Behavioral Intentions (n=697)

Which of the following answers describes how likely you are to sext in the given situation?						
Item	VU n(%)	SU n(%)	NE n(%)	SL n(%)	VL n(%)	Mean
If I am married	117(16.8)	49(7.0)	91(13.1)	179(25.7)	261(37.4)	2.60
If I trust the receiver	111(15.9)	43(6.2)	69(9.9)	285(40.9)	189(27.1)	2.57
If I find the right person	101(14.5)	52(7.5)	94(13.5)	269(38.6)	181(26.0)	2.54
If I am 100% sure it would be kept and remain private	127(18.2)	31(4.4)	117(16.8)	234(33.6)	188(27.0)	2.47
If I am in a relationship	130(18.7)	69(9.9)	131(18.8)	224(32.1)	143(20.5)	2.26
If I receive a sexy message from someone I like	156(22.4)	78(11.2)	135(19.4)	206(29.6)	122(17.5)	2.09
If my body is in better physical shape	182(26.1)	47(6.7)	212(30.4)	159(22.8)	97(13.9)	1.92
If I am drunk	205(29.4)	66(9.5)	143(20.5)	153(22.0)	130(18.7)	1.91
If my self-esteem is higher	202(29.0)	56(8.0)	231(33.1)	128(18.4)	80(11.5)	1.75
If I am sole owner of my cell phone or computer	205(29.4)	53(7.6)	220(31.6)	150(21.5)	69(9.9)	1.75
If my face is more attractive	202(29.0)	47(6.7)	267(38.3)	123(17.6)	58(8.3)	1.70
If someone I like asks me	216(31.0)	112(16.1)	141(20.2)	155(22.2)	73(10.5)	1.65
If people who are important to me approve	211(30.3)	93(13.3)	281(40.3)	73(10.5)	39(5.6)	1.48
If I am high	270(38.7)	60(8.6)	204(29.3)	93(13.3)	70(10.0)	1.47
If someone blackmails me	342(49.1)	91(13.1)	177(25.4)	63(9.0)	24(3.4)	1.05
If someone pressures me	338(48.5)	103(14.8)	194(27.8)	47(6.7)	15(2.2)	0.99

Note: VU= Very Unlikely, SU=Somewhat Unlikely, NE=No Effect, SL=Somewhat Likely, VL=Very Likely

Table 14

Descriptive Statistics for Instrument Items Assessing Sexting Behavioral Intentions for Lifetime Non-Sexters (n=133)

Which of the following answers describes how likely you are to sext in the given situation?						
Item	VU n(%)	SU n(%)	NE n(%)	SL n(%)	VL n(%)	Mean
If I am married	44(33.1)	14(10.5)	21(15.8)	33(24.8)	21(15.8)	1.80
If I am 100% sure it would be kept and remain private	60(45.1)	11(8.3)	21(15.8)	35(26.3)	6(4.5)	1.37
If I find the right person	57(42.9)	19(14.3)	19(14.3)	27(20.3)	11(8.3)	1.37
If I am in a relationship	57(42.9)	17(12.8)	24(18.0)	28(21.1)	7(5.3)	1.33
If I trust the receiver	62(46.6)	15(11.3)	19(14.3)	29(21.8)	8(6.0)	1.29
If I receive a sexy message from someone I like	65(48.9)	14(10.5)	21(15.8)	27(20.3)	6(4.5)	1.21
If my body is in better physical shape	67(50.4)	7(5.3)	33(24.8)	22(16.5)	4(3.0)	1.17
If I am drunk	68(51.1)	13(9.8)	21(15.8)	23(17.8)	8(6.0)	1.17
If my face is more attractive	71(53.4)	5(3.8)	39(29.3)	14(10.5)	4(3.0)	1.06
If my self-esteem is higher	73(54.9)	7(5.3)	30(22.6)	19(14.3)	4(3.0)	1.05
If I am sole owner of my cell phone or computer	74(55.6)	10(7.5)	28(21.1)	18(13.5)	3(2.3)	0.99
If I am high	78(56.8)	7(5.3)	27(20.3)	18(13.5)	2(2.3)	0.95
If someone I like asks me	73(54.9)	22(16.5)	17(12.8)	15(11.3)	6(4.5)	0.94
If people who are important to me approve	75(56.4)	13(9.8)	29(21.8)	12(9.0)	4(3.0)	0.92
If someone blackmails me	78(58.6)	14(10.5)	25(18.8)	11(8.3)	5(3.8)	0.88
If someone pressures me	82(61.7)	12(9.0)	29(21.8)	9(6.8)	1(0.8)	0.76

they would not be as sexually forward or aggressive if they did not have the CMC. One-third of participants “strongly agreed” or “somewhat agreed” that they are likely to be more forward or aggressive using sexy messages (33.1%) than they are in real life, and 22.4% reported that they are likely to be more forward/aggressive using sexy images than they are in real life. See Table 15 for more details on sexting behavioral intentions.

Sexting behaviors.

The majority of participants (80.9%; n=564) self-reported having engaged in at least one sexting behavior in their lifetime. These participants were labeled “lifetime sexters.” The operational definition for lifetime sexters was participants who indicated having ever sending, posting, Internet sending/posting, or sharing/forwarding sexy messages, sexy images, or both. In their lifetime, 76.8% of participants sent a sexy message or image, 45.1% shared or forwarded a sexy message or image, 29.1% Internet posted a sexy images, or both. In their lifetime, 76.8% of participants sent a sexy message or image, 45.1% shared or forwarded a sexy message or image, 29.1% Internet posted a sexy message or image, and 20.8% online posted a sexy message or image from a SNS.

Of the 697 participants, only 83 participants (11.9%) had never sexted (sent/posted, Internet sent/posted, or shared/forwarded a sext) received a sext, had a sext shared with them, or asked for a sext. A small percentage (7.2%) had asked or received a sext, or had a sext shared with them; however, did not sext. Asking for a sext, receiving a sext, and having a sext shared with the participant were not considered sexting behaviors for analysis since these three behaviors were beyond the sexting definition of this study. The reason these three behaviors were omitted was because asking for a sext does not

Table 15

Frequencies, Percentages, and Mean Scores of Instrument Items Assessing Sexting Behavioral Intentions to be More Sexually

Forward/Aggressive When Sexting (n=697)

How much do you agree or disagree with each of the following statements?						
Item	SD n(%)	D n(%)	N n(%)	A n(%)	SA n(%)	Mean
I am likely to be more forward/aggressive using sexy messages than I would be if the technology were not available	127(18.2)	107(15.4)	261(37.4)	134(19.2)	68(9.8)	1.87
I am likely to be more forward/aggressive using sexy messages than I am in real life	148(21.2)	130(18.7)	188(27.0)	180(25.8)	51(7.3)	1.79
I am likely to be more forward/aggressive using sexy pictures/videos than I would be if the technology were not available	175(25.1)	128(18.4)	237(34.0)	105(15.1)	52(7.5)	1.61
I am likely to be more forward/aggressive using sexy pictures/videos than I am in real life	199(28.6)	142(20.4)	200(28.7)	112(16.1)	44(6.3)	1.51

Note: SD=Strongly Disagree (value=0), D=Disagree (value=1), N=Neither Agree Nor Disagree (value=2), A=Somewhat Agree (value=3), SA=Strongly Agree (value=4)

imply that the person asking is a sexter. Also, receiving and having a sext shared with the participants' are uncontrollable behaviors and does not imply that the person receiving messages also sends, posts, or forward/shares sext messages. However, these behaviors were common, as 78.8% of participants had received a sext, 70.7% had a sext message shared with them, and 50.9% of participants had asked for a sext in their lifetime.

Those who were identified as lifetime sexters (80.9%) also answered questions regarding their current sexting behaviors. Among lifetime sexters (n=564), 59.9% (n=338) also were identified as current sexters. Thus, all current sexters also are considered lifetime sexters; however, being a lifetime sexters does not imply one is a current sexter. Among the entire sample (n=697), nearly half (48.5%; n=338) had sexted within the past 30 days. Current sexters were defined as participants who indicated sending, posting, Internet sending/posting, or sharing/forwarding sexy messages, sexy images, or both within the past 30 days. In the past 30 days, 54.1% of lifetime sexters sent a sexy message or image, 25.0% shared or forwarded a sexy message or image to someone else, 15.1% posted a sexy message or image from a social networking site, and 14.9% posted a sexy message or image on the Internet. In the past 30 days, 54.8% had received a sexy message or image, and 54.1% had a sexy message or image shared with them, and 27.8% had asked someone to send a sexy message or image. See Table 16 for more details on sexting behaviors.

Most sexters reported their reasons for sexting were to be fun and flirtatious (79.4%), in response to one that was received (74.6%), as a "sexy" present to a significant other (63.3%), to initiate sexual behavior with the recipient (60.6%), or to enhance their relationship (55.3%). See Table 17 for more details on reasons for sexting. When asked

Table 16

Frequencies and Percentages of Instrument Items Assessing Lifetime and Current Sexting Behaviors

Which of the following, if any, have you personally ever done? (n=697)				
Item	Neither n(%)	Sexy Message n(%)	Sexy Image n(%)	Both n(%)
Received a sexy personal message/picture/video from someone *	148(21.2)	486(69.7)	445(63.8)	382(54.8)
Sent a sexy personal message/picture/video to someone	162(23.2)	489(70.2)	336(48.2)	290(41.6)
Had a sexy message/picture/video (originally meant to be private) shared with me	204(29.3)	404(57.9)	444(63.7)	355(50.9)
Asked someone to send a personal sexy message/picture/video to you*	342(49.1)	271(38.9)	309(44.4)	225(32.3)
Shared a sexy message/picture/video with someone other than the one(s) originally meant	383(54.9)	259(37.2)	245(35.2)	190(27.3)
Internet sent/posted a sexy personal message/picture/video	494(70.9)	172(24.7)	99(14.2)	68(9.8)
Posted a sexy personal message/picture/video to someone's online profile or private message	552(79.2)	169(18.7)	54(7.8)	39(5.6)
Which of the following, if any, have you personally done within the past 30 days ? (n=564)				
Item	Neither n(%)	Sexy Message n(%)	Sexy Image n(%)	Both n(%)
Received a sexy personal message/picture/video from someone*	255(45.2)	273(48.4)	165(29.3)	129(22.9)
Sent a sexy personal message/picture/video to someone	259(45.9)	277(49.1)	115(20.4)	87(15.4)
Had a sexy message/picture/video (originally meant to be private) shared with me*	382(67.7)	143(25.3)	134(23.7)	95(16.8)
Asked someone to send a personal sexy message/picture/video to you*	407(72.2)	127(22.6)	124(22.0)	94(16.7)
Shared a sexy message/picture/video with someone other than the one(s) originally meant	423(75.0)	125(22.3)	84(14.9)	68(12.1)
Posted a sexy personal message/picture/video to someone's online profile or private message	479(84.9)	72(12.8)	39 (6.9)	26(4.6)
Internet sent/posted a sexy personal message/picture/video	480(85.1)	70(12.4)	48(8.5)	34(6.0)

*Behavior was not included as sexting behaviors for analysis

Table 17

Frequencies and Percentages of Instrument Items Assessing Reasons for Sending Sext Messages (n=564)

I sent a sexy personal message/picture/video:				
Item	Neither n(%)	Sexy Message n(%)	Sexy Image n(%)	Both n(%)
To be fun/flirtatious	116(20.6)	425(75.3)	237(42.0)	214(37.9)
In response to one that was sent to me	143(25.4)	393(69.7)	240(42.6)	212(37.6)
As a “sexy” present to my significant other	207(36.7)	305(54.1)	260(46.1)	208(36.9)
To initiate sexual behavior with the recipient	222(39.4)	316(56.0)	205(36.3)	179(31.7)
To enhance my relationship	252(44.7)	291(51.3)	206(36.5)	185(32.8)
To initiate a romantic relationship with the recipient	299(53.0)	252(44.7)	157(27.7)	143(25.4)
To get a guy/girl’s attention	318(56.4)	226(40.1)	135(23.7)	115(20.4)
As a joke	319(56.6)	220(39.0)	108(19.1)	83(14.7)
To feel sexy	341(60.5)	195(34.6)	148(26.3)	120(21.3)
Because it is more comfortable than saying/showing things face-to-face	389(69.0)	159(28.2)	110(19.5)	94(16.7)
As a “sexy” present to someone other than my significant other	400(70.9)	139(24.7)	115(20.4)	90(16.0)
Because I was pressured	475(84.2)	64(11.3)	64(11.3)	39(6.9)

who they sexted, the highest percentages were: significant others (78.9%), someone they dated or hooked up with (64.9%), someone they had a crush on (44.7%), and someone they wanted to date or hook up with (42.0%). Around one-fifth of participants (17.7%) sexted someone they only knew online and 8.9% of participants reported sexting someone who forced or blackmailed them into sexting. See Table 18 for more details on persons sexted.

Research Question #2: To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?

Disproportions were found in various group sample/cell sizes after analysis of demographic variables. Thus, several categories for different variables (i.e. age, race, sexual orientation, current relationship status, and current sexual partners) were combined to lessen the effects of sample inequality. The age categories 23, 24, 25, 26 and 27 and older were combined to form one group titled “23 and older” (n=69). The race categories Hispanic only, Asian only, Alaskan Native/American Islander only, and all multiracial groups were combined into one group titled “Other” (n=98). Sexual orientation categories homosexual, bisexual, do not know, and prefer not to answer were combined into a “non-heterosexual and others” group (n=76). Relationship status categories engaged, married, partnered, divorced and not in a relationship, divorced and in a casual/dating relationship, and divorced and in a serious relationship were combined into a group labeled “engaged/married/partnered/divorced” (n=47). Lastly, the current sexual partners categories 4, 5, 6, 7, 8, and 9 or more were combined into a “4 or more” group (n=19).

Table 18

Frequencies and Percentages of Instrument Items Regarding Those Who Received Participants' SEXTS (n=564)

To whom have you sent/posted sexually suggestive messages or nude/semi-nude pictures or videos of yourself?		
Item	No n(%)	Yes n(%)
My significant other	119(21.1)	445(78.9)
Someone I dated or hooked up with	198(35.1)	366(64.9)
Someone I had a crush on	312(55.3)	252(44.7)
Someone I wanted to date or hook up with	327(58.0)	237(42.0)
Someone other than my significant other	337(59.8)	227(40.2)
One or more good friends	427(75.7)	137(24.3)
Someone I only knew online	464(82.3)	100(17.7)
Someone other than the person(s) listed	495(87.8)	69(12.2)
Someone who forced me or blackmailed me	514(91.1)	50(8.9)

A series of independent sample t-tests and one-way ANOVAs were conducted to assess the differences in mean scores of sexting behaviors based on demographic variables and sexting behaviors. An independent sample t-test showed statistically significant differences in sexting behaviors based on gender. Although participants perceived sexting more common among females than males (see Table 11), the self-reported sexting behaviors among males were more common than females (see Table 19). Males ($M=14.59$) were more likely than females ($M=12.45$) to report engaging in sexting behaviors. There were no significant differences in sexting behaviors based on sexual orientation.

Table 19

Independent Sample T-test Results Comparing Mean Sexting Behavior Scores for Demographic Variables

Gender (Male vs. Female)					
	t-value	df	Std. Error	Mean Difference	Sig.
Sexting Behaviors	2.627	691	.818	2.149	.009*
Sexual Orientation (Heterosexuals vs. Non-Heterosexuals & Others)					
	t-value	df	Std. Error	Mean Difference	Sig.
Sexting Behaviors	-.782	691	1.315	-1.029	.434

* $p < .05$

The post-hoc test used for ANOVA was Tukey's Honestly Significant Difference (HSD) test. This post-hoc test assesses the differences among group means by referring to the differences between the range as a measure of their dispersion, which makes this test popular for exploring pairwise comparisons with a large number of groups (Newton & Rudestam, 1999). Tukey's HSD test is considered a conservative test, which means the

test has a strong control for family wise error rate (FWER) (Howell, 2009). Family wise error rate is the probability that a set of conclusions contains at least one Type I error (i.e. false positive or rejecting at least one true hypothesis) (Howell, 2002; Newton & Rudestam, 1999). Tukey's HSD adjusts the significance level to take the appropriate control of Type 1 errors so FWER does not exceed the alpha (α) level (Howell, 2009). For this study, $\alpha=.05$; therefore, Tukey's HSD post-hoc test restricts family wise error rate to $p=.05$.

One-way analysis of variance (ANOVA) was used to compare mean scores of sexting behaviors for the demographic variables age, race, current relationship status, lifetime sexual partners, and current sexual partners. There were no statistically significant differences between groups by race; however, the series of ANOVAs did show statistically significant difference among several groups. A statistically significant difference was found in sexting behaviors based on age ($F(2,691)=8.006$; $p=.050$); however, there was no statistically significant differences between the means after controlling for family wise error rate. That is, Tukey's HSD post-hoc analysis revealed no statistically significant differences between the means for age and sexting behaviors.

Statistically significant differences in sexting behaviors were found based on current relationship status ($F(4,692)=4.845$; $p=.002$). Tukey HSD post-hoc analysis confirmed differences between sexting behaviors in participants in a casual/dating relationship and those not in a relationship ($p=.022$), and those in a serious relationship and those not in a relationship ($p=.000$). ANOVA results revealed statistically significant differences in sexting behaviors between lifetime sexual partners ($F(9,681)=14.949$; $p=.000$). Tukey HSD post-hoc analysis confirmed differences between groups with more

than two lifetime sexual partners and zero lifetimes sexual partners for nearly every group (see Table 20). Statistically significant differences in sexting behaviors also were found in current sexual partners (within the past 30 days) and sexting behaviors ($F(4,684)=18.696$; $p=.000$). Similar to lifetime sexual partners, Tukey HSD post-hoc analysis confirmed differences were found in all groups with one or more current sexual partner and zero current sexual partners, as well as other groups (see Table 20).

