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The Role of Individual Differences in Predicting the Type of Images Collected by Internet Child Pornography Consumers

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THE ROLE OF INDIVIDUAL DIFFERENCES IN PREDICTING THE TYPE OF IMAGES COLLECTED BY INTERNET CHILD PORNOGRAPHY CONSUMERS

A Dissertation

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of

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To my husband, who encouraged me

“to survive the unsurvivable with dignity and strength.”

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I am sure people will ponder why this section was the most difficult for me to write. There is a flood of emotions when I think of all those individuals who have been a part of this unpredictable journey – a seeming battle of wits at times!

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DEFINITION OF TERMS

Child:	refers to any individual who is or appears to be under the age of 18 years (unless otherwise specified)
Child Erotica:	Any material depicting a child or minor, which may still serve a sexual purpose for the individual but does not meet the legal definitions of child pornography (Lanning, 1992)
Child Pornography:	sexually explicit material designed primarily to elicit sexual arousal, which depicts an individual who is (or appears to be) under the age of 18 years
Child Pornography Consumers:	in this study, is operationally defined as individuals who have knowingly and intentionally searched for, viewed, downloaded, and/or exchanged sexually explicit materials featuring individuals under the age of 18 years regardless of whether the images are of real or computer-generated victims
Child Sex Abuse Image:	another term referring to child pornography which emphasizes that the images depict and document the sexual abuse of children (CIRCAMP, n.d.)
Erotica:	materials, in any form, designed to elicit sexual arousal but are not sexually explicit in nature
Internet:	any online or computer activity that allows communication between individuals, such that information (in any form) may be obtained, viewed, and exchanged

Pornography:	sexually explicit materials, in any form (electronic, film, hand drawings, etc.) that are primarily designed to elicit sexual arousal

ABSTRACT

Seigfried-Spellar, Kathryn C. Ph.D., Purdue University, August 2011. The Role of Individual Differences in Predicting the Type of Images Collected by Internet Child Pornography Consumers. Major Professor: Marcus K. Rogers.

The current study was the first to analyze the relationship among psychological characteristics, personality, and the types of images preferred or collected by self-reported consumers of Internet child pornography. This study had 4 specific aims: (1) to explore the personality differences between self-reported consumers and non-consumers of Internet child pornography, (2) to examine whether the self-reported male and female consumers of Internet child pornography exhibit different personality characteristics and traits from the non-consumers, (3) to assess the types of images preferred by the self-reported consumers of Internet child pornography, and (4) to determine whether or not there was a predictive relationship between the personality characteristics and the types of images preferred by the self-reported child pornography consumers. This study was conducted electronically using an Internet-based survey, which targeted respondents from the United States, United Kingdom, Australia, and Canada. By targeting current permanent residents from these countries, the study ensured the respondents were from countries where the possession, distribution, and production of Internet child pornography was illegal. Results suggested the self-reported child pornography users in

this sample were more trusting (less suspicious) and compliant (less oppositional) whereas the respondents who did not self-report child pornography use were more suspicious (less trusting) and oppositional (less compliant). Second, the male consumers of child pornography were less likely to make moral decisions based on social values (e.g., societal norms, laws) compared to the female consumers of Internet-child pornography. Third, those individuals who engaged in more Internet child pornography behaviors were more social, unconventional, and followed a different moral compass (i.e., do not make decisions based on moral beliefs). Finally, with regard to image content, the results suggested the self-reported child pornography users in this sample might prefer different types of child pornography. Overall, Internet-based research designs assessing the relationship between psychology constructs and Internet child pornography use was possible, but this type of research was not without limitations.

CHAPTER ONE: INTRODUCTION

Internet child pornography is an increasing and pressing concern for several reasons. Technological advances, such as the Internet and peer-to-peer networks, continue to make it easier and perceivably safer for consumers to access the illicit materials. There is an estimated 1.8 billion Internet users worldwide as of December 2009, which is a significant increase from the estimated 360 million in December 2000 (Internet World Stats, 2010). Although the prevalence of child pornography on the Internet is unknown, research studies have suggested the availability of sexualized images of children have continued to increase. For instance, the United Kingdom's Internet Watch Foundation (IWF) reported an increase from 54% in 2006 to 74% in 2008 in the number of verified domains commercially selling Internet child pornography (IWF, 2009). As of August 2009, the CyberTipline of the United States' National Center for Missing and Exploited Children (NCMEC) reported receiving over 85,000 tips related to child pornography in 2008 for a total of 625,271 child pornography tips since its establishment in March 1998 (NCMEC, 2009).

Now that child pornography is more readily available, the fact the Internet is acting as the new medium may be affecting the innocent user who "stumbles across" sexually explicit images of children on the web. "Social contact over the Internet does not involve face-to-face communication and can even be anonymous, which can lessen

social risk and lower inhibitions" (Morahan-Martin & Schumacher, 2000, p. 25). In addition, Internet users are able to try out new roles, identities, and self-presentations. The perceived anonymity or "cloak of safety" provided by the Internet may be facilitating the recent increase in child pornography use. For instance, research suggests there are more consumers of Internet child pornography than child sex offenders (Frei, Erenay, Dittmann, & Graf, 2005). When comparing the National Juvenile Online Victimization (N-JOV) study in 2000 to 2006, the number of offenders arrested solely for child pornography possession or distribution more than doubled from 935 to 2,417 arrests, respectively (Wolak, Finkelhor, & Mitchell, 2009). Overall, research has supported society's perception that the Internet has significantly impacted the prevalence of child pornography use.

Relatively new research suggests there are personality differences between consumers and non-consumers of Internet child pornography (Seigfried, Lovely, & Rogers, 2008; Seigfried-Spellar & Rogers, 2010). For instance, male consumers of Internet child pornography are more likely to be exploitive and manipulative whereas female consumers of Internet child pornography are more likely to be less neurotic and more hedonistic. Similar studies have also found that men who prefer sexualized images of children are more likely to possess aggressive and dominant personality traits (Bogaert, 2001). In addition, Williams, Cooper, Howell, Yuille, and Paulhus found that men who scored high on psychopathy were more likely to actively search the Internet for pornography (2009). Overall, research suggests there are personality traits associated with the preference or intentional use of Internet child pornography; although, the

majority of the research has been conducted on the forensic or clinical male population of offenders (cf., McLaughlin, 2000; Sullivan, 2005; Wolak, Finkelhor, & Mitchell, 2005).

Along with personality characteristics, the type or content of the child pornography images in the collection (age of child, sadistic vs. erotic) are just as important to understanding this deviant computer behavior. According to Taylor, Holland, and Quayle (2001), child pornography should be considered as a wide range of images, which involve different levels of child victimization (innocent vs. sadistic) rather than pictures that are defined as either legal or illegal. In addition, the child pornography users' collection should be assessed by the images' content with regards to the age of the child victim(s) in the images (Taylor et al., 2001). Younger children are more likely to be the victims of child pornography because they are easier to control and manipulate, and research indicates the age of children involved in pornography is decreasing (Taylor, 1999). Therefore, some criminal courts are implementing harsher sentences to offenders who possess images of younger children in an attempt to deter this demand from the child pornography industry.

Research has begun to critically analyze the types of images collected by child pornography consumers. For example, Frei et al. (2005) qualitatively analyzed the pornographic materials collected by 33 male child pornography offenders who were identified and arrested by law enforcement for using the Internet child pornography company, "Landslide Production Inc." The findings indicated the majority (72%) of the offenders collected images depicting greater levels of child victimization, such as gross sexual assault (penetrative sex) or sadism (Frei et al., 2005). In addition, Endrass et al. (2009) analyzed the collections of 231 men who were charged with possession of Internet

child pornography and found 60% of the men collected deviant images other than child pornography, such as bestiality, excrement, and extreme brutality.

Overall, by not solely focusing on the pictures that are illegal, science can begin to emphasize the psychological perspectives of the offender (Taylor et al., 2001). After all, the preferred type of image and the collection itself may provide researchers with a better understanding of the offenders' personality traits and psychological characteristics. However, this link between personality traits and the types of images collected by child pornography users has yet to be simultaneously analyzed in a single study. Thus, there is a significant gap in the current literature with regards to the relationship between the offenders' personality characteristics and the types of images preferred. In addition, previous research has ignored the female consumer of Internet child pornography by solely focusing on the male population of offenders. Few attempts have been made to identify female consumers of Internet child pornography, since they are treated as "exceptions to the rule" by various members of society, including researchers, professionals, and law enforcement communities (cf., Frei et al., 2005; Herbeck, 2008).

The current study had four specific aims. First, the author explored the personality differences between self-reported consumers and non-consumers of Internet child pornography. This aim was achieved by using a panel Internet sample of respondents via an online web survey rather than offenders from the clinical or forensic population. Second, the study examined whether the self-reported male and female consumers of Internet child pornography exhibit different personality characteristics and traits from the non-consumers by using several personality and psychological surveys,

such the Five Factor Model Rating Form (FFMRF; Widiger, 2004), which have been previously validated in the area of general and computer deviance.

The third aim of the study was to assess the types of images preferred by the self-reported consumers of Internet child pornography. Respondents were asked via an online survey to rate their preference for various types of images (bestiality, child, adult pornography) and their content (young boys, teenage girls, sadism, erotic posing). Lastly, the study investigated whether or not there was a predictive relationship between the personality characteristics and the types of images preferred by the self-reported child pornography consumers.

This study was the first to analyze whether or not personality or psychological characteristics are significantly related to or predictive of the types of images preferred or collected by self-reported Internet child pornography consumers. It was possible a taxonomy or typology of child pornography users might emerge in that certain personality traits converge into a higher-order factor, which was predictive of certain image preferences. In addition, the types of images might converge into a high-order factor, which would better represent an individual's interest or preference for a certain type or genre of pornographic material.

Understanding the relationship between personality and image preference benefits the law enforcement and judicial system by providing key information for investigators and prosecutors. For example, when a suspect's computer is seized, the types of images collected may allow the investigators to quickly weed out potential suspects who do not match the suggested psychological predictive model. This result is extremely important when several suspects have access to a computer making it difficult to determine who

was engaging in the illegal activity. Overall, the preferred type of images selected by the users may provide clues to understanding their personality traits and psychological characteristics.

