

AN EXPLORATION INTO ADOLESCENT ONLINE RISK-TAKING

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DOCTOR OF PHILOSOPHY

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## ABSTRACT

### An Exploration into Adolescent Online Risk-Taking

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Doctor of Philosophy: Educational Psychology

The Internet is an integral part of many adolescents' lives. While it is widely recognized that Internet use has benefits, adolescent online interpersonal communications are arousing great public concern. The literature review summarizes research on adolescent online risk-taking. Risks are considered and research into the predictors and motives of online risk-taking is explored. Online risks, such as posting personal information and communicating with strangers lead to an increased chance of receiving online sexual solicitation and harassment. Three conceptualizations (Social Compensation, The Rich Get Richer, The Type-T Personality) are considered to frame adolescent online risk behaviors. There is limited research into the predictors of adolescent online risk-taking, especially in the United States. The present study explored adolescent online risk-taking using a survey of 934 American teens from the Pew Internet Survey & Life Project. The present study filled gaps in the current research on adolescent online risk-taking. Specifically the findings from this study indicate that some online behaviors that were previously thought to be risky (i.e. posting photographs online) are commonplace. Boys and older teens are most likely to engage in online risk-taking. Specialized educational messages should be targeted at those most at risk. Involvement in extracurricular activities in time spent socializing with

friends offline seem to have protective value. Those behaviors should be encouraged. Further research should expand upon the results of this study.

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## CHAPTER ONE

### INTRODUCTION

#### Statement of the Problem

The Internet is an integral part of many adolescents' lives. Ninety-one percent of adolescents in the United States report occasional or daily Internet use (Gross, 2004). Compared to adults, adolescents spend more time using the Internet and integrate online communication technologies more strongly into their social lives (Peter, Valkenburg & Schouten, 2006). Blogging, instant messaging, email, purchasing and networking are parts of daily life for many teens in the United States (Gross, 2004).

According to the Pew Internet Parents & Teens 2006 Survey, over half of all teens have created an online social networking site such as Facebook or MySpace, where they can post pictures, blogs, affiliations and other information about themselves for others to see. Forty-nine percent of those teens report using the site to make new friends. Many adolescents visit chatrooms and those that do cite communicating with strangers as their principal motivation for the visits (Beebe, Asche, Harrison & Quinlan, 2004).

A recent study funded by the MacArthur Foundation highlighted many of the benefits for adolescents who use the Internet. The study found that adolescents online gain useful social and technical skills that are valuable for succeeding in a contemporary society. For instance, adolescents are able to connect online with a diverse range of people from different geographic regions

and of different ethnicities and backgrounds. Online teens can discover new interests and explore interests that may not be valued by their immediate offline peers. This results in peer based, self-directed learning. Despite the many recognized benefits of online interpersonal communication, the study also reports that there are challenges regarding posting personal information online and navigating social relationships (Mitko et al., 2008).

Farley (2009) highlighted the positive and negative sides of adolescent online use under many categories (e.g. learning, motivation, social life) in a keynote address entitled “Internet and Youth: The Good, The Bad, The Ugly”. Benefits such as exposure to novel ideas, resources, cultures as well as social connectedness were reported. Also reported was the darker side of teen Internet use, including issues surrounding bullying, online predators and privacy concerns. Stamoulis (2008a, 2008b) notes online there are countless websites, forums and blogs inundated with gossip and reading about others’ could possibly adversely effect teens. Farley (2009) recommends parents and adolescents have an ongoing “cyber sit-down” to discuss the positive and negative effects of Internet use.

While there are great learning benefits to Internet use, adolescent online interpersonal communications are arousing great public concern. Specifically there is concern over giving out personal information and communication with strangers (Livingston & Helsper, 2007). The prevalence of the Internet as a social medium among teenagers has raised fears that they may become victims of online predators or involved in exploitative relationships (Peter, Valkenburg &

Schouten, 2006). The Pew Internet and American Life Project year 2004 survey found that eighty-two percent of parents were concerned about privacy risks.

This fear may be warranted. Almost half of teenagers in the United States have communicated with strangers online (Wolak, Finkelhor & Mitchell, 2008). According to Liau, Khoo and Hwa Ang (2005), sixty percent of adolescents surveyed indicated they had received messages from strangers. Seven percent of American youth have had a face-to-face meeting with someone met online and ten percent of them kept this the meeting a secret from friends and family. Twenty-three percent went to the meeting alone (Liau, Khoo & Ang, 2005). According to childstats.gov, there are 25 million children ages 12-17 in the United States. If all were online, this translates to 1,750,000 children having face-to-face meetings with a stranger and 175,000 children keeping that meeting a secret from family and friends.

Finkelhor, Mitchell and Wolak (2000) found that twenty percent of 10-17 year olds in the United States have received a sexual solicitation over the Internet in the last year, almost six percent had been threatened or harassed, and over three percent received aggressive sexual solicitations from someone met online. Some of those teens were being contacted offline as well, receiving telephone calls, regular gifts or money from strangers seeking sex. Although approximately one quarter of the participants had been distressed by these incidents, few reported them to an authority.

In addition, media reports often contain anecdotal evidence of the perils of the Internet. Many feature cases where teens are kidnapped or seduced by

someone online. Talk shows and news programs have devoted attention to the subject of online predators.

A recent case made headlines when a 13 year-old girl was chatting with someone she thought was a boy. She began receiving nasty messages from him, became highly distressed and committed suicide the next day. It was later determined that it was a hoax and the profile and messages were actually coming from a middle-aged woman from her neighborhood ([msnbc.msn.com/id/21844203](http://msnbc.msn.com/id/21844203)).

The popular daytime talk show *Dr. Phil* has aired many episodes on the risks involved with children online. On August 29, 2008 a show entitled “Internet Dramas” featured parents concerned for their 10 year-old daughter who was involved in sexually explicit online chatting with an older man. Similarly, a February 3, 2009 episode entitled “Pursuing the Predator: Internet Investigations” featured a mother concerned that her 15 year-old daughter was posting provocative photographs on a social networking site and meeting men she met on the site offline for sex. On June 16th and June 17th, 2008 a two part episode ran on a 16 year-old American girl who met a 20 year-old Pakistani man on a social networking site and ran away to the Middle East to be with him. ([dr.phil.com/shows/archive](http://dr.phil.com/shows/archive)).

Also popular is the television program, *To Catch a Predator*. This reality television show is aired by the television news magazine, *Dateline NBC* and is devoted to the subject of men who contact children and teens over the Internet for sexual liaisons. The men are actually chatting online with a decoy and when they

arrive to the specified meeting place for sex, the show intercedes and they are interviewed and arrested ([msnbc.msn.com/id/10912603](http://msnbc.msn.com/id/10912603)).

These salacious stories and news programs add to the worry many parents have about their children online. Surveys of parents on their attitudes towards the Internet suggest that parents are anxious and insecure about their adolescents' use of the Internet. Turrow and Nir (2000) found that adolescents in the United States and Canada were much more likely than parents to say it is acceptable to give sensitive personal info to websites in exchange for a free gift. According to Liau, Khoo and Ang (2005), adolescents are not reporting that they are very concerned about the risks of posting personal information or interacting with strangers online. This is alarming because these behaviors are common and interpersonal communication is one of the main reasons adolescents use the Internet (Livingston & Helsper, 2007).

New research has found that partaking in risky behavior online has serious consequences. Ybarra, Mitchell, Finkelhor and Wolak (2007) found that based on the number of potentially risky behaviors online youth engaged in, the incidents of online harassment and unwanted sexual solicitation increases. These solicitations occurred both online and offline. They included requests to talk about sex, requests to give out sexual information and requests to engage in sexual acts.

#### Purpose of the Study

Because of the parental concern, media attention and findings that certain behaviors online have serious consequences for adolescents, an exploration into



adolescent online risk-taking has been conducted. A review of literature related to the topic of online adolescent Internet use will be presented and findings from the exploration will be reported and discussed. Specifically the following research questions will be examined:

- (1) What are the frequencies of risk-taking behaviors? Are there gender differences?
- (2) Can the twelve risk-taking variables examined be classified into categories?
- (3) What are the predictors of adolescent online risk-taking? If the risk-taking variables can be classified into categories, would each category have distinct predictors?
- (4) Are there gender differences in the predictors of online risk-taking?

## CHAPTER TWO

### LITERATURE REVIEW

This review will explore previous research on adolescent Internet behaviors, specifically online risk-taking. Online risk-taking will be defined based on the consequences associated with certain behaviors. Conceptual approaches will be discussed and studies will be included that have shown the associated outcomes and predictors of online risk-taking. Finally, the limitations and direction for future research will be addressed.

#### Definitions

For the purpose of this paper, the term stranger refers to anyone a teen has never met in person. Chatting will be defined as real time back and forth written communication. Often times this occurs through instant messaging or in chatrooms.

Instant messaging (IM) creates the possibility of real time text-based communication between two or more participants with the option to concurrently have multiple conversations (Lenhart & Madden, 2007). This communication is direct and features immediate receipt of acknowledgement or reply. Sometimes instant messaging involves additional features such as capabilities to send images or video.

Chatrooms are online spaces where participants have conversations in real time with other participants in a room. Typically they are text-based forums,

where participants are anonymous and disembodied from one another. Usually participants are strangers and do not have information about others age, gender or appearance. In the absence of visual clues about physical appearance, it appears that participants search for persons to chat with by making a request for someone to chat. Asking about age, sex or location is a very common way to learn more about users. Other times users may search for chat partners based on shared interests, such as a sports team or musical band, rather than based on identity. The important difference between chatrooms, instant messaging and email is that the later is not real time communication (Samhel & Subrahmanyam, 2007).

Social networking sites (SNS) are online websites in which a person can create a personal profile page that links their page to that of others. People that are linked through an SNS are referred to as “friends” even if the relationship would not be described that way offline. On the profile page, photographs, personal information, affiliations and interests are shared. There is also a communication component where friends can send or receive comments to be posted online. Real time chatting is also a feature as is messaging which is similar to email (Hinduja & Patchin, 2008). The most common online social networking sites used by subjects in the present study are MySpace and Facebook.

#### General Adolescent Online Interpersonal Communication

Blogging, instant messaging, email, and networking are parts of daily life for many teens in the United States (Gross, 2004). As mentioned earlier, over ninety percent of teens use the Internet and sixty-one percent report daily use.

Farley, Aulenbach, Lipschutz, Miller and Stamoulis (2008) assert that social networking sites play a prominent role in youth culture. Communication via social networking sites, instant messaging, email and chatrooms is a way for teens to stay in touch, make plans, make new friends and flirt (Farley, 2008a, 2008b 2008c; Lenhart & Madden, 2007).

Teens are also using the Internet in a creative way. Sixty-four percent of teens create original work online. Creative behaviors include building websites, writing blogs, sharing artwork or remixing available content found online (Lenhart & Madden, 2007).

Many of these communication forms are no longer supported only through computers. For example, email can now be accessed through cell phones, Apple's iPhone and iPod and other personal digital devices. This is true for other communications such as instant messaging and online social networking sites. They can be accessed on portable devices that have wireless capabilities (Subrahmanyam & Greenfield, 2008).

As media technologies have become a prevalent means of communication for adolescents, it is important to consider them in a social context. Several studies analyzed the content of chatrooms and social networking sites.