Table 20

One-way ANOVA Results Comparing Mean Scores for Demographic Variables

		Race					
		Model	SS	df	MS	F	Sig.
Sexting Behaviors	Regression		173.339	2	86.669	.739	.478
	Residual		80497.355	686	117.343		
	Total		80670.594	688			
		Age (18 and older)					
		Model	SS	df	MS	F	Sig.
Sexting Behaviors	Regression		1290.435	5	258.087	2.229	.050
	Residual		80012.215	691	115.792		
	Total		81302.640	696			
		Relationship Status					
		Model	SS	df	MS	F	Sig.
Sexting Behaviors	Regression		1671.554	4	557.185	4.845	.002
	Residual		79574.031	692	114.991		
	Total		81245.585	695			
		Tukey HSD					
		Mean Diff.	Std. Error	Sig.			
Relationship Status							
	Casual/Dating-No	3.168	1.107	.026*			
	Serious Relat-No	3.169	.961	.006*			

Table 20 Continued

One-way ANOVA Results Comparing Mean Scores for Demographic Variables

Lifetime Sexual Partners						
	Model	SS	df	MS	F	Sig.
Sexting Behaviors	Regression	13363.175	9	1484.797	14.949	.000*
	Residual	67637.885	681	99.321		
	Total	81001.059	690			
Tukey HSD						
	Mean Diff.	Std. Error	Sig.			
Lifetime Sexual Partners						
	2-None	5.318	1.576	.027*		
	3-None	7.775	1.608	.000*		
	4-None	7.536	1.586	.000*		
	5-None	9.972	1.792	.000*		
	6-None	10.365	2.130	.000*		
	7-None	13.346	2.016	.000*		
	9 or more-None	13.935	1.376	.000*		
	9 or more-1	9.141	1.326	.000*		
	9 or more-2	8.617	1.387	.000*		
	9 or more-3	6.161	1.424	.001*		
	9 or more-4	6.399	1.399	.000*		
	9 or more-8	7.234	2.118	.023*		
Current Sexual Partners						
	Model	SS	df	MS	F	Sig.
Sexting Behaviors	Regression	7892.960	4	1973.240	18.696	.000*
	Residual	72192.738	684	105.545		
	Total	80085.698	688			
Tukey HSD						
	Mean Diff.	Std. Error	Sig.			
Current Sexual Partners						
	1-None	5.014	.865	.000*		
	2-None	9.184	1.423	.000*		
	2-1	4.171	1.369	.020*		
	3-None	10.024	2.736	.002*		
	4 or more-None	12.663	2.450	.000*		
	4 or more-1	7.649	2.420	.014*		

*p<.05

Research Question #3: What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?

Pearson product moment correlations were calculated to identify statistically significant relationships among the five subscales: self-esteem levels, attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors (n=697). Statistically significant correlations were found among attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and the sexting behavior subscale (all sexting behaviors) (see Table 21). The strongest correlations were between behavioral intentions and behaviors ($r=.543$; $p=.000$) and between behavioral intentions and attitudes ($r=.500$; $p=.000$). A weak, yet statistically significant correlation also was found between subjective norms toward sexting and self-esteem level ($r=.091$; $p=.017$).

Table 21

Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales (n=697)

	Attitudes	Subjective Norms	Self-Esteem	Behavioral Intention	Behaviors
Attitudes	1				
Subjective Norms	.210**	1			
Self-Esteem	.011	.091*	1		
Behavioral Intentions	.500**	.319**	-.048	1	
Behaviors	.429**	.390**	-.044	.543**	1

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

For a more detailed analysis, Pearson product moment correlations were conducted for lifetime and current sexters. Lifetime sexters were participants who identified as having ever engaged in one or more sexting behaviors (i.e. sent, posted, Internet sent/posted, or shared a sexy message, sexy image, or both) in their lifetime. Current sexters are participants who identified as engaging in one or more sexting behaviors within the past 30 days.

For participants who identified as lifetime sexters ($n=562$), Pearson product moment correlations were calculated to identify statistically significant relationships among the five subscales. Positive statistically significant correlations were found among attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behavior subscales (see Table 22). The strongest correlations were between behavioral intentions and sexting behaviors ($r=.506$; $p=.000$) and between sexting behavioral intentions and attitudes toward sexting ($r=.434$; $p=.000$). A weak statistically significant correlation was also found between subjective norms toward sexting and self-esteem level ($r=.089$; $p=.035$).

For participants who identified as current sexters, Pearson product moment correlations were calculated to identify statistically significant relationships among the five subscales. Positive statistically significant correlations were found between attitudes toward sexting, subjective norms toward, sexting behavioral intentions, and sexting behavior subscales (see Table 23). The strongest correlations were between sexting behavioral intentions and sexting behaviors ($r=.476$; $p=.000$) and between sexting behavioral intentions and attitudes toward sexting ($r=.396$; $p=.000$). A weak statistically

significant correlation was also found between subjective norms toward sexting and self-esteem level ($r=.112$; $p=.040$).

Table 22

Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales Among Lifetime Sexters (n=564)

	Attitudes	Subjective Norms	Self-Esteem	Behavioral Intention	Behaviors
Attitudes	1				
Subjective Norms	.106**	1			
Self-Esteem	.036	.089*	1		
Behavioral Intentions	.434**	.234**	-.024	1	
Behaviors	.361**	.315**	-.063	.506**	1

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

Table 23

Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, Behavioral Intentions, and Behaviors Subscales Among Current Sexters (n=338)

	Attitudes	Subjective Norms	Self-Esteem	Behavioral Intention	Behaviors
Attitudes	1				
Subjective Norms	.120*	1			
Self-Esteem	.102	.112*	1		
Behavioral Intentions	.397**	.216**	-.052	1	
Behaviors	.334**	.336**	-.101	.476**	1

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

Research Question #4: How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions among selected undergraduate students?

Two logistic regression analyses were conducted to predict lifetime and current sexters. According to Katz (2006), “In a well-fitting model, the estimated likelihood will be close to the observed likelihood of the outcome. This will result in a small chi-squared and a non-significant p-value” (p.123). For the logistic regression predicting lifetime sexters, the Hosmer and Lemeshow goodness-of-fit test was not statistically significant ($X^2=9.354$; $p=.313$), thus indicating that the variables are a good fit for the model.

The model as a whole explained between 17.9% (Cox & Snell R^2) and 28.8% (Nagelkerke R^2) of the variance of becoming a lifetime sexter (see Table 24). Only three independent variables (attitudes, subjective norms, and behavioral intentions) made a significant contribution to being a lifetime sexter. The largest odds ratio was for the subjective norms subscale (OR=1.066). Here, a one-unit increase in the subjective norms subscale leads to a 1.066 increase in the odds of being a lifetime sexter.

The attitudes toward sexting subscale was also a significant influence on the dependent variable; with a one-unit increase leading to a 1.046 increase in the odds of being a lifetime sexter (OR=1.046). Finally, behavioral intentions (OR=1.039) were also predictive of lifetime sexting behaviors, with a one-unit increase leading to a 1.039 increase in the odds of having ever sexted. Overall, the independent variable with the strongest influence on whether an individual was a lifetime sexter was the subjective

norms toward sexting subscale (see Table 24), as an individual who has the highest score on this scale increased their odds of being a lifetime sexter by 82.27 (range=69).

Table 24

Summary of Logistic Regression Analysis Predicting Lifetime Sexters (n=564)

Model Summary						
Cox & Snell R²			Nagelkerke R²			
.179			.288			
Predictor	B	Std. Error	Wald	df	OR	Sig.
Attitudes	.045	.013	12.623	1	1.046	.000*
Subjective Norms	.064	.013	23.641	1	1.066	.000*
Self-Esteem	-.002	.018	.011	1	.998	.918
Behavioral Intentions	.038	.007	27.804	1	1.039	.000*

*p < .05

For current sexters, the Hosmer and Lemeshow Test was, again, not statistically significant, indicating that the variables are a good fit for the model ($X^2 = 8.537$; $p = .383$) (Katz, 2006). The full model as a whole explained between 7.7% (Cox & Snell R²) and 10.4% (Nagelkerke R²) of the variance of being a current sexter (see Table 25). In this model, both attitudes toward sexting and sexting behavioral intentions were identified as predictors of current sexters. The largest odds ratio was for the attitudes subscale (OR=1.039). For this model, a one-unit increase on the attitudes subscale leads to a 1.039 increase in the odds of being a current sexter.

Additionally, behavioral intentions (OR=1.021) were also predictive of being a current sexter, with a one-unit increase leading to a 1.021 increase in the odds of being a current sexter. In this model, the independent variable with the strongest influence on whether an individual is a current sexter is the attitudes scale. Overall, an individual who

has the highest score on this scale increases their odds of having sexted within the past 30 days by 9.56 (range=59).

Table 25

Summary of Logistic Regression Analysis Predicting Current Sexters (n=338)

Model Summary						
Cox & Snell R²			Nagelkerke R²			
.077			.104			
Predictor	B	Std. Error	Wald	df	OR	Sig.
Attitudes	.038	.011	11.687	1	1.039	.001*
Subjective Norms	.019	.011	2.837	1	1.019	.092
Self-Esteem	.008	.015	.329	1	1.009	.566
Behavioral Intentions	.021	.007	9.054	1	1.021	.003*

*p < .05

Simple linear regression was conducted to examine the predictive impact of attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions on sexting behaviors. According to Brace, Kemp, & Snelgar (2000), “the R^2_{Adj} value gives the most useful measure of the success of the model” (p. 209). The R^2_{Adj} value for the model was .374; showing 37.4% of the variance in sexting behaviors could be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions. The ANOVA computed in conjunction with the regression indicated the full regression model was statistically significant ($F(4, 692)=105.051$; $p=.000$).

Of the four predictor variables, three were found to be statistically significant. Attitudes toward sexting ($t(692)=5.678$; $p=.000$), subjective norms toward sexting

($t(692)=7.412$; $p=.000$), and sexting behavioral intentions ($t(692)=10.200$; $p=.000$) were identified as individual predictors of sexting behaviors (see Table 26). For statistically significant independent variables, the unstandardized test statistic B was .216 for attitudes, .285 for subjective norms, and .232 for behavioral intentions. The standardized test statistic β was .197 for attitudes, .236 for subjective norms, and .366 for behavioral intentions. The higher the β value the greater impact of the predictor variable has on the dependent variable (Brace, Kemp, & Snelgar, 2000); therefore, sexting behavioral intentions have the greatest influence predicting sexting behaviors.

Table 26

Summary of Linear Regression Analysis for All Sexting Behaviors (n=697)

Model Summary					
R	R²	Adj. R²	SEE		
.615	.378	.374	8.550		
Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	30717.081	4	7679.270	105.051	.000*
Residual	50585.559	692	73.101		
Total	81302.640	696			
Individual Predictors					
Predictor	B	Std. Error	β	t-value	Sig.
Attitudes	.216	.038	.197	5.678	.000*
Subjective Norms	.285	.038	.236	7.412	.000*
Self-Esteem	-.090	.054	-.050	-1.656	.098
Behavioral Intentions	.232	.023	.366	10.200	.000*

* $p < .05$

Research Question #5: For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?

For participants who identified as lifetime non-sexters, Pearson product moment correlations were conducted to identify any statistically significant relationships between the four subscales. Positive statistically significant correlations were found between attitudes toward sexting, subjective norms toward sexting, and sexting behavioral intentions (see Table 27). The strongest correlation was between behavioral intentions and attitudes ($r=.445$; $p=.000$).

Table 27

Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, and Behavioral Intentions Subscales for Lifetime Non-Sexters (n=133)

	Attitudes	Subjective Norms	Self-Esteem	Behavioral Intention
Attitudes	1			
Subjective Norms	.214*	1		
Self-Esteem	-.090	.119	1	
Behavioral Intentions	.445**	.237**	-.154	1

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

For participants who identified as current non-sexters, Pearson product moment correlations were conducted to identify any statistically significant relationships among the four subscales. Positive statistically significant relationships were found between attitudes and behavioral intentions subscales, and subjective norms and behavioral intentions subscales (see Table 28). The strongest correlation was between behavioral intentions and attitudes ($r=.412$; $p=.000$).

Table 28

Pearson Product Moment Correlations (r) Between Attitudes, Subjective Norms, Self-Esteem, and Behavioral Intentions Subscales for Current Non-Sexters ($n=226$)

	Attitudes	Subjective Norms	Self-Esteem	Behavioral Intention
Attitudes	1			
Subjective Norms	.033	1		
Self-Esteem	-.067	.052	1	
Behavioral Intentions	.412**	.212**	-.009	1

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

Research Question #6: For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

For those who have never sexted in their lifetime, or lifetime non-sexters, simple linear regression was conducted to examine the predictive impact of attitudes toward sexting, subjective norms toward sexting, and self-esteem levels on sexting behavioral intentions. The R^2_{Adj} value for the model was .220; showing 22.0% of the variance in

behavioral intentions could be due to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels for those who have never sexted. The ANOVA computed in conjunction with the regression indicated the full regression model was statistically significant ($F(3, 129)=13.436$; $p=.000$).

Of the three predictor variables, two were found to be statistically significant. Attitudes toward sexting ($t(129)=5.007$ $p=.000$) and subjective norms toward sexting ($t(129)=2.123$; $p=.036$) were identified as individual predictors of sexting behavioral intentions of non-sexters (see Table 29). For statistically significant independent variables, the unstandardized test statistic B was .761 for attitudes toward sexting and .345 for subjective norms toward sexting. The standardized test statistic β was .397 for attitudes toward sexting and .169 for subjective norms toward sexting. Attitudes toward sexting had the highest β ; therefore, had the greatest influence predicting sexting behavioral intentions of those who have never sexted.

For those who do not had not sexted in the past 30 days, or current non-sexters simple linear regression was conducted to examine the predictive impact of attitudes toward sexting, subjective norms toward sexting, and self-esteem levels on sexting behavioral intentions. The R^2_{Adj} value for the model was .198; showing that 19.8% of the variance in behavioral intentions could be due to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels of those who currently do not sext. The ANOVA computed in conjunction with the regression indicated the full regression model was statistically significant ($F(3, 222)=19.567$; $p=.000$).

Table 29

Summary of Linear Regression Analysis for Behavioral Intentions Among Lifetime Non-Sexters (n=133)

Model Summary					
R	R²	Adj. R²	SEE		
.488	.238	.220	17.074		
Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	11751.069	3	3917.023	13.436	.000*
Residual	37606.495	129	291.523		
Total	49357.564	132			
Individual Predictors					
Predictor	B	Std. Error	β	t-value	Sig.
Attitudes	.761	.152	.397	5.007	.000*
Subjective Norms	.345	.162	.169	2.123	.036*
Self-Esteem	-.465	.262	-.138	-1.775	.078

*p < .05

Similar to lifetime non-sexsters, attitudes toward sexting ($t(222)=6.781$; $p=.000$) and subjective norms toward sexting ($t(222)=3.313$; $p=.001$) were identified as individual predictors of sexting behavioral intentions of current non-sexsters (see Table 30). For statistically significant independent variables, the unstandardized test statistic B was .702 for attitudes toward sexting and .361 for subjective norms toward sexting. The standardized test statistic β was .406 for attitudes toward sexting and .198 for subjective norms toward sexting. Attitudes toward sexting had the highest β ; therefore, had the greatest influence on sexting behavioral intentions of those who have not currently sexted.

Table 30

Summary of Linear Regression Analysis for Behavioral Intentions Among Current Non-sexters (n=226)

Model Summary					
R	R²	Adj. R²	SEE		
.457	.209	.198	14.568		
Full Regression Model					
Model	SS	df	MS	F	Sig.
Regression	12456.959	3	4152.320	19.567	.000*
Residual	47111.293	222	212.213		
Total	59568.252	225			
Individual Predictors					
Predictor	B	Std. Error	β	t-value	Sig.
Attitudes	.702	.104	.406	6.781	.000*
Subjective Norms	.361	.109	.198	3.313	.001*
Self-Esteem	.021	.157	.008	.131	.896

*p < .05

Summary

This chapter provided an overview of this study's results by answering each research question. The results determined that statistically significant differences occurred among several demographic variables and sexting behaviors. Results showed positive correlations between attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors. Logistic regression analyses indicated that attitudes toward sexting, subjective norms toward sexting, and sexting behavioral intentions were shown to be predictors of lifetime sexters. Attitudes toward sexting and subjective norms toward sexting were also shown to be predictors for current sexters. Linear regression analysis for the behaviors subscale showed that attitudes

toward sexting, subjective norms toward sexting, and sexting behavioral intentions were statistically significant predictors of sexting behaviors.

For those who do not sext, positive correlations were shown between attitudes toward sexting, subjective norms toward sexting and sexting behavioral intentions. Results from multiple regression analyses indicated that attitudes toward sexting and subjective norms toward sexting were statistically significant predictors of sexting behavioral intentions. The last chapter will provide a discussion on this study's findings and conclusions based on these findings. The following chapter also will provide recommendations for health educators and future research on sexting.

CHAPTER 5

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Introduction

This chapter provides a detailed discussion about the possible meanings, conclusions, and limitations of this study's results. Recommendations for future research on sexting behaviors and for the health education profession will also be discussed.

Summary of the Study

For this study, sexting was defined as electronically sending, posting, or sharing/forwarding sexually explicit messages or semi-nude/nude images. Previous studies have looked at lifetime sexting behaviors; however, the current study was the only study to assess current sexting behaviors. Further, the current study was the only study to correlate sexting behaviors with self-esteem levels and sexting behavioral intentions.

The purpose of this study was to assess attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors (i.e. sending, posting, or sharing/forwarding sexually suggestive messages, nude/semi-nude pictures/videos, or both) among selected undergraduate students and also to determine relationships among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors.

In the Spring 2011 semester, over 700 undergraduates from one of three Human Health core courses in a mid-sized Midwestern university were surveyed to assess lifetime and current sexting behaviors and to determine the relationship among self-esteem levels, attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors. The survey instrument was a combination of

several questions about attitudes toward sexting, subjective norms toward sexting, and sexting behaviors that were adapted and revised from The National Campaign's *Sex and Tech* survey (2008), Rosenberg's *Global Self-Esteem* survey (1965), and sexting behavioral intention questions and additional questions (on attitudes, subjective norms, and behaviors) designed by the researcher and committee members. The final survey had a total of 111 items. Demographic variables assessed were race, age, gender, academic standing, relationship status, sexual orientation, number of previous sexual partners, and number of current sexual partners. This exploratory study used a descriptive, cross-sectional, correlational design. Nearly 700 acceptable surveys were used to answer the following research questions:

1. What are the self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors among selected undergraduate students?
2. To what extent do differences exist in self-reported sexting behaviors based on demographic variables, such as gender, age, sexual orientation, race, current relationship status, and number of previous sexual partners among selected undergraduate students?
3. What is the relationship among self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and lifetime and current sexting behaviors among selected undergraduate students?
4. How much variation in self-reported lifetime and current sexting behaviors can be attributed to attitudes toward sexting, subjective norms toward sexting, self-

esteem levels, and sexting behavioral intentions among selected undergraduate students?