By analyzing the types of images in the collection, researchers may be able to improve the criminal courts ability to assess an offender's risk of recidivism as well as determining the appropriate level of punishment through sentencing guidelines. According to Akdeniz (2008), the lack of empirical research in this area often leads to difficulties in determining the real severity of the offense, the danger posed by the offender, and what sentences are appropriate or constitutional. Currently, many criminal courts have sentencing guidelines, which recommend harsher punishment for offenders who collect more violent images because of the belief that the types of images in the collection must be reflective of the offender's personality (Akdeniz, 2008). In other words, collections including more violent images may be related to more violent offenders or at least offenders who are at the greatest risk of recidivism.

However, there is currently no evidence to support the enhancement of sentences because more violent collections reflect more violent offenders (Beech, Elliott, Birgden, & Findlater, 2008; Friendman & Supler 2008; Quayle, 2008). In addition, there is no evidence that collections including more violent images should act as an aggravating factor when determining offender risk for recidivism (Beech et al., 2008). Overall, more research needs to be conducted in order to better understand the relationship between the offenders and their collections; otherwise, sentencing guidelines will continue to be based on moral and emotional responses rather than empirical data.

CHAPTER 2: REVIEW OF THE LITERATURE

This review examined a gap in the literature regarding the relationship between individual differences or personality characteristics and the content of images depicting the sexual abuse of children or adolescents. First, this review discussed the non-legal and legal definitions of child pornography, which will be referenced to later when the author discusses the theoretical expectations (i.e., high social constraints) of the current study. Next, the author discussed the history of child pornography and its relationship to the advancement of technology; this aspect of the review will again relate to the theoretical expectations (i.e., weak environmental constraints) of the author. Thirdly, this review addressed the research assessing the role individual or personality differences play in people's preferences for general pornography and child pornography. Fourthly, the author discussed the types of images, meaning the specific content or themes, which depict the sexual abuse of children.

Finally, the author introduces Bandura's Theory of Reciprocal Determinism, which integrates the internal, behavioral, and environmental factors to better understand or predict human nature and psychological functioning. In addition, the importance of social (legal) and environmental constraints (technology) are discussed as it pertains to the theory's expectations regarding the role personality traits will play in people's preferences for sexual media, which in this case is Internet child pornography.

Overall, this study furthered the literature by examining an area, which has largely been ignored by researchers – the relationship between internal or psychological dispositions for the consumers of Internet child pornography and their preferences for specific types, genres, and/or content of sexualized images of children.

2.1 Definitions of Child Pornography

2.1.1 Non-Legal Definitions

In 1992, Lanning made the distinction between child pornography and child erotica. According to Lanning (1992), child pornography is the "sexually explicit reproduction of a child's image" (p. 24). On the other hand, any material that served a sexual purpose for the individual, and was related to children, was labeled as child erotica (Lanning, 1992). Unlike the legal definitions, which focus on the criminal content of the materials, Lanning's distinction between child pornography and child erotica introduced the importance of considering the role that sexualized images of children play for the users. For instance, a person may find the advertisements of children at Disneyland to be sexually arousing despite the lack of sexual content; thus, this material would be considered "child erotica" due to the fact that the advertisements have a sexual purpose for that individual.

Not everyone uses Lanning's definitions of child pornography and child erotica when referring to the sexualized images of children. This type of terminology is extremely broad and vague, for it does not consider the specific differences in content. According to Taylor and Quayle (2003), law enforcement agencies typically describe the pornographic images as indicative, indecent, or obscene. Indicative child pornography is any material that features clothed children but suggests the individual has a sexual

interest toward children (Taylor & Quayle, 2003). Indecent material suggests the individual has a sexual interest toward children, but the material portrays nude children. Finally, obscene child pornography includes all materials that depict children in sexually explicit acts.

Rather than a strict classification system for child pornographic images, Taylor et al. (2001) suggest the images should be considered as appearing on a "continuum." By considering child pornography as a spectrum, non-pornographic images or materials may be contained in this classification system. According to Howitt (1995), images of children may be collected for sexual purposes despite the purity or lack of sexuality in the materials. Therefore, regardless of the innocence of the images, non-pornographic materials may sexually arouse some child pornography users.

2.1.2 National and International Legal Definitions

The United States has both state and federal laws combating child pornography use. Although most states have followed the federal statutes, the definitions of child pornography vary from state to state (Jenkins, 2001; Wolak et al., 2005; Wortley & Smallbone, 2006). In addition, the language used by the states in their laws and rulings may not reflect the same language used by the federal statutes. The United States federal statute defines child pornography as the visual depiction of sexually explicit conduct as well as images of a lascivious nature featuring any person under the age of 18 years (Akdeniz, 2008). In the United States, an individual may be arrested for the possession, distribution, or production of child pornography regardless of the means (electronic vs. hard-copy) or representations (visually indistinguishable virtual vs. real child).

Similar to the United States federal law, England and Wales criminalize the possession, distribution, and production of sexually explicit images of a child under the age of 18 years, regardless of whether the image is real or simulated (computer-generated). In addition, the Canadian Criminal Code defines a child as an individual under the age of 18 years. However, the definition of child pornography in Canada is different because it not only includes visual depictions (real or not), but it also criminalizes written material, such as drawings and stories, and audio recordings describing child pornography (Akdeniz, 2008). Also, a person may be found guilty in Canada for "accessing" child pornography regardless of whether or not the person permanently possesses (e.g., downloads) the image. In other words, it is illegal to "view" child pornography in Canada, which is not a criminal offense in the United States, England, or Wales.

From a global perspective, however, child pornography is not illegal in every country but is in fact readily and legally available for personal possession. For example, Japanese law only criminalizes the production or distribution (i.e., possession intended for sale or distribution) of child pornography. The lack of legislation against the "personal possession" of child pornography explains why Japan is considered to be the powerhouse of Internet child pornography (Jones, 1998; Sakakibara, 2008). A research study found that between June and November 1997 approximately 73% of the websites depicting sexualized images of underage girls originated from Japan (Carr, 2002). Despite international pressure to prohibit "personal" possession, Japanese laws continue to prosecute only those individuals who possess child pornography with the intent to

distribute (Sakakibara, 2008). In addition, similar laws may be seen in Russia, Thailand, and Korea (Akdeniz, 2008).

In addition, the European Union (EU), a supranational organization consisting of 27 Member States, required its Member States to comply with new measures, which included specific definitions for illegal child pornography (Akdeniz, 2008). A "child" was defined as any person under the age of 18 years – regardless of whether that image depicts a real child, a person appearing to be a child, or realistic images of non-children (Akdeniz, 2008). However, written materials were not included in the definition of child pornography. Finally, similar offenses were included, such as possession, production, and distribution; however, "accessing" or "viewing" were not included as criminal offenses.

The Council of Europe (CoE) is a regional international organization, which includes 45 Member States, such as France, Netherlands, Malta, and five external supporters (United States, Canada, South Africa, Japan, and Montenegro). The Council of Europe developed the first international treaty to combat computer crime – Cybercrime Convention 2001. Although some Member States have considered the definition of a child to be under the age of 16 years, the article encouraged a uniform definition of under the age of 18 years. Similar to the European Policy, the article criminalized the possession, distribution, or production of child pornography as well as real or simulated depictions of sexual explicit conduct. As of 2007, 38 Member States have signed as well as 21 countries have ratified the Cybercrime Convention; however, the UK and Canada have not ratified the treaty, which may be affecting the number of signed Member States (Akdeniz, 2008).

Finally, The United Nations is the largest international organization with 192 Member States (Akdeniz, 2008). In 2000, Member States were invited to sign the Optional Protocol signifying they would prohibit child pornography of "any representation by whatever means" of a child engaged in sexually explicit acts (2008, p. 213). In addition, the same offenses identified by the EU and CoE were criminalized in the Optional Protocol of 2000. Finally, the article required that the Member States take the necessary steps to establish liability, which included identifying the role of the Internet Service Provider (ISP). As of 2007, 115 countries have signed the article, and 119 have ratified or acceded to the Optional Protocol (Akdeniz, 2008).

Overall, Internet child pornography is clearly an international problem due to the difference in judicial legislature and regulatory policies and definitions. However, global pressures are building for a unanimous, worldwide policy, which criminalizes the possession, production, and distribution of Internet child pornography. As indicated in the legislature discussed previously, there is a clear relationship between the legal amendments to laws and the advancement of technology. The following section continues this motif by discussing the impact of technology on the use of child pornography. It will be apparent to the reader that child pornography has become a global problem due to the advancement and availability of technology at the consumer level.

2.3 Globalization of Internet Child Pornography

2.3.1 Pre-Internet Child Pornography Use

Children have been treated and viewed as sexual objects and included in erotic literature and drawings long before the invention of the Internet. Ancient Greek paintings

have been discovered which portray adult men and young boys in sexually explicit acts (Tate, 1990). For instance, history acknowledges that the Ancient Romans were extremely accepting of sexual relationships between adult men and young boys (O'Donnell & Milner, 2007). In addition, royal accounts are written describing the sexual activities between a physician and a young boy, who was later to become Louis XIII (Tate, 1990). Overall, the desire to record or document the sexual activities between adults and children is not a new phenomenon. According to Tate (1990), "almost since man discovered the ability to write or draw he has recorded the sexual abuse of children" (p. 33-34).

These types of writings or drawings describing the sexual activities between children and adults are usually categorized as "child erotic," which was previously mentioned as a non-legal definition of child pornography. Although such drawings and stories have always existed, the history of child pornography truly begins with the development of the camera. Only a decade after the invention of the camera in 1824, sexualized images of children began to circulate in London (Tate, 1990). In addition, the camera was more available and affordable compared to the printing press, which continued to make child pornography even more accessible between users. Despite these inventions, however, the lack of technology for mass production processes crippled the child pornography industry for many years (1990). Previous generations found it difficult to obtain the erotic materials because hard-copy photographs, hand-drawn pictures, and sexualized magazines all required the direct interaction (e.g., face-to-face) or reliance on others (e.g., postal service) in order to access and exchange child

pornography. In addition, child pornography pictures, magazines, and movies were extremely expensive due to the demand for the product but difficulties for obtaining it.

Prior to the mid-1960s, child pornography was a scarce commodity that was difficult to produce and distribute. Instead, pedophiles were mainly the producers of child pornography by taking pictures of their victims for personal use rather than mass production. However, the course of history for child pornography dramatically changed during the mid-1960s, and our society on a global level continues to battle the devastating consequences. According to Tate (1990), the "ten-year madness" between 1969 and 1979 made child pornography into a profitable and global market. In the United States, the sexual revolution was underway, and the pornography laws were unenforced allowing for the production or distribution of the materials. In addition, due to the difficulty in defining "pornography" and the "lack of harm," Denmark legalized all forms of pornography, including child pornography, in 1969 (Tate, 1990).