Smahel & Subrahmanyam (2007) analyzed two chatrooms in May, 2003. One was monitored by an adult and required a fee and one was unmonitored and free of charge. The total sample was 1,150 adolescents with ages presented from 11-17 years old. Over 12,000 utterances were analyzed to assess online partner selection. Results indicated that across both domains approximately eleven

percent of utterances consisted of requests for chatting partners. Examples include “any ladies wanna chat im me” or “any cute guy want 2 chat” (Smahel & Subrahmanyam, 2007, p. 348). Over half of the teens in the chatroom made a request for a partner. The presence of an adult monitor had no effect on the results. In similar work Subrahmanyam, Smahel and Greenfield (2006) found that there was one obscene utterance every two minutes and one sexual utterance per minute in chatrooms. The authors conclude that a major motivation for visiting teen chatrooms is pairing off with a partner for chatting.

Hinduja and Patchin (2008) analyzed a random sample of public MySpace pages in the summer months of 2006 to ascertain the extent to which people are posting personal information available to the public. The study analyzed the pages of 1,471 16 and 17 year olds (at the time 16 was the minimum age for a public page). Results indicated that eighty-one percent of teens included his/her city/town of residence, twenty-eight percent listed their school name and fifty-seven percent included a photograph of themselves. Five percent of those photographs were of a teen wearing a swimsuit or underwear and approximately twenty percent of profiles revealed usage of illicit substance through either text or photographs. Sixteen and seventeen year olds are posting personal information on MySpace that could be used to identify them.

A similar study also analyzed adolescent online social networking pages. Williams and Merten (2008) analyzed the pages of 100 of adolescents between 16 and 18 years old in 2006. Content was systematically coded based on several elements including demographics, social content, image appropriateness, family

issues, school issues, social issues, risk behaviors, sexual content, identity vulnerability and peer interaction. Results indicated much of the content in these domains were appropriate (i.e. positive comments about family, friends, school, sports). However forty-two percent of profile pages contained evidence of both online and offline risk behaviors such as evidence of substance use, criminal activity, sexual content, profanity and personal identifiers and contact information.

Although not examining adolescents, Sheldon (2008) investigated American university students' willingness to communicate on Facebook. Participants were 172 college students from a large southern university. A survey was administered in class measuring desire to communicate, frequency of Facebook use and motives for using the site. Results indicated that students who felt fear and apprehension with face-to-face social interactions use Facebook to pass time and feel less lonely. However, students who enjoyed face-to-face social interactions had more Facebook friends and were more willing to communicate via the site.

#### Online Risk Considered

Research has confirmed the commonsense belief that the teenage years are a period filled with inordinate risk-taking (Reyna & Farley, 2006). Therefore, it is important to define what such risks are. Reyna and Farley (2006) note that while defining unhealthy adolescent risk may seem obvious, many have disagreed on the subject. Livingstone and Helsper (2007, p. 623) agree, stating, "The distinction between opportunities and risks is by no means straightforward".

There can be uncertainty over which online activities should be restricted and which ones should be encouraged (Livingstone & Helsper, 2007). For example, making friends online is regarded by many adolescents as an opportunity. However, it is regarded as risky by parents and law enforcement agencies, especially as the occurrence of teen victimization on the Internet increases and is given media attention. Also, seeking advice online may be perceived as a resource to gain information, but sometimes adolescents seek advice on how to self-harm or commit suicide (Whitlock, Powers & Eckenrode, 2006).

Ybarra, Finkelhor and Wolak (2007) identified certain online behaviors as risky for teenagers. They include interacting with strangers online, posting personal information and photographs and having strangers on ones instant message buddy list. The behaviors are associated with an increase in unwanted sexual solicitation and harassment. Unwanted sexual solicitation was determined by a positive response to the following questions: (1) Did anyone online ever try to get you to talk about sex when you did not want to? (2) Did anyone online ask you for sexual information about yourself (like what your body looks like or sexual things you have done) when you did not want to answer such questions? (3) Did anyone online ever ask you to do something sexual you did not want to do? In addition, aggressive sexual solicitations were defined as attempts for sexual interactions using offline contact such as by telephone, through the mail or in person. Mitchell, Finkelhor and Wolak (2007) note that persons online soliciting youth for sex or sexual chatting were most commonly an adult stranger.

Therefore such behaviors (e.g. interacting with strangers, posting personal information) are deemed as risky as the outcome can be dangerous and undesirable. Similarly, Livingstone and Helsper (2007) identified making new friends online and giving out personal information as risk-taking behaviors.

Another risky online behavior is visiting chatrooms. Chatrooms have been examined and have been found to be an intrinsically risky environment. It is in chatrooms that the users are all typically strangers. The sites allow for direct and immediate communication and many geared toward teens are known for explicit conversation (Subrahmanyam, Smahel & Greenfield, 2006). Mitchell, Ybarra and Finkelhor (2007) found that visiting chatrooms is related to receiving aggressive sexual solicitations. Beebe, Asche, Harrison and Quinlan (2004) found that chatroom use was significantly associated with adverse psychological and environmental factors. In addition, a study examining sexual predators online found that most predators found their victims in chatrooms (Wolak, Finkelhor, Mitchell & Ybarra, 2008).

Livingstone and Haddon (2008) worked to summarize risky online behaviors. They conducted a comprehensive analysis of the research pertaining to children's online experiences across 18 European countries. As part of the 'EU Kids Online' network, research teams collaborated, coded and compared 235 studies. Some of the studies focused on risky online behaviors and in others risky behaviors comprised of a small role in a larger research project. It should be noted that only ten percent of the studies included were published in academic articles. The broad categories were contact risks (i.e. communicating with



strangers), privacy risks (i.e. giving out personal information), content risks (i.e. exposure to illegal or hateful content) and commercial risks (i.e. gambling, illegal downloading).

Much of the previous research has focused on contact risks (Beebe, Asche, Harrison & Quinlan, 2004; Liao, Khoo & Hwa Ang, 2005; Peter, Valkenburg & Schouten, 2006; Wolak, Finkelhor & Mitchell, 2008). Liao, Khoo & Hwa Ang (2005) investigated the predictors of Singapore teens who moved their relationship with strangers offline. Peter, Valkenburg and Schouten (2006) investigated the characteristics and motives of Dutch adolescents' who talk to strangers on the Internet and Beebe, Asche, Harrison and Quinlan (2004) profiled adolescent chatroom users. Livingstone and Helsper (2007) researched the predictors of adolescents that engage in behaviors considered privacy risks. The present study will examine behaviors that could be classified as contact and privacy risks.

## Results

### *Predictors of Adolescent Online Risk-Taking*

Liao, Khoo and Hwa Ang (2005) examined the predictors of risky Internet behavior on youths from Singapore. Participants were 1,124 children ages 12-17 from nine secondary schools in Singapore. They were measured on a 93-item survey that measured risky Internet behavior, frequency of use, parental supervision, communication with parents, giving out of personal information, receiving inappropriate messages, visiting inappropriate websites and seeking advice. The children took the online survey in school during a class in the

computer room. A series of multiple logistic regression analyses found that age was a significant predictor of risky behavior as was frequency of chatting and gaming behavior, parental supervision, communication with parents, type of personal information given out, amount of inappropriate messages received, whether inappropriate websites have been visited and the type of internet advice heard. Results also indicated that those who used the Internet at least once a day were 1.7 times more likely to have met someone offline. Frequency of chatting and gaming were also significant predictors of risk taking. This study is somewhat limited in that it wasn't a national sample and its generalizability to the US culture is unknown.

Livingston and Helsper (2007) also examined predictors of adolescent online risk-taking in the United Kingdom. Specifically they investigated the role of offline social-psychological factors in adolescent's vulnerability to online risks. Participants were a random sample of 1,511 British youth ages 9-19 years old. A computer-assisted survey was used to interview the children and a paper questionnaire was completed by one of each participant's parent in the year 2004. The survey included measures of demographics, Internet use, psychological factors (i.e. shyness, self-esteem, life satisfaction and risk-taking), family communication dynamics and perceptions of the nature of online communications. Results indicated the risks of seeking personal advice and giving out personal information are behaviors that are significantly more prominent among older teens, those who are dissatisfied with their lives offline

but are skilled online and those who value the anonymity of Internet communication.

### *Motives and Characteristics of Adolescent Online Risk-Taking*

Peter, Valkenburg and Schouten (2006) investigated the characteristics and motives of adolescents' who talk to strangers on the Internet. Participants were 412 Dutch adolescents with a mean age of 14.1 years. A survey was administered in schools that represented all socioeconomic levels in the Netherlands. The survey measured introversion and motives for online communication. The motives that increased adolescents' communication with strangers included a desire to meet people, a desire to compensate for lacking social skills and entertainment. Gender and introversion had no effect on online stranger communication. However, unlike other studies, the results indicated younger adolescents talked with strangers online more frequently than older adolescents.

Beebe, Asche, Harrison and Quinlan (2004) profiled adolescent Internet chatroom users. Participants were 50,168 public school students in grades 6, 9 and 12. Data was collected by the Minnesota Student Survey that is administered in school every three years by the state's education department. The survey consists of 117 questions measuring demographics, psychological and environmental factors (i.e. self esteem, sadness), behavioral risk factors (i.e. drugs and alcohol use, sexual activity, suicide ideation) and Internet use. Results indicated that chatroom use for both girls and boys was significantly associated with adverse psychological and environmental factors including

alcohol/drug/tobacco use in the past year, previous history of sexual intercourse, suicide attempts, vandalism, physical assault, truancy and incidents of running away in the past year

*The Second Youth Internet Safety Survey*

Much of the data on adolescent online risk-taking in the United States has been derived from the Second Youth Internet Safety Survey (the first wave was conducted in the year 2000). Participants of the survey were a nationally representative sample of 1,500 American youth ages 10- 17 years old. In 2005, phone interviewers asked the youth questions to determine online risk behaviors and with whom they communicated online. The goal of the survey was to detail and quantify the online experiences of adolescents, specifically pertaining to harassment, unwanted sexual solicitation and exposure to sexual content online (Ybarra & Mitchell, 2007).

Wolak, Finkelhor and Mitchell (2008) investigated the risk of unwanted online sexual solicitations among different styles of teen Internet users. The 1,500 adolescents were participants of the Second Youth Internet Safety Survey. Those responses were coded as “cautious interactors” (only communicates with friends and family), “friend mediated interactors” (also communicates with friends of friends but don’t know them personally) and “unrestricted interactors” (also communicates with other unknown people). The unrestricted interactors were broken into groups of either high-risk or low-risk based on the number of different potentially risky online behaviors the participant engaged in during the previous year. Results indicated that forty-nine percent of all participants have

communicated online with strangers. Fifteen percent of the high-risk unrestricted interactors have received aggressive sexual solicitations, compared to six percent of the low-risk group, four percent of the friend-mediated group and only one percent of the cautious group. High-risk unrestricted interactors, compared to cautious ones, were more likely to be teenagers, have high levels of Internet use and were more likely to report offline interpersonal victimization such as bullying.

A follow up report by Wolak, Finkelhor, Mitchell and Ybarra (2008) using data from the Second Youth Internet Safety Survey states that certain behaviors in themselves (i.e. posting name online or photograph) may not be as risky as some fear. However, engagement in a variety of behaviors that could be deemed risky increased the odds of online interpersonal victimization. They found that teens who engaged in four risky behaviors online were 11.3 times more likely to be victimized. They suggested this was a good cut-off point to identify adolescents who are in the most danger of receiving unwanted sexual contact online.

### Conceptual Approaches

While this is a relatively new area of research, conceptual approaches have emerged to explain online behaviors. Although the theories are geared towards general interpersonal online communication, they will be explored in this study as possible frameworks to explain adolescent online risk-taking. Two opposing theories have been proposed by the literature to explain online social interactions. Additionally, there is also a conceptual approach that postulates that people take risks online because they enjoy the stimulation of risk-taking behaviors in general.