5. For participants who self-report no previous sexting behaviors, what is the relationship among attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavior intention among selected undergraduate students?
6. For participants who self-report no previous sexting behaviors, how much variation in sexting behavior intention can be attributed to attitudes toward sexting, subjective norms toward sexting, and self-esteem levels among selected undergraduate students?

A variety of statistical analyses were used to answer the research questions using SPSS® 17.0 (SPSS Inc, 2009). Descriptive statistics were used to assess self-reported attitudes toward sexting, subjective norms toward sexting, self-esteem levels, sexting behavioral intentions, and sexting behaviors. A series of t-tests and ANOVAs were conducted to determine statistically significant differences among sexting behaviors based on demographic variable. Demographic variables with small cell sizes were collapsed and combined to address minimum affects of sample inequalities.

Pearson product moment correlations were conducted to determine the relationship among self-esteem levels, attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and self-reported lifetime and current sexting behaviors. Logistic regression analyses were conducted to determine how much variation in lifetime and current sexting behaviors can be attributed to sexting behavioral intentions, self-esteem levels, attitudes toward sexting, and subjective norms. Multiple

regression analyses were conducted to determine how much variation in sexting behaviors could be attributed to attitudes toward sexting, subjective norms toward sexting, self-esteem levels, and sexting behavioral intentions. For those who do not sext, Pearson product moment correlations were conducted to determine the relationship self-esteem levels, attitudes toward sexting, subjective norms toward sexting, and sexting behavior intention. Multiple regression was conducted for those who had no previous sexting behaviors to determine how much variation in sexting behavior intention can be attributed to self-esteem levels, attitudes toward sexting, and subjective norms toward sexting.

Conclusions

Based on the results of this study, the following conclusions were made:

1. Most of this study's participants had engaged in at least one sexting behavior within their lifetime and nearly half have sexted within the past 30 days.
2. Factors affecting sexing behaviors were: attitudes, subjective norms, and behavioral intentions supporting sexting, and the demographic variables gender, relationship status, and number of lifetime and current sexual partners.
3. Factors affecting lifetime sexters were: attitudes, subjective norms, and behavioral intentions supporting sexting, and the demographic variables relationship status and number of lifetime sexual partners.
4. Factors affecting current sexters were: attitudes, subjective norms, and behavioral intentions supporting sexting, and the demographic variables gender, relationship status, and number of lifetime and current sexual partners.
5. Attitudes toward sexting was the strongest predictor of current sexters.

6. Subjective norms toward sexting was the strongest predictor of lifetime sexters.
7. No statistically significant relationships were found among global self-esteem levels and sexting behaviors, sexting behavioral intentions, and attitudes toward sexting. However, there was a weak correlation between global self-esteem and subjective norms toward sexting for lifetime and current sexters.
8. Most participants had normal or high self-esteem levels.
9. Confirming the Theory of Reasoned Action (Ajzen & Fishbein, 1975), the likelihood of sexting was increased in individuals who had more intention to sext and more positive attitudes and subjective norms toward sexting. Also, individuals who do not sext have less behavioral intention to sext and have less positive attitudes and subjective norms toward sexting than those who do sext.
10. Participants perceived sexting behaviors as more prevalent than actual sexting behaviors among people their age.
11. Males are more likely than females to sext in their lifetime; however, males are just as likely as females to have sexted in the past 30 days.
12. As the number of sexual partners increased so did the likelihood of sexting; however, almost half of virgins were sexters.
13. Those in casual/dating and serious relationships were more likely to sext than those who were not in a relationship.
14. Most participants were aware that sexting could result in serious negative implications; however, half still engaged in sexting in the past 30 days.

15. Situations or circumstances revolving around relationships and trust increased the likelihood of participants' intentions to sext. Also, some non-sexters have high intentions to sext given the right circumstance.
16. Confirming the Uses and Gratifications Theory (McQuail, 1983), many people sext for many different reasons. Most of McQuail's classifications of reasons for media use and gratifications (i.e. information, personal identity, integration and social interaction, and entertainment) (1983) were described in the reasons participants sexted. Over half of sexters reported sending a sexy message or image to their significant other or someone they dated or hooked up with, in order to be fun and flirtatious (integration and social interaction), in response to one that was sent to them (integration and social interaction), as a "sexy" present to their significant other (entertainment), to initiate sexual behavior with the recipient (entertainment), and to enhance their relationship (integration and social interaction). Also, many participants sexted to initiate a romantic relationship (personal identity), to get a male/female's attention (integration and social interaction), as a joke (entertainment), or to feel sexy (personal identity). Uses and Gratifications Theory emphasizes that individuals can use the same communication message for to fulfill different needs for different reasons (Blumler & Katz, 1974), which was demonstrated in this study by the varying responses from sexters.
17. Sexters in this study sent sexy images and messages for more empowering reasons than peer-pressure, similarly to previous studies (Brock, 2007; Peluchette & Karle, 2010). Compared to the majority of participants who sexted as a way of

high-tech flirting (see reasons above); only a small portion of sexters (15.8%) reported sending a sexy message/image because they felt pressured.

18. Sexting was used as a means for cheating in a relationship for nearly one-third of sexters who sexted someone other than their significant other.

Discussion

Even though media portrays sexting in a mostly negative light, sexting behaviors still remains prevalent among undergraduates, as most of this study's participants have engaged in at least one sexting behavior in their lifetime (80.9%) and nearly half of the participants (48.5%) engaged in some type of sexting behavior within the past 30 days. Unlike previous sexting studies (Cox, 2009; CRC, 2010; Lenhart, 2009c; AP-MTV, 2009), males were more likely than females to sext in the current study. Those in a relationship, whether considered a "serious" or "casual/dating" relationship, were more likely to sext than those who were not in a relationship. Also, those who had any lifetime and current sexual partners were more likely to sext than those with no sexual partners. Virgins (those who had never engaged in oral/anal/vaginal intercourse) had less sexting behaviors than non-virgins; however, 44.4% (n=36) of virgins (n=81) are sexters. Those participants with nine or more lifetime sexual partners or four or more current sexual partners were more likely to sext than persons with less than seven lifetime partners or less than three current partners. The largest group of lifetime sexual partners in this study was of participants having nine or more lifetime sexual partners (21.6%), which was higher than any other group. One reason such a high percentage of participants had nine or more lifetime sexual partners could be due to the definition of sexual partners included oral, anal, and vaginal sexual activity.

Compared to previous studies on sexting behaviors, this study's results had several differences. This study had a much higher percentage of sexters sending sexy images, when compared to all previous studies assessing sexting behaviors. Even when compared to studies with similar age groups (see Table 31), the current study still had a significant increase in sexting behaviors.

Table 31

Comparisons of Current Study's Sexting Behaviors Among Previous Studies on Sexting Behaviors

Study:	Ages:	% Images Sent:	% Images Received:	% Images Forwarded/Shared:
Current Study	18-24+	48.2%	63.8%	35.2%
The National Campaign	13-26	26%	39%	15%
AP-MTV	14-24	10%	29%	17%
Pew*	18+	6%	15%	N/A

*Assessed sexting using cell phones only

Results from this study can be compared to The National Campaign's *Sex and Tech* survey, since sexting behavior questions from this study's survey instrument were adopted straight from the *Sex and Tech* survey. The current study had higher rates in all behaviors for both sexy messages and sexy images, compared to The National Campaign's survey. See Table 32 to compare results between the current study's survey and The National Campaign's survey for sexy messages and see Table 33 to compare results for sexy images.

Table 32

Comparison of Lifetime Sexting Behaviors Between Sex and Tech Survey and Current Study Results Regarding Sexy Messages

Sexting Behaviors	Sex and Tech Results* (%) (n=1,262)	Current Study (%) (n=697)
Sent a sexy message to someone (via e-mail, IM, text, etc)	48	70.2
Posted a sexy message to someone's online profile or private message (like on MySpace, Facebook, etc)	14	18.7
Received a sexy message from someone (via e-mail, IM, text, etc)	56	69.7
Shared a sexy message with someone other than the one(s) it was originally meant for	20	37.2
Had a sexy message (originally meant to be private) shared with me	40	58.0
None of these	32	16.9

*Source: The National Campaign, 2008

Table 33

Comparison of Lifetime Sexting Behaviors Between Sex and Tech Survey and Current Study Results Regarding Sexy Images

Sexting Behaviors	Sex and Tech Results* (%) (n=1,262)	Current Study (%) (n=697)
Sent a sexy image to someone (via e-mail, IM, text, etc)	26	48.2
Posted a sexy image to someone's online profile or private message (like on MySpace, Facebook, etc)	5	7.7
Received a sexy image from someone (via e-mail, IM, text, etc)	39	63.8
Shared a sexy image with someone other than the one(s) it was originally meant for	15	35.2
Had a sexy image (originally meant to be private) shared with me	30	63.7
None of these	46	19.7

*Source: The National Campaign, 2008

Higher prevalence in sexting behaviors in this study compared to others could have occurred for several reasons. One speculation was the constant increase in popularity of smartphones among this population, which have text/video messaging, instant messaging, social networking, and Internet capabilities (Hemmendiger, 2010; Hernandez, 2010). Previous studies were conducted primarily in 2008 and 2009. College students in 2010 are twice as likely (49-53%) to own a smartphone than they were in 2009 (27%) (Hemmendiger, 2010; Hernandez, 2010). More college students owning smartphones gives them more access to multiple mediums to send or receive a sext.

Another reason might be the college/university environment, which is viewed as giving students more freedom for sexual experimentation as well as being more socially acceptable to express oneself sexuality. The age of this population also has less risk of legal consequences regarding sending sext messages because they are over the age of 18 years. Consequently, since this sample was not at risk of legal punishment (unless they receive a sext from a minor), they may have felt freer to send sexy messages and images. Lastly, most sexters are in a relationship and this study had a higher percentage of participants in relationships (53.5%) than The National Campaign's participants (39%) and AP-MTV's participants (36%).

Several studies (Cox, 2009; CRC, 2010; Lenhart, 2009c; AP-MTV, 2009) found that females were just as likely or more likely as males to sext; conversely, this study found that males were more likely than females to sext. Like previous studies, most participants in this study were aware that sexting could result in potential negative consequences; however, this study's participants generally had more favorable attitudes toward sexting than participants of the same age in previous studies. Positively, the

current study reported sexting persons they knew only online less (17.7% vs. 29% AP-MTV study) or the same as previous studies (17.7% vs. 18% The National Campaign study). Sexters in this study reported sexting due to being pressured more (15.4%) than The National Campaign's study (7%), but less than the AP-MTV study (61%). Reasons why the AP-MTV study had a higher prevalence of sexters due to pressure is unknown; however, the AP-MTV study was the only study of the three studies with a randomized sample. Possibly most college students in this study did not give into sexting from being pressured due to their high levels of self-esteem.

Even though results from this study differed in many ways from previous studies on sexting behaviors, there were some similarities. Compared to previous studies, the main reasons for sexting involved being in romantic relationships or having romantic interests. The current study's results showed that sexters primarily sent sexy messages/images to significant others, persons they had dated or "hooked up" with, or persons they had wanted to date or "hook up" with.

Overall attitudes were generally favorable toward sexting, even while most participants recognized that sexting could have potential unfavorable outcomes. Over half (58.4%) of participants in this study felt that sexting was "dangerous," which was similar to MTV's survey (54%), but less than The National Campaign's survey results (66%). Most participants "strongly agreed" or "somewhat agreed" that personal sexy messages (76.0%) and sexy images (81.0%) usually end up being seen by more than just those to whom they were sent. The perception of people sharing sexts was higher among this study's participants, as 70% of participants from The National Campaign's study "strongly agreed" or "somewhat agreed" that sexts usually end up being seen by more

than those to whom they were sent. Also, many participants felt sending personal sexy messages (73.1%) and sexy images (74.9%) could have serious negative consequences, which is similar to The National Campaign's results (73% for both). Even though awareness of potential negative consequences involved with sexting seems to have increased from previous research studies, still half of this study's participants (48.5%) engaged in some type of sexting behavior within the past 30 days.

Sending sexy images was reported as more risky than sexy messages, yet nearly half (49.1%) of participants who sexted in the past 30 days sent a sexy image of themselves, compared to 20.4% who sent a sexy message. A reason for sexting regardless of their increased awareness of possible negative consequences could be due to attitudes and subjective norms which support sexting are a more powerful influence on their decisions to sext than the risk involved with sexting. Similar to The National Campaign and AP-MTV survey, the most popular words for describing the behavior of sexting were positive (i.e. "flirty," "hot," "exciting," etc). However, fewer participants in the current study compared to The National Campaign's study "strongly agreed" or "somewhat agreed" that the behavior was gross (24% vs. 33% respectively), lame (25.7% vs. 39% respectively), or immoral (25.0% vs. 34% respectively). Participants in the current study perceived all sexting behaviors as more common among people their age compared to participants from The National Campaign's survey. Having attitudes and subjective norms that support sexting make continuing to sext more likely.

In comparison to current sexters, lifetime sexters had stronger correlations (although still weak to moderate) between attitudes toward sexting and sexting behaviors ($r=.361$ vs. $r=.334$) and sexting behavioral intentions and sexting behaviors ($r=.506$ vs. $r=$

.476). However, current sexters had a stronger (although still weak) relationship between subjective norms and sexting behaviors ($r=.120$) than lifetime sexters ($r= .106$). The reason for the differences could be because assessing subjective norms were more current and concrete than the developing attitudes toward sexting or sexting behavioral intentions. Attitudes toward sexting may have developed over time and continue to evolve depending on different experiences and circumstances; whereas subjective norms toward sexting may be more concrete and stagnant as participants perceive how people close to them currently view the behavior of sexting.

Even though subjective norms toward sexting and sexting behaviors had a stronger relationship among current sexters, subjective norms toward sexting was the strongest predictor of lifetime sexters. This prediction suggests that having subjective norms that support sexting influences to whether someone has engaged in a lifetime sexting behavior or not. Attitudes toward sexting were the strongest predictor of current sexters. Attitudes toward sexting being the strongest predictor of current sexting and subjective norms being the strongest predictor of lifetime sexting suggests that those who have sexted in their lifetime might have sexted because of perceived social norming favoring sexting behaviors. However, participants who continue to currently sext do so because they like sexting and have more favorable attitudes toward sexting. Sexting behavioral intentions was the strongest predictor of sexting behaviors for all participants, which makes sense because the more intention a person has to sext, the more likely he/she is to sext in multiple circumstances.

This study showed self-esteem was not a factor affecting sexting behaviors. There was no statistically significant relationship between self-esteem levels and sexting

behaviors. Persons with high self-esteem were just as likely to be a lifetime or current sexter as persons with low self-esteem. A reason self-esteem might not be a factor affecting sexting behaviors could be that persons with high self-esteem and low self-esteem sext for different reasons. There were not enough participants with low self-esteem in this study to confirm this rationale. For self-esteem, the only statistically significant relationship was with subjective norms; however, the correlation was weak ($r=.091$).

Non-sexter had less favorable attitudes and subjective norms toward sexting. Non-sexter also expressed less intention to sext. For lifetime and current non-sexter, there was a statistically significant positive relationship between attitudes and subjective norms toward sexting on sexting behavioral intentions. Attitudes and subjective norms that support sexting also were found to be predictive of higher behavioral intentions to sext. Attitudes were more influential than subjective norms on intentions to sext. One reason for this stronger relationship on sexting behavioral intentions could be that those who do not sext are abstaining because of personal beliefs, regardless of how others close to them feel about sexting. Those who have never sexted ($n=133$) had the least intentions of sexting; however, given certain situations many would become more likely to sext. For instance, over a quarter of lifetime non-sexter reported they were “very likely” or “somewhat likely” to sext if they: were married (40.6%), were 100% sure the sext would be kept and remain private (30.8%), found the right person (28.6%), trusted the receiver (27.8%), were in a relationship (26.4%).

One limitation of this study was the sample of convenience from one university. The sample primarily consisted of White heterosexual undergraduates with high self-

esteem levels. Even though practical steps were taken to reduce small cell sizes, sample disparities were still noted. The sample size exceeded the requirements for representativeness; however, generalizing this information to the general public and/or college students should be cautioned given the fairly homogeneous sample.

Replication of this study should take consideration to the following recommendations. This study should be expanded to more universities, and explore sexting among different age groups. This study should also be expanded to explore a more diverse group of ethnicities and sexual orientation. College students were selected from this study because previous research on sexting shows that the age of traditional college students (18-22 years old) have the highest prevalence of sexting behaviors (AP-MTV, 2009; The National Campaign, 2008). Participants from the indicated university core health courses were chosen because they were somewhat representative of the university population. Since the behavior of sexting is relatively new, recall bias among selected individuals should have been limited, especially for recalling sexting behaviors within the past 30 days or for individuals who rarely sext. However, recall bias might have been increased when individuals try to recall all the reasons why they sexted or recall all the persons they sexted in their lifetime.

Additional limitations were related to the survey. The survey instrument was lengthy and used scales for most of the 111 questions. Some participant failed to complete 95% of the survey and others may not have given serious reflection to all survey items. In classes where instructors announced that students were permitted to leave after the survey, participants' completed the survey more quickly than the classes where instructors continued with their lessons after the researcher retrieved them

following data collection. Also, the current study's survey instrument measured perceptions about sexting behaviors and subjective norms toward sexting, not actual behavior or subjective norms. Consequently, participants' perceptions' may have been higher or lower than actual sexting behaviors, or have more or less favorable of subjective norms toward sexting. Also, the issue of perceived social desirability regarding sexting behaviors also could have influenced participants' responses when taking the survey. There is a possibility that sexting behaviors may have been exaggerated or understated; depending on the attitude or subjective norms one has toward sexting.

Most of the circumstances increasing the likelihood of sexting revolve around trust and relationships. One conclusion of this study was that non-sexters could become sexters given the right circumstances. There is also a possibility that non-sexters would never sext under any given circumstance, which is why the response choice "no effect" should be taken out in future studies using this instrument, regarding the likelihood of sexting given a certain circumstance or situation. This response choice should be removed because that response could mean that the situation is not applicable to the responder for entirely different reasons. For example, with the question, "if I was high," a participant could select "no effect" which could mean that the situation had no effect on the participant because he/she is already sexting under the given circumstance. Conversely, "no effect" also could mean the person has no intention to sext regardless of the circumstance. Therefore, interpreting why participants chose the response "no effect" was ambiguous and could have several different interpretations. Omission of that response selection forces the respondent to choose a category with the perception as though they were in that particular situation, and if that situation would make them more

or less likely to sext. Also, the 16 scenarios listed for behavioral intentions might not have addressed several instances to which participants would have been likely to sext.