After the legalization of all pornography in Denmark, various short films were produced between 1971 and 1973, such as *Schoolboys' Orgy*, *Sucking Daddy*, and *Pre-teen Trio* (Tate, 1990). By 1975, one child pornography company boasted its ability to create more than one million copies of child pornography movies per year. In addition, the owner of the *Lolita* magazine advertised, "This magazine can only exist if you help us! Send us photos from your collection" (Tate, 1990, p. 59). The readers began to submit images of children being sexually abused in exchange for money or free issues of the magazine; in essence, the owner was encouraging the readers to sexually abuse children and provide photographic evidence to be used in later editions. Overall, during the 1970s, Denmark was the main producer of commercial child pornography. However,

by 1980, Denmark's experiment with the legalization of child pornography was over after the realization that making "child porno requires the sexual abuse of a child and that cannot be right" (Kutchinsky, 1986; as cited by Tate, 1990).

In the United States, child pornography became a problem due to the relaxed local legislature as a result of the sexual revolution. However, evidence began to amount regarding the harmful effects of the sexual exploitation of children. In addition, by 1973, it became apparent that commercial production of child pornography was clearly a form of "organized abuse" (Tate, 1990). By 1977, the Protection of Children Against Sexual Exploitation was passed which federally prohibited the production of child pornography. Due to this change in legislature, child pornography morphed from a commercial product to a "cottage industry," meaning amateurs created the images for personal use rather than industry professionals who created the images for mass production (Utting, Baines, & Stuart, 1997).

Overall, an analysis of child pornography use prior to the Internet yields the realization that a sexual interest in children has existed as early as the Ancient Greek civilization. In addition, there is a clear relationship between legislature, technological advancements, and child pornography use. When nations began to strengthen their laws against the production of child pornography, they began to slowly erase the devastation created during the ten-year madness. However, as eloquently stated by O'Donnell and Milner (2007), "Just when suppression of the child pornography trade seemed within sight as national legislatures finally began to take seriously the harms caused by magazines and videos, the Internet arrived on the scene" (p. 28).

2.2.2 Post-Internet Child Pornography Use

The Internet is the largest computer network in the world, which allows people from all over the world to communicate and share information on anything and everything. From this definition alone, one realizes the exponential impact the Internet would have on child pornography consumption. With the arrival of the newest technological advancement, society "witnessed a return of the suppressed," and despite legislative efforts, the child pornography industry grew more rapidly than previously experienced after the invention of the printing press or camera (Adler, 2001, p. 233). As mentioned previously, strengthened legislature changed the child pornography tradecraft into a cottage industry during the 1980s. However, the child pornography industry adapted to this new form of technology and once again morphed from a domestic to commercial problem because of its "potential to intrude into the homes and workplaces of all those connected to the Internet" (Krone, 2005, p. 1).

Thanks to the Internet, the amount of child pornography produced and its availability have increased, along with the efficiency of its distribution, and its accessibility by child pornography users (Wortley & Smallbone, 2006). Previous research has noted that the child pornography industry generated approximately $3 billion annually with roughly 100,000 websites offering illegal child pornography (Ropelato, 2006). A report from the End Child Prostitution, Child Pornography, and Trafficking of children for sexual purposes (ECPAT) network suggested that approximately 20% of all pornography available via the Internet contains children (ECPAT, 1996). According to the National Incident-Based Reporting System (NIBRS) for the Department of Justice, child and juvenile involvement as participants in

pornography have increased from 15 percent in 1997 to 26 percent in 2000 (Finkelhor & Ormrod, 2004).

Now that child pornography is more readily available, the fact that the Internet is acting as the new medium may be affecting the innocent user who "stumbles across" sexually explicit images of children on the web. "Social contact over the Internet does not involve face-to-face communication and can even be anonymous, which can lessen social risk and lower inhibitions" (Morahan-Martin & Schumacher, 2000, p. 25). In addition, Internet users are able to try out new roles, identities, and self-presentations. The perceived anonymity or "cloak of safety" provided by the Internet may be related to the recent increase in child pornography use. For instance, research suggests there are more consumers of Internet child pornography than child sex offenders (Frei et al., 2005), supporting the observation that the Internet has significantly impacted the prevalence of child pornography use.

As with any form of technology, there are unfortunate consequences. Since society is capable of easily sharing information, hate-groups, political extremists, and criminals are uniting across the globe. There is a group or affiliation for almost anything on the Internet. If a person is interested in making a bomb, one could easily find the necessary instructions and ingredients described in detail over the Internet. In addition, if a person is interested in collecting sexualized images of children, the Internet has created a goldmine. In the late 1990s, the Internet became the official sponsor of child pornography by becoming the new playground for child pornography consumers. Due to the globalization of the Internet, child pornography use has become an international problem dubbed the modern day paraphilia, "Technophilia" (McLaughlin, 1998). In

other words, technophiles specifically use the computer to engage in sexual deviance, and thanks to the Internet, their ability is easier, cheaper, and safer than ever.

With the Internet acting as the new medium or tool for child pornography users, the demand for sexually explicit images has significantly increased. In addition, research suggests that the Internet may be providing a playground for risky behaviors and lowered inhibitions. Using a socio-cultural perspective, the increase in child pornography consumption may be a direct result of the delicate relationship between legislature, the Internet, and the Internet user's personality.

2.3. Individual Differences

Previous research suggests a relationship between psychological and individual differences and the viewing of various forms of media (c.f., Weaver, 2000), and specifically, people expressing certain stable personality characteristics are more likely to seek out certain types of sexually explicit materials (c.f., Elliott & Beech, 2009; Kingston, Malamuth, Fedoroff, & Marshall, 2009; Williams et al., 2009). The current section specifically reviews the research on individual differences and sexually explicit materials. First, research assessing the relationship between individual differences and various pornographic materials, which do not include any measure of child pornography use, are discussed. Next, specific studies, which assess the relationship between personality differences and the use of child pornography, are reviewed. Finally, an overall summary of the findings in the area of individual differences and the use of or preference for sexually explicit media, specifically Internet child pornography, is provided.

2.3.1 Individual Differences and General Pornography Use

The majority of the research has focused on a small number of personality variables, such as the individual's sexual disposition, while employing an overall measure of general pornography use or self-reported exposure. A study conducted by Barnes, Malamuth, and Check (1984) assessed the relationship between personality traits, according to the Eysenck Personality Questionnaire, and various types of self-reported sexual behaviors, such as the use of certain pornography themes (e.g., intercourse, group sex) for 307 male undergraduate students. Based on statistical analyses, the authors concluded individuals high on extraversion were more likely to seek out pornography compared to introverts (Barnes et al., 1984). In addition, general pornography use was not significantly related to neuroticism or psychoticism. However, individuals scoring high on psychoticism were more likely to self-report exposure to the specific pornographic themes of male homosexual acts and someone being forced, compared to low-psychoticism individuals (Barnes et al., 1984).

A controlled experiment by Barak, Fisher, Belfry, and Lashambe (1999) assessed the relationship between individual differences (sensation seeking, hypermasculinity) and the amount of time-spent surfing the Internet for pornographic materials, during a 90-minute period for 31 male undergraduate students. The results suggested no evidence of a relationship between sensation seeking, hypermasculinity, or sexual disposition with the amount of time spent searching the Internet for pornography (Barak et al., 1999).

Weisskirch and Murphy (2004) conducted a study that analyzed the level of sensation seeking and self-reported use of Internet sex-oriented materials for 138 college students. The specific content of the sexually oriented material was not assessed;

however, the results indicated that those individuals who used the Internet in the past 24 hours to retrieve sex-oriented materials had higher levels of sensation seeking, meaning higher levels of desire for novel and risky experiences (2004).

In a study conducted by Hald (2006), gender differences in pornography consumption for 316 Danish men and 372 Danish women were examined. In the mail-out survey, the authors specifically defined the term pornography for the respondents as "any kind of material aiming at creating or enhancing sexual feelings or thoughts in the recipient and, at the same time (1) containing explicit exposure and/or descriptions of the genitals and (2) clear and explicit sexual acts such as vaginal intercourse . . ." (Hald, 2006, p. 579), while emphasizing the exclusion of materials which did not depict explicit sexual acts, such as Playboy. The results suggested significant gender differences in pornography themes; men reported preferring depictions of anal intercourse, oral sex, group sex (one man – more women), lesbian sex, and amateurs sex while women preferred depictions of softcore pornography and group sex (one woman – more men; Hald, 2006). Overall, the findings suggest men tend to prefer a wider range of pornography themes compared to women, and future research should assess the role of social and cultural factors to better understand gender differences in pornography consumption (2006).

Shim, Lee, and Paul (2007) studied whether individual differences predicted who would respond to unsolicited Internet pornography. For statistical analyses, 151 students completed a questionnaire, which assessed their willingness to be exposed to unsolicited Internet pornography. In addition, students completed a sexual disposition survey and antisocial disposition survey and were grouped as low sexual and low antisocial

disposition, low sexual and high antisocial disposition, high sexual and low antisocial disposition, or high sexual and high antisocial disposition. Results stated respondents high on sexual disposition were more willing to be exposed to unsolicited Internet pornography (Shim et al., 2007). In addition, individuals reporting higher levels of antisocial disposition were more willing to be exposed to unsolicited Internet pornography. A significant interaction suggested individuals reporting a higher antisocial disposition and higher sexual disposition were more likely to respond to unsolicited Internet pornography (Shim et al., 2007). Overall, the authors conclude individual differences are predictive of a person's willingness to respond to unsolicited Internet pornography.

A recent study conducted by Paul (2009) investigated the role of individual differences on people's Internet pornography use and arousal. 381 students responded to an online survey assessing various personality traits, such as sensation seeking and psychopathy, and self-reported use of and perceived arousal to 15 different pornography themes (e.g., group sex, barely legal). The results indicated certain individual differences were related to the use of and perceived arousal to specific types of pornography content for both men and women. Specifically, men and women with higher levels of antisocial personality dispositions are more likely to consume all forms of pornography. Although the study did not specifically assess the individuals use of and arousal to child sex themed pornography, the results suggest there are personality differences between men and women with regards to the their interest in pornographic content, and as suggested in previous research, psychopathy or aggression appears to be a consistent predictor.