### *The Rich Get Richer Approach*

The first is the Rich Get Richer Conceptual Approach. This approach postulates that the Internet primarily benefits extraverted people. It is extraverted and/or non-lonely individuals that utilize online communication. These people already have strong social skills and the Internet is utilized as another venue to interact with friends (Sheldon, 2008). Kraut (2002) argues that people who are skilled in effectively using the world's resources to enhance their social lives are well positioned to do the same on the Internet.

This theory can be adapted to look at risk-taking in this study because many of the risk-taking variables have to do with stranger interaction. Adolescents may view chatting with strangers online and posting personal and contact information about themselves as a way to add to their current repertoire of friends. Therefore, the adolescents in the present study who spend time with friends doing social activities outside of school or talking on the phone may have social skills that motivate them to interact with strangers online in the hopes of adding to their reserve of friends.

Some of the research lends support to the Rich Get Richer Conceptual Approach. Peter, Valkenburg and Schouten (2005) sought to determine the predictors of online friend formation and found that introverts are less likely to make friends online because they communicated and self-disclosed less often than extraverts. Sheldon (2008) surveyed 172 Facebook users at a large Southern United States University and found that students who view offline interpersonal

communication as rewarding (versus those who found it uncomfortable) had more Facebook friends and initiated more online friendships.

### *Social Compensation Approach*

In an opposing theory, the Social Compensation Conceptual Approach postulates that the Internet primarily benefits introverted people (Sheldon, 2008). Adolescents communicate online because they are dissatisfied with their offline lives and need to compensate for their lack of personal relationships. The hypothesis is that the Internet is a safe place to do so because they can overcome shyness and apprehension when safely sitting behind a screen. The reduced auditory and visual cues an online conversation carries could possibly reduce social anxiety (Gross, 2002).

There is a hypothesis that those who engage in risky behaviors online are more dissatisfied with their offline life (Livingstone & Helsper, 2007). This theory can be modified to include risk-taking online because posting personal and contact information about oneself and communicating with strangers is a way to meet new people. Therefore, the adolescents in the present study who don't spend time with friends engaging in social activities outside of school or talking on the phone may lack social skills that motivate them to interact with strangers online in the hopes of making friends.

Research lends support to this theory. Wolak, Finkelhor and Mitchell (2008) found that adolescents who interact with strangers online are more likely to report offline victimization such as bullying compared to adolescents who limit online communication to friends and family. Similarly, Livingstone and Helsper

(2007) found that adolescents who are dissatisfied with their lives offline and value the anonymity of Internet communication are predictors of posting personal information about oneself.

The research has not conclusively supported either conceptual approach. For example, Peter, Valkenburg & Schouten (2005) assert that adolescents who are lonely, lack social skills or are shy may interact with strangers in chatrooms to compensate for their difficulty forming friendships offline. However, the same study found that only introverts that had a strong motivation for social compensation and communicated and self-disclosed often created friends online.

Neither the Social Compensation Conceptual Approach nor the Rich Get Richer Conceptual Approach has been crafted specifically to frame adolescent online risk-taking. Furthermore, both frameworks are being utilized to explain online interpersonal communication with no clear winner. Therefore, it is helpful to consider another conceptual approach that takes a different perspective.

#### *The Type-T (Thrill-Seeking) Personality*

The Type-T Personality Conceptual Approach specifically pertains to risk-taking (Farley, 2001). This approach suggests that people of this personality type are prone to stimulation seeking, thrill-seeking and risk-taking behaviors. It appears that the Type-T is a trait of temperament and has a genetic influence. Those who have this temperament are generally motivated by uncertainty, unpredictability, novelty, complexity, ambiguity, low structure, high intensity, and variety (see Table 5.1, Farley, 2001).



The Type-T personality dimension has been implicated in a wide range of human behaviors including creativity, crime, and human sexuality (Farley, 2001). Therefore it is logical to assume that thrill-seeking behaviors would also be seen online. Adolescents who post personal identifiers or chat with strangers online may be risk-takers in their offline lives. The thrill of the novelty and uncertainty of possible outcomes of interpersonal communication with strangers may drive them to engage in risky online behaviors.

Research lends support to the Type-T Conceptual Approach. Beebe, Asche, Harrison and Quinlan (2004) found that adolescent chatroom use was positively associated with offline risk-taking such as sexual intercourse and illicit substance use. Bryant and Zillman (2002) agree, suggesting that people who take risks online are risk-takers in their offline lives.

The present study attempted to determine which of these conceptual approaches are most fitting. Many of the variables examined in this study have to do with adolescents' offline social life and activities. While it cannot be definitively determined, the results of this study could lend evidence to one or more of these theories. Though this study is not specifically examining personality, it is possible that adolescents who engage in risks online have a personality that makes them prone to engaging in any type of thrill-seeking or risk-taking behavior.

### Conclusion

It is clear from the literature that engaging in online risk-taking in adolescents carries an increase of the chance of online interpersonal victimization

(Wolak, Finkelhor & Mitchell, 2008; Ybarra et al., 2007). With the exception of Peter, Valkenburg and Schouten (2006), the literature points to older youth as partaking in more risks online. Wolak, Mitchell and Ybarra (2008) hypothesizes that older youth engage in more complex features available online. This puts them at greater risk because younger youth are using the Internet in more simplistic ways.

All of the studies lend support to at least one of the three conceptualizations of adolescent online risk-taking summarized earlier. Though not limited to introverts, the motives of wanting to connect with others are associated with an increase in online risks in adolescents (Liau, Khoo & Hwa Ang 2005; Peter, Valkenburg & Schouten 2006; Wolak, Finkelhor & Mitchell 2008) and lend support to the Social Compensation Approach. Negative psychosocial factors such as loneliness and life dissatisfaction are predictors of adolescent online risk-taking (Livingston & Helsper 2007) also supporting the Social Compensation Approach. The Rich Get Richer Conceptual Approach is supported by Peter (2005) who found that introverts are less likely to make friends online because they communicated and self-disclosed less often than extraverts. Sheldon (2008) also supports the Rich Get Richer Conceptual Approach. The Type-T Personality Conceptual Approach is supported by Beebe, Asche, Harrison and Quinlan (2004) and Livingstone and Helsper (2007) which both found that adolescents who engage in risky behaviors offline are more prone to risky behaviors online.

## Limitations of the Extant Literature and Areas for Future Research

Peter, Valkenburg and Schouten (2006) may have had different results because of the small sample of Dutch adolescents they utilized. Their research leads to another important limitation. Many of the studies reviewed include data from countries outside of the United States. It is not known if adolescent behavior in Singapore, Holland or the United Kingdom can be generalized to adolescents in the United States.

Other issues concerning samples are important to note. One of the studies that explored chatrooms was conducted on a convenience sample of Michigan school children (Beebe, Asche, Harrison & Quinlan, 2004). Other surveys have also been conducted in school settings using a convenience sample (Liau, Khoo & Hwa Ang, 2005; Peter, Valkenburg & Schouten, 2006; Sheldon, 2008).

The major studies published in the area of adolescent online risk-taking pulled their sample from The Second Youth Internet Safety Survey, conducted in a similar way to the present study (Wolak, Finkelhor, Mitchell & Ybarra 2008; Wolak, Finkelhor & Mitchell, 2008; Ybarra, Mitchell, Finkelhor & Wolak, 2007). The information from these studies is derived from a well-designed, nationally representative sample. However, much of the information on the subject of risky adolescent online behavior comes from this one sample. The information obtained from the sample in the present study will serve to provide a new pool of participants to examine this area of research and potentially replicate some of the results of the Second Youth Internet Safety Survey. Additionally, the survey in

the present study was conducted one year later. This is important as technologies are rapidly changing (Greenfield & Yan, 2006).

Furthermore, the risks in the previous studies have not been looked at individually. It may be beneficial to examine the risks in terms of the categories (e.g. contact, content, privacy). Correlations will provide insight into their relationship with one another and factor analysis may be able to discern if these broad categories are separate constructs. If so, they may have different predictors and implications.

Overall this is a new area of research and there are gaps. The popularity of online social networking sites and the many unknowns associated with their use makes this a critical area for researchers to examine (Farley, Aulenbach, Lipshutz, Miller & Stamoulis, 2008). Gross (2007, p. 674) states, “Unfortunately developmental research has not begun to systematically include the Internet as a contextual factor when studying adolescent development”. In a 2003 critique of existing research on adolescent Internet use, Livingstone (2003, p. 13) echoes this sentiment and adds, “Research on children and the Internet must go beyond access to examine the nature of Internet use - its nature and quality, social condition, cultural practices and personal meetings.”

Specifically there are significant gaps in the published research addressing adolescent online risk-taking in the United States. Furthermore, the current literature needs to be expanded now that it is known that risk-taking online can lead to serious negative results. A more nuanced exploration into the behaviors of adolescent online risk-takers is needed.

Research has the ability to target awareness-raising and other interventions aimed at a particular demographic, age or group once identified. If researchers can discern who is engaging in online risky behaviors, educators can switch from issuing expansive warnings to youth and instead can create more specialized messages targeted at the teens most at jeopardy of engaging in risky behaviors.

## CHAPTER THREE

### METHODS

#### Research Questions

The present study consists of a secondary data analysis of information obtained from the 2006 Parents and Teens Survey of the Pew Internet & American Life Foundation Project. The general purpose of the proposed study is to expand the current knowledge of adolescent online risk-taking. Many variables have been examined to determine predictors of such behaviors. The specific research questions are as follows:

- (1) What are the frequencies of risk-taking behaviors? Are there gender differences?
- (2) Can the twelve risk-taking variables be classified into categories?
- (3) What are the predictors of adolescent online risk-taking? If the risk-taking variables can be classified into categories, would each category have distinct predictors?
- (4) Are there gender differences in the predictors of online risk-taking?

#### Sample

The sample was designed to represent all adolescents' ages 12-17 living in the continental United States. Weighting was used to compensate for patterns of nonresponse that might bias response. The sample was weighted to match national parameters for both parent and child demographics. The parent

demographics used for weighting were gender, age, education, race, ethnicity, marital status and US region. The teen demographics used for weighting were gender and age. The parameters were based on an analysis of the 2005 Census Bureau.

List-assisted random digit dialing was used from previous Pew Internet & American Life Project projects fielded in 2004-2006. Households with a child age 17 or younger were contacted and screened to find 12-17 year-old children. The total participants are 935 parents of 12-17 year-olds and 935 12-17 year-olds. Of the 935 teens, 886 used the Internet. The data in the present study come from the sample of 886 online teens. While race/ethnicity was not asked of the teen participants, it was for their parents. Demographics for parents and teens are listed in Table 3.

Table 3.1.  
*Sample Demographics*

	Parameter	Unweighted	Weighted
<u>Census Region</u>			
Northeast	19.2	20.2	19.5
Midwest	22.1	28.4	22.6
South	34.9	31.4	34.3
West	23.8	19.9	23.5
<u>Parent's Race/Ethnicity</u>			
White	67.3	84.7	71.0
Black	10.8	6.8	10.4
Hispanic	15.9	5.5	12.5
Other	6.0	3.1	6.0
<u>Parent's Marital Status</u>			
Married	82.8	79.3	82.3
Not married	17.2	20.7	17.7

<u>Child's Gender</u>			
Male	51.2	50.4	50.5
Female	48.8	49.6	49.5
<u>Child's Age</u>			
12	16.7	15.0	16.9
13	16.7	14.3	16.2
14	16.7	16.8	17.1
15	16.7	15.9	16.6
16	16.7	19.6	16.1
17	16.7	18.4	17.1

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### Contact Procedures

Interviews were conducted from October 23 to November 19, 2006. Up to ten calls were made to contact every sampled telephone number. Calls were staggered over times of day and days of the week to maximize the chance of making contact with the respondents. Each household received at least one daytime call in order to find someone at home. Households with no target teenagers were deemed ineligible and screened out. In eligible households, the parent was interviewed first and then interviews were conducted with the target teenager. In households with more than one child in the target age range, the participant was chosen at random. The response rate for the survey was forty-six percent.