Recommendations for Future Research

1. Conduct further research on sexting and sexting behaviors. However, this study's survey instrument should be modified with additional questions regarding the participants' experiences with sexting. Adding a scale that determines whether or not the participants' general experience with sexting was more positive or more negative would be beneficial in understanding why people engage in sexting or do not engage in sexting. Also adding a scale to assess how often the participants' experience was positive or negative would be helpful to determine whether or not these experiences influence how often a person engages in this behavior. Additional questions regarding awareness of negative consequences of sexting behaviors should also be added, especially for surveys using participants under the age of 18 years, to assess how mindful participants are of potential negative consequences.
2. Conduct studies that more thoroughly explore reasons for not sexting. Understanding why individuals do not sext could be helpful to design empowering programs targeting issues involved with sexting. Also, knowing reasons why persons choose not to sext could explore the roles of personal values, issues with self-image, fear of rejection, fear the sext might go viral or other potential negative consequences, previous negative experiences with sexting, or simply not having anyone to sext. Understanding why persons choose not to sext

will help identify effective areas to target when designing and implementing a sexting prevention program or curricula.

3. Replicate this study on a younger sample to determine attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors among tweens and young teenagers. Since sexting at this age is much riskier, because of harsh legal consequences involved, determining how supportive their attitudes and subjective norms are toward sexting and determining their intentions to sext would be helpful in designing curriculums or programs that prevent sexting.
4. Conduct focus groups for those under the age of 18 to determine what would be an effective sexting prevention program for youth their age. Based on participants' answers and themes from focus groups, cognitive, affective, and psychomotor objectives could be developed for an anti-sexting curriculum preventing minors from sending and asking for sexts.
5. Replicate this study on an older sample to determine attitudes toward sexting, subjective norms toward sexting, sexting behavioral intentions, and sexting behaviors among those over 30 years of age and senior citizens. Determining how supportive attitudes and subjective norms are toward sexting, how strong intentions are to sext, and the reasons given for sexting would help identify the different trends for sexting among age groups.
6. Conduct focus groups of sexters of adults to gain more in-depth information regarding sexting behaviors and reasons for sexting. Focus groups would allow insight into sexting relating to sexual communication, sexual assertiveness, sexual

satisfaction, as well as its use as foreplay for couples in casual or serious relationships.

7. Conduct a study similar to the current study using randomized samples. The current study determined that self-esteem levels were not predictive of sexters; however, the study was unable to determine differences in reasons for sexting based on self-esteem levels since there were too few participants with low self-esteem. A similar study using randomized samples would limit extreme inconsistencies in self-esteem levels to determine whether or not persons with different self-esteem levels (i.e. high vs. normal vs. low self-esteem) sext for different reasons. Persons with low self-esteem levels might be more likely to have sext because of pressure or coercion than those with higher self-esteem levels and less likely to sext as a “sexy” present to a significant other.

Recommendations for the Field of Health Education

1. Tailor sexting prevention programs toward minors. Health educators should develop practices and programs that will help reduce persons engaging in sexting behaviors as a result of being pressured or coerced. Reducing these situations could help young people avoid unfavorable outcomes as a result of sexting that could affect one’s health and future. Campaigns and public service announcements for minors should be tailored toward this target audience.
2. Address sexting in sexuality education curricula starting in junior high school. Results from this study could be used to design an empowering curriculum that addresses sexting behaviors and gives participants the skills and confidence to say “no” to sexting. Refusal skills should be addressed in the curriculum, with

examples and worksheets designed using “text-speak” so participants can practice with scenarios tailored to address sexting specifically. Health educators also should address negative consequences associated with sexting. The curriculum should help participants build decision-making skills to evaluate reasons for which they are sexting as well as evaluate potential positive/negative, short-term/long-term consequences of sending a sext message. Health educators also could encourage students to use communication technologies as a way to initiate or discuss topics they might avoid face-to-face such as topics that could help lower risk of disease and/or unplanned pregnancy. A curriculum that addresses sexting as a part of sexuality education needs to equip students with knowledge and skills necessary to make informed decisions about whether or not to engage in sexting, and to avoid being pressured or coerced into sexting. Issues involving sextbullying should also be addresses in the schools and in health classes. Also, victims of sextbullying should be counseled to prevent the student from dropping out, becoming depressed, or committing suicide.

3. Provide training and continuing education for health educators on issues involving sexting. Training would help health educators be prepared to address the issue of underage sexting among minors as well as educate parents on how to prevent and protect their children from sexting. Health educator can use the skills and information from the training to design sexting prevention programs targeting parents of teenagers in their community. Health educators can raise awareness of anti-sexting applications on CMC programs. Health educators also could educate parents on how to download and use parental controls on cell phones in order to

block sending and receiving pictures. Mobile Media Guard gives parents access to the images on their child's smartphone by e-mailing the pictures to the parents' inbox (Mobile Media Guard, 2010). Apple's iPhone® patented a text-based communication parental control that prevents "objectionable language" from being sent or received (Apple, 2011). Knowing what control the parents have to prevent their child from sexting is the first step parents can take toward keeping their child from sexting. Also, health educators could use the opportunity to provide parents with helpful ways to comfortably talk to their child about sexting as well as sexual behaviors, pregnancy and disease prevention, and other subject concerning sexual health.

4. Develop an anti-sexting social marketing for adolescent social change. Effective social marketing campaigns targeting minors to help change sexting social norms as well as attitudes toward sexting could help decrease under-age sexting. Decreasing the prevalence of underage sexting will in turn decrease negative consequences involving sexting among this age group. Social marketing campaigns should pay particular attention toward preventing sharing or forwarding sext messages to help decrease cyberbullying instances as well as legal consequences involved with sharing/forwarding sexts of minors.
5. Advocate for policies prohibiting references to sexting among characters who are viewed as minors (under 18 years old) in entertainment (such as television shows, movies, etc). Advocate for a standard sexting laws against under-age sexting also would be beneficial in order to help minors understand the legal ramifications of sexting. Health educators also should advocate against laws that

criminalize persons who receives sexts of or from a minor without solicitation and does not share or forward the sext, since receiving sext messages is an uncontrollable behavior.

6. Integrate healthy sexual communication strategies using sexting for adults. These practices also could support responsible sexting behaviors that facilitate healthy sexual communication as an opportunity to discuss sexual desires or be more sexually assertive if they feel doing so face-to-face is too uncomfortable.

REFERENCES

- Abel, E., Adams, E., & Stevenson, R. (1994). Self-esteem, problem solving, and sexual risk behaviour among women with and without Chlamydia. *Clinical Nursing Research, 3*, 353-370.
- Adler, N. L. & Hendrick, S. S. (1991). Relationships between contraceptive behaviour and love attitudes, sex attitudes, and self-esteem. *Journal of Counseling and Development, 70*, 302-308.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago, IL: Dorsey Press.
- Ajzen, I. & Fishbein, M. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley. Retrieved from <http://www.people.umass.edu/aizen/f&a1975.html>
- Alreck, P. L. & Settle, R. B. (2004). *The Survey Research Handbook*. (3rd ed.). New York: McGraw-Hill Irwin.
- Apple. (2011). iPhone, iPad, and iPod touch: Understanding restrictions. Apple, Inc. Retrieved from <http://support.apple.com/kb/HT4213>
- Auter, P. J. (2007). Portable social groups: Willingness to communicate, interpersonal communication gratifications, and cell phone use among young adults. *International Journal of Mobile Communications, 5*(2), 139-156.
- Babbie, E. (2007). *The practice of social research* (11th ed.). Belmont, CA: Thomson Wadsworth.
- Bailik, C. (2009, April 8). Which is the epidemic—sexting or worrying about it. *The Wall Street Journal*. Retrieved from <http://online.wsj.com/article/SB123913888769898347.html#printMode>

- Baker, R. (2010, October 8). Georgia man sentenced in “sexting” case involving a Tunkhannock Area student. *Times Tribune*. Retrieved from <http://thetimes-tribune.com/news/georgia-man-sentenced-in-sexting-case-involving-tunkhannock-area-student-1.1045619>
- Baker, R. K., & White, K. M. (2010). Predicting adolescents’ use of social networking sites from an extended theory of planned behaviour perspective. *Computers in Human Behavior*, 26, 1591-1597.
- Balkam, S. (2010, October 5). Sex, suicides and videotape. *Huffintonpost.com*. Retrieved from http://huffingtonpost.com/stephen-balkam/sex-suicides-and-videotap_b_747533.html?view=print
- Barak, A., & King, S. A. (2000). The two faces of the Internet: Introduction to the special issue on the Internet and sexuality. *Cyberpsychology and Behavior*, 3(4), 517-520.
- Baum, K., Catalano, S., Rand, M., & Rose, K. (2009). Bureau of Justice statistics special report, stalking victimization in the United States. *U.S. Department of Justice*. Retrieved from <http://www.ovw.usdoj.gov/docs/stalking-victimization.pdf>
- Baym, N. K. (2010). *Personal connections in the digital age*. Malden, MA: Polity Press.
- Beatbullying (2009, April 8). *Truth of sexting amongst UK teens*. Retrieved from <http://www.beatbullying.org/dox/media-centre/press-releases/press-release-040809.html>
- Blumler, J., & Katz, E. (1974). *The uses of mass communications: Current perspectives on gratifications research*. Beverly Hills, CA: Sage Publications.
- Boies, S., Cooper, A., & Osborne, C. (2004). Variations in Internet-Related Problems and Psychosocial Functioning in Online Sexual Activities: Implications for Social and

- Sexual Development of Young Adults. *CyberPsychology & Behavior*, 7(2), 207-230. doi:10.1089/109493104323024474
- Bonebrake, K. (2002). College Students' Internet Use, Relationship Formation, and Personality Correlates. *CyberPsychology & Behavior*, 5(6), 551-557. doi:10.1089/109493102321018196
- Boyd, D. M., Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), article 11. Retrieved, from: <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>
- Boyle, A., & O'Sullivan, L. (2010). General and sexual communication in established relationships: an exploration of possible links to condom use among young adults. *Canadian Journal of Human Sexuality*, 19, 53-64.
- Brace, N., Kemp, R., & Snelgar, R. (2000). SPSS for psychologists: A guide to data analysis using SPSS for Windows. New York, NY: Lawrence Erlbaum Associates.
- Branden, N. (1969). *The psychology of self-esteem: A new concept of man's psychological nature*. California: Nash Publishing Corporation.
- Bridges, C. B. (2010). Sexting. *Battle of the Sexes* [CD]. New York City, NY: Def Jam Records.
- Brock, R. (2007, January 12). Online. *Chronicle of Higher Education*, 53(19), A31.
- Brown, J., Keller, S., & Stern, S. (2009). Sex, sexuality, sexting, and sexed: Adolescents and the media. *Prevention Researcher*, 16(4), 12-16.
- Brunker, M. (2009, January 15). Sexting surprise: Teens face child porn charges. *MSNBC.com*. Retrieved from <http://www.msnbc.msn.com/id/28679588>

- Calvert, C. (2009). Sex, cell phones, privacy, and the First Amendment: When children become child pornographers and the Lolita Effect undermines the law. *CommLaw Conspectus*, 18, 1-65.
- CampusKiss and Tell. (2006, February 16). University and college sex survey. *Campuskiss.com*.
- Canning, A., & Hopper, J. (2011, June 6). Representative Anthony Weiner's sexting scandal: Why did he do it? *ABC News.com*. Retrieved from <http://abcnews.go.com/pring?id=13770641>
- Cassidy, J. (2006, May 18). Me media. *The New Yorker*, 50-59.
- Carvalho, A., & Gomes, F. A. (2003). Cybersex in Portuguese chat rooms: A study of sexual behaviors related to online sex. *Journal of Sex & Marital Therapy*, 29, 345-360.
- Cha, E. S., Kim, K., & Patrick, T. (2008). Predictors of Intention to Practice Safer Sex Among Korean College Students. *Archives of Sexual Behavior*, 37(4), 641-651. doi:10.1007/s10508-007-9187-y
- Child Pornography Laws, 18 U. S. C. § 1466A, 2251, 2252, 2252A, (2008).
- Cole, E. R., Jr. (2006, March 13). Guess who else is reading those "Facebook" entries? *Blackcollegewire.org*. Retrieved from <http://www.blackcollegewire.org/studentlife/060313facebook-cole>
- Cooper, A. (1998). The Internet and sexuality: Surfing into the next millennium. *Journal of Sex Education and Therapy*, 22, 5-7.
- Cooper, A. (2004). Online sexual activity in the new millennium. *Contemporary Sexuality*, 38, 1-7.

- Cooper, A., Boies, S., Maheu, M., & Greenfield, D. (2000). Sexuality and the Internet: The next sexual revolution. *Psychological Perspectives on Human Sexuality* (pp. 519-545). Hoboken, NJ: John Wiley & Sons Inc.
- Cooper, A., McLoughlin, I. P., & Campbell, K.M. (2000). Sexuality in Cyberspace: Update for the 21st Century. *Cyberpsychology & Behavior*, 3, 521-535.
- Cooper, A., Delmonico, D., Griffin-Shelley, E., & Mathy, R. (2004). Online sexual activity: an examination of potentially problematic behaviors. *Sexual Addiction & Compulsivity*, 11(3), 129-143.
- Coopersmith, S. (1967). *The antecedents of self-esteem*. USA: W.H. Freeman and Company.
- Cox Communications, National Center for Missing & Exploited Children, and Walsh, J. (2009). Teen online & wireless safety survey: Cyberbullying, sexting, and parental controls. *Cox Communications*. Retrieved from http://www.cox.com/takecharge/safe_teens_2009/media/2009_teen_survey_internet_and_wireless_safety.pdf
- Craig, J., & Knox, T. (2009, April 2). ACLU: 'Sexting' is not a crime. *Cincinnati.com*. Retrieved from <http://news.cincinnati.com/article/20090402/NEWS0107/304020013/ACLU-Sexting-is-not-a-crime>
- Crawford, N. (2010, March 17). Why sexting is good for your relationship. *Relationship Success*. Retrieved from <http://www.natashacrawford.com/2010/03/why-sexting-is-good-for-your.html>

- Daniloff, C. (2009, Spring). Cyberbullying goes to college. *Bostonia*. Retrieved from <http://www.bu.edu/bostonia/spring09/bully/>
- Delmonico, D. L. (1997). Cybersex: High tech sex addiction. *Sexual Addiction and Compulsivity*, 4, 159-167.
- Duncan, K. (2010). *Sexting 101*. Milton Keynes, UK: Lightning Source UK Ltd.
- Durrani, A. (2009, April 29). 'Sexting' growing trend among teens. *Getlegal.com*. Retrieved from <http://public.getlegal.com/articles/sexting>
- Dunn, S. (2009, December 5). 'Sexting' turns to extortion. Greeley Tribune, CO.
- Epstein, J. (2006). Who's reading your Facebook? Retrieved from <http://www.dailyprincetonian.com/archives/2006/02/10/news/14416.shtml>
- Epstein, S. (2011). Former Rutgers roommate of Tyler Clementi is arraigned. *New Jersey Online*. Retrieved from http://mobile.nj.com/advnj/db_272900/con
- Eraker, E.C. (2010). Stemming sexting: Sensible legal approaches to teenager' exchange of self-produced pornography. *Berkeley Technology Law Journal*, 25, 555-596.
- Ethier, K.A., Kershaw, T.S., Lewis, J.B., Milan, S., Niccolai, L.M., & Ickovics, J.R. (2006). Self-esteem, emotional distress and sexual behaviour among adolescent females: Inter-relationships and temporal effects. *Journal of Adolescent Health*, 38, 268-274.
- Ferguson, D. (2010, August 23). Tiger Woods, wife officially divorced. *Chicago Sun-Times*. Retrieved from <http://www.suntimes.com/news/nation/2627950,tiger-woods-divorce-elin-082310.article>
- Ferroni, P., & Taffe, J. (1997). Women's emotional well-being: The importance of communicating sexual needs. *Sexual & Marital Therapy*, 12(2), 127-138.

- Finn, J. (2004). A survey of online harassment at a university campus. *Journal of Interpersonal Violence, 19*(4), 463-483. doi: 10.1177/0886260503262083
- Fisher, W., Fisher, J., & Rye, B. (1995). Understanding and promoting AIDS-preventive behavior: Insights from the theory of reasoned action. *Health Psychology, 14*(3), 255-264. doi:10.1037/0278-6133.14.3.255
- Friedman, E. (2010, September 29). Victim of secret dorm sex tape posts Facebook goodbye, jumps to his death. *Abcnews.com*. Retrieved from <http://abcnews.go.com/US/victim-secret-dorm-sex-tape-commits-suicide/story?id=11758716>
- Fuller, A. (2006, January 20). Employers snoop on Facebook. *The Stanford Daily*. Retrieved from <http://daily.stanford.edu/article/2006/1/20/employersSnoopOnFacebook>
- Gaynor, P. & Underwood, J. (1995). Conceptualizing and measuring sexual self-esteem. In Shrout, P., Fiske, S., *Personality research, methods and theory: A festschrift honoring Donald W. Fiske*. NJ: Hillsdale.
- Gershon, I. (2010). *The breakup 2.0: Disconnecting over new media*. Ithaca, NY: Cornell University Press.
- Geyer, H. (2009, June 9). Sexting- The ineffectiveness of child pornography laws. *ABA Criminal Justice uvenile Justice E-newsletter*. Retrieved from <http://www.abanet.org/crimjust/juvjust/newsletterjune09/june09/sexting.htm>
- Glenn-Haas, J. (2010a). Our Time: Be careful with sexting, seniors. *The Orange County Register*; Santa Ana, CA.