2.3.2 Individual Differences and Child Pornography Use

Few research studies have specifically assessed the role individual differences play in the consumption of sexually explicit materials depicting children or adolescents. In a study conducted by Bogaert (1993, 2001), 160 male undergraduate students responded to personality measures of aggression/dominance, sexual affect, Machiavellianism, hypermasculinity, sensation seeking, and psychoticism then indicated their preference for various descriptions of sexual (violent sex, child sex) and nonsexual media themes (Best of "Saturday Night Live") in order to assess whether personality differences predicted their preference for certain types of pornography. Although only 3% of the sample stated they would prefer to pretest the child sex films, specific personality and individual differences were determined to be statistically predictive of this pornographic theme preference (Bogaert, 1993). The individual differences that best discriminated the preference for child sex films from the other film categories were prior exposure to sexual media, aggression, and dominance (1993). Although this study did not analyze Internet pornography specifically, it suggested individuals with a prior history of exposure to sexual media and higher levels of aggression and dominance are more likely to prefer child sex pornography themes.

Using a different population sample, Webb, Craissati, and Keen (2007) assessed the differences in personality profiles on the Millon Clinical Multi-axial Inventory-III (MCMI-III), a clinical and diagnostic instrument for emotional and interpersonal symptoms, for 90 men convicted of Internet child pornography offences and 120 men convicted of child molestation. Results indicated there were no significant differences on the MCMI-III personality profiles between the two groups (Webb et al., 2007).

Similar findings resulted when Reijnen, Bulten, and Nijman (2009) compared the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) personality profiles of 22 Internet child pornography offenders with 47 other sexual delinquents and 65 nonsexual delinquents who were all receiving treatment from an outpatient forensic psychiatric department. No significant differences emerged between the Internet child pornography offender group and the other sexual delinquent group (Reijnen et al., 2009). Although the personality profiles between the Internet child pornography users and the nonsexual delinquents were similar, hypomania (Ma) was the only significant personality variable which discriminated between the two groups; the Internet child pornography offenders scored significantly lower on the hypomania scale compared to the nonsexual delinquents. The authors concluded lower scores of hypomania suggested the Internet child pornography offenders were less impulsive, thrill seeking, and extraverted when compared to the nonsexual delinquents (Reijnen et al., 2009).

One study in particular analyzed the personality characteristics of self-reported Internet child pornography consumers via an online survey where 277 respondents were classified as non-consumers of Internet child pornography, and 30 were classified as Internet child pornography users (Seigfried et al., 2008). Statistical analyses revealed a relationship between higher scores on exploitive-manipulative amoral dishonesty traits, lower scores on internal moral choice, and the viewing of child pornography (2008). In other words, self-reported consumers of Internet child pornography were more likely to be manipulative, dishonest, and their decisions were not governed by personal, internal values and moral beliefs. Also, the study suggested women were engaging in Internet child pornography consumption more often than previously suggested since 5.5% (*n* =

10) of the study's sample were self-reported female Internet child pornography consumers.

A recent follow-up study compared the female respondents in the Seigfried et al. (2008) study to determine if personality characteristics differed between the female users (n = 10, 6.2%) and female non-users (n = 152, 93.8%) of Internet child pornography (Seigfried-Spellar & Rogers, 2010). Overall, the results indicated that there were personality and psychological differences between female consumers and female non-consumers of Internet child pornography. Statistical analyses revealed a relationship between child pornography use, lower scores on neuroticism, and higher scores on hedonistic moral choice when compared to female non-consumers of Internet child pornography (Seigfried-Spellar & Rogers, 2010). In addition, the female consumers were statistically more likely to self-report a non-White racial identity. Overall, the authors concluded the female consumers of Internet child pornography were more likely to make moral decisions based on hedonistic principles and expressed lower levels of guilt and anxiety compared to the non-consumers of child pornography (Seigfried-Spellar & Rogers, 2010).

Finally, new research suggests that fantasy may play an important role in distinguishing between true pedophilia and a general level of sexual deviance, which includes the use of child pornography. In a study conducted by Web et al. (2007), 90 men convicted of Internet child pornography offenses were compared to 120 men convicted of child sex abuse offenses regarding risk assessment and sexual characteristics. The results indicated that although the two groups shared some similar characteristics, the key underlying difference is the way in which child molesters and

Internet offenders manage their sexual interests (Web et al., 2007). That is to say the child sex offenders are more likely to act-out and engage in contact offenses with children compared to the Internet offenders. Based on this key finding, the authors question whether Internet offenders have stronger inhibitions and are better able to control their sexually deviant interests (Web et al., 2007).

Sheldon and Howitt (2008) studied the role of sexual fantasy in a sample of 16 Internet-only offenders, 25 contact-only sex offenders, and 10 mixed offenders (Internet and contact offenses). The three groups indicated whether they "never," "sometimes," or "frequently" had various types of normal (e.g., consensual sex) and deviant sexual fantasies (e.g., sex with a child). In general, the results indicated that the most common sexual fantasies for all three groups of offenders involved normal sexual acts, such as consensual sex with a female; whereas, the more sexually deviant fantasies were rarely reported, such as forcible sex, necrophilia, and sadism (Sheldon & Howitt, 2008). The authors concluded, "paedophilic fantasies are not the commonest fantasies of these offenders, and in a sense, their most frequent fantasies . . . are little different from what we would expect of men in general" (Sheldon & Howitt, 2008, p. 151).

After conducting a factor analysis, further results indicated the three groups of offenders significantly differed on the female child sexual fantasies factor. The Internet-only and mixed child sex offenders scored higher on girl sexual fantasies compared to the contact-only offenders (Sheldon & Howitt, 2008). Sheldon and Howitt (2008) suggest the key difference between the Internet-only and contact-only groups is their ability to fantasize: "Internet offenders may have less need to contact offend since they can

generate fantasy more easily, [and] contact offenders do not have frequent or vivid fantasies . . .” (pp. 153-154).

Overall, the Sheldon and Howitt (2008) study suggested Internet-only offenders reported higher levels of both normal and deviant sexual fantasies compared to the contact-only offenders. In addition, Web et al. (2007) suggest the Internet-only offenders do not exhibit the same need to socially “act-out” as do the contact sex offenders. Again, the inherent inhibitions of the Internet-only offender may be related to their ability to fantasize. Overall, Internet child pornography consumers may exhibit a paraphilia in that they experience strong, deviant sexual fantasies as well as frequent “normal” sexual fantasies.

2.4 Content of Child Sex Abuse Images

It is important to consider child pornography as a wide range of images involving different levels of victimization, rather than pictures that are defined as illegal. In the end, the preferred type of image selected by the users may provide clues in understanding their personality traits and psychological characteristics. To better understand the frequency and prevalence of pornographic themes on computer networks, Mehta and Plaza (1997) randomly sampled 150 images from 17 newsgroups on April 18, 1994. Each image was analyzed based on the presence or absence of specific content categories (e.g., frontal nudity, children/adolescents, masturbation). In addition, differences between pornographic themes were assessed based on whether the image was retrieved from a noncommercial or commercial source. Of the 150 images, 15% fell into the children/adolescents pornographic theme; although, the authors stated these images did not depict any sexual acts between an adult-child and child-child. In addition, there was

a statistically significant difference between the distributions of the children/adolescent pornographic images in that commercial sources were more likely to distribute this type of theme compared to noncommercial sources (Mehta & Plaza, 1997).

A follow-up study by Mehta (2001) examined a random sample of 9,800 pornographic images, which were retrieved from 32 Usenet newsgroups between July 1995 and July 1996. The author compared the images retrieved from noncommercial (no profit consideration, usually anonymous) and commercial sources (financial purposes, business logo) by pornographic theme, such as the number of participants, type of penetration, and use of children and/or adolescents (2001). To better understand the pornographic theme, children and/or adolescents, the author devised three conditions: (1) nudity alone, (2) pedophilic (child) image – strong emphasis on the genitals and lack of sexual maturation, and (3) hebephilic (adolescent) image – strong emphasis on the genitals and sexual maturation present. Results indicated roughly 20% of the images had a child and/or adolescent pornographic theme with 5.1% labeled as nudity alone, 10.6% as hebephilic images, and 4.4% as pedophilic images (Mehta, 2001). In addition, the noncommercial sources were more likely to post nudity alone and pedophilic images while commercial sources were more likely to contain hebephilic images.

In 1997, funding from the European Commission ignited the Combating Paedophile Information Networks in Europe (COPINE) project to research and explore the relationship between technology, more specifically the Internet, and the victimization of children (Taylor et al., 2001). As part of the COPINE project, researchers began to quantitatively analyze and review child pornography images collected by offenders in order to explore the level of child victimization and severity of possession for the

offenders. In 2001, Taylor et al. developed a continuum or categorization system, which placed seemingly innocent, non-sexualized images at one end of the spectrum while the sexually explicit and aggressive images appeared at the polar end. COPINE's continuum includes 10 levels based on the increase in severity of the child's sexual victimization: indicative, nudist, erotica, posing, erotic posing, explicit erotic posing, explicit sexual activity, assault, gross assault, and sadistic/bestiality (Taylor et al., 2001).

Level 1, or the indicative category, refers to any non-pornographic or innocent image, such as the advertisements for Disneyland. The nudist category (Level 2) includes images of naked or semi-naked children in appropriate nudist settings from a legitimate source (Taylor et al., 2001), such as an Art gallery or family photo album. Level 3, or the Erotica category, refers to images secretly taken of children in safe environments with varying degrees of nakedness, such as pictures covertly taken of children playing at the park or on the beach. However, the images contained in Levels 1, 2, and 3 are usually not considered "chargeable" offenses due to the lack of obscenity or difficulty in identifying the context or intent of the image (child pornography vs. real family photographs; Taylor et al., 2001).

Levels 4, 5 and 6 specifically refer to images where the children are deliberately posed. In Level 4 (posing), the images involve children that are intentionally posed in either complete, partial, or no clothing. According to Taylor et al. (2001), the amount, context, and organization of the Level 4 images may suggest whether or not the collector has a sexual interest in children. In addition, Level 5 (erotic posing) refers specifically to the deliberate sexual nature of the child's pose, which may include varying degrees of nakedness (e.g., child's legs are spread open). The explicit sexual posing category (Level

6) includes images, which stress the child's genital areas, once again, regardless of the degree of nakedness. As the categories increase in the level of child victimization, the legality of the images becomes more cohesive with current legal definitions of child pornography. Again, Levels 4 and 5 may or may not be considered illegal; however, there still exists a psychological abuse due to the broken boundaries between the adult and child. With Level 6, images are more likely to be considered chargeable depending on the age of the minor. Currently, the majority of international and national legislature defines a minor as under the age of 18 years (Akdeniz, 2008).