### Instrumentation

*The Parents & Teens 2006 Survey*



The survey consists of 135 items. It is broken down into a parent survey and a teen survey.

#### *The Parent Survey*

The Parent Survey consists of 26 items. The survey includes two demographic information items (child's age and gender), six items on computer usage, ten items on rules and monitoring of child's computer usage, five items on computer and technology ownership, two items on parent's general perception of the Internet and one item on knowledge of child's use of an online social networking site. The items include multiple choice, dichotomous answer formats and Likert-type scales for Internet usage (*1 = several times a day to 6 = never*).

#### *The Teen Study*

The Teen Survey consists of 109 items. The survey includes items on computer and technology usage, computer and technology ownerships, general perception of the Internet, social/after school activities, privacy issues, reasons for engaging in social networking sites, effects of Internet usage, stranger contact and video game use. The items include multiple choice, dichotomous answer formats and likert-type scales for Internet usage (*1 = several times a day to 6 = never*).

#### Variables in the Study

The proposed research only utilized the survey items appropriate for answering the research questions. Table 4 includes a summary of the variables.

The full questions and response choices are as follows:

*Question P1:* How old is your child?

*Question P2:* Is your child a boy or a girl?

*Question K4:* Overall, how often do you use the Internet? 1= several times a day, 2=about once a day, 3=three to five days a week, 4= one to two days a week, 5=every few weeks, 6=less often

*Question K7i:* Do you ever visit an online chatroom? 1=Yes, 2=No, 3=don't know/refused

*Question K10a:* Do you currently participate in a school club like drama or language club? 1=yes, 2=no, 3=don't know/refused

*Question K10b:* Do you currently participate in a school sports program? 1=yes, 2=no, 3=don't know/refused

*Question K10c:* Do you currently participate in some other extracurricular activity, like band? 1=yes, 2=no, 3=don't know/refused

*Question K10d:* Do you currently participate in a club or sports program that is not affiliated with your school, like a church youth group, rec league or volunteer organization in your community? 1=yes, 2=no, 3=don't know/refused

*Question K10\_1:* Do you have a part-time job? 1=yes, 2=no, 3=don't know/refused

*Question K11a:* Thinking about all the different ways you socialize or communicate with friends, about how often do you spend time with friends in person, doing social activities outside of school? 1=everyday, 2= several times a week, 3= at least once a week, 4=less than once a week, 5=never, 6= don't know/refused

*Question K11b:* Thinking about all the different ways you socialize or communicate with friends, about how often do you talk to friends on a landline or

home telephone? 1=everyday, 2= several times a week, 3= at least once a week, 4=less than once a week, 5=never, 6= don't know/refused

*Question K11d:* Thinking about all the different ways you socialize or communicate with friends, about how often do you talk to your friends on a cell phone? 1=everyday, 2= several times a week, 3= at least once a week, 4=less than once a week, 5=never, 6= don't know/refused

*Question SNS3:* Have you ever uploaded photos online where others can see them? 1=yes, 2=no, 3=don't know/ refused

*Question SNS14a:* Is a photo of yourself posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14b:* Are photos of your friends posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14d:* Is your last name posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14e:* Is your school name posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14f:* Is your cell phone number posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14g:* Is your IM screen name posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14h:* Is your email address posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS14j:* Is the city or town where you live posted to your online social networking site profile? 1=yes, 2=no, 3=doesn't apply, 4=don't know/refused

*Question SNS19:* Are any of your friends on your social networking site people you have never met in person? 1=yes, 2=no, 3=don't know/refused

*Question PRIV3:* Thinking about the last time you were contacted online by someone who was a complete stranger to you, did you? 1= just ignore it, 2= respond and tell them to leave you alone, 3 = respond so you could find out more about the person, 3 = tell an adult or someone in authority, 4 = other, 5 = don't know/refused

Table 3.2

*Variables in the Present Study*

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Variables

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Predictors

Age

Gender

Frequency of use

Participation in an extracurricular activity

Part-time job

Time spent socializing with friends in person

Time spent talking with friends on landline

Time spent talking with friends on cell phone

Risk-Taking Variables

Visits a chatroom

Uploads photographs online

Posts photos of self on SNS

Posts photos of friends on SNS

Posts last name on SNS

Posts school name on SNS

Posts city/town on SNS

Posts cell phone number on SNS

Posts instant message screen name on SNS

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Posts email address on SNS  
Friends with strangers on SNS  
Responds to online stranger contact

---

### *Rational for the Variables*

Demographics and teen Internet usage are basic variables that should be included in the research. Extracurricular activities and offline social contact (i.e. spending time with friends, talking on the phone) were included to determine their relationship to online risk-taking. Involvement in extracurricular activities and examining time spent socializing with friends outside of school, employment in a part-time job, time spent talking on a home phone and time spent talking on a cell phone are highly measurable and will also fill a gap in the literature as these have yet to be examined as predictors of online risk-taking.

The dependent variables listed in Table 4 are included because they have been defined as risk-taking behaviors in prior research. Wolak, Finkelhor and Mitchell (2008) found that they are associated with an increase in unwanted sexual solicitation and harassment. This is also supported by other studies (Beebe, Asche, Harrison & Quinlan, 2004; Livingstone & Haddon, 2008).

### Data Analysis

An exploration into the risk-taking variables was conducted using a variety of analyses. First descriptive statistics were conducted to analyze the frequency of the risky online behaviors. This was analyzed by gender as well as by teens as a whole. A MANOVA and multiples t-tests were performed to ascertain if the differences between the genders were significant. Correlations

were computed on the dependent variables to gain more information on their relationship to each other.

Factor Analysis was conducted to reduce the many dependent variables into a limited number of factors. There are enough participants in the study to warrant such an analysis. Four factor scores were obtained that were then used as the criterion variables in future analyses. The risk-taking variables were also computed so that teens who engaged in four or more risk-taking behaviors became another criterion variable. In addition to the four factor scores, this was used as the fifth criterion variable in the multiple regression analyses.

Multiple regressions were then performed with the four factor scores and the additional criterion variable of “Four or More Risks” to identify significant predictors of online risk-taking. Five multiple regressions were conducted using the whole online teen sample. Then, to ascertain if gender has a significant effect on the results, multiple regressions were computed separately for the boys and girls.

## CHAPTER FOUR

### RESULTS

#### Introduction

This chapter will present the data from the Pew American Life & Research Foundation Project 2006 Parents & Teens Survey. First a description of how the data were approached will be explained. Then descriptive statistics will be presented followed by statistical analysis of the data in relation to each of the research questions.

#### Data Issues

Four issues with the data had to be resolved before the analyses were conducted. First, the data were recoded for ease of interpretation. The risk-taking variables were dummy coded into yes or no options. The coding on the risk-taking variables were reversed ( $0=no$ ,  $1=yes$ ). The Likert-scale responses were reversed in the questions measuring frequency of Internet use, offline socialization, and time spent talking on a landline phone or cell phone ( $1=never$ ,  $2=less\ than\ once\ a\ week$ ,  $3=at\ least\ once\ a\ week$ ,  $4=several\ times\ a\ week$ ,  $5=daily$ ). Responses that included “don’t know, refused or doesn’t apply” were viewed as missing data.

Second, to obtain an independent variable of “Responds to Stranger Contact” the question, “Thinking about the last time you were contacted online by someone who was a complete stranger to you, how did you respond?” was dummy coded. Only the response of “respond so you could find out more” was included as the risk taking variable. Responses of “tell an adult or someone in

authority, “just ignore or delete it”, “respond and tell them to leave you alone” or “other” and “don’t know/refused” were not viewed as risky.

Third, to obtain a criterion variable, “Four or More Risks”, ten of the risk-taking variables were computed and those subjects in a range of 0-3 were coded as 0 and those in a range of 4-10 were coded as 1. The risk-taking variables of “post photos of self on social networking site” and “post photos of friends on social networking site” were omitted as item “Have you ever posted photographs online?” encompasses both.

Lastly, four variables dealing with afterschool activities were aggregated into one variable defined as “extracurricular activity”. They include participation in “a school club like drama or language club”, “a school sports program”, “some other extracurricular activity, like band” and “a school club or sports program not affiliated with your school, like a church youth group, rec league or volunteer organization in your community”. This decision was made to prevent multicollinearity.

### Descriptive Statistics

The weighted sample included 935 participants ages 12- 17 years old with a mean age of 14.5 years old. Fifty and a half percent of participants were males and forty-nine and a half percent of participants were females. Ninety-three percent (N=886) of the teens used the Internet. Fifty-Five percent (N=487) of online teens had an online social networking site profile.

Eighty-five percent of teens report participation in an extracurricular activity such as drama, sports, band or a church youth group. Twenty-one percent



of teens report holding a part-time job. Table 4.1 lists the percentage of teen report of Internet use. Table 4.2 lists the percentage of teen report of time spent with socializing with friends in-person outside of school, and time spent talking with friends on a cell phone and landline/home phone.

Table 4.1  
*Percentage of Time Spent on Internet*

Behavior	N	Everyday	Several Times A Week	At Least Once A Week	Less Than Once a Week	Never
Internet Use	886	61	17	11	10	*

Table 4.2  
*Percentage of Time Spent on Social Variables*

Behavior	N	Everyday	Several Times A Week	At Least Once A Week	Less Than Once a Week	Never
Time with Friends In Person	935	31	34	24	6	3
Talk to Friends on Landline	935	39	21	19	12	8
Talk to Friends on Cell Phone	618	55	18	12	9	6

*Frequency of stranger contact*

Although not considered a risk-taking variable, it is informative to understand how many teens have been contacted by strangers online. The percentage of teens who have been contacted by strangers online is listed in Table 4.3. The total for all adolescents are presented as well as the percentages for boys and girls. An independent t-test was computed to ascertain statistical

significance. Results are listed in Table 4.4. Table 4.5 reports the percentage of teens who have responded to stranger contact (a risky behavior).

Table 4.3

*Percentage of Adolescents who have been Contacted by a Stranger Online*

Risk-Taking Variable	N	Total Percentage	Boys	Girls
Have you ever been contacted by a stranger online that had no connection to you or any of your friends?	886	31.5 (n=279)	24	38

Table 4.4.

*t-test Comparing Boys and Girls who Experience Stranger Contact*

	N	Means for Boys	SD for Boys	Mean for Girls	SD for Girls	t-test	Significance
Ever been contacted by a stranger online	886	.241	.428	.387	.487	-7.959	.000

The results indicate that girls have been contacted by strangers online significantly more than boys.

#### *Frequency of Risk-Taking Variables*

To gain a perspective of how many adolescents are engaging in risk-taking activities online, the percentages of each behavior are listed in Table 4.5. The total for all adolescents are presented as well as the percentages for boys and girls.