- Glenn-Haas, J. (2010b). Our Time: Senior sexting gaining stream. *The Orange County Register*; Santa Ana, CA.
- Goldman, R. (2010, November 1). Accused Rutgers students did not see Tyler Clementi having sex, says lawyers. *ABCNews.com*. Retrieved from <http://abcnews.go.com/US/accused-rutgers-students-tyler-clementi-sex-lawyers/story?id=12023537>
- Golland, M. (2009, October 19). Sexting your spouse and other fun things!. *Momlogic.com*. Retrieved from http://www.momlogic.com/2009/10/sexting_your_spouse_marriage_sex.php
- Gray-Little, B., Williams, V.S.L., & Hancock, T.D. (1997). An item response theory analysis of the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, 23: 443-451.
- Greenberg, P. (2011). The vexing problem of sexting. *National Conferences of State Legislatures*, 19.
- Greene, K., & Faulkner, S. (2005). Gender, Belief in the Sexual Double Standard, and Sexual Talk in Heterosexual Dating Relationships. *Sex Roles*, 53(3/4), 239-251.
- Greenfield, D. N. (1999). *Virtual addiction: Help for netheads, cyberfreaks, and those who love them*. Oakland, CA: New Harbinger.
- Gross, S. J. (2006). Growing ourselves up: A guide to recovery and self-esteem. *Psychcentral.com*. Retrieved from <http://psychcentral.com/lib/2006/how-to-raise-your-self-esteem/>

Hally, C., & Pollack, R. (1993). The effects of self-esteem, variety of sexual experience, and erotophilia on sexual satisfaction in sexually active heterosexuals. *Journal of Sex Education & Therapy*, 19(3), 183-192.

Hargittai, E. (2007, May). A framework for studying differences in people's digital media uses. *Cyberworld Unlimited*. Retrieved from <http://eszter.com/research/c10-digitalmediausesframework.html>

Hatfield, H. (2006, February 27). Virtual sex: Threat to real intimacy?. *Webmd.com*. Retrieved from <http://www.webmd.com/sex-relationships/guide/virtual-sex-threat-to-real-intimacy?page=2>

Hemmeldiger, M. (2010). The state of smartphone revolution. *Test Kitchen Research Reports*. Retrieved from

<http://testkitchen.colorado.edu/projects/reports/smartphone/smartphone-market/>.

Hernandez, S. (2010). Ball State study shows college students' smartphone usage rising. *BSUdailynews.com*. Retrieved from <http://www.bsudailynews.com/ball-state-study-shows-college-students-smartphone-usage-rising-1.2275899>

Hinduja, S. & Patchin, J. (2010). Sexting: A brief guide for educators and parents.

Cyberbullying Research Center. Retrieved from

http://www.cyberbullying.us/Sexting_Fact_Sheet.pdf

Hollar, D., & Snizek, W. (1996). The influences of knowledge of HIV/AIDS and self-esteem on the sexual practices of college students. *Social Behavior & Personality: An International Journal*, 24(1), 75.

- Holmbeck, G. N., Crossman, R. E., Wandreim M. L., & Gasiewiski, E. (1994). Cognitive development, egocentrism, self-esteem, and adolescent contraceptive knowledge, attitudes, and behaviors. *Journal of Youth and Adolescence*, 23, 169-193.
- Horstmanshof, L., & Power, M. R. (2005). Mobile phones, SMS, and relationships. *Australian Journal of Communication*, 32, 33-52.
- Hovick, S. R. A., Meyers, R. A., & Timmerman, C. E. (2003). E-mail communication in workplace romantic relationships. *Communication Studies*, 54 (4), 468-482.
- Howell, D. C. (2002). *Statistical Methods for Psychology [5th Ed.]*. Belmont, CA: Duxbury Press.
- Howell, D. C. (2009). Multiple comparisons with repeated measures. *University of Vermont website*. Retrieved from http://www.uvm.edu/~dhowell/StatPages/More_Stuff/RepMeasMultComp/RepMeasMultComp.html
- Hu, Y., Wood, J., Smith, V., & Westbrook, N. (2004). Friendships through IM: Examining the relationship between instant messaging and intimacy. *Journal of Computer-Mediated Communication*, 10(1), article 6. doi: 10.1111/j.1083-6101.2004.tb00231.x
- Isaac, S. & Miachel, W. B. (1995). *Handbook in research and evaluation*. San Diego, CA: Educational and Industrial Testing Services.
- James, N. (2010, February 27). Tiger Woods loses another sponsor, Gatorade. *Moneytimes.com*. Retrieved from <http://www.themoneytimes.com/featured/20100227/tiger-woods-loses-another-major-sponsor-gatorade-id-10101875.html>

Johnson, G. M. (2007). College student Internet use: Convenience and amusement.

Canadian Journal of Learning and Technology, 33(1), Winter.

Kalichman, S., & Rompa, D. (1995). Sexual sensation seeking and sexual compulsivity

scales: Reliability, validity, and predicting HIV risk behavior. *Journal of*

Personality Assessment, 65(3), 586-601.

Kaplan, A. M. & Haenlein, M. (2010). Users of the world, unite! The challenges and

opportunities of social media. *Business Horizons*, 43, 59-68.

Katz, E., Blumler, J., & Gurevitch, M. (1974). Utilization of mass communication by the

individual. In Blumler, J., & Katz, E. (Eds.), *The uses of mass communications:*

Current perspectives on gratifications research. Beverly Hills: Sage Publications.

Katz, M. H. (2006). *Multivariable analysis: A practical guide for clinicians* (2nd Ed.).

New York: Cambridge University Press.

Kaye, R. (2010, October 7). How cell phone pictures led to a girl's suicide. *CNN.com*.

Retrieved from [http://articles.cnn.com/2010-10-](http://articles.cnn.com/2010-10-07/living/hope.witsells.story_1_photo-scarves-new-school-year?_s=PM:LIVING)

[07/living/hope.witsells.story_1_photo-scarves-new-school-year?_s=PM:LIVING](http://articles.cnn.com/2010-10-07/living/hope.witsells.story_1_photo-scarves-new-school-year?_s=PM:LIVING)

Kearns, K. (2011, June 6). New York Congressman: "The picture was of me; I sent it."

ABC News. Retrieved from [http://www.msnbc.msn.com/id/43299964/ns/politics-](http://www.msnbc.msn.com/id/43299964/ns/politics-capitol_hill/t/new-york-congressman-picture-was-me-i-sent-it/)

[capitol_hill/t/new-york-congressman-picture-was-me-i-sent-it/](http://www.msnbc.msn.com/id/43299964/ns/politics-capitol_hill/t/new-york-congressman-picture-was-me-i-sent-it/)

Keeling, R. P. (1987). Risk communication about AIDS in higher education. *Science,*

Technology, and Human Values, 12, 3-27.

Keys, M. (2009, August 14). Sexting shatters lives, turns children into sex offenders.

Fox40.com. Retrieved from [http://www.fox40.com/news/headlines/ktxl-news-](http://www.fox40.com/news/headlines/ktxl-news-sexting0814,0,7848396.story)

[sexting0814,0,7848396.story](http://www.fox40.com/news/headlines/ktxl-news-sexting0814,0,7848396.story)

Khalil, D. (2010, September 20). What is sexting? *Mademan.com*. Retrieved from

<http://www.mademan.com/mm/what-sexting.html>

Kirkpatrick, D. (2007, May 29). Facebook's plan to hook up the world. *CNNMoney.com*.

Retrieved from <http://money.cnn.com/2007/05/24/technology/facebook.fortune/>

Klausner, M. (2010, October 13). New anti-sexting app: Will Justin Beiber switch to

BlackBerry? *Death and Taxes Magazine*. Retrieved from

<http://www.deathandtaxesmag.com/31822/apples-new-anti-sexting-app-will-justin-bieber-switch-to-blackberry/>

Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities.

Educational and Psychological Measurement, 30, 607-610.

Larson, J., Anderson, S., Holman, T., & Niemann, B. (1998). A longitudinal study of the

effects of premarital communication, relationship stability, and self-esteem on sexual satisfaction in the first year of marriage. *Journal of Sex & Marital*

Therapy, 24(3), 193-206.

Lenhart, A. (2009a). Teens and mobile phones over the past five years: Pew Internet

looks back. *Pew Internet and American Life Project*. Retrieved from

<http://authoring.pewinternet.org/reports/2009/14-teens-and-mobile-phones-data-memo.aspx>

Lenhart, A. (2009b). Overview: Teens and sexting. *Pew Internet and American Life*

Project. Retrieved from <http://www.pewinternet.org/Reports/2009/Teens-and-Sexting.aspx>

Lenhart, A. (2009c). Overview: Teens and sexting: How and why minor teens are

sending sexually suggestive nude or nearly nude images via text messaging. *Pew*

Internet and American Life Project. Retrieved from

http://www.pewinternet.org/~media/Files/Reports/2009/PIP_Teens_and_Sexting.pdf

Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social media and young adults.

Pew Internet and American Life Project. Retrieved from

<http://www.pewinternet.org/Reports/2010/social-media-and-young-adults.aspx>

Lenhart, A., Ling, R., & Campbell, S. (2010). Teens, adults and sexting: Data on sending and receipt of sexually suggestive nude or nearly nude images by Americans. *Pew*

Internet and American Life Project. Retrieved from

<http://www.pewinternet.org/Presentations/2010/Oct/Teens-Adults-and-Sexting.aspx>

Leshnoff, J. (2009, November). C*U*2night: Sexting not just for kids. *AARP Magazine*.

Retrieved from http://www.aarp.org/relationships/love-sex/info-11-2009/sexting_not_just_for_kids.html

Levy, S. (2007, August 20). Facebook grows up. *Newsweek*, 41–46.

LG Electronics MobileComm. (2009, May 27). LG mobile phones survey on parents,

teens, and texting. Retrieved from <http://www2.prnewswire.com/cgi-bin/stories.pl?ACCT=INROBALL.story&STORY=/www/story/05-27-2009/0005032984&EDATE=>

LG Electronics MobileComm. (2010). LG mobile phones teen mobile phone behavior in-

depth research results. Retrieved from http://multivu.prnewswire.com/mnr/lg-one/42589/docs/42589-LGMobilePhones_in-depthResearchResults_22310.doc

- Lin, I., & Peper, E. (2009). Psychophysiological Patterns During Cell Phone Text Messaging: A Preliminary Study. *Applied Psychophysiology & Biofeedback*, 34(1), 53-57.
- Ling, R., & Yttri, B. (2002). Hyper-co-ordination via mobile phones in Norway. In J.E. Katz & M. Aakhus (Eds.); *Perceptual contact: Mobile communication, private talk and public performance* (p. 139-169). Cambridge: Cambridge University Press.
- Lipkins, S., Levy, J. M., & Jerabkova, B. (2009). Sexting...is it all about power? Retrieved from <http://realpsychology.com/content/tools-life/sextingis-it-all-about-power>
- Lord, R. (2011, May 26). How victims emerge in 'sextortion' case. *Post-Gazette.com*. Retrieved from <http://post-gazette.com/pg/11146/1149372-100.stm>
- Lu, Y., Zhou, T., & Wang, B. (2009). Exploring Chinese users' acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory. *Computers in Human Behavior*, 25(1), 29-39. doi:10.1016/j.chb.2008.06.002
- Mahatanankoon, P. & O'Sullivan, P. (2008). Attitudes towards mobile-text messaging: An expectancy-based perspective. *Journal of Computer-Mediated Communication*, 13, 973-992.
- Marantz-Henig, R. (2010, August 22). What is it about 20-somethings?. *The New York Times*. Retrieved from <http://www.nytimes.com/2010/08/22/magazine/22Adulthood-t.html>

- Martinez, J. (2010, January 19). Tiger Woods sex scandal: Golfer being treated for sex addiction at Mississippi rehab, says author. *NY Daily News*. Retrieved from http://www.nydailynews.com/gossip/2010/01/19/2010-01-19_tiger_woods_sex_scandal_golfer_being_treated_for_sex_addiction_at_mississippi_re.html
- Massimini, M., & Peterson, M. (2009). Information and Communication Technology: Affects on U.S. college students. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 3(1), article 3. Retrieved from <http://www.cyberpsychology.eu/view.php?cisloclanku=2009061503>
- McQuail, D. (1983). *Mass Communication Theory (1st Ed.)*. London: Sage.
- Metts, S. & Spitzberg, B. H. (1996). Sexual communication in interpersonal contexts: A script-based approach. In B. R. Burleson (Ed.), *Communication Yearbook*, 19 (p. 49-91). Thousand Oaks, CA: Sage.
- Mobile Media Guard. (2010). Parental monitoring service for mobile phones. Parental Solutions, LLC. Retrieved from <http://www.mobilemediaguard.com/about.html>
- Munro, R. (2010, October 1). Strawberries and sexting. *Culture Magazine*. Retrieved from http://culturemagazine.ca/sex/strawberriars_and_sexting.html
- Muscari, M. E. (2010, October 25). Sexting: New technology, old problem. *Medscape Today*. Retrieved from <http://www.medscape.com/viewarticle/702078>
- Music Television and the Associated Press. (2009). 2009 AP-MTV Digital Abuse Study. Retrieved from http://www.athinline.org/AP-MTV_Digital_Abuse_Study_Executive_Summary.pdf

Nardi, B. A., Whittaker, S., & Bradner, E. (2000). *Interaction and outercation: Instant messaging in action*. Philadelphia, PA: CSCW'00.

The National Campaign. (2008). *Sex and tech: Results from a survey of teens and young adults*. [Online]. The National Campaign to Prevent Teen and Unplanned Pregnancy. Retrieved from http://www.thenationalcampaign.org/sextech/pdf/sextech_summary.pdf

The National Campaign. (2009). *The National Campaign to Prevent Teen and Unplanned Pregnancy and CosmoGirl.com reveals results of Sex & Tech Survey: Large percentage of teens posting/sending nude/semi nude images*. [Online]. The National Campaign to Prevent Teen and Unplanned Pregnancy. Retrieved from http://www.thenationalcampaign.org/sextech/PDF/SexTech_PressReleaseFIN.pdf

The National Center for Missing and Exploited Children. (2009, September 21). Policy statement on sexting. *NCMEC*. Retrieved from http://www.missingkids.com/missingkids/servlet/NewsEventServlet?LanguageCountry=en_US&PageId=4130

National Conference of State Legislation. (2011). 2011 legislation related to “sexting.” *NCSL*. Retrieved from <http://www.ncsl.org/default.aspx?tabid=22127>

Newton R.R., & Rudestam, K.E. (1999). *Your statistical consultant*. Chicago, IL: Sage Publications, Inc.

Nitrozac & Snaggy. (2009). *The Joy of Tech* [Online image]. Retrieved from <http://www.joyoftech.com/joyoftech/joyarchives/1328.html>

- Noll, J. G., Shenk, C.E., Barnes, J.E., & Putnam, F.W. (2009). Childhood abuse, avatars choices, and other risk factors associated with Internet-initiated victimization of adolescent girls. *Pediatrics*, 23(6), 1078-1083. doi:10.1542/peds.2008-2983
- O’Crowley, P. (2009, August 13). The sexting generation. *Realpsychology.com*. Retrieved from <http://realpsychology.com/content/tags/sexting-generation>
- Oattes, M., & Offman, A. (2007). Global self-esteem and sexual self-esteem as predictors of sexual communication in intimate relationships. *Canadian Journal of Human Sexuality*, 16(3-4), 89-100.
- Odell, P., Korgen, K., Schumacher, P., & Delucchi, M. (2000). Internet Use Among Female and Male College Students. *CyberPsychology & Behavior*, 3(5), 855-862. doi:10.1089/10949310050191836
- Orr, D., Wilbrandt, M., Brack, C., Rauch, S., & Ingersoll, G. (1989). Reported sexual behaviors and self-esteem among young adolescents. *American Journal of Diseases of Children*, 143(1), 86-90.
- Overholser, J. C., Adams, D. M., Lehnert, K. L., and Brinkman, D. C. (1995). Self-esteem deficits and suicidal tendencies among adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 919-928.
- Peat, J. & Barton. B. (2005). "Medical Statistics: A Guide to Data Analysis and Critical Appraisal." Blackwell Publishing.
- Peckham, C. (2010). Cyberbullies and cybervictims—What’s the clinician’s role? *Medscape Today*. Retrieved from <http://www.medscape.com/viewarticle/730961?src=mp&spon=17&uac=103151A>
- [Xc](#)

- Pelling, E. L., & White, K. M. (2009). The theory of planned behavior applied to young people's use of social networking web sites. *Cyberpsychology & Behavior, 12*, 755-759.
- Peluchette, J. V., & Karl, K. A. (2008). Social networking profiles: An examination of student aptitudes regarding use and appropriateness of content. *Cyberpsychology and Behavior, 11*(1), 95 – 97.
- Peluchette, J. V., & Karl, K. A. (2010). Examining students' intended image on Facebook: "What were they thinking?!". *Journal of Education for Business, 85*(1), 30-37.
- Petrie, T., Greenleaf, C., Reel, J., & Carter, J. (2009). Personality and psychological factors as predictors of disordered eating among female collegiate athletes. *Eating Disorders, 17*(4), 302-321.
- Pettigrew, J. (2009). Text Messaging and Connectedness Within Close Interpersonal Relationships. *Marriage & Family Review, 45*(6-8), 697
- Phone sex. (n.d.) Merriam-Webster.com [Online]. *Meriam-Webster, Inc.* Retrieved June 27, 2010, from <http://www.merriam-webster.com/dictionary/phone+sex>
- Pierce, T. (2009). Social anxiety and technology: Face-to-face communication versus technological communication among teens. *Computers in Human Behavior, 25*(6), 1367-1372.
- Ramde, D. (2010, February 25). Anthony Stancl, 19, gets 15 years for Facebook sex scam. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2010/02/25/anthony-stancl-19-gets-15_n_476214.html

- Ransford, M. (2005, March 24). Study: College students receive, but don't recall, cell phone ads. *Newscenter*. Retrieved from <http://www.bsu.edu/news/article/0,1370,-31674,00.html>
- Ransford, M. (2009a, March 25). Survey finds smart phones transforming mobile lifestyles of college students. *Newscenter*. Retrieved from <http://www.bsu.edu/news/article/0,1370,-61565,00.html>
- Ransford, M. (2009b, October 22). College students fastest growing smartphone segment. *Newscenter*. Retrieved from <http://www.bsu.edu/news/article/0,1370,-1019-63096,00.html>
- Raosoft. Sample size calculator. *Raosoft, Inc.* Retrieved from <http://www.raosoft.com/samplesize.html>
- Reid, D. & Reid, F. (2004). Insights into the social and psychological effects of SMS text messaging. *University of Plymouth*, 1-11.
- Roberts, Y. (2005, July 31). The one and only. *Sunday Telegraph Magazine*.
- Robinson, R. B., & Frank, D. I. (1994). The relationship between self-esteem, sexual activity, and pregnancy. *Adolescence*, 29, 27-35.
- Robinson, B., Bocking, W., Rosser, B., Miner, M., & Coleman, E. (2002). The Sexual Health Model: Application of a sexological approach to HIV prevention. *Health Education Research*, 17(1), 43-57.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.