Finally, for most international and national legislatures, it is illegal to possess, distribute, or produce images of minors in Levels 7, 8, 9, and 10 of the COPINE continuum. These categories include images in which the level of victimization is considered to be more severe because of the direct interaction between the victim and the producer, which involves both physical and psychological abuse. Level 7, or explicit sexual activity, involve images of "touching, mutual and self-masturbation, oral sex, and intercourse by a child" (Taylor et al., 2001, p. 101), which do not involve the participation of any adult. In the assault category (Level 8), the child is sexually assaulted by an adult through digital touching. Level 9 (gross assault) includes grossly indecent images in which an adult is sexually assaulting the child by penetrative sex, masturbation, or oral sex. Finally, Level 10 (sadistic/bestiality) refers to images in which (1) the child is being "tied, bound, beaten, whipped, or otherwise subject something that involves pain" or (2) images of a child involved in some form of sexual activity with an animal (Taylor et al., 2001).

In addition, Taylor et al. (2001) suggest each level should be assessed regarding size, novelty, and the age of the victim. The size and quality of the offender's collection may indicate their level of involvement in child pornography. For instance, the collection may reveal the offender's sexual interest with children or level of addiction or obsession with the Internet. In addition, the presence of novel images may indicate the offender's ability to network on the Internet. In essence, the more novel the images, the more involved the offender may be in the Internet child pornography rings. Finally, younger children are more likely to be the victims of child pornography because they are easier to control and manipulate, and research indicates the age of children involved in pornography is decreasing (Taylor, 1999). Overall, the level of severity within each category of the COPINE continuum may differ depending on these three additional factors.

In 2003, research was conducted by the National Center for Missing & Exploited Children, which became known as the National Juvenile Online Victimization (N-JOV) study. The N-JOV study nationally sampled law enforcement agencies regarding the number of arrested cases involving Internet crimes against children between July 1, 2000 and June 30, 2001 (Wolak, Mitchell, & Finkelhor, 2003). Of the estimated 2,577 arrests, 36% were for possession, distribution, or trading of Internet child pornography. According to the report, the majority of the child pornography images collected by the offenders depicted young, prepubescent children between the ages of 6 and 12 years with some of the offenders possessing images of children younger than 3 years of age (Wolak et al., 2003). In addition, the content of the child pornography images were graphic in nature, such as the sexual penetration of a child and sadistic violence including rape and

torture. Overall, the authors concluded the majority of child pornography images seized by law enforcement depict the explicit sexual and/or violent abuse of prepubescent children (Wolak et al., 2003).

In a follow up analysis, Wells, Finkelhor, Wolak, & Mitchell (2007) examined the law enforcement cases identified from the N-JOV study in which no arrest was made by any U.S. law enforcement agency. Wells et al. (2007) yielded a final sample of 68 non-arrest cases, and 34 of those cases involved Internet child pornography. Of the 34 child pornography cases, 70% involved images depicting graphic sexual abuse with nearly half of the images showing penetration. In addition, 44% of the images were of an adult engaging in a sexual act with a child (2007). The authors identified many problems law enforcement face when investigating cases involving child pornography, such as whether an image meets the legal definition of child pornography as well as the age of the potential minor in the image. For example, medical doctors have provided expert testimony in court cases regarding the age of the child depicted in the image based on the presence or absence of features suggesting sexual maturation (Wells et al., 2007).

In a study conducted by Webb et al. (2007), the pornography collections of 90 men convicted of Internet child pornography offences were analyzed using the COPINE continuum. The number of images was 16,698 but the collections ranged in size from 2 to 921,000 child pornography images. For 72 of the men, information was available regarding the age of the victims in their collections, and 86% of these cases included images of children under the age of 10 years (2007). 31% of the men collected images at the highest level of child sexual victimization (sadistic/bestiality) with the majority collecting images categorized as explicit erotic posing (71%), explicit sexual activity

(71%), assault (80%), and gross assault (76%; Webb et al., 2007). Overall, the study suggested the majority of the offenders are collecting images of young children with higher levels of child sexual victimization.

The Child Exploitation and Online Protection Centre (CEOP), which is a part of the United Kingdoms' law enforcement, focuses on child sex abuse crimes. In their 2007-2008 strategic report, the centre reported an increase in the number of noncommercial sources depicting babies and toddlers in child sex abuse images (CEOP, 2008). In addition, law enforcement has witnessed an increase in the number of images depicting children of different racial backgrounds and locations, such as South America, and South Korea. This trend in the increased number of non-White child victims was noted in the 2009 report as well (CEOP, 2009). Overall, the reports suggested this trend in atypical racial diversity might be related to the increase in traveling child sex offenders, who commute abroad and record their abuse (CEOP, 2008; CEOP, 2009).

According to the CEOP, there are roughly 2,000 to 3,000 domains each year, which commercially distribute images of child sex abuse (2008). In addition, the United States and Russia continue to be the main source of host servers for the child pornography market. In addition, CEOP also noted an increase in the severity of images being posted by commercial sources. Traditionally, less sexually graphic images are posted to entice customers to provide payment for the more sexually explicit and violent images of child abuse (2008). However, according to the CEOP's Behavioral Analysis Unit, commercial sources are responding to an increased desire for images depicting sadistic sexual violence and younger victims (2008). In other words, the content of the

initial images being posted to entice the consumers are depicting increased levels of graphic sexual and physical victimization of younger children.

In addition, Brown (2008) conducted semi-structured interviews with eight Internet Crimes Against children (ICAC) investigators in order to better understand the demographics, motivations, and behaviors of Internet offenders, including child pornography consumers. According to the investigators, child pornography is a marketable product with a basic supply and demand chain. These commercial sellers know the clients are curious about the variety of child pornography content, so they purposefully "show you a free trailer, or see you one… that's enough to plant the seed" (Brown, 2008, p. 91). Based on these interviews, Brown (2008) discussed the cycle of pornography, as long as there is a demand for the product, there will be a role for the producers and distributors of commercialized child pornography. And as with any product, people will begin to desire something "novel and different," so the cycle develops from the preferences of the child pornography consumer.

Although the prevalence of child pornography on the Internet is unknown, research studies have suggested the availability of sexualized images of children have continued to increase. For instance, the United Kingdom's Internet Watch Foundation (IWF) reported an increase from 54% in 2006 to 74% in 2008 in the number of verified domains commercially selling Internet child pornography (IWF, 2009). In addition, the report supported previous research in that the images depict severe forms of sexual abuse with over half (69%) of the child victims appearing to be under the age of 10 years. Of those images, 24% appear to be under the age of 6 years with 4% of the child victims appearing to be to be under the age of 2 years (IWF, 2009). Finally, over half of the

images were also classified as level 4 (penetrative sexual abuse) or 5 (sadism or bestiality), which are the two most severe levels of child sexual victimization according to the UK's Sentencing Guidelines Council (IWF, 2009).

In 2009, the Canadian Centre for Child Protection analyzed the tips received between September 26, 2002 and March 31, 2009 from cybertip.ca, Canada's tipline for reporting Internet crime against children. Of the 35,111 websites reported to the tipline, 15,662 hosted images of child sexual abuse (Bunzeluk, 2009). According to the report, 35.9% of the images depicted sexual assault and 64.1% showed the victim in sexually provocative poses (2009). Over half of the images depicted children under the age of 8 years, and some of the pictures were of babies and toddlers with roughly 1/3 of these images depicting sexual assaults. In addition, 68.5% of the sadistic sexual assault images, which includes bestiality, bondage, and torture, involved children under the age of 8 years. Finally, the majority (83%) of the children in the images were female (Bunzeluk, 2009).

After examining 800 commercial websites reported to cybertip.ca, three pornographic themes were identified: innocence, adult sexuality and pornography, and darkness and depravity (Bunzeluk, 2009). The websites using the "innocence theme" tended to have images of younger children (toddlers to elementary school age) posing rather than being sexually abused, and the website utilized bright colors, toys, and words like "angel" and "pure." The adult sexuality and pornography themed websites used sexually explicit and slang terminology, such as "slut" and Nymphet," and the children were depicted as promiscuous and willing sex partners. In addition, the images were likely to be of children provocatively posing and being sexually abused. Finally, the

darkness and depravity pornographic theme used words such as “pedophile” and “sick,” and focused on images depicting the sexual abuse of children by either other children or adults. Also, these websites sometimes posted sexually explicit abuse images of babies and toddlers (Bunzeluk, 2009).

2.5 Theory of Reciprocal Determinism

According to Bandura (1977), the theory of reciprocal determinism states behavioral (B), psychological and cognitive (P), and environmental (E) factors all interact and exert bidirectional influences on human nature. In other words, the factors intermingle and affect one another in multiple directions; however, the strength and influence of each factor varies and depends on the different situations and settings (Bandura, 1977; Bandura, 1978; Bandura, 1994). Therefore, determinism reflects an interaction between multiple variables in multiple directions rather than an independent relationship resulting in unidirectional cause and effect (1978). In addition, this model acknowledges that people are not only influenced by their environment but are active participants in their surroundings as well.

As an example, Bandura (1978) applied this tripartite model to television watching. People prefer to watch certain television shows, and even though various types of programs are available, the media industry tailors the availability of these shows based on the consumers’ preference. In addition, depending on the programming company, only certain shows are provided to the consumer initially regardless of viewer preference. Thus, based on one’s preference (P), we actively seek out or view (B) the specific television shows that are available or offered by our programming company (E). This

simple example clearly demonstrates the complex relationship between internal factors, environmental situations, and behavioral outcomes.

In addition, Williams et al. (2004) have suggested Bandura's (1977) theory of reciprocal determinism may explain why some people use pornography when others do not. In Williams et al.'s (2004) study, the results indicated the college students with the sub-clinical psychopathy personality variable (i.e., the individual has some psychopathic traits but does not meet all of the diagnostic criteria for psychopathy) were more likely to actively seek out pornographic materials than any other personality trait studied (e.g., extraversion, stability), which supported Bandura's theory of reciprocal determinism. If Bandura's theory of reciprocal determinism can be applied to television watching and general pornography use, it is likely the theory can be expanded to explain why some people use Internet child pornography when other do not.