Table 4.5  
*Percentage of Risk-Taking Variables*

Risk-Taking Variable	N	Total Percentage	Boys	Girls
Visits online chatroom	886	18.0	17.2	18.4
Ever uploaded photos online	886	47.4	40.5	54.1
Post a photo of self on SNS	487	79.4	74.7	83.4
Post photos of friends on SNS	487	65.7	58.5	71.9
Post last name on SNS	487	28.9	40.9	18.7
Post school name on SNS	487	49.9	51.7	48.4
Post cell phone number on SNS	487	2.1	3.9	.6
Post IM screen name on SNS	487	40.0	39.8	41.9
Post email address on SNS	487	29.3	29.4	29.3
Post city/town on SNS	487	61.2	69.4	54.2
Friends with strangers on SNS	487	31.2	38.4	25.4
Responds to stranger contact	279	21.7	26.2	19.1

Gender Differences in Risk-Taking Variables

A two-group MANOVA was computed comparing boys and girls on the

twelve risk-taking variables. A discriminant function analysis and a binary logistic regression were also computed and yielded similar results. The MANOVA produced a Wilks Lambda of .061( $p = .000$ ) indicating that gender had a significant effect on online risk-taking. The results of the univariate analyses are presented in Table 4.6<sup>1</sup>. However, only 19.8% of the participants were included in the multivariate analysis due to missing data. Therefore, multiple independent t-tests were conducted utilizing the total sample. The analysis compared boys and girls on the twelve risk-taking variables and the additional variable of engaging in four or more risk-taking behaviors. The means, standard deviations and t-test results are presented in Table 4.7.

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<sup>1</sup> The unweighted N is reported. The results from all of the analyses utilized a weighted sample.

Table 4.6.

*Univariate MANOVA Analysis by Gender and Risk-Taking Variable*

	<i>N</i>	Means and ( <i>sd</i> 's) for Males	Means and ( <i>sd</i> 's) for Females	<i>F</i>	Significance	Partial Eta Squared
Visits an online chatroom	191	.217 (.413)	.289 (.454)	3.33	.068	.006
Ever uploaded photographs	191	.854 (.353)	.918 (.273)	5.457	.020	.010
Post photographs of self on SNS	191	.865 (.342)	.886 (.320)	.404	.525	.001
Post photographs of friends on SNS	191	.637 (.482)	.794 (.404)	16.168	.000	.029
Post last name on SNS	191	.321 (.468)	.147 (.355)	23.321	.000	.042
Post school name on SNS	191	.601 (.490)	.544 (.498)	1.584	.209	.003
Post cell phone number on SNS	191	.025 (.159)	.002 (.053)	5.985	.015	.011
Post IM screen name on SNS	191	.300 (.459)	.397 (.490)	5.024	.025	.009
Post city/town on SNS	191	.766 (.423)	.617 (.486)	12.772	.000	.023
Post email address on SNS	191	.279 (.450)	.301 (.450)	.279	.598	.001
Friends with strangers on SNS	191	.507 (.501)	.310 (.463)	21.228	.000	.038
Responds to stranger contact	191	.285 (.452)	.179 (.384)	8.151	.004	.015

Table 4.7  
 Independent *t*-tests Comparing Boys to Girls on Risk-Taking Variables

Risk-Taking Variable	N	Mean for Boys	SD for Boys	Mean for Girls	SD for Girls	t-test	Significance
Ever uploaded Photographs	885	.405	.491	.540	.498	-6.822	.000
Post photographs Of self to SNS	484	.746	.435	.834	.372	-3.987	.000
Post photographs Of friends on SNS	487	.584	.493	.718	.449	-5.232	.000
Post last name on SNS	486	.409	.492	.186	.389	9.267	.000
Post school name On SNS	481	.516	.500	.484	.500	1.182	.237
Post cell phone Number on SNS	479	.039	.194	.005	.076	4.255	.000
Post IM screen Name on SNS	481	.398	.489	.419	.493	-.792	.429
Post city/town On SNS	484	.694	.461	.542	.498	5.778	.000
Post email address On SNS	484	.293	.455	.292	.455	.039	.969
Friends with Strangers on SNS	487	.383	.486	.254	.435	5.174	.000
Responds to Stranger contact	279	.262	.440	.190	.393	2.315	.021
Visits an online Chatroom	886	.171	.377	.184	.387	-.797	.425
Engages in four Or more risks	194	.638	.481	.478	.500	3.595	.000

As demonstrated in Table 4.6 gender had a significant effect on the risk-taking variables. The results indicated that adolescent boys had significantly higher means on five of the risk-taking variables: post last name on social networking site, post city/town on social networking site, post cell phone number on social networking site, friends with strangers on social networking site and responds to stranger contact. Adolescent girls had significantly higher means on three of the risk-taking variables: ever uploaded photographs online, post photographs of friends on social networking site and post IM screen name on social networking site. There were no statistical differences in the means of boys and girls on the risk-taking variables of visiting chatrooms and posting photographs of self, school name, instant message screen name and email address on social networking sites.

The multiple independent t-tests yielded two differences in results. First, girls were found to post photographs of themselves on a social networking site significantly more than boys. Second, no statistical difference was found in the risk-taking variable of posting IM screen name on a social networking site. In addition, an independent t-test was conducted on the variable of “Four or More Risks”. The results indicated boys were more likely to do so than girls.

#### Relationship Between Risk-Taking Variables

Pearson correlations were computed between the risk-taking variables to gain insight into their relationship. The results are listed in table 4.8.

Table 4.8  
*Correlation Matrix of Risk-Taking Variables*

Risk Taking Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Ever Post Photos.	--	.520**	.331**	-.058*	.193**	.057*	.062*	.079**	.003	.074**	.091*	.118**	.205**
2. Post Photos Self on SNS		--	.498**	.033	.250**	.057*	.070*	.085**	.040	.070*	.041	-.060*	.156**
3. Post Photos Friends on SNS			--	-.001	.172**	.037	.124**	.086**	.105**	.003	-.081	-.055*	.211**
4. Post Last Name on SNS				--	.251**	.200**	.072**	.259**	.294**	.007	.191**	-.006	.412**
5. Post School Name on SNS					--	.117**	.047	.358**	.157**	.074**	.150**	-.023	.411**
6. Post Cell Phone on SNS						--	.059*	.107**	.191**	.057*	.141**	.033	.102*
7. Post IM On SNS							--	-.016	.247**	.066*	.118**	.122**	.369**
8. Post City/Town On SNS								--	.144**	.119**	.126**	.053	.291**
9. Post Email On SNS									--	.094**	.217**	.100**	.420**
10. Friends w/ Strangers on SNS										--	.426**	.148**	.349**
11. Responds To Stranger Contact											--	.176**	.389**
12. Visits Chatroom												--	.340**
13. Four or More Risks													--

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

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

The highest correlation was for the risk-taking variables of “ever posted photographs online for others to see” and “post photographs of self on social networking site” ( $r = .520$ ). “Post photographs of friends on social networking



site) and “post photographs of self on social networking site” also had one of the highest correlations ( $r = 0.498$ ). The variables pertaining to posting photographs had weak correlations with the other risk-taking variables.

“Friends with strangers on social networking site” and “responds to stranger contact” was one of the highest correlations ( $r = 0.426$ ). The strongest correlations for the “four or more risks” variable were “post email address on social networking site ( $r = 0.420$ ), “posts last name on social networking site ( $r = 0.412$ ), “posts school name on social networking site” ( $r = 0.411$ ) and “responds to stranger contact” ( $r = 0.389$ ).

#### *Factor Analysis*

A factor analysis was conducted to provide an exploration and detection of patterning of the risk-taking variables. A principal components factor analysis followed by a varimax rotation was performed on the twelve identified risk-taking variables. The analysis produced four factors with eigenvalues greater than one. The rotated factor matrix is presented in Table 4.9.

Table 4.9  
*Rotated Factor Matrix for the Risk-Taking Variables*

Risk-Taking Variable	Factor I Photographs	Factor II Personal Identifiers	Factor III Stranger Contact	Factor IV Contact Information
Post Photos of Self on SNS	.836			
Have Ever Posted Photos Online	.765			
Post Photos of Friends on SNS	.744			
Post City/Town on SNS		.718		
Post School Name on SNS		.678		
Post Last Name on SNS		.622		
Friends with Strangers on SNS			.778	
Responds to Online Stranger Contact			.739	
Visits an Online Chatroom			.542	
Post Email Address on SNS				.720
Post IM screen name on SNS				.720
Post Cell Phone Number on SNS				.383
Variance Explained	16.48%	14.08%	12.98%	11.99%

The results from the Factor Analysis produced four clear factors accounting for 55.54% of the variance explained. Factor I will be called Photographs; it accounted for 16.48% of the variance. All of the items pertain to posting photographs online. Factor II will be labeled Personal Identifiers; it accounted for 14.08% of the variance. All of the items pertain to posting information on an online social networking site. Factor III will be labeled Stranger Interaction, it accounted for 12.98% of the variance. These items include having strangers as friends on a social networking site, responding to stranger contact and visiting chatrooms. The last factor, Factor IV will be labeled Contact Information; it accounted for 11.99% of the variance. All three of the items include posting to social networking sites ways to be contacted. The four factors obtained in this analysis were used as criterion variables in the subsequent regression analyses.

#### Predictors of Online Risk-Taking

Multiple Regression analysis was conducted to determine the predictors of online risk-taking. The predictor variables used in each regression include: Age, Gender, Participation in an Extracurricular Activity, Time Spent with Friends In-Person, and Time Spent Talking to Friends on a Landline Phone, Time Spent Talking on a Cell Phone and having a Part-Time Job. The criterion variables are the four factors that emerged from the factor analysis as well as engaging in four or more risk-taking behaviors. Prior researchers have noted that engaging in four or more risky online behaviors is especially disconcerting and should be noted by professionals (Wolak, Finkelhor, Mitchell & Ybarra, 2008). Therefore the “Four

or More Risks” criterion was also looked at beyond the factor scores that emerged.

*Regression Analyses*

Table 4.10

*Criterion Variable: Factor I- Photographs*

Predictor Variable	Beta	Significance
Age	.121	.012
Gender	.186	.000
Frequency of Internet Use	-.051	.288
Participation in Activity	-.024	.620
Time spent with Friends in Person	.035	.449
Time Spent Talking on Landline	-.051	.287
Time Spent Talking on Cell phone	-.027	.578
Part-Time Job	.238	.000

The adjusted R<sup>2</sup> computed from the above data was .098.

Girls, older teens and those who have a part-time job are predictors for Factor I-Photographs.

Table 4.11

*Criterion Variable: Factor II-Personal Identifiers*

Predictor Variable	Beta	Significance
Age	.199	.000
Gender	-.257	.000
Frequency of Internet Use	.046	.339
Participation in Activity	-.014	.770
Time spent with Friends in Person	.012	.794
Time Spent Talking on Landline	-.013	.778
Time Spent Talking on Cell phone	.070	.145
Part-Time Job	.100	.038

The adjusted R2 computed from the above data was .110.

Older teens, boys and those with a part-time job are predictors for Factor II-Personal Identifiers.

Table 4.12

*Criterion Variable: Factor III- Stranger Contact*

Predictor Variable	Beta	Significance
Age	.198	.000
Gender	-.150	.002
Frequency of Internet Use	-.050	.310
Participation in Activity	-.080	.104
Time spent with Friends in Person	-.025	.595
Time Spent Talking on Landline	.138	.005
Time Spent Talking on Cell phone	-.002	.954
Part-Time Job	.007	.891

The adjusted R2 computed from the above data was .054

Older teens, boys and those who spend a lot of time talking to friends on a landline are predictors for Factor III-Stranger Contact.

Table 4.13

*Criterion Variable: Factor IV-Contact Information*

Predictor Variable	Beta	Significance
Age	-.130	.007
Gender	.056	.238
Frequency of Internet Use	.060	.215
Participation in Activity	.094	.053
Time spent with Friends in Person	-.259	.000
Time Spent Talking on Landline	-.044	.358
Time Spend Talking on Cell Phone	.044	.358
Part-Time Job	-.008	.876

The adjusted R2 computed from the above data was .091.

Younger teens and those who spend less time socializing with friends in person are predictors for Factor IV-Contact Information.