- Rosenberg, M. (1989). *Society and adolescent self-image* (Revised Ed.). Middleton, CT: Wesleyan University Press.
- Rosenfield, S. M. (2004). *Psychosocial correlates of sexual communication* (Doctoral dissertation). George Washington University, Washington D.C.
- Rosenthal, D., Moore, S., & Flynn, I. (1991). Adolescent self-efficacy, self-esteem and sexual risk-taking. *Journal of Community & Applied Social Psychology, 1*(2), 77-88. doi:10.1002/casp.2450010203
- Rye, B. (1999, April). The theory of reasoned action and the theory of planned behavior and the prediction of university women's safer sex behaviors: A prospective investigation. *Dissertation Abstracts International, 59*.
- Salaway, G., Caruso, J. B., & Nelson, M. R. (2007). *The ECAR study of undergraduate students and information technology*. Retrieved from <http://connect.educause.edu/library/TheECARStudyofUnderg/45075>
- Sánchez-Martínez, M., & Otero, A. (2009). Factors Associated with Cell Phone Use in Adolescents in the Community of Madrid (Spain). *CyberPsychology & Behavior, 12*(2), 131-137.
- Seal, A., Minichiello, V., & Omodei, M. (1997). Young women's sexual risk taking behaviour: re-visiting the influences of sexual self-efficacy and sexual self-esteem. *International Journal Of STD & AIDS, 8*(3), 159-165.
- Shafer, D. A. (1977). *The development and validation of a sexual assertiveness scale*. Unpublished master's thesis, California State University, California.

- Sheppard, B.H., Hartwick, J., & Warshaw, P.R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15, 325-343.
- Siegle, D. (2010). Cyberbullying and Sexting: Technology Abuses of the 21st Century. *Gifted Child Today*, 33(2), 14-65.
- Silverberg, C. (2010, September 5). Virtual sex. *About.com*. Retrieved from http://sexuality.about.com/od/sexandtechnology/a/sex_and_HCI.htm
- Smith, C. (2010, March 27). Nine controversial sexting scandals. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/2010/03/27/controversial-sexting-pic_n_515248.html#s74831
- Sophy, C. (2010). The download on sexting. *LG Mobile Communications*. Retrieved from <http://www.lg.com/us/mobile-phones/text-education/articles/the-download-on-sexting.jsp>
- Southern Illinois University, Carbondale (2011). Enrollment by class levels. *SIUC Website*. Retrieved from <http://www.irs.siu.edu/quickfacts/pdfs.aspx>
- Southworth, C., Finn, J., Dawson, S., Fraser, C., & Tucker, S. (2007). Intimate partner violence, technology, and stalking. *Violence Against Women*, 13(8), 842-856. doi: 10.1177/1077801207302045
- Spags, C. (2010). Florida teacher resigns after allegedly sexting multiple students. *Guyism.com*. Retrieved from <http://guyism.com/humor/florida-teacher-resigns-after-allegedly-sexting-multiple-students.html>

- Starks, B. (2009, July). *Two Spotsylvania students arrested for child porn, in latest 'sexting' case*, 9. *News Now*. Retrieved from <http://www.wusa9.com/news/local/story.aspx?storyid=82608&catid=188>
- Stanglin, D. (2009, November 17). 'Unfriend' is New Oxford dictionary's Word of the Year. *USA Today*. Retrieved from <http://content.usatoday.com/communities/ondeadline/post/2009/11/unfriend-is-new-oxford-dictionarys-word-of-the-year-/1>
- Steinberg, S. (2010a, July 20). 'Sexting' surges nationwide, and it's not just teens doing it. *USA Today*. Retrieved from http://www.usatoday.com/life/lifestyle/2010-07-21-texting21_ST_N.htm
- Steinberg, S. (2010b). Naked truth Sexting was once the domain of teenagers but more and more adults are taking it up. *Townsville Bulletin*, 45.
- Steinhauser, S. (2011, June 6). Weiner apologizes for lying, 'terrible mistakes,' refuses to resign. *CNN.com*. Retrieved from <http://www.cnn.com/2011/POLITICS/06/06/new.york.weiner>
- Stephey, M. J. (2009, December 8). The top 10 everything of 2009. Top 10 buzzwords. *Time Magazine*. Retrieved from http://www.time.com/time/specials/packages/article/0,28804,1945379_1944799_1944801,00.html
- Taylor, H. (1999). The Harris Poll #76: Online population growth to 56% of all adults. Retrieved from www.harrisinteractive.com/harris_poll/pdf/dec221999.pdf

- Thurlow, C. (2003). Generation Txt? Exposing the sociolinguistics of young peoples text-messaging. *Discourse Analysis Online*. Retrieved from <http://extra.shu.ac.uk/daol/articles/v1/n1/a3/thurlow2002003-paper.html>
- Thurlow, C., Lengel, L. & Tomic, A. (2004). *Computer mediated communication: Social interaction and the Internet*. London: Sage.
- Valentino-DeVries, J. (2010, September 30). Cyberbullying goes to college. *The Wall Street Journal*. Retrieved from <http://www.wsj.com/digits/2010/09/30/the-rutgers-students-suicide-cyberbullying-goes-to-college/>
- Vetrini, E. (2010). Sexting tips for adults. *Single Minded Women*. Retrieved from <http://singlemindedwomen.com/women-relationships/sexting-tips-for-adults/>
- Wallace, S., Miller, K., & Forehand, R. (2008). Perceived Peer Norms and Sexual Intentions among African American Preadolescents. *AIDS Education and Prevention*, 20(4), 360-369.
- Warner, J. (2010, May 30). The why-worry generation. *The New York Times*. Retrieved from <http://www.nytimes.com/2010/05/30/magazine/30fob-wwln-t.html>
- Watson, L. (2010, March 22). Sexting: Risky business. *The Signal*. Retrieved from <http://uhclthesignal.com/wordpress/2010/03/22/sexting-risky-business/>
- Weisskirch, R.S., & Delevi, R. (2011). "Sexting" and adult romantic attachment. *Computers in Human Behavior (in press)*. doi: 10.1016/j.chb.2011.02.008
- Willard, N. (2007). Educator's guide to cyberbullying and cyberthreats. *Cyberbullying.org*. Retrieved from www.cyberbully.org/cyberbully/docs/cbcteducator.pdf

- Wolak, J., Finkelhor, D., Mitchell, K.J. & Ybarra, M. (2008). Online “predators” and their victims: Myths, realities, and implications for prevention and treatment. *Crimes against Children Research Center*. Retrieved from <http://unhinfo.unh.edu/ccrc/pdf/Am%20Psy%202-08.pdf>
- Working to Halt Online Abuse (2009). 2009 cyberstalking statistics. *WHOA*. Retrieved from <http://www.haltabuse.org/resources/stats/2009Statistics.pdf>
- Workplace Bullying Institute. (2010). 2010 U.S. Workplace Bullying Survey. *WBI*. Retrieved from <http://www.workplacebullying.org/research/WBI-NatlSurvey2010.html>
- World Health Organization. (2002). Gender and human rights. *WHO*. Retrieved from http://www.who.int/reproductivehealth/topics/gender_rights/defining_sexual_health.pdf
- Zeanah, P., & Schwarz, J. (1996). Reliability and validity of the Sexual Self-Esteem Inventory for Women. *Assessment*, 3(1), 1-15.

APPENDICES

APPENDIX A

Informed Consent Document

The following research study is being conducted by Heather K. Hudson, MPH, CHES, a doctoral candidate at Southern Illinois University, Carbondale as part of her doctoral dissertation. The purpose of this research study is to explore the relationship between sexting behaviors, attitudes, subjective norms, self-esteem levels, and intentions to sext. Sexting is sending/posting/forwarding sexually suggestive messages or nude or semi-nude pictures/videos via an electronic device. Students must be **at least 18 years old** to take this survey.

Using a provided #2 pencil, please fill in your responses on the Scantron. Completing the survey should take about 20-35 minutes. If you choose not to take the survey, please leave the Scantron sheet blank and slide it into the designated covered box. Completion of this survey is completely voluntary and you may discontinue the survey at any time without penalty or prejudice. Your name will NOT be attached to the survey and only the researchers Heather Hudson and Dr. Joyce Fetro at Southern Illinois University in Carbondale will have access to the survey results. Your instructor will NOT have access to the completed surveys and the researchers will not have access to class lists so your answers will be completely anonymous. All surveys will be destroyed upon completion of this study. All reasonable steps will be taken to protect your identity.

There will be no benefits (monetary or otherwise) for completing the survey.

This survey will include questions about sexting. **Sexting**, or “sexy messages” or “sexy pictures/videos,” **refers to electronically sending/posting/forwarding sexually suggestive messages or nude/semi-nude pictures/videos** (i.e. some part of the body that would likely invite the attention of law enforcement, if shown in public).

Throughout this survey it is IMPORTANT that you keep the following in mind as you read and answer each question:

- Messages ONLY refer to those written electronically in e-mails, texts, IM (instant messaging), social networking sites (such as Facebook or MySpace), etc
 - Sexy messages = sexually suggestive written personal texts, e-mails, IM, etc- and NOT those you might receive from spam
- Pictures/videos ONLY refer to those captured electronically on a cell phone, digital camera, camcorder, webcam, etc
 - Sexy pictures/videos = sexually suggestive, semi-nude, or nude personal pictures or videos taken of oneself (alone or by another person)- and NOT those found on the Internet, received from spam, etc

There are no reasonably foreseeable risks in completing the survey. However, if you feel upset during or after the survey, you may call the researcher or seek assistance at the SIU Counseling Center (453-5371).

If you have any questions about the research being conducted, please contact the researcher or the research advisor:

Dr. Joyce Fetro, Chair
Pulliam Hall 307
Mailcode 4632
618-453-2777
jfetro@siu.edu

Heather K. Hudson, MPH, CHES
Pulliam 307G
Mailcode 4632
618-453-2777
hkhudson@siu.edu

COMPLETION AND RETURN OF THIS SURVEY IMPLIES YOUR INFORMED CONSENT TO PARTICIPATE IN THIS STUDY. You will be provided a copy of this informed consent document, which may also be used to cover your answers.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the committee chairperson, Office of Research Development and Administration, Southern Illinois University, Carbondale, IL 62901- 4709. Phone (618) 453-4533. E-mail siuhsc@siu.edu.

Thank you for participating.

Heather K. Hudson, MPH, CHES

How common would you say each of the following is among GIRLS your age?	Not Common At All	Not Very Common	Fairly Common	Very Common
1. Sending sexy messages to someone else	a.	b.	c.	d.
2. Sending of sexy pictures/videos of oneself to someone else	a.	b.	c.	d.
3. Posting sexy pictures/videos of oneself online	a.	b.	c.	d.
4. Sharing sexy messages/pictures/videos with people other than the one(s) they were meant for	a.	b.	c.	d.

How common would you say each of the following is among GUYS your age?	Not Common At All	Not Very Common	Fairly Common	Very Common
5. Sending sexy messages to someone else	a.	b.	c.	d.
6. Sending of sexy pictures/videos of oneself to someone else	a.	b.	c.	d.
7. Posting sexy pictures/videos of oneself online	a.	b.	c.	d.
8. Sharing sexy messages/pictures/videos with people other than the one(s) they were meant for	a.	b.	c.	d.

How much do you agree or disagree that each of the following describes the behavior of sexting?	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree
9. Flirty	a.	b.	c.	d.	e.
10. Gross	a.	b.	c.	d.	e.
11. Hot	a.	b.	c.	d.	e.
12. Lame	a.	b.	c.	d.	e.
13. Fun	a.	b.	c.	d.	e.
14. Exciting	a.	b.	c.	d.	e.
15. Dangerous	a.	b.	c.	d.	e.
16. Harmless	a.	b.	c.	d.	e.
17. Immoral	a.	b.	c.	d.	e.
18. Healthy	a.	b.	c.	d.	e.
19. Arousing	a.	b.	c.	d.	e.

How much do you agree or disagree with each of the following statements about sexually suggestive MESSAGES (i.e. “sexy messages”)?	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree
20. Personal sexy messages usually end up being seen by more than just those to whom they were sent	a.	b.	c.	d.	e.
21. People my age are more forward/aggressive using sexy messages than they are in real life	a.	b.	c.	d.	e.
22. Sending personal sexy messages is no big deal	a.	b.	c.	d.	e.
23. Sending personal sexy messages can have serious negative consequences	a.	b.	c.	d.	e.
24. To my knowledge, all of my close friends have sent sexy messages to someone	a.	b.	c.	d.	e.
25. People who are important to me would disapprove of me sending sexy messages	a.	b.	c.	d.	e.
26. There is pressure among people my age to post sexy messages on social networking site profiles (like MySpace, Facebook, etc)	a.	b.	c.	d.	e.
27. People who exchange sexy messages are more likely to date or hook up with each other in real life	a.	b.	c.	d.	e.
28. People who exchange sexy messages are expected to date or hook up with each other in real life	a.	b.	c.	d.	e.
29. I am likely to be more forward/aggressive using sexy messages than I am in real life	a.	b.	c.	d.	e.
30. I am likely to be more forward/aggressive using sexy messages than I would be if the technology were not available	a.	b.	c.	d.	e.

How much do you agree or disagree with each of the following statements about nude/semi-nude PICTURES/VIDEOS (i.e. “sexy pictures/videos”)?	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree
31. Personal sexy pictures/videos usually end up being seen by more than just those to whom they were sent	a.	b.	c.	d.	e.
32. People my age are more forward/aggressive using sexy pictures/videos than they are in real life	a.	b.	c.	d.	e.
33. Sending personal sexy pictures/videos is no big deal	a.	b.	c.	d.	e.
34. Sending personal sexy pictures/videos can have serious negative consequences	a.	b.	c.	d.	e.
35. To my knowledge, all of my close friends have sent sexy pictures/videos to someone	a.	b.	c.	d.	e.
36. To my knowledge, all of my close friends have posted sexy pictures/videos on the Internet	a.	b.	c.	d.	e.
37. People who are important to me would disapprove of me sending pictures/videos	a.	b.	c.	d.	e.
38. There is pressure among people my age to post sexy pictures/videos in their social networking site profiles (like MySpace, Facebook, etc)	a.	b.	c.	d.	e.
39. People who exchange sexy pictures/videos are more likely to date or hook up with each other in real life	a.	b.	c.	d.	e.
40. People who exchange sexy pictures/videos are expected to date or hook up with each other in real life	a.	b.	c.	d.	e.
41. I am likely to be more forward/aggressive using sexy pictures/videos than I am in real life	a.	b.	c.	d.	e.
42. I am likely to be more forward/aggressive using sexy pictures/videos than I would be if the technology were not available	a.	b.	c.	d.	e.

Given the following situations below, please mark your intentions to send/post **sexually suggestive messages or nude/semi-nude pictures or videos**.

Which of the following answers describes how likely you are to sext in the given situation?	Very Unlikely	Somewhat Unlikely	No effect	Somewhat Likely	Very Likely
43. If I trust the receiver	a.	b.	c.	d.	e.
44. If I find the right person	a.	b.	c.	d.	e.
45. If someone I like asks me	a.	b.	c.	d.	e.
46. If I am married	a.	b.	c.	d.	e.
47. If people who are important to me approve	a.	b.	c.	d.	e.
48. If I receive a sexy message from someone I like	a.	b.	c.	d.	e.
49. If I am drunk	a.	b.	c.	d.	e.
50. If I am high	a.	b.	c.	d.	e.
51. If my self-esteem is higher	a.	b.	c.	d.	e.
52. If my face is more attractive	a.	b.	c.	d.	e.
53. If my body is in better physical shape	a.	b.	c.	d.	e.
54. If I am in a relationship	a.	b.	c.	d.	e.
55. If someone pressures me	a.	b.	c.	d.	e.
56. If someone blackmails me	a.	b.	c.	d.	e.
57. If I am sole owner of my cell phone or computer	a.	b.	c.	d.	e.
58. If I am 100% sure it would be kept and remain private	a.	b.	c.	d.	e.

For each question, please mark which of the following you have personally ever done in regard to **sexually suggestive messages, nude/semi-nude pictures or videos, OR BOTH**. (Please mark only ONE answer for each question)

Which of the following, if any, have you personally ever done?	Sexy Message	Sexy Picture or Video	Both	Neither
59. Sent a sexy personal message/picture/video to someone (via e-mail, IM, text, Skype, etc)	a.	b.	c.	d.
60. Posted a sexy personal message/picture/video to someone's online profile or private message (like on MySpace, Facebook, etc)	a.	b.	c.	d.
61. Internet sent/posted a sexy personal message/picture/video	a.	b.	c.	d.
62. Received a sexy personal message/picture/video from someone (via e-mail, IM, text, Skype etc)	a.	b.	c.	d.
63. Shared a sexy message/picture/video with someone other than the one(s) it was originally meant for	a.	b.	c.	d.
64. Had a sexy message/picture/video (originally meant to be private) shared with me	a.	b.	c.	d.
65. Asked someone to send a personal sexy message/picture/video to you	a.	b.	c.	d.

IMPORTANT: If you marked “A”, “B”, or “C” on ANY items numbered 59-65, please continue to question 66 (on this page).

If you marked “D” on ALL items numbered 59-65, skip to question 94 (on the next page).

For each statement, please mark the reason why you send/post **sexually suggestive messages, nude/semi-nude pictures or videos, OR BOTH**. (Please mark only ONE answer for each question)

I sent a sexy personal message/picture/video:	Yes, for Sexy Message	Yes, for Sexy Picture or Video	Yes, for Both	Neither
66. To get a guy/girl's attention	a.	b.	c.	d.
67. To initiate sexual behavior with the recipient	a.	b.	c.	d.
68. As a “sexy” present to my significant other	a.	b.	c.	d.
69. As a “sexy” present to someone other than my significant other	a.	b.	c.	d.
70. To feel sexy	a.	b.	c.	d.
71. As a joke	a.	b.	c.	d.
72. To be fun/flirtatious	a.	b.	c.	d.
73. In response to one that was sent to me	a.	b.	c.	d.
74. To enhance my relationship	a.	b.	c.	d.
75. To initiate a romantic relationship with the recipient	a.	b.	c.	d.
76. Because sexting is more comfortable than saying/showing things face-to-face	a.	b.	c.	d.
77. Because I was pressured	a.	b.	c.	d.