Again, the variables in the tripartite model differ in regards to their strength or magnitude of influence on human nature. According to Bandura (1986), "when situational constraints are weak, personal factors serve as the predominant influence in the regulatory system" (p. 35). There is a disconnection between the "social" and "environmental" constraints of Internet child pornography. Sexual images of children have always existed; however, it has only recently been recognized as a legal problem within the last 30 years (Akdeniz, 2008). The majority of national and international organizations have criminalized the production and distribution of child pornography regardless of its means or representations. However, the legal system continues to be one step behind the advancement of technology. As various mediums continue to be created to disseminate illegal content, legislature is forced to create policies after the fact. Thus,

the anonymity and "cloak of safety" which is offered by the Internet has created an environment with "weak constraints;" so, viewing child pornography is an easy crime to commit, and it is even easier to get away with.

Due to the weak environmental constraints, Internet child pornography consumption may be predominately driven by specific personality factors due to the increased opportunity to engage in the behavior. In Seigfried (2007), Bandura's tripartite model was assessed to determine whether or not both environmental (E) and psychological (P) factors were contributing to the behavior of child pornography consumption (B). In order to measure Bandura's psychological factor, various personality and cognitive measures (e.g., Goldberg's Big Five, Moral Decision-Making scale) were administered. The environmental factor was assessed by self-reported engagement in various online communication settings, such as instant messaging, chat rooms, and bulletin boards.

Online communication environments (E) were correlated with the following personality traits (P): positively related to exploitive-manipulative and internal moral choice while negatively correlated with conscientiousness and agreeableness (Seigfried, 2007). In addition, the exploitive-manipulative trait (P) was significantly related to child pornography use (B). Finally, the online communication environments (E) were significantly associated with child pornography use (B). Overall, the results suggested a relationship between Internet child pornography use (B), online communication environments (E), and the individual's personality and decision-making traits (P). In addition, the more online communication networks utilized by the individual (i.e., engaging in chat rooms, bulletin boards, *and* instant messaging), the increase in risk for

engaging in Internet child pornography – especially for individuals with an exploitive-manipulative personality lacking an “internal” moral compass (Seigfried, 2007).

2.6 Summary

Research has shown a relationship between individual differences and preferences in sexual media. Research has also shown that Internet child pornography varies in the level of child sexual victimization resulting in a wide range of images from innocent, non-erotic to severe depictions of sexual and physical depictions of violence. In addition, the age, sex, and racial identity of the children vary as well. Based on Bandura’s triadic model, one can expect a theoretical relationship between individual differences and content preferences due to the disconnection between social and environmental constraints of Internet child pornography. Therefore, the intent of this study is to identify the relationship between individual differences and preferences for certain content or themes for individuals who view, download, and exchange Internet child pornography.

CHAPTER THREE: METHODOLOGY

This chapter provides a description of the research design and procedures conducted to investigate the relationship between individual differences and preferences for certain content or themes for individuals who view, download, and exchange Internet child pornography. This study used inferential statistics to explore the following research questions:

Q_1: Are there personality differences between self-reported consumers and non-consumers of Internet child pornography?

Q_2: Are there personality characteristics, which differentiate between self-reported male and female consumers of Internet child pornography?

Q_3: Are individual or personality differences associated with the types, content, or genre of images preferred and/or collected by the self-reported consumers of Internet child pornography?

Q_4: Is there a predictive risk-model which best represents the relationship between the personality characteristics and the types of images preferred by the self-reported child pornography consumers?

This chapter begins by describing the research hypothesis for this study followed by the operational definition of constructs section. This section operationally defines and

describes the procedures used to measure the variables of interest for this study, specifically the dependent variables and the non-manipulative independent variable. The author's hypotheses, population of interest, and sampling procedures are discussed for this Internet-based research design.

3.1 Research Hypotheses

As previously discussed, research has shown a relationship between individual differences or personality traits and people's preference for certain forms of media. Little research to date as examined the personality characteristics of individuals who view, download, and exchange Internet child pornography. In addition, academic and law enforcement experience describes a wide-range of content in the child sex abuse images available via the Internet. Thus, the focus of this study was to examine the role individual differences play for individuals who collect and/or prefer certain content features of child sex abuse images. Due to the exploratory nature of this study, and the lack of empirical evidence regarding the specific relationship between the types of images and personality differences, few directional hypotheses were expected. However, the modest amount of research, which has been conducted, suggested the author should expect to find some significant relationships since individual differences have been consistently shown to be related to people's preferences for sexual media content.

The following four hypotheses were tested in the current study:

H_1: There are personality differences between self-reported consumers and non-consumers of Internet child pornography.

$H_{1.a.}$ Based on previous research (c.f., Seigfried et al., 2008), self-reported consumers of Internet child pornography score lower

on the agreeableness personality trait (antagonism) compared to non-consumers.

H_2: There are differences in the personality characteristics of self-reported male and female consumers of Internet child pornography.

H_3: There are individual differences associated with the types, content, or genre of images preferred by the self-reported consumers of Internet child pornography.

H_4: There is a predictive risk-model which best represents the relationship between the personality characteristics and the types of images preferred by the self-reported child pornography consumers.

3.2 Operational Definitions of Constructs

The non-manipulated independent variables or predictor variables for this study are self-reported sex (male, female) and self-reported consumption of Internet child pornography (level of Internet child pornography behavior). The dependent variables for this study were the preference for certain types or content of child sex abuse images as well as the scores on various personality inventories or questionnaires.

3.2.1 Internet Child Pornography Behavior

The respondents' Internet child pornography behavior was measured using the Online Pornography Survey (OPS; Seigfried, 2007). The OPS included 54 questions, which assessed the respondents' pornography behaviors including intentional searching, accessing, downloading, and exchanging of sexually explicit Internet images featuring adults, animals, and children. The following is an example question from the OPS: "When was the most recent time that you knowingly searched for a pornographic website

featuring only individuals 18 years of age and older?" The respondents' choices for this item were: never, within the past month, within the past year, 1 to 4 years ago, and 5 or more years ago.

For the current study, the author was only interested in the respondents' self-reported intentional use of Internet child pornography rather than the respondents' intentional use of adult-only or adult-animal (bestiality) Internet pornography. In the OPS, the term "pornography" was defined by the participant's age in the sexualized images. By defining child pornography without the word "child," it was believed this definition would be less inhibiting for the respondents when admitting to criminally sanctioned behaviors. Thus, the word "child" never appears in the Online Pornography Survey; instead, the following phrase is used: "*under* the age of 18 years." In addition, there are various definitions for "child" or "minor," but this instrument specifically chose the most prevalent definition in national and international law.

Responses to the OPS identified whether the respondent had *intentionally* engaged in the following Internet child pornography behaviors: knowingly searched, knowingly accessed, knowingly downloaded, and/or knowingly exchanged. Based on item responses, a dichotomous variable (CP Use) was created with the respondents being classified as either non-child pornography users (0) or child pornography users (1). Respondents had to self-report engaging in at least one of the following behaviors involving or featuring individuals under the age of 18 years in order to be classified as a child pornography user: knowingly searching, knowingly accessing, knowingly downloading, and/or knowingly exchanging. Those respondents who did not report any of the online behaviors listed above were labeled as non-users of Internet child

pornography: 0 = none. In this study, the Online Pornography Survey yielded a Cronbach's alpha of 0.98, suggesting the survey items are reliable and measuring the underlying construct.

3.2.2 Sex

Sex (male, female) was a self-reported subject variable in the demographics survey appearing at the beginning of the study for all of the respondents. Since this study was advertised as assessing "attitudes toward adult websites," and by placing the demographics questionnaire prior to the more socially sensitive questions regarding pornography use, this method increased the accuracy of self-reported sex for this study.

3.2.3 Individual Differences

As suggested by the literature review, individual differences are associated with people's preference for certain forms of media content, including sexually explicit materials. Individual differences were measured by employing several questionnaires or surveys, which have been peer-reviewed and validated in the area of personality research and deviant behavior. First, the Five-Factor Model Rating Form (FFMRF) measured the following individual differences, which are considered to be the five key traits of personality: Neuroticism (emotional instability), Extraversion (positive affect), Openness to Experience (unconventionality), Agreeableness (vs. antagonism), and Conscientiousness (constraint; Widiger, 2004; Widiger & Lowe, 2007; Mullins-Sweatt et al., 2006). The FFMRF displays 30 polar opposites on a likert scale of 1 (extremely low) to 5 (extremely high). For example, the extraversion item, excitement-seeking, was measured with "reckless and daring" at one end of the spectrum and "cautious, monotonous, and dull" on the polar end.

Various research studies suggested the FFMRF has acceptable Cronbach's alpha levels for the five factors as well as convergent and divergent validity when compared to other measures of general personality (c.f., Widiger & Lowe, 2007; Mullins-Sweatt et al., 2006). In this study, the Cronbach's alphas for the FFMRF were relatively acceptable to good: Neuroticism = .72, Extraversion = .76, Openness to Experience = .72, Agreeableness = .60, and Conscientiousness = .81.

In addition, the cognitive disposition of the individual was assessed using the Moral Decision-Making Scale (MDKS), which focuses on the respondents' "moral compass," meaning whether or not decisions are based on Hedonistic, Internal, or Social Values (Rogers, Smoak, & Liu, 2006). The MDKS included 15 items, which were scaled from 1 (not important in my decisions) to 8 (very important in my decisions) for statements such as, "if my choice would please people around me." Using the instrument's standardized scoring procedures, certain items were summed then averaged in order to score each respondent on the three decision-making values: Hedonism, Internal, and Social Values.

This instrument has been used in the area of deviant computer research for both hackers and child pornography users and has consistently shown acceptable levels of reliability (c.f., Rogers et al., 2006; Rogers, Seigfried, et al., 2006; Seigfried et al., 2008; Seigfried-Spellar & Rogers, 2010). The Cronbach's alphas for the Moral Decision-Making subscales were low but acceptable: Social Values (α = .65), Internal Values (α = .71), and Hedonistic Values (α = .69).