Table 4.14  
*Criterion Variable: Four or More Risks*

Predictor Variable	Beta	Significance
Age	.039	.424
Gender	-.203	.000
Frequency of Internet Use	-.012	.811
Participation in Extracurricular Activity	-.114	.021
Time spent with Friends in Person	-.169	.000
Time Spent Talking on Landline	.051	.303
Time Spend Talking on Cell phone	.028	.566
Part-Time Job	-.007	.894

The adjusted R2 computed from the above data was .054.

Boys and those who spend little time with friends in person are predictors of the criterion variable “Four or More Risks”.

*Regression Analysis by Gender*

To ascertain if gender has a significant effect on the results, multiple regressions were also computed separately for boys and girls. These results are presented in Table 4.15 through Table 4.19.



Table 4.15

*Criterion Variable: Factor I- Photographs*

Predictor Variable	Boys Beta	Boys Significance	Girls Beta	Girls Significance
Age	.223	.003	-.021	.729
Frequency of Internet Use	.156	.031	-.259	.000
Participation in Extracurricular Activity	-.231	.003	.171	.006
Time Spent with Friends in Person	-.199	.008	.182	.002
Time Spent Talking on Landline	.086	.240	-.192	.002
Time Spent Talking on Cell Phone	-.207	.005	.077	.205
Part-Time Job	.224	.003	.239	.000

The adjusted R2 computed from the above data was .214 for boys and .141 for girls.

For boys, predictors of Factor I-Photographs are older teens, higher frequency of Internet use, lack of involvement in an extracurricular activity, less time spent talking on a cell phone and having a part-time job. For girls, predictors of Factor I, Photographs are lower use of the Internet, participation in activities, more time spent socializing outside of school with friends in person, less time talking with friends on a landline telephone and having a part-time job.

Table 4.16

*Criterion Variable: Factor II- Personal Identifiers*

Predictor Variable	Boys Beta	Boys Significance	Girls Beta	Girls Significance
Age	.335	.000	.082	.206
Frequency of Internet Use	.072	.334	-.013	.845
Participation in Extracurricular Activity	.032	.691	-.022	.736
Time spent with Friends in Person	-.067	.383	.071	.258
Time Spent Talking on Landline	.081	.285	-.097	.146
Time Spent Talking on Cell phone	.104	.174	.027	.676
Part-Time Job	.130	.097	.081	.212

The adjusted R2 computed from the above data was .156 for boys and .010 for girls.

A predictor of Factor II-Personal Identifiers for boys is being an older teen. There were no significant predictors for girls.

Table 4.17

*Criterion Variable: Factor III-Stranger Contact*

Predictor Variable	Boys Beta	Boys Significance	Girls Beta	Girls Significance
Age	.205	.007	.083	.193
Frequency of Internet Use	-.179	.014	.026	.686
Participation in Extracurricular Activity	-.174	.025	.001	.989
Time spent with Friends in Person	.201	.007	-.232	.000
Time Spent Talking on Landline	.246	.001	.080	.219
Time Spent Talking on Cell phone	.120	.105	-.002	.971
Part-Time Job	-.309	.605	.049	.441

The adjusted R<sup>2</sup> computed from the above data was .206 for boys and .046 for girls.

Predictors of Factor III-Stranger Contact for boys are being an older teen, lack of participation in extracurricular activities, more time spent with friends in person and more time talking with friends on the landline. Predictors for girls are spending less time socializing with friends in person.

Table 4.18

*Criterion Variable: Factor IV-Contact Information*

Predictor Variable	Boys Beta	Boys Significance	Girls Beta	Girls Significance
Age	-.151	.069	-.133	.032
Frequency of Internet Use	.073	.353	.057	.364
Participation in Extracurricular Activity	.099	.238	.105	.095
Time Spent with Friends in Person	-.159	.051	-.338	.000
Time Spent Talking on Landline	-.069	.384	-.041	.519
Time Spent Talking on Cell phone	.058	.469	.051	.410
Part-Time Job	-.078	.341	.059	.339

The adjusted R<sup>2</sup> computed from the above data was .058 for boys and .107 for girls.

There were no significant predictors for Factor IV-Contact Information for boys. Younger teen girls and teens that spend less time socializing with friends in person are more likely to post their contact information on their social networking site.

Table 4.19  
*Criterion Variable: 4 or More Risks*

Predictor Variable	Boys Beta	Boys Significance	Girls Beta	Girls Significance
Age	-.058	.484	.015	.814
Frequency of Internet Use	-.002	.976	-.20	.759
Participation in Extracurricular Activity	-.254	.003	-.029	.651
Time Spent with Friends in Person	.044	.587	-.311	.000
Time Spent Talking on Landline	.193	.017	-.038	.560
Time Spend Talking on Cell Phone	.071	.382	.060	.345
Part-Time Job	.057	.491	-.031	.615

The adjusted R2 computed from the above data was .052 for boys and .070 for girls.

Lack of participation in extracurricular activities and more time spent talking to friends on a landline are predictors for boys engaging in four or more risks. For girls the only significant predictor is less time spent socializing with friends in person.

### Conclusion

The factor analysis produced four clear factors for which the factor scores became the criterion variables for the multiple regression analyses.

Overwhelmingly, older teens are engaging in online risk-taking. The exception to this is Factor IV-Contact Information. Younger teens are more likely to post ways for people to get in touch with them, including posting their cell phone number. When gender was specifically examined in the regressions, younger

girls were more likely to post contact information but age was not a significant predictor for boys.

Also overwhelmingly, boys engage in more risky behaviors than girls. The one exception to this is posting photographs. Girls are more likely to do so than boys.

A lack of involvement in extracurricular activities was also a predictor for several risk-taking variables, especially for boys. While it wasn't significant for any of the criterion factor scores, it was significant for the criterion of engaging in four or more risks online. Once gender was examined, lack of involvement in an extracurricular activity was a significant predictor for boys in Factor I-Photographs, Factor III-Stranger Contact and Four or More Risks. Participation in an extracurricular activity was a significant predictor for girls in Factor I-Photographs.

Infrequent time spent socializing with friends offline was a predictor for many of the variables. This was especially true for girls. More time spent socializing with friends offline was a predictor for girls posting photographs and it was also a predictor for boys for Factor III-Stranger Contact. Surprisingly, more time spent talking with friends on a landline and having a part-time job were predictors for some of the criterion variables.

The criterion variable of "Four or More Risks" warrants a special look as the research indicates that those teens are especially in jeopardy (Wolak, Finkelhor, Mitchell & Ybarra, 2008). Boys, teens who don't participate in extracurricular activities, and teens who spend less time socializing with friends

offline were most likely to engage in four or more risky behaviors. When gender was examined, lack of involvement in extracurricular activities was a significant predictor for boys and less time spent socializing with friends offline was a significant predictor for girls.

## CHAPTER FIVE

### DISCUSSION

#### Summary of the Purpose and Results

The purpose of the study was to explore risky behaviors that adolescents engage in online. Research has shown that partaking in risky behaviors online has serious consequences (Ybarra, Mitchell, Finkelhor & Wolak, 2007). However, this is still a relatively new area of research and there is limited data available on the topic.

This investigation sought to fill the gaps in this relatively new area of study. Specifically there are significant gaps in the published research addressing adolescent online risk-taking in the United States. Furthermore, the current literature needs to be expanded now that it is known that risk-taking online can lead to serious negative consequences. It is hoped that the results from the present study can be used to identify teens of a particular demographic that are most at risk for consequences associated with (risky) Internet behaviors.

Specifically, this study addressed the following research questions:

- (1) What are the frequencies of risk-taking behaviors? Are there gender differences?
- (2) Can the twelve risk-taking variables be classified into categories?
- (3) What are the predictors of adolescent online risk-taking? If the risk-taking variables can be classified into categories, would each category have distinct predictors?
- (4) Are there gender differences in the predictors of online risk-taking?



*Research Question 1) What are the frequencies of risk-taking behaviors? Are there gender differences?*

The first research examined how many teens are engaging in risk-taking activities online. Approximately half of online teens are uploading photographs where others can view them (see table 4.5). Approximately half of teens who have a social networking site are posting personal information about themselves including their last name, school or city/town of residence. Approximately a quarter of teens who have a social networking site are posting ways to be contacted through email, instant messenger or by cell phone. Furthermore, many teens are communicating with strangers online. Approximately twenty percent visit chatrooms, over twenty percent of teens who are contacted by strangers reply, and over thirty percent of teens with a social networking site have strangers as friends.

Overwhelmingly, boys engaged in significantly more risk taking behaviors than girls. These behaviors include, posting a last name, the city/town of residence and a cell phone number on a social networking site. Also boys are significantly more likely to respond to stranger contact and to have strangers as friends on a social networking site even though girls are contacted by strangers more often than boys. Furthermore, boys are significantly more likely to engage in four or more of the risky online behaviors identified in this study.

The literature suggests that men generally take more risks than women in areas such as driving, sexual behaviors, crime, gambling and illicit substance consumption. Women tend to be more risk averse (Harrant & Valliant, 2008).

The results from the present study add that compared to girls, boys also take more online risks. This finding lends support to the Type-T Personality Conceptual Approach. Boys may engage in riskier behaviors overall and that manifests in online behaviors.

The exception to this was items pertaining to posting photographs online. Over half of all girls have posted photographs online for others to view and approximately seventy-five percent of girls with a social networking site have posted photographs of self on their profile page. More will be discussed on this issue later in the report.

*Research Question 2) Can the twelve risk-taking variables be classified into categories?*

This second research question sought to determine if the twelve risk-taking variables could be classified into categories. This was done by performing an exploratory factor analysis. The purpose of this was to discover patterns in the relationships among the variables. Specifically, the study aimed to discern if the many observable risk-taking variables could be explained in terms of a much smaller number of factors.

This resulted in four factors from the twelve risk-taking variables. The analysis in itself provided insight into their relationship with one another. The four factors were each used as a criterion variable in a multiple regression analysis. The multiple regression analysis determined the predictors of the factor scores. The risk-taking variables were also computed so that teens engaging in four or more risky behaviors became a separate criterion variable for a multiple

regression analysis. The analysis was performed for each of the five criterion variables to determine if the different categories had distinct predictors. The five criterion variables were as follows:

- (1) Factor I-Photographs
- (2) Factor II- Personal Identifiers
- (3) Factor III- Stranger Contact
- (4) Factor IV- Contact Information
- (5) Four or More Risk-Taking Behaviors

The multiple regression analyses were then conducted separately for boys and girls to ascertain if more information could be gained regarding the effect of gender on the predictors.

#### *Factor Analysis Results*

The factor analysis provided insight into the relationship among the risk-taking variables. Four clear factors arose from the analysis. Factor I-Photographs, was the strongest factor. This is encouraging because it speaks to the internal reliability of the survey and provides confidence in the data collected. The other factors were also very logical and lend credibility to the measure utilized.

Additionally, Factor I-Photographs may carry low risks for teens. In fact, forty-seven percent of all teens online have uploaded photographs of themselves for others to view. For teens that have a social networking site, this rises to seventy-nine percent (see table 4.5). Uploading photographs where others can see them may be becoming a normal adolescent behavior.

Factor II emerged as Personal Identifiers. The items included in this factor all pertain to teens posting their last name, town or school name on a social networking site. These behaviors were also very common among teens that have an online social networking site. Approximately half of the teens engaged in behaviors encompassing this factor. This finding is similar to the results of previous findings of Second Youth Internet Safety Survey (Wolak et al., 2006).

Posting photographs and personal identifiers have garnered much concern in the general public about the safety of children (Peter, Valkenburg & Schouten, 2006). However, this does not necessarily mean they are risky. Once again posting personal information about oneself on a social networking site is very common. In fact, there are forms on many sites that specifically ask for this information. Although the public and many Internet safety activists worry about these behaviors, they may not be dangerous. Wolak, Finkelhor and Mitchell (2008) found that posting photographs and personal information online does not support the fear that these children may be stalked and abducted by online predators. Currently there is no clear connection between only posting photographs or only posting personal information online and any increased risk of online sexual solicitation (Wolak, Finkelhor & Mitchell, 2008).