To whom have you sent/posted sexually suggestive messages or nude/semi-nude pictures or videos of yourself? (Please think about any and all of those you have ever sent/posted)	No	Yes
78. My significant other	a.	b.
79. Someone other than my significant other	a.	b.
80. Someone I had a crush on	a.	b.
81. Someone I dated or hooked up with	a.	b.
82. Someone I wanted to date or hook up with	a.	b.
83. One or more good friends	a.	b.
84. Someone I only knew online	a.	b.
85. Someone who forced me or blackmailed me	a.	b.
86. Someone other than the person(s) listed	a.	b.

For each question, please mark which of the following you have personally ever done in regard to **sexually suggestive messages, nude/semi-nude pictures or videos, OR BOTH**. (Please mark only ONE answer for each question)

Which of the following, if any, have you personally done within the past 30 days?	Sexy Message	Sexy Picture or Video	Both	Neither
87. Sent a sexy personal message/picture/video to someone (via e-mail, IM, text, Skype, etc)	a.	b.	c.	d.
88. Posted a sexy personal message/picture/video to someone's online profile or private message (like on MySpace, Facebook, etc)	a.	b.	c.	d.
89. Internet sent/posted a sexy personal message/picture/video	a.	b.	c.	d.
90. Received a sexy personal message/picture/video from someone (via e-mail, IM, text, Skype etc)	a.	b.	c.	d.
91. Shared a sexy message/picture/video with someone other than the one(s) it was originally meant for	a.	b.	c.	d.
92. Had a sexy message/picture/video (originally meant to be private) shared with me	a.	b.	c.	d.
93. Asked someone to send a personal sexy message/picture/video to you	a.	b.	c.	d.

Below is a list of statements dealing with your general feelings about yourself. How much do you agree or disagree with the following statements?	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
94. On the whole, I am satisfied with myself.	a.	b.	c.	d.
95. At times, I think I am no good at all.	a.	b.	c.	d.
96. I feel that I have a number of good qualities.	a.	b.	c.	d.
97. I am able to do things as well as most other people.	a.	b.	c.	d.
98. I feel I do not have much to be proud of.	a.	b.	c.	d.
99. I certainly feel useless at times.	a.	b.	c.	d.
100. I feel that I'm a person of worth, at least on an equal plane with others.	a.	b.	c.	d.
101. I wish I could have more respect for myself.	a.	b.	c.	d.
102. All in all, I am inclined to feel that I am a failure.	a.	b.	c.	d.
103. I take a positive attitude toward myself.	a.	b.	c.	d.

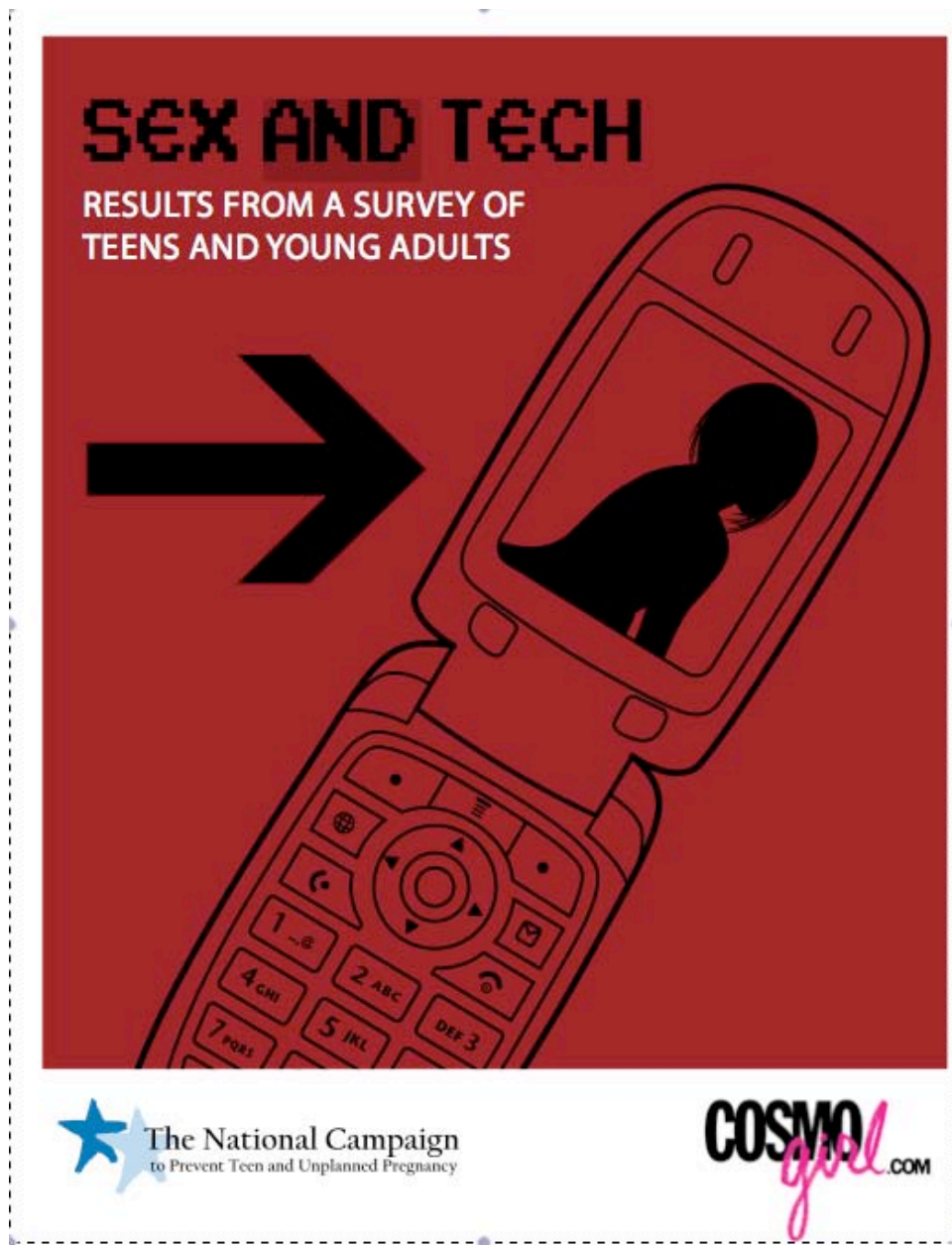
104. Which of the following best describes your **current** relationship status?
- a. Not in a relationship
 - b. In a casual/dating relationship
 - c. In a serious relationship
 - d. Engaged
 - e. Married
 - f. Partnered
 - g. Separated
 - h. Divorced and not in a relationship
 - i. Divorced and in a casual/dating relationship
 - j. Divorced and in a serious relationship
105. Do you identify as male or female?
- a. Male
 - b. Female
106. How old are you?
- a. 18
 - b. 19
 - c. 20
 - d. 21
 - e. 22
 - f. 23
 - g. 24
 - h. 25
 - i. 26
 - j. 27 or older
107. What is your current academic standing?
- a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Graduate student
108. Are you? (Please mark **ALL** that apply)
- a. Alaskan Native or American Islander
 - b. Asian or Pacific Islander
 - c. Black/African American
 - d. Hispanic/Latino
 - e. White/Caucasian

109. What is your sexual orientation?
- a. Heterosexual
 - b. Homosexual
 - c. Bisexual
 - d. Do not know
 - e. Prefer not to respond
110. How many sexual partners (via oral, anal, or vaginal intercourse) have you had in your lifetime?
- a. 0, I have never had oral, anal, or vaginal intercourse
 - b. 1
 - c. 2
 - d. 3
 - e. 4
 - f. 5
 - g. 6
 - h. 7
 - i. 8
 - j. 9 or more
111. How many sexual partners (via oral, anal, or vaginal intercourse) have you had in the past 30 days?
- a. 0, I have not had oral, anal, or vaginal intercourse in the past 30 days
 - b. 1
 - c. 2
 - d. 3
 - e. 4
 - f. 5
 - g. 6
 - h. 7
 - i. 8
 - j. 9 or more

APPENDIX B

Sex and Tech Survey Instrument

Can be accessed at: http://www.thenationalcampaign.org/sextech/pdf/sextech_summary.pdf





DEFINITION OF TERMS

To ensure accurate interpretation, respondents were shown (and reminded of) the following definitions/explanations during the survey:

- **Sexually suggestive pictures/video:** semi-nude or nude personal pictures/video taken of oneself and not found on the Internet, or received from a stranger (like spam), etc.
- **Sexually suggestive messages:** sexually suggestive written personal texts, emails IMs, etc.—and not those you might receive from a stranger (like spam), etc.
- **Messages** only refers to those written electronically (in emails, texts, IMs, etc.)—and **pictures/video** only refers to those captured electronically (on a cell-phone or digital camera/camcorder), etc.

ABOUT THE SURVEY

This survey was fielded online to a total of 1,280 respondents—653 teens (ages 13-19) and 627 young adults (ages 20-26) between September 25, 2008 and October 3, 2008. It was conducted by TRU, a global leader in research on teens and 20-somethings.

At present, it is estimated that about 90% of teens and young adults are online. Respondents for this survey were selected from among those who have volunteered to participate in TRU's online surveys. Respondents were stratified according to the U.S. Census and the data have been weighted to reflect the demographic composition of teens and young adults. Respondents do not constitute a probability sample.

This document contains the precise language used in the survey and separate results for teens and young adults, as well as the total combined. For additional data, please visit www.TheNationalCampaign.org/sextech or contact The National Campaign at 202.478.8500.

SEX AND TECH

SEX AND TECH SURVEY QUESTIONNAIRE

1. Are you male or female?

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Male	49	51	50
Female	51	49	50

2. How old are you? _____

RANGE:	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
13-16	49	0	25
17-19	51	0	26
20-22	0	51	25
23-26	0	49	24

3. Which of the following, if any, do you have and use? *Please mark all that apply.*

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Computer (non-laptop)	79	71	75
Laptop computer	68	77	73
Cellphone	87	86	87
Smartphone (PDA, Blackberry, etc.)	13	23	18
Digital camera	80	82	81
Digital camcorder (video recorder)	29	26	27
MP3 Player (like iPod) without video	55	59	57
Video MP3 Player	50	33	42
Webcam	33	33	33
None of these	0	0	0



4. Do you:

		YES		"Yes"		
		<input type="checkbox"/>	<input type="checkbox"/>	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
A	Have a profile on a social-networking site (like MySpace, Facebook, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	89	90	89
B	Have a profile on a dating or singles site (like match, cupid, or eharmony)	<input type="checkbox"/>	<input type="checkbox"/>	3	16	9
C	View others' profiles/pictures on a social-networking site	<input type="checkbox"/>	<input type="checkbox"/>	85	85	85
D	View others' profiles/pictures on a dating/singles site	<input type="checkbox"/>	<input type="checkbox"/>	6	20	12
E	Write/update a personal blog	<input type="checkbox"/>	<input type="checkbox"/>	25	34	29
F	Regularly read others' personal blogs	<input type="checkbox"/>	<input type="checkbox"/>	33	50	41
G	Send/receive pictures or video on your cellphone	<input type="checkbox"/>	<input type="checkbox"/>	61	64	62
H	Send/receive pictures or video on a computer	<input type="checkbox"/>	<input type="checkbox"/>	80	83	81
I	Post photos online	<input type="checkbox"/>	<input type="checkbox"/>	78	79	79
J	Post videos online (like on YouTube)	<input type="checkbox"/>	<input type="checkbox"/>	38	31	35
K	Send/receive text messages	<input type="checkbox"/>	<input type="checkbox"/>	84	88	86
L	Watch TV shows online or on your MP3 Player	<input type="checkbox"/>	<input type="checkbox"/>	63	56	60

5. This survey will include questions about "sexy messages and pictures" (like suggestive pictures sent to a boyfriend/girlfriend, for example) – and will require you to answer them in order to finish. If you are not comfortable sharing your opinions about that, then we encourage you to stop the survey now. **Would you like to continue?**

Yes

No (TERMINATE)

6. Thank you. Throughout this survey, it is **IMPORTANT** that you understand what we mean so that we interpret your answers correctly. Please keep the following in mind as you read and answer each question:

- Any time that we ask about "sexy pictures/video," we are talking about sexually suggestive, semi-nude, or nude **personal pictures/video** taken of oneself (alone or by a friend) – and **not** those found on the internet, received from a stranger (like spam), etc.
- And any time we say "sexy messages," we are talking about sexually suggestive **written personal** texts, emails, IMs, etc. – and not those you might receive from a stranger (like spam)
- Throughout this survey, **messages** only refers to those written electronically (in emails, texts, IMs, etc.) – and **pictures/video** only refers only to those captured electronically (on a cellphone or digital camera/camcorder).

(DESCRIPTIONS APPEARED ON MOUSEOVER THROUGHOUT QUESTIONNAIRE DURING SURVEY)

SEX AND TECH

7. How common would you say each of the following is among people your age?

		Not Common At All	Not Very Common	Fairly Common	Very Common	NET "Very" and "Fairly Common"		
						Teens (13-19) %	Young Adults (20-26) %	TOTAL %
A	Sending sexy messages to someone else	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66	78	72
B	Sharing sexy messages with people other than the one(s) they were meant for	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44	47	45
C	Sending of sexy pictures/video of oneself to someone else	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	49	65	57
D	Posting sexy pictures/video of oneself online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44	51	47
E	Sharing sexy pictures/video with people other than the one(s) they were meant for	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37	47	42

8. Do you think each of these activities is more common among guys, girls, or both the same?

		More Common Among GUYS	Both the Same	More Common Among GIRLS	"More Common Among GUYS"			"Both the Same"			"More Common Among GIRLS"		
					Teens (13-19) %	Young Adults (20-26) %	TOTAL %	Teens (13-19) %	Young Adults (20-26) %	TOTAL %	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
A	Sending sexy messages to someone else	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	15	15	48	53	50	36	33	35
B	Sharing sexy messages with people other than the one(s) they were meant for	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33	37	35	42	42	42	25	21	23
C	Sending of sexy pictures/video of oneself to someone else	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	9	8	28	32	30	66	58	62
D	Posting sexy pictures/video of oneself online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	8	7	30	34	32	65	58	61
E	Sharing sexy pictures/video with people other than the one(s) they were meant for	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	35	32	42	42	42	29	24	27



9. What do you think are the reasons that **girls** send/post sexy messages or pictures/video of themselves? Please mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Get or keep a guy's attention	85	80	83
Guy pressured them to send it	47	38	42
As a "sexy" present for a boyfriend	74	73	73
To feel sexy	72	77	74
Get a guy to like them	76	66	71
Pressure from friends	23	16	20
To get positive feedback	57	56	57
To be fun/ flirty/flirtatious	78	76	77
To get noticed	80	79	79
In response to one she received	31	30	31
Other: _____	3	3	3
None of these / don't know	2	1	2

10. What do you think are the reasons that **guys** send/post sexy written messages or pictures/video of themselves? Please mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Get or keep a girl's attention	61	58	60
Girl pressured them to send it	18	18	18
As a "sexy" present for a girlfriend	48	49	48
To feel sexy	36	28	32
Get a girl to like them	57	48	53
Pressure from friends	24	20	22
To get positive feedback	48	45	46
To be fun/ flirty/flirtatious	56	57	56
To get noticed	49	50	49
In response to one he received	49	56	52
Other: _____	2	3	3
None of these / don't know	8	3	5

SEX AND TECH

11. How much do you agree or disagree that each of the following describes the activity of sending suggestive messages or nude/semi-nude pictures/video of oneself?

(LIST RANDOMIZED)	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree	Don't Know	NET "Strongly" and "Somewhat Agree"		
							Teens (13-19) %	Young Adults (20-26) %	TOTAL %
A Flirty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	61	75	68
B Gross	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	39	26	33
C Hot	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	46	55	51
D Lame	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	42	36	39
E Stupid	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	57	50	54
F Dangerous	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	67	65	66
G Exciting	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	49	59	54
H Fun	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	43	56	49
I Harmless	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	33	27	25
J Immoral	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	40	28	34

12. How much do you agree or disagree that each of the following describes the people who send suggestive messages or nude/semi-nude pictures/video of themselves?