Finally, Internet-based research studies increase the likelihood of nonresponse, which leads to missingness and incomplete datasets. However, it simultaneously

provides respondents with a perceivably “anonymous environment,” and anonymity has been shown to increase the disclosure of sensitive topics, such as sexual behaviors (see Birnbaum, 2000; Gosling et al., 2004). In addition, previous research suggests Internet-based research designs decrease the respondent’s level of social desirability, which is the tendency to present oneself in an overly favorable light (see Chang & Krosnick, 2009; Joinson, 1999). Therefore, the current study did not include a measure of social desirability since the cost of including an additional scale might adversely result in higher dropout rates due to survey fatigue.

3.2.4 Content Preference for Child Sex Abuse Images

A literature review of the available scales or measurements, which assessed pornography preference, yielded scarce results regarding images of child sexual victimization. A few surveys in the area of media preference or sexual abuse attitudes included: Sexual Opinion Survey (SOS; Fisher, Byrne, White, & Kelly, 1988), Internet Sex Screening Test, Attitudes toward Sexual Abuse (ATSA; Briere, Henschel, & Smiljanich, 1992), and the Internet Behaviours and Attitudes Questionnaire (IBAQ; O’Brien & Webster, 2007). However, the majority of the media preference scales only included one item, if they included one at all, related to child sex themes, thereby measuring a general genre of child pornography rather than any specific content or themes within child pornography collections (c.f., Bogaert, 1993). In addition, the scales assessing sexually deviant attitudes tended to focus on the relationship between violent adult pornography and violence toward women or attitudes regarding hands-on child sex abuse (c.f., Briere et al., 1992).

Therefore, a new questionnaire was developed to assess the respondent's level of preference for various content-specific forms of child pornography, such as the choice of victimization, age, and sex of the child. The items included for the newly developed Child Pornography Image Preference Scale (CPIPS; see Appendix) was selected based on their face validity, and the author developed the survey with the assistance of a local law enforcement agency in order to better understand the range of images routinely discovered in child pornography collections. In addition, the literature review had identified some recent trends in the types of child sex abuse images available on the Internet, so all of these resources were considered in the development of the survey.

The CPIPS was a likert rating scale (Likert, 1932), which asked the respondents to rate their level of agreement or disagreement to each statement. Since some respondents might be ambivalent regarding their preference to certain forms of child pornography, the author used an odd numbered likert scale (5-point) in order to provide an ambivalent or "neutral" item response. The CPIPS included 21 items scaled from 1 (Strongly Do Not Prefer) to 5 (Strongly Prefer). The respondents were asked to choose the appropriate response on the scale of 1 to 5 for each item. Sample items included "pornographic images of infants" and "pornographic images of boys."

The study was devised so only individuals who self-reported engaging in child pornography behaviors were directed to the CPIPS. All other individuals who did not engage in any intentional child pornography behaviors skipped the CPIPS. This skip pattern was necessary to increase the likelihood of the non-child pornography users completing the study rather than dropping out prematurely, for respondents often become irritated when they are asked to complete questionnaires that are not relevant to them. In

this case, it was not necessary for those individuals who did not self-report engaging in any intentional Internet child pornography behaviors to complete the CPIPS.

The newly devised scale was pilot tested and reviewed by professionals in the field who provided preliminary feedback regarding the nature of the statements (clarity, simplicity, ambiguity). Feedback suggested the CPIPS had strong face validity, and the items appeared to be measuring the desired constructs.

3.3 Research Protocol

3.3.1 Participants

Respondents were voluntarily recruited via the Internet by publicizing or advertising the study using various online resources including chat rooms, bulletin boards, discussion forums, and social media websites. This sampling methodology, often referred to as snowballing, allowed the author to target respondents from the "general population of Internet users." In addition, Internet-based research designs increase the likelihood of self-disclosure since the respondents feel anonymous when completing online surveys rather than studies involving face-to-face interaction. This sampling methodology met the current needs of this study, which desired to: 1) sample respondents from the "general population of Internet child pornography users" and 2) increase the respondents' confidence in self-disclosure of sensitive topics.

In order to achieve a small/medium effect size ($r = 0.20$) with alpha set at .10 and a desired statistical power of .80, this study required approximately 200 completions (Cohen, Cohen, West, & Aiken, 2003). However, previous research suggests the dropout rates for online questionnaires assessing sensitive topics range between 31% and 37% (c.f., Seigfried, 2007; Seigfried-Spellar et al., 2010; SSI, 2005). Using a conservative

dropout rate of 40%, approximately 500 respondents were required in order to overcome the expected dropout rates based on false reporting or incompletion of survey items.

In order to participate in the study, the respondents had to indicate on the demographics questionnaire that they were at least 18 years of age or older and were currently permanent residents of either the United States, United Kingdom, Australia, or Canada. In addition, the respondents needed the ability to understand English since the survey was written in that language. The participants were not provided with an incentive by the researcher; the survey clearly stated the respondents' reward for completing the survey was the knowledge they aided in scientific research. The participants were required to provide consent, and they were able to quit the survey at anytime.

3.3.2 Design & Procedure

The study was conducted electronically using an Internet-based survey. This method of conducting research via the Internet has seen increasing use by researchers due to the accessibility of respondents and the perceived anonymity and increased willingness to self-disclose socially unacceptable or controversial behaviors or attitudes (Mueller, Jacobsen, & Schwarzer, 2000). Although, there was no necessary or anticipated personal or cyber interaction between the researcher and the respondent, it was possible for a respondent to contact the researcher via an email address provided on the survey website's consent form in order to make inquiries about the study, which was required by the Institutional Review Board (IRB).

Once the respondents accessed the website, the home page explained the study while acting as a consent form to which the respondents had to agree or decline to

participate. If the prospective respondents agreed, they had to click on the “I Agree” button in order to participate. This type of consent, clicking on an “I Agree” button, has been accepted on the Internet for sometime now; for instance, in order to download software, one must acknowledge the software’s license agreement by clicking on an “I Accept” button (Mueller et al., 2000). After clicking on the “I Agree” button, the respondents were asked to complete the questionnaires, which would take approximately 20 to 30 minutes to complete in total. Once the questionnaires were completed, the participants were taken to the survey’s “Debriefing” page were the study’s true intentions were revealed, and the respondents had to decide whether to submit (opt-in) or withdraw their responses (opt-out) from the final dataset.

At no time were the respondents asked for any identifying information (e.g., name). In order to protect the respondents’ anonymity and confidentiality, they were provided with an ID number, which the database randomly assigned to the participant’s responses. Thus, the responses to the questionnaires were not linked or matched to any particular individual, which was extremely important to increase the participant’s confidence in self-disclosing criminally-sanctioned behaviors (e.g., exchanging child pornography). As for the questionnaire items, the items were forced choice; however, the respondents could respond by endorsing, “decline to answer,” to each survey item in order to meet IRB requirements.

CHAPTER FOUR: RESULTS

This chapter describes the results from descriptive and inferential statistics for the current study in three sections: descriptive statistics, hypothesis testing, and exploratory analyses. First, the descriptive statistics section narrates the study's original and final sample size as well as the sociodemographic information self-reported by the respondents. Next, the hypothesis testing section specifically addresses the author's four hypotheses by conducting exploratory statistical analyses using SPSS statistical software to determine the relationship between the variables of interest (sex, individual differences, image content) and the outcome variable (CP Use). Finally, the exploratory analyses section further investigates some of the unexpected findings of the current study revealed during hypothesis testing, including a factorial analysis of the big five personality traits and the creation of a new dependent variable based on number of child pornography behaviors self-reported by the respondents.

Due to the exploratory nature of this study, a zero-order correlation was conducted to identify any personality characteristics (e.g., extraversion) significantly associated with child pornography use, thereby reducing the number of variables included in the predictive model. In an attempt to minimize chance associations, findings from the zero-order correlation were further validated by a one-way analysis of variance. The final analysis involved a backward stepwise (Wald) logistic regression (LR) to identify the best predictive model of child pornography use. Logistic regressions are appropriate for exploratory analyses, for they are more robust with fewer violations of assumptions, such as small and unequal sample sizes (Tabachnick & Fidell, 2007).

Since this study was exploratory in nature, all statistically relevant variables identified by the zero-order correlation and further validated by the ANOVA were entered into the logistic regression. Two-tailed statistical significance was set at the alpha level of 0.10 prior to any analyses due to the exploratory nature of the study (Warner, 2007).

4.1 Descriptives

Of the 446 respondents who started the study, 88 respondents dropped out prior to completing the study, and as a result, they never viewed the final webpage, the debriefing form. No comparative analyses in response style or missing data analyses were conducted with the 88 participants who dropped out of the study due to protocol restrictions set by the Institutional Review Board. The IRB required that the raw data from any respondent who dropped out of the study be wiped, therefore excluded, from the final raw dataset received by the author. In addition, the IRB required the last webpage be a debriefing form, which gave the respondents a final option to withdraw from the survey even after completion. Due to these restrictions set by the IRB, the author was unable to record the number of individuals who opted-out of the study.

Overall, the response style and missing data mechanism for this study was unknown for the original 446 respondents, and it was unknown how many individuals completed the study but opted-out of having their data used for statistical analyses. Therefore, this study resulted in raw scores from 358 respondents. Of the final 358 respondents, 81 were excluded from statistical analyses because they did not meet the sampling criteria. Of the 81 who were excluded, nine of the respondents were not allowed to continue the study since they selected “Decline to Respond” for age (i.e., did

not self-report being at least 18 years of age or older), and 67 of the respondents indicated they were not current residents of either the US, UK, Canada, or Australia (i.e., selected "Other"). Finally, five of the respondents selected both "Decline to Respond" for age and "Other" for current country of residence.

The final number of respondents for statistical analysis was 277 ($N = 277$). Of the 277 respondents, four respondents were labeled as "missing" since they selected "Decline to Respond" to all of the survey's child pornography items. Based on this incomplete data, the four respondents could not be classified as non-users or users of child pornography; therefore, they were excluded from any of the descriptive or inferential statistics. Of the remaining 273 respondents, 257 respondents (94%) were classified as non-child pornography consumers and 16 respondents (6%) were classified as Internet child pornography consumers.

As shown in Table 1, the majority of the self-reported child pornography users were male (75%) and between 18 to 35 years of age (75%). In addition, the majority self-reported a Caucasian/White identity (94%) and were current residents of the United States (81%). 69% of the child pornography users were single, and 44% indicated they had completed either a Master's degree or PhD. Finally, a similar proportion of the child pornography users self-reported some form of a religious (44%) compared to non-religious preference (56%). Note, the religious category "other" was created by collapsing several religious preferences which were self-reported by the respondents but resulted in a small cell count (e.g., Buddhism, Hinduism).