It is important to note that the present study did not look at the content of the photographs teens are posting online. It is possible that teens who post sexually explicit photographs may be at more risk of being targeted online or even offline at school by their peers. A content analysis of photographs on teens MySpace pages found that five percent of teens had sexually provocative

photographs on their site. However, no investigation into the consequences was conducted (Hinduja & Patchin, 2007).

Information gained from interviews with police about Internet related sex crimes have found that predators usually do not find victims online by looking at photographs, finding personal identifiers online and then stalking that child (Wolak, Finkelhor & Mitchell, 2008). Typically predators find teens online and strike up a relationship through time spent chatting. This leads us to perhaps more risky behaviors, Factor III-Stranger Contact.

Factor III-Stranger Contact, was a less frequent behavior. Approximately eighteen percent of teens visit chatrooms, twenty-two percent respond to stranger contact and thirty-one percent of teens with social networking sties have strangers as friends (see table 4.5). As previously stated Wolak, Finkelhor and Mitchell (2008) found that it is through these means that predators seduce teen victims online. They establish trust and build relationships and then move on to sexual discussions and offline meetings.

Additionally, there has been in-depth research into the perils of chatrooms. Beebe, Asche, Harrison and Quinlan (2004) found that teens who visited chatrooms were disproportionally troubled and at risk for dangers associated with contact between strangers and children online. The vulnerability of these teens may leave them ill equipped to recognize or deter unwanted sexual contact. In fact, most of online child molesters find their victims in chatrooms (Wolak, Finkelhor, Mitchell & Ybarra, 2008).

Visiting chatrooms loaded on the same factor with having friends that are strangers on one's social networking site and responding to stranger contact. Therefore, speculation can be made that teens who make friends with strangers on a social networking site or respond in order to find out more when strangers contact them also are disproportionately troubled and at risk for dangers online. These may be the riskiest behaviors that teens can engage in online.

Factor IV-Contact Information related to posting ways for people to get in touch with teens. While twenty-nine percent (see results) of teens with a social networking site profile posted their email address and forty percent posted their instant message screen name and only two percent of teens post their cell phone numbers on their social networking site. This is alarming as these teens are providing people with alternate ways to contact them beyond what the social networking site allows. Therefore, teens providing their contact information, especially a way to be reached outside of the Internet (i.e. cell phone), is potentially a dangerous behavior. This can be seen as an invitation to engage in stranger contact. This is especially worrisome as younger teens are more likely to post this sensitive information on online social networking sites. As the research states, stranger interaction online is among the riskiest behaviors that teens engage in online (Beebe, Asche, Harrison & Quinlan, 2004; Wolak, Finkelhor, Mitchell & Ybarra, 2008).

*Research Question 3) What are the predictors of adolescent online risk-taking? Do the factors have different predictors?*

Factor I-Photographs had very different predictors than the other factors. It was the only factor in which being a girl was a significant predictor. Also girls who post photographs online were more likely to spend time socializing with friends offline, spend time in extracurricular activities and spend less time online. Because the high frequency of this behavior among female teens and the results of the multiple regressions were so different, it is fair to speculate that this may not be risky behavior in itself.

It is interesting to note that for boys the results were quite different. The predictors for boys who posted photographs online were a lack of participation in extracurricular activities and less time socializing with friends in person outside of school. It is possible that when posting photographs of self and friends, girls fall under the Rich Get Richer Conceptual Approach. In other words, girls who spend a lot of time with friends and in activities are social people and they like to show that social side of themselves online.

For boys posting photographs online appears to be more of a compensatory behavior. Boys who spend less time with friends in person and are not involved in activities compensate for that by showing the online world photographs of themselves and friends. This supports the Social Compensation Conceptual Approach.

As previously stated, Factor I-Photographs and Factor II-Personal Identifiers may not be that risky. In fact, girls who spend less time online, are involved in extracurricular activities and spend more time with friends outside of school (seemingly healthy behaviors) are posting photographs of themselves and

friends online. For Factor II-Personal Identifiers also has research to support that it is not an inherently risky act. Low social involvement with friends outside of school and a lack of participation in extracurricular activities were not significant predictors for Factor II-Personal Identifiers but were for the riskier factors, Factor III-Stranger Contact and Factor IV-Contact Information. This is in sync with previous research that indicates 7<sup>th</sup> graders who report feeling socially anxious or lonely on a daily basis are more likely to communicate through instant messenger with strangers (Gross, Juvonen & Gable 2002).

With the exception of Factor I-Photographs (girls only), all of the results from the multiple regressions lend support to the Social Compensation Conceptual Approach. What is likely the most perilous variable, “Four or More Risks” strongly supports the Social Compensation Conceptual Approach. In particular, teens who engage in four or more risks online spend less time with friends in person and don’t participate in extracurricular activities. This is a very important finding as it is a means to identify teens who may be at greatest risk online.

Socially isolated youth and those with a lack of participation in activities may be more likely to be lonely, isolated or depressed as adolescents who lack social support have high rates of depression (Schraedley, Gotlib, & Hayward, 1999, cited in Wolak et al., 2003). Adolescents who are lonely, isolated or depressed may be going online in search of connection with others. While this may not necessarily be a bad thing for every teen that does so, it is troubling because sexual predators tend to target vulnerable victims, just like they do in the



offline (Wolak, Finkelhor, Mitchell & Ybarra, 2008). This is supported by Gross et al. (2004) who found that teens that are socially anxious or lonely are more likely to communicate online with people they are not close to.

Furthermore, current research has not examined the long-term outcome of teens that fulfill their social needs online. Although some speculate that it is not positive. Kraut et al. (2004, p. 69) states, “one would expect that a diet filled with online relationships would be harmful to the social and psychological health of Internet users.”

Another important finding in this study supports the Social Compensation Conceptual Approach. Prior research has not been able to say for certain if teens are compensating for a lack of offline social involvement or they have a lack of offline social involvement because they are engrossed in the Internet. The results from the multiple regressions show that a high frequency of Internet use is not a significant predictor of online risk-taking. Therefore, communicating with strangers is likely more of a compensatory behavior.

It should also be noted that time spent talking with friends on either a cell phone or a landline telephone and time away from a computer at a part-time job did not serve as a protective measure against online risk-taking and in some cases predicted certain risk-taking behaviors. Therefore speculation can be made that behaviors that guard against adolescent online risk-taking need be face to face socializing or involvement in activities.

*Research Question 4) Are there gender differences in the predictors of online risk-taking?*

As previously mentioned, boys and girls had different predictors for the risk-taking factors. Lack of involvement in extracurricular activities was often a predictor for risk-taking in boys and low involvement in socialization with friends outside of school was a predictor for risk-taking in girls. This is an interesting finding and it is in sync with popular thought that girls place greater value on time with friends more and boys place greater value bonding with people over activities. It could be theorized that these are healthy and protective behaviors for teens.

### Limitations

The results from this study contribute to the empirical knowledge base of risky behaviors by teens online. Despite this there are limitations, mainly dealing with the nature of survey research and using a secondary data set. First, the results are based on survey data, which at its core yields general information (Agnew & Pike, 1994). In order to gain a deeper understanding, researchers should utilize other research methods. For example, open-ended response questions or physical observation may gain a more nuanced understanding of the risks teens take online.

In addition, the data utilized in this study was from a secondary data set. Though public data sets give researchers unparalleled access to large sample sizes thus increasing generalizability of results, there are downfalls (DeAngelis, 2008). Specifically, this study was limited by the variables that were included in the survey.

Data from survey research is obtained through self-report. Participants were informed that their responses would remain anonymous. However, there could have been biased responding due to less than accurate recall or discomfort surrounding sensitive questions. Hence there may be a discrepancy between what teens report and what they actually do. This is an issue all researchers face when using surveys (Agnew & Pike, 1994).

Despite the above, this study has a huge strength. Many previous surveys used convenience samples or only sampled online teens (with the exception of the Second Youth Internet Safety Survey) and therefore the results are not generalizable to all teenagers. The dataset used in the present study was designed to represent all adolescents ages 12-17 in the continental United States. As such, the results are highly generalizable.

#### Implications for Future Research

Research into adolescent behaviors online is in its infancy. Specifically the published research on online risk-taking is scant. The present study highlights the importance of examining seemingly risky behaviors individually or by categories. Also, the information gained from this study is very general therefore future research should take a more nuanced examination of these issues. For example, based on this study, speculation can be made that teens posting photographs online is not inherently risky. However, the type of photograph (i.e. sexually explicit, illegal activity) posted could have an effect. For example, a future study could examine the content of the photo and then look at the risks of victimization.

Furthermore, longitudinal data should be collected on the long term impact of online risk-taking.

Focus groups and open-ended questions could provide more information into adolescent online risk-taking. There was one open-ended question in this survey and the responses given provided useful information. When asked how they respond to requests to strangers, teens responded with answers such as, “I find out if I know them and if I don’t I ignore them”. This type of answer points to the limitation of questioning that leaves no room for explanation.

More detailed information could be of value, especially pertaining to the protective value of spending time socializing with friends outside of school and engaging in extracurricular activities. Are those who don’t do those often limited because they don’t have the friends? Are they limited because of financial or familial obligations? Are they limited because of geographic isolation? Future research could expand on measures of social support. Detailed descriptions (perhaps using a diary form) of how teens are spending their time, both online and offline could be of great value.

Additionally, all of the research into the area of adolescent online risk-taking thus far has been correlational. While it is hypothesized that teens are socializing with strangers online to compensate for a lack of involvement in activities or time with friends offline, a causal inference cannot be made by this study.

## Implications for the Field

Previous research has looked at teens' motivation and psychosocial factors in regards to online risky behaviors. However, a teen can easily conceal their mood and motivations to parents and educators thus making it difficult to identify them as at-risk. A strength of this study is that it looked at clearly measurable social behaviors that parents and educators can easily monitor.

Overall, older teens and boys are more likely to engage in online risk-taking. Therefore it is crucial for boys and older teens to be targeted with messages of concern, especially because these groups may be overlooked. It is possible that many are more worried about younger teens, girls or an adolescent that is constantly online.

Parents and educators should also be aware that teens who engage in four or more risky online behavior have an eleven times greater risk of online sexual solicitation and harassment (Wolak, Finkelhor, Mitchell & Ybarra, 2008). A brief checklist of behaviors could be a useful measurement to identify adolescents who may be at risk. The results from this study identify teenage girls who don't spend a lot of time with socializing with friends and teenage boys who do not participate in extracurricular activities at an increased risk. School counselors and parents can identify these teens as at-risk and provide them with specialized interventions or educational programming. Posting contact information, interacting with strangers and visiting chatrooms should be a topic of special emphasis.

Additionally, the results from this study indicate that posting photographs online is not inherently risky. Educators and parents can rest assured that this is a

normal adolescent behavior. However, specialized messages targeted to teens can be given about precautions that should be taken regarding the content of photographs. These messages could be administered at afterschool activities or among groups of friends.

It is also important to note that involvement in extracurricular activities and spending time with friends can serve as a preventative measure to protecting teens from interacting with strangers online and posting their contact information. Therefore, those behaviors should be encouraged.