(LIST RANDOMIZED)	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree	Don't Know	NET "Strongly" and "Somewhat Agree"		
							Teens (13-19) %	Young Adults (20-26) %	TOTAL %
A Flirty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	65	69	67
B Gross	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	38	30	34
C Hot	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	35	42	38
D Lame	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	39	34	37
E Stupid	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	54	44	49
F Bold	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	55	66	60
G Confident	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	46	52	49
H Cool	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	19	19	19
I Desperate	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	65	53	59
J Funny	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	24	29	27
K Immature	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	53	45	49
L Insecure	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	55	47	51
M Slutty	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	72	58	65



13. Which of the following, if any, have **you personally** ever done? Please mark all that apply.

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Sent a sexually suggestive message to someone (email, IM, text, etc.)	38	56	48
Posted a sexually suggestive message to someone's online profile (like on MySpace, Facebook, etc.)	11	17	14
NET sent/posted sexually suggestive messages	39	59	49
Received a sexually suggestive message from someone (email, IM, text, etc.)	48	64	56
Shared a sexually suggestive message with someone other than the one(s) it was originally meant for	18	23	20
Had a sexually suggestive message (originally meant to be private) shared with me	39	42	40
None of these	39	25	32

14. Which of the following, if any, have **you personally** ever done? Please mark all that apply.

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Sent a nude or semi-nude picture/video (of yourself) to someone (via email, cellphone, etc.)	19	32	26
Posted a nude or semi-nude picture/video (of yourself) online (like on MySpace, Facebook, in a blog, etc.)	4	7	5
NET sent/posted a nude or semi-nude picture/video of yourself	20	33	27
Received a nude or semi-nude picture/video from someone (of himself/herself)	31	46	39
Shared a nude or semi-nude picture/video with someone other than the one(s) it was originally meant for	14	17	15
Had a nude or semi-nude picture/video (originally meant to be private) shared with me	29	32	30
None of these	55	38	46

SEX AND TECH

15. (ASKED IF SENT OR POSTED SEXY MESSAGES OR PIX/VIDEO TO SOMEONE)
To whom have you **sent/posted** suggestive messages or nude/semi-nude pictures/videos (of yourself)? Please think about any/all of those you've ever sent/posted and mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Boyfriend / Girlfriend	69	79	75
Someone I had a crush on	29	20	23
Someone I dated or hooked up with	39	37	38
Someone I just met	7	6	6
Someone I wanted to date or hook up with	30	26	27
One or more good friends	27	20	23
Someone I only knew online	15	19	18
Other: _____	2	4	3

16. (ASKED IF SENT OR POSTED SEXY MESSAGES OR PIX/VIDEO TO SOMEONE)
What are the reasons that you've **sent/posted** suggestive messages or nude/semi-nude pictures/videos (of yourself)? Please think about any/all of those you've ever sent/posted and mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Get a guy/girl's attention	25	26	26
Pressured to send it	10	6	7
As a "sexy" present for a boyfriend/girlfriend	43	53	49
To feel sexy	24	23	23
Get a guy/girl to like me	17	13	15
As a joke	38	26	31
To get positive feedback	25	21	23
To be fun/ flirtatious	63	71	68
To get noticed	13	12	12
In response to one that was sent to me	44	47	46
Other: _____	2	2	2
Don't know	2	1	2



SEX AND TECH

17. (ASKED IF RECEIVED SEXY MESSAGES OR PIX/VIDEO FROM SOMEONE)

From whom have you **received** suggestive messages or nude/semi-nude pictures/videos? Please think about any/all of those you've ever received and mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Boyfriend / Girlfriend	55	67	62
Someone I had a crush on	22	16	19
Someone I dated or hooked up with	34	36	35
Someone I just met	15	14	14
Someone who wanted to date or hook up with me	43	37	40
One or more good friends	33	28	30
Someone I only knew online	23	25	24
Other: _____	2	3	3

18. (ASKED IF RECEIVED SEXY MESSAGES OR PIX/VIDEO FROM SOMEONE)

Thinking about suggestive messages or nude/semi-nude pictures/videos that you ever **received**, how did getting them make you feel? Please think about any/all of those you've ever received and mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Amused	54	52	53
Angry	6	3	4
Creeped out	22	17	19
Disappointed	7	4	5
Embarrassed	14	12	13
Excited	44	55	50
Grossed out	18	12	15
Happy	40	37	38
Included	12	9	10
Scared	4	5	5
Surprised	55	49	52
Turned on	53	57	56
Turned off	15	13	14
More interested in dating sender	22	22	22
More interested in hooking up with sender	27	32	29
Less interested in dating sender	13	10	11
Less interested in hooking up with sender	14	10	12
Other: _____	4	1	3

19. (ASKED IF SHARED SEXY MESSAGES OR PIX/VIDEO WITH SOMEONE)

With whom have you **shared** suggestive messages or nude/semi-nude pictures/videos (that were sent to you or shared with you)? Please think about any/all of those you've ever shared and mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Close friend(s)	91	87	89
Other friend(s)	23	21	22
Family (brother/sister, cousin, etc.)	13	10	16
Connected friends (like on MySpace, Facebook, etc.)	17	13	15
Everyone (in a public blog, public networking profile, etc.)	2	2	2
Other: _____	2	2	2

20. What are the reasons you would be concerned about sending or posting **sexy messages or pictures/video** of yourself? Please mark all that apply.

(LIST RANDOMIZED)	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Already had a bad experience	6	3	4
Could disappoint family	68	46	57
Could disappoint friends	46	24	35
Could disappoint teacher/coach	38	10	24
Could hurt my relationship or chances with someone I like	63	44	53
Could hurt my reputation	74	63	69
Could hurt my family's reputation	53	35	44
Could get in trouble with the law	46	26	36
Could get in trouble at school	48	13	31
College recruiter might see	43	10	27
Potential (or current) employer might see	51	49	50
Potential embarrassment	77	70	73
Might regret it later	83	76	79
Might make people think I'm slutty in real life	63	42	53
Other: _____	7	6	6
Don't know	7	5	6



21. How much do you agree or disagree with each of the following statements?

	Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree	Don't Know	NET "Strongly" and "Somewhat Agree"		
							Teens (13-19) %	Young Adults (20-26) %	TOTAL %
(LIST RANDOMIZED)									
A There is pressure among people my age to post sexy pictures/video in their networking site profiles	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	43	38	40
B Personal sexy messages and pictures/video usually end up being seen by more than just those to whom they were sent	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	72	68	70
C One has to be aware that sexy messages and pictures/video may end up being seen by more than just the intended recipient(s)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	79	79	79
D Girls have to worry about privacy (of sexy messages and pictures/video) more than guys do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	63	65	64
E <u>People my age</u> are more forward/aggressive using sexy messages and pictures/video than they are in real life	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	61	66	64
F Sending personal sexy messages and pictures/video is no big deal	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	19	26	22
G Sending personal sexy messages and pictures/video can have serious negative consequences	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	75	71	73
H My friends have sent sexy pictures/video to someone	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	43	49	46
I My friends have posted sexy pictures/video on the internet	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	38	38	38
J People who exchange sexy messages or pictures/video are more likely to date or hook up with each other in real life	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	38	40	39
K People who exchange sexy messages or pictures/video are expected to date or hook up with each other in real life	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	29	24	27
L <u>I am</u> more forward/aggressive using sexy messages and pictures/video than I am in real life	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	22	28	25
M <u>I am</u> more forward/aggressive using sexy messages and pictures/video than I would be if the technology were not available	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	24	34	29

SEX AND TECH

22. Which of the following best describes your current relationship status?

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Not in a relationship	68	36	52
In a casual/dating relationship	15	13	14
In a serious relationship	17	34	25
Married	0	17	9

23. What state do you live in?

Alabama	<input type="checkbox"/> 1	Illinois	<input type="checkbox"/> 14	Montana	<input type="checkbox"/> 27	Rhode Island	<input type="checkbox"/> 40
Alaska	<input type="checkbox"/> 2	Indiana	<input type="checkbox"/> 15	Nebraska	<input type="checkbox"/> 28	South Carolina	<input type="checkbox"/> 41
Arizona	<input type="checkbox"/> 3	Iowa	<input type="checkbox"/> 16	Nevada	<input type="checkbox"/> 29	South Dakota	<input type="checkbox"/> 42
Arkansas	<input type="checkbox"/> 4	Kansas	<input type="checkbox"/> 17	New Hampshire	<input type="checkbox"/> 30	Tennessee	<input type="checkbox"/> 43
California	<input type="checkbox"/> 5	Kentucky	<input type="checkbox"/> 18	New Jersey	<input type="checkbox"/> 31	Texas	<input type="checkbox"/> 44
Colorado	<input type="checkbox"/> 6	Louisiana	<input type="checkbox"/> 19	New Mexico	<input type="checkbox"/> 32	Utah	<input type="checkbox"/> 45
Connecticut	<input type="checkbox"/> 7	Maine	<input type="checkbox"/> 20	New York	<input type="checkbox"/> 33	Vermont	<input type="checkbox"/> 46
Delaware	<input type="checkbox"/> 8	Maryland	<input type="checkbox"/> 21	North Carolina	<input type="checkbox"/> 34	Virginia	<input type="checkbox"/> 47
District of Columbia	<input type="checkbox"/> 9	Massachusetts	<input type="checkbox"/> 22	North Dakota	<input type="checkbox"/> 35	Washington	<input type="checkbox"/> 48
Florida	<input type="checkbox"/> 10	Michigan	<input type="checkbox"/> 23	Ohio	<input type="checkbox"/> 36	West Virginia	<input type="checkbox"/> 49
Georgia	<input type="checkbox"/> 11	Minnesota	<input type="checkbox"/> 24	Oklahoma	<input type="checkbox"/> 37	Wisconsin	<input type="checkbox"/> 50
Hawaii	<input type="checkbox"/> 12	Mississippi	<input type="checkbox"/> 25	Oregon	<input type="checkbox"/> 38	Wyoming	<input type="checkbox"/> 51
Idaho	<input type="checkbox"/> 13	Missouri	<input type="checkbox"/> 26	Pennsylvania	<input type="checkbox"/> 39		

U.S. REGION:	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
East	28	27	28
South	24	29	26
Midwest	17	18	17
West	31	27	29

24. Which of the following best describes where you live?

	Teens (13-19) %	Young Adults (20-26) %	TOTAL %
Urban, city environment	32	43	37
Suburban or town/village environment near a city	53	41	47
Rural or small town environment	15	16	15

FACTORS AFFECTING SEXTING BEHAVIORS

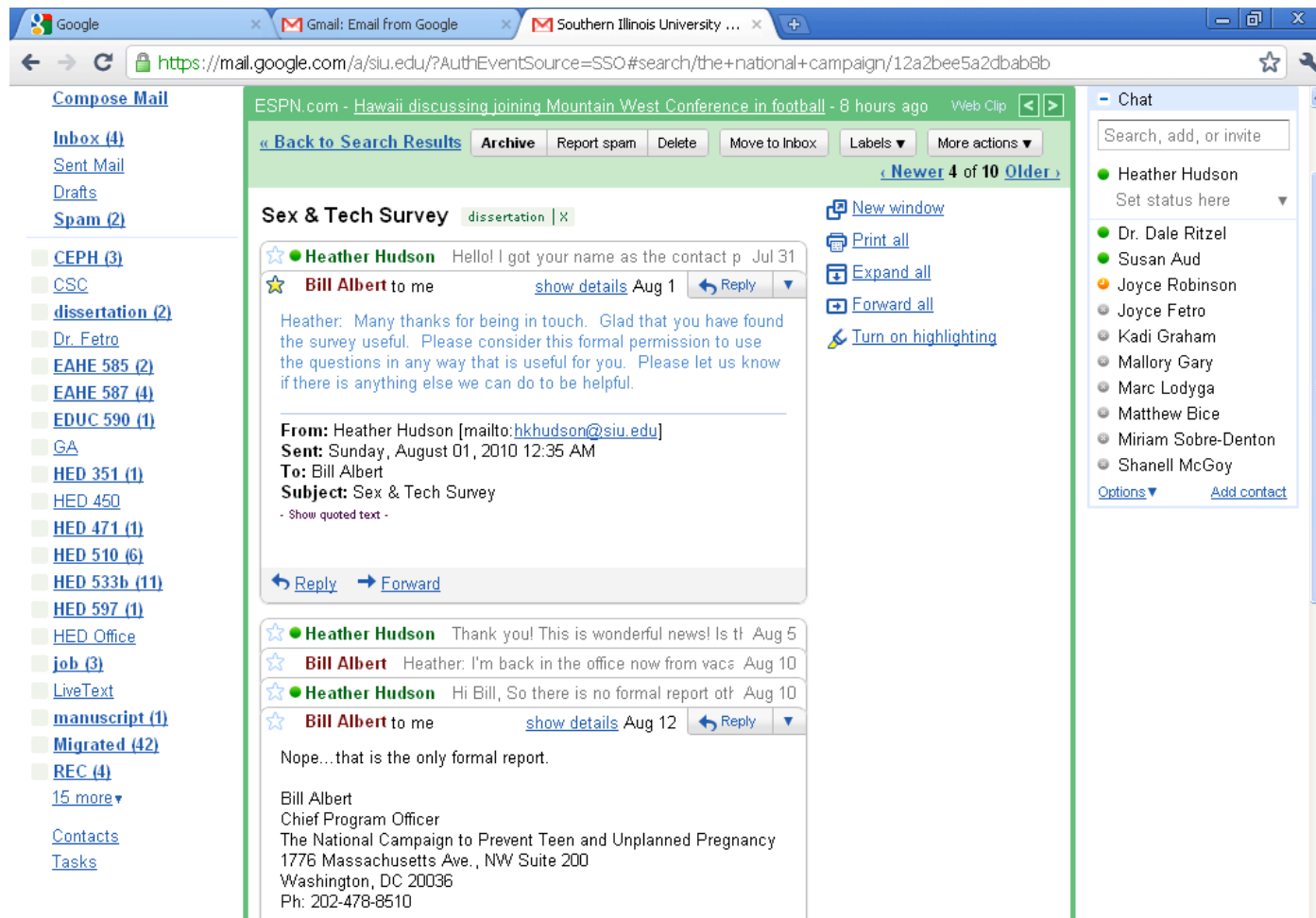


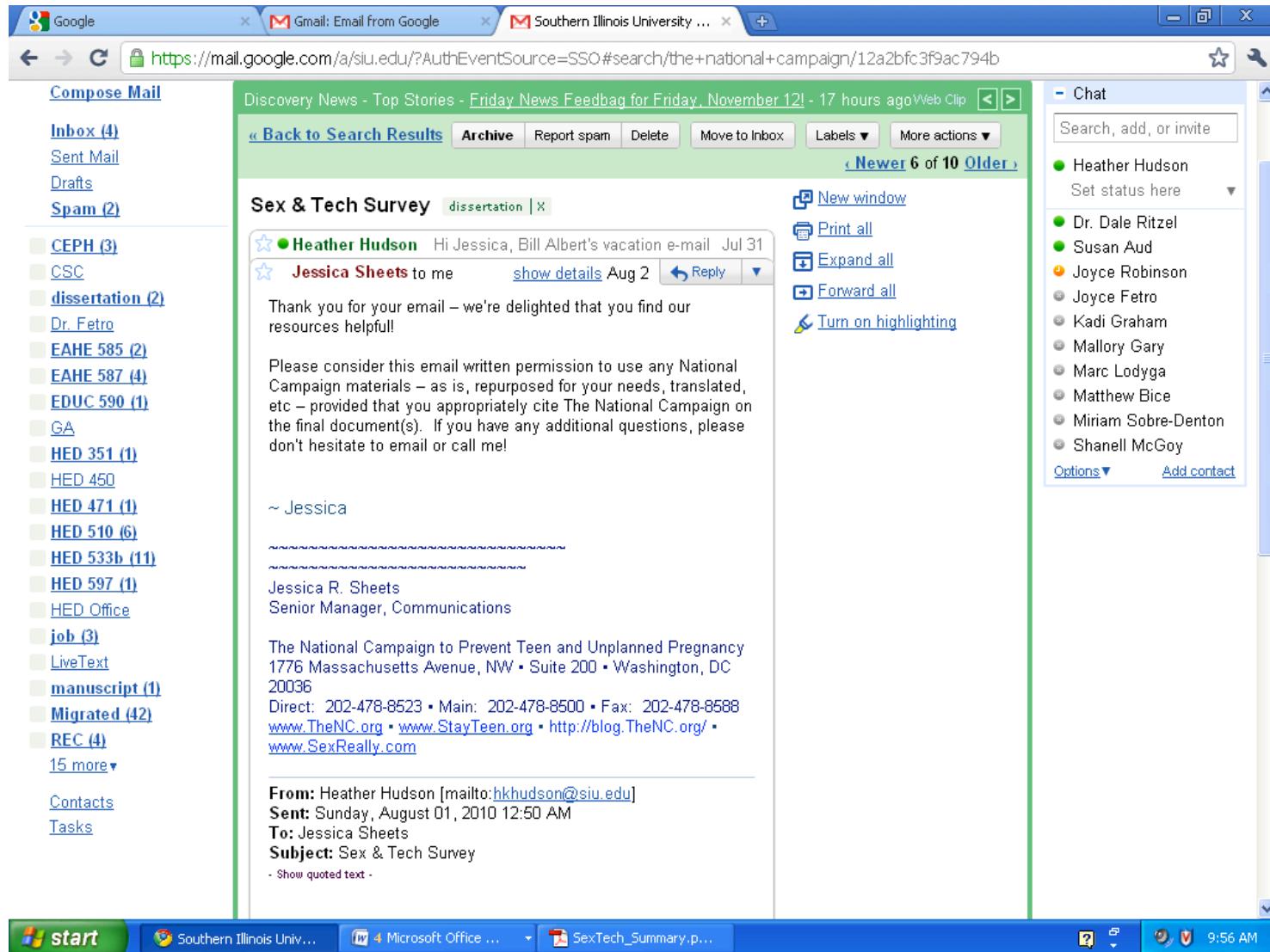
25. Are you... (MULTIPLE RESPONSES ALLOWED)

	Teens [13-19] %	Young Adults (20-26) %	TOTAL %
Alaskan Native or American Islander	0	0	0
Asian or Pacific Islander	13	11	12
Black / African-American	7	7	7
Hispanic / Latino	11	10	11
White or Caucasian	72	74	73
Other	4	2	3

APPENDIX C

E-mail Correspondence with Representatives from The National Campaign Granting Permission to Use Instrument





APPENDIX D

Screenshot View of Permission to Use RSE Scale

University of Maryland Department of Sociology

http://www.bsos.umd.edu/socy/Research/rosenberg.htm

morris rosenberg foundation

Wells, L. Edward and Gerald Marwell. 1976. *Self-Esteem: Its Conceptualization and Measurement*. Beverly Hills: Sage.

Wylie, Ruth C. 1974. *The Self-Concept* (especially pp. 180-189.) Revised Edition. Lincoln, Nebraska: University of Nebraska Press

FAQ (Frequently Asked Questions)
 Related Links: [Frequently Asked Questions \(FAQs\)](#)

May I have permission to use the Rosenberg Self-Esteem Scale in my research?
 Dr. Florence Rosenberg, Manny's wife, has given permission to use the Self-Esteem Scale for educational and professional research. There is no charge associated with the use of this scale in your professional research. However, please be sure to give credit to Dr. Rosenberg when you use the scale by citing his work in publications, papers and reports. We would also appreciate receiving copies of any published works resulting from your research at the University of Maryland address listed below.

How do I cite the scale?
 You should cite the scale according to the standards of your discipline. The most appropriate citation is:
 Rosenberg, Morris. 1989. *Society and the Adolescent Self-Image*. Revised edition. Middletown, CT: Wesleyan University Press.

Are there foreign language versions of the scale available?
 The Rosenberg Self-Esteem Scale is perhaps the most widely-used self-esteem measure in social science research. The scale has been translated into many languages; unfortunately, the University of Maryland is not a repository for such scales. Please refer to the scholarly literature in the language which you are using.

Can you tell me what the scale cut-offs are for high and low self-esteem?
 There are no discrete cut-off points to delineate high and low self-esteem.
 It is recommended that you consult the literature relevant to the population you are interested in studying. By examining this literature you should be able learn more about the norms of a specific population.

*The Rosenberg SES may be used without explicit permission.
 The author's family, however, would like to be kept informed of its use.
 Send information about how you have used the scale, or send published research resulting from its use, to the address below:*

The Morris Rosenberg Foundation
 c/o Dept. Of Sociology
 University of Maryland
 2112 Art/Soc Building
 College Park, MD 20742-1315

2112 Art-Sociology Building, University of Maryland, College Park, MD 20742 | Ph: 301-405-6392 | Fax: 301-314-6892 | Webmaster