## REFERENCES

- Agnew, N. & Pike, S. (1994). *The Science Game: An Introduction to Research in the Social Sciences*, Prentice-Hall, Inc., Englewood Cliffs, NJ.
- Beaudoin, C. (2008). Explaining the relationship between Internet use and interpersonal trust: Taking into account motivation and information overload. *Journal of Computer-Mediated Communication*, 13(3), 550-568.
- Beebe, T., Asche, S., Harrison, P. & Quinlan, K. (2004). Heightened vulnerability and increased risk-taking among adolescent chat room users: Results from a statewide school survey. *Journal of Adolescent Health*, 35(2), 116-123.
- Bryant, J. & Zillman, D. (2002). *Media Effects: Advances in Theory and Research*, Lawrence Erlbaum Associates, Mahwah, NJ.
- DAngelis, T. (2008). Information gold mines. *gradPSYCH*, 6 (3).
- Farley, F. (1991). The Type T personality. Chapter in L.P. Lipsett & L.L Mitnick (eds), *Self-regulatory behavior and risk taking: Causes and consequences*. Norwood, NJ: Ablex Publishers.
- Farley, F. (2001). A genetic model of creativity and the Type T personality complex with educational implications. Chapter in M. Lynch & C.R. Harris (eds), *Fostering creativity in children, k-8: Theory and practice*. Boston, MA: Allyn and Bacon.
- Farley, F., Aulenbach, T., Lipschutz, B, Miller, K. & Stamoulis, K. (2008). The “new media”/Internet/psychology group. *The Pennsylvania Psychologist Quarterly*, September, 13,19.
- Farley, F. (2008a). Media psychology, cyberpsych, Dr. Digirati, and the transformation of mind by media. *The Pennsylvania Psychologist Quarterly*, June, 12,16.
- Farley, F. (2008c). Geek chic, casting a wide net, digging the digirati, and other stories of our times. *The Amplifier (American Psychological Association Division of Media Psychology)*, Spring, 1,4.
- Farley, F. (2008b). The global me, cyber psychoses, net noise, the Farley/Gersham law, monks, a “citizen citation index,” and the better world. *The Amplifier (American Psychological Association Division of Media Psychology)*, Summer, 1,4.

- Farley, F. (2009). Keynote Address, Conference on CyberPsychology: The Internet and Youth in the New Millennium. Coconut Grove Conference Center, Santa Cruz, CA, March 6.
- Finkelhor, D., Mitchell, K & Wolak, J. (2000). *Online Victimization: A report on the Nations' Youth*, Crimes against Children Research Centre, University of New Hampshire.
- Gross, E. (2004). Adolescent Internet use: What we expect, what teens report. *Applied Developmental Psychology, 25*, 633-649.
- Gross, E., Juvonen, J., Gable, S. (2002). Internet Use and Well-Being in Adolescence. *Journal of Social Issues, 58*, 75-90.
- Harrant, V. & Vaillant, N. (2008). Are women less risk averse than men? The effect of impending death on risk-taking behavior. *Evolution and Human Behavior, 29(6)*, 369-401.
- Hinduja, S. & Patchin, J. (2008). Personal information of adolescents on the Internet: A quantitative content analysis of MySpace. *Journal of Adolescence, 31*, 125-146.
- Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: report of board of scientific affairs' advisory group on the conduct of research on the Internet. *American Psychologist, 59(2)*, 105.
- Lenhart, A., & Madden, M. (2007). *Teens, privacy and online social networks: How teens manage their online identities and personal information in the age of MySpace*. Retrieved January 28, 2009, from: [http://www.pewinternet.org/pdfs/PIP\\_teens\\_privacy\\_SNS\\_report\\_final.pdf](http://www.pewinternet.org/pdfs/PIP_teens_privacy_SNS_report_final.pdf).
- Liau, A., Khoo, A., & Ang, P. Factors influencing adolescents engagement in risky Internet behavior. *CyberPsychology & Behavior, 8(6)*, 513-520.
- Livingstone, S., & Haddon, L. (2008). Risky experiences for children online: Charting European research on children and the Internet. *Children & Society, 22(4)*, 314-323.
- Livingstone, S., & Helsper, E. (2007). Taking risks when communicating on the Internet: The role of offline social-psychological factors in young people's vulnerability to online risks. *Information, Communication & Society, 10(5)*, 619-644.



- Mitchell J., & Finkelhor, D. (2006). Online victimization of youth: Five years later. National Center for Missing & Exploited Children. Report #07-06-025: Alexandria, VA.
- Mitchell, J., Ybarra, M. & Finkelhor, D. (2007). The relative importance of online victimization in understanding depression, delinquency, and substance use. *Child Maltreatment, 12*, 314-324.
- Peter, J., Valkenburg, P., & Schouten, A. (2005). Developing a model of Adolescent friendship formation on the internet. *CyberPsychology & Behavior, 8*, 423- 430.
- Peter, J., Valkenburg, P., & Schouten, A. (2006). Characteristics and motives of Adolescents talking with strangers on the Internet. *CyberPsychology & Behavior, 9*, 526-530.
- Pew. (2001) Teenage life online. [On-line]. Available: <[www.pewinternet.org](http://www.pewinternet.org)>.
- Pew. (2004) Parents & Teen Survey. [On-line]. Available: <[www.pewinternet.org](http://www.pewinternet.org)>.
- Pew. (2006) Parents & Teen Survey. [On-line]. Available: <[www.pewinternet.org](http://www.pewinternet.org)>.
- Reyna, R. & Farley, F. (2006). Risk and rationality in adolescent decision making: implications for theory, practice and public policy. *Psychological Science in the Public Interest, 7(1)*, 1-44.
- Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' Facebook use. *Journal of Media Psychology, 20*, 67-75.
- Smahel, D. & Subrahmanyam, K. (2007). "Any girls want to chat press 911": Partner selection in monitored and unmonitored teen chat rooms. *CyberPsychology & Behavior, 10*, 356-353.
- Stamoulis, K. (2008a). Past loves a click away. *The Amplifier (American Psychological Association Division of Media Psychology), Spring, 4*.
- Stamoulis, K. (2008b). Online gossip everywhere. *The Amplifier (American Psychological Association Division of Media Psychology), Fall/Winter, 4-5*.

- Subrahmanyam, K & Greenfield, P. (2008). Online communication and adolescent relationships. *Future of Children*, 18(1), 119-146.
- Turrow, J & Nir, L. (2000). *The Internet and the family 2000: the view from the parents/the view from kids*. Philadelphia: Annenberg Public Policy Center, University of Pennsylvania. Available: [www.appcpenn.org/finalreportfamilypdf](http://www.appcpenn.org/finalreportfamilypdf).
- Wells, M., & Mitchell, K. (2008). How do high-risk youth use the Internet? Characteristics and Implications for prevention. *Child Maltreatment*, 13(3), 227-234.
- Whitlock, J., Powers, J & Eckenrode, J. (2006). The virtual cutting edge: the internet and adolescent self-injury. *Developmental Psychology*, 42(3), 407-417.
- Williams, A., & Merten, M. (2008). A review of online social networking profiles by adolescents: Implications for future research and intervention. *Adolescence*, 43, 253-274.
- Wolak, J, Mitchell & Finkelhor, D. (2003). Escaping or connecting? Characteristics of youth who form close online relationships. *Journal of Adolescence*, 26, 105-119.
- Wolak, J, Finkelhor, D & Mitchell, K. (2007). Is talking to unknown people always risky? Distinguishing online interaction styles in a national sample of youth Internet users. *CyberPsychology & Behavior*, 11(3), 340-343.
- Wolak, J., Finkelhor, D. Mitchell, K. & Ybarra, M. (2008). Online “predators” and their victims. Myths, realities, and implications for prevention and treatment. *American Psychologist*, 63(2), 111-128.
- [www.childstats.gov](http://www.childstats.gov). Retrieved October 23, 2008.
- [www.dr.phil.com/shows/archive](http://www.dr.phil.com/shows/archive). Retrieved October 23, 2008.
- [www.msnbc.msn.com/id/10912603](http://www.msnbc.msn.com/id/10912603). Retrieved March 8, 2009.
- [www.msnbc.msn.com/id/21844203](http://www.msnbc.msn.com/id/21844203). Retrieved October 23, 2008.
- Ybarra, M., Mitchell, K., Wolak, J., & Finkelhor, D. (2006). Examining characteristics and associated distress related to Internet harassment: Findings from the Second Youth Internet Safety Survey. *Pediatrics*, 118(4): 1169-1177.

- Ybarra, M., Mitchell, K., Finkelhor, D. & Wolak, J. (2007). Internet prevention messages: targeting the right online behaviors. *Archives of Pediatric & Adolescent Medicine, 161*, 138-145.
- Ybarra, M., & Mitchell, K. (2007). Prevalence and frequency of Internet Harassment instigation: Implications for adolescent health. *Journal of Adolescent Health, 41*, 189-195.
- Youn, S. (2005). Teenagers' perceptions of online privacy and coping behaviors: a risk-benefit appraisal approach. *Journal of Broadcasting & Electronic Media, 49(1)*, 86-110.

APPENDIX A

IRB APPROVAL LETTER



**Office for Human Subjects  
Protections  
Institutional Review Board**  
Medical Intervention Committees  
A1 & A2  
Social and Behavioral Committee  
B

3400 North Broad Street  
Philadelphia, Pennsylvania 19140  
Phone: 215.707.3390  
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MEMORANDUM

To: **FARLEY, FRANK**  
PSYCH STUDIES IN EDUC (1904)

From: Richard C. Throm  
Director, Office for Human Subjects Protection  
Institutional Review Board Coordinator

Date: 18-Dec-2008

Re: Exempt Request Status for IRB Protocol:  
**12154: Predictors of Adolescent Online Risk-Taking**

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It has been determined by Expedited Review that this study qualifies for exemption status as follows:

45 CFR 46 Protection of Human Subjects

Section 101 (b): Unless otherwise required by department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

**Exemption 4: Collection or Study of Existing Data.** Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subject.

Nothing further is required from you at this time; however, if anything in your research design should change, you must notify the Institutional Review Board immediately.

If you should have any questions, please feel free to contact me at 215-707-8757.

Thank you for keeping the IRB informed of your clinical research.

## APPENDIX B

### PEW DATA INFORMATION

Retrieved from [www.pewinternet.org/data.asp](http://www.pewinternet.org/data.asp)

#### Data Info

We are pleased to provide our raw data to scholars for their own research. We hope it will be useful in furthering our collective understanding about how Americans use the Internet. The Project staff is available to answer questions and to provide limited assistance in importing and analyzing the data. But we strongly recommend that only experienced analysts who are familiar with SPSS software or large cross-tabulated data files attempt to download these data sets. The archive is not the place to find answers to specific questions you have about survey results or our reports. Instead, those questions can be directed to [project staff](#). Please keep us informed of publications that use either report analysis or raw data so that we can keep our research catalogue up to date by emailing us [here](#).

Data is presented in two forms: as an SPSS file and as cross tabulations of questions with some basic demographics in a Word file. The data listed on this page (below) are identified by SPSS file name (generally the rough dates that the survey was fielded), a sentence describing contents of data set, and the date the set was posted on the site. To learn more about the survey and the sample used for each dataset, consult the questionnaire which is available for downloading on the individual page for each data set.

All raw SPSS data files include a weight variable that should be used in analysis and is identified in the SPSS file as the variable "WEIGHT." Please check and make sure that the variable is "on" before you begin your analysis.

The SPSS dataset and crosstab Word files are all in compressed files (Zip-file) that may be downloaded and saved on your computer. Other files provided are not zipped. If you find you cannot decompress the files software is available at [download.com](http://download.com) and on many freeware/shareware sites on the web that will allow you to decompress them.

All manuscripts, articles, books, and other papers and publications using Project data should reference the Pew Internet & American Life Project as the source of

the data, and should acknowledge that the Project bears no responsibility for the interpretations presented or conclusions reached based on analysis of the data.

Further questions concerning the datasets may be directed to the Pew Internet Project.