Table 1. *Demographic Information for CP Users and Non-Users*

Variable		Child Pornography		
		Consumer (n = 16)	Non-Consumer (n = 257)	Total (N = 273)
Sex*	Male	12 (75.0)	130 (50.6)	142 (52.0)
	Female	3 (18.8)	125 (48.6)	128 (46.9)
	Decline	1 (6.2)	2 (0.8)	3 (1.1)
Age (yrs)	18-25	5 (31.3)	58 (22.6)	63 (23.1)
	26-35	7 (43.8)	139 (54.1)	146 (53.5)
	36-45	1 (6.3)	25 (9.7)	26 (9.5)
	46-55	0 (0.0)	16 (6.2)	16 (5.9)
	56 or older	3 (18.8)	19 (7.4)	22 (8.1)
Permanent Residency	US	13 (81.3)	215 (83.7)	228 (83.5)
	UK	2 (12.5)	18 (7.0)	20 (7.3)
	Canada	1 (6.3)	15 (5.8)	16 (5.9)
	Australia	0 (0.0)	9 (3.5)	9 (3.3)
Ethnicity	Caucasian/White	15 (93.8)	229 (89.1)	244 (89.4)
	Asian	0 (0.0)	8 (3.1)	8 (2.9)
	Multiracial	1 (6.3)	7 (2.7)	8 (2.9)
	Black	0 (0.0)	5 (1.9)	5 (1.8)
	Other	0 (0.0)	4 (1.6)	4 (1.4)
	Decline	0 (0.0)	4 (1.6)	4 (1.5)
Religion	Christian	4 (25.0)	104 (40.5)	108 (39.6)
	No Religion, Secular	5 (31.3)	61 (23.7)	66 (24.2)
	Atheist	2 (12.5)	39 (15.2)	41 (15.0)
	Agnostic	2 (12.5)	35 (13.6)	37 (13.5)
	Other	3 (18.7)	11 (4.3)	14 (5.1)
	Decline	0 (0.0)	7 (2.7)	7 (2.6)
Marital Status	Single	11 (68.80)	129 (50.2)	140 (51.3)
	Married	5 (31.3)	101 (39.3)	106 (38.8)
	CL or CU	0 (0.0)	9 (3.5)	9 (3.3)
	S or D	0 (0.0)	16 (6.2)	16 (5.9)
	Decline	0 (0.0)	2 (.80)	2 (0.7)
Highest Degree of Completed Education	< 12 yrs of H.S.	0 (0.0)	5 (1.9)	5 (1.8)
	H.S. or 2nd Ed	3 (18.8)	45 (17.5)	48 (17.6)
	Assoc. or Bach.	6 (37.5)	92 (35.8)	98 (35.9)
	Masters or Ph.D.	7 (43.7)	111 (43.2)	118 (43.2)
	Decline	0 (0.0)	4 (1.6)	4 (1.5)

Values represent frequencies with percentages in parentheses.
US = United States, UK = United Kingdom, CL = Common Law, CU = Civil Union, S = Separated, D = Divorced, Decline = Decline to Respond, H.S. = High School, 2nd Ed = Secondary Education, Assoc. = Associate Degree, Bach. = Bachelor Degree
*Two-Tailed Fisher's Exact Test, p = .034

Of the demographic variables, sex was significantly associated with child pornography use, suggesting male respondents were more likely to self-report engaging in Internet child pornography use compared to female respondents (see Table 1). In previous research (see Seigfried et al., 2008; Seigfried-Spellar & Rogers, 2010), the

variable, religion, was significantly associated with child pornography use suggesting child pornography users were more likely to self-report a religious preference compared to non-child pornography users. To assess this previous finding, a dichotomous religion variable was created by collapsing the categories into either No Religious Preference (No Religion/Secular, Agnostic, Atheist) or Religious Preference (Other, Christianity). Results suggested no statistically significant relationship between child pornography use and self-reported religious preference, X^2 (1, N = 266) = 0.03 with p = .86.

4.2 Hypothesis Testing

4.2.1 H1: There will be personality differences between self-reported consumers and non-consumers of Internet child pornography.

$H_{1.a.}$ Self-reported consumers of Internet child pornography will score lower on the agreeableness personality trait compared to non-child pornography users.

As shown in Table 2, there was a statistically significant relationship between child pornography use and two individual differences variables: Agreeableness, r_{pb} (273) = 0.14 with p = .02, and Social Values, r_{pb} (272) = -0.12 with p = .056, respectively. In addition, Sex was significantly related to child pornography use, r_{Φ} (270) = -0.13 with p = .03. However, there was no evidence to suggest a significant relationship between child pornography use and the following individual difference variables: Neuroticism, Extraversion, Openness to Experience, Conscientiousness, Internal Values, and Hedonistic Values. Overall, the zero-order correlation suggested child pornography use is positively related to Agreeableness and negatively related to both Social Values and Sex.

Table 2. *Zero-Order Correlation for CP Use, CP Level, and Individual Differences*

	CP User	CP Level	Sex	Neurot	Extra	Open	Agree	Consc	HV	SV	IV
CP User	1	0.90***	-0.13**	0.02	0.03	0.09	0.14**	0.01	-0.03	-0.12*	-0.09
CP Level		1	-0.11*	0.04	0.11*	0.13**	0.13**	0.04	-0.08	-0.11*	-0.11*
Sex			1	-0.05	0.21***	-0.07	0.16***	0.19***	0.09	0.20***	0.18***
Neurot				1	-0.23***	0.16***	0.03***	-0.29***	0.13***	-0.02	0.17***
Extra					1	0.19***	0.21***	0.23***	-0.16**	0.06***	0.10
Open						1	0.12**	-0.13*	-0.13*	-0.36***	0.05
Agree							1	0.12*	-0.02	0.23***	0.17***
Consc								1	-0.06	0.09	0.08
HV									1	0.45***	0.39***
SV										1	0.46***
IV											1

*** $p < .00$ ** $p < .05$ * $p < .10$

Note. CP = Child Pornography, Neurot = Neuroticism, Extra = Extraversion, Open = Openness, Agree = Agreeableness, Consc = Conscientiousness, HV = Hedonistic Value, SV = Social Value, IV = Internal Value

As shown in Table 3, the means and standard deviations by child pornography use are listed for the individual differences assessed by the FFMRF (Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness) and the MDKS (Hedonism, Internal, Social). In summary, the mean scores were relatively similar between the child pornography users and non-child pornography users for Neuroticism, Extraversion, Openness, and Conscientiousness. In addition, the scores were similar for Hedonistic and Internal Values for the child pornography users and non-child pornography users.

However, significant group differences existed for the self-reported child pornography users and non-users regarding their scores on Agreeableness, $F(1, 271) = 5.40$ with $p = .02$, and Social Values, $F(1, 270) = 3.70$ with $p = .056$. Results also suggested the lack of evidence for a statistically significant relationship between child pornography use and the remaining individual difference variables. Overall, the analysis

of variance validated the relationship between child pornography use and the variables Agreeableness and Social Values suggested by the zero-order correlation.

Table 3. *Means and Standard Deviations for CP Use by Individual Differences*

	Child Pornography	
Individual Differences	Consumer	Non-Consumer
FFMRF		
Neuroticism	2.60 (0.94)	2.56 (0.65)
Extraversion	3.50 (0.73)	3.41 (0.64)
Openness	3.74 (0.80)	3.50 (0.61)
Agreeableness**	3.80 (0.56)	3.50 (0.49)
Conscientiousness	3.78 (0.63)	3.75 (0.65)
MDKS		
Hedonism	4.98 (1.40)	5.11 (0.92)
Internal	5.37 (1.56)	5.68 (0.79)
Social*	3.70 (1.44)	4.26 (1.10)

**$p < 0.05$ *$p < 0.10$

Note. Values represent means with standard deviations in parentheses. FFMRF = Five Factor Model Rating Form; Scale ranges from 1 (Extremely Low) to 5 (Extremely High). MDKS = Moral Decision-Making Scale; Scale ranges from 1 (Not Important) to 7 (Very Important)

To identify the best predictive model for child pornography use, the variables (Agreeableness, Social Value, and Sex) identified by the zero-order correlation and further validated by the ANOVA were included in a backward stepwise (Wald) logistic regression. As shown in Table 4, the best predictive model of child pornography use included Agreeableness ($W = 4.21$, $p = .014$) and Sex ($W = 5.26$, $p = .02$). The Hosmer and Lemeshow test was non-significant, $X^2(8) = 4.40$ with $p = .82$, indicating the final model fit the data. In addition, variance inflation factor (VIF) values were calculated in

order to test for multicollinearity, which indicated no cause for concern (Agreeableness, VIF = 1.03; Sex, VIF = 1.03).

Table 4. *Exploratory Backward (Wald) LR for CP Use*

Variable	*B*	*SE B*	*Exp (B)*
Step 1			
Sex	-1.41	0.68	0.24*
Agree	1.31	0.58	3.72*
SV	-0.34	0.25	0.71
Step 2			
Sex	-1.54	0.67	0.22*
Agree	1.14	0.56	3.12*

*$p < .05$

Note. SV = Social Values; Agree = Agreeableness

Overall, the author's expectation of significant individual differences between child pornography users and non-users was supported. However, the author's alternative hypothesis of child pornography users scoring significantly lower on the trait Agreeableness compared to non-child pornography users was refuted.

4.2.2 H2: There will be differences in the personality characteristics of self-reported male and female consumers of Internet child pornography.

For this hypothesis, only the child pornography users were statistically analyzed in order to determine if any of the individual difference variables could discriminate between the male and female users. As shown in Table 5, there was a statistically

significant relationship between Sex and Agreeableness, r_{pb} (15) = 0.49 with p = .06, Social Values, r_{pb} (15) = 0.63 with p = .01, and Internal Values, r_{pb} (15) = 0.52 with p = .05, respectively. There was no evidence to suggest a significant relationship between

Table 5. Zero-Order Correlation for CP Users by Sex and Individual Differences

	Sex	Neurot	Extra	Open	Agree	Consc	HV	SV	IV
Sex	1	-0.24	0.36	0.35	0.49*	-0.23	0.05	0.63***	0.52**
Neurot		1	0.21	0.30	0.54**	0.09	-0.48*	-0.32	-0.59**
Extra			1	0.28	.41	0.36	-0.18	0.08	-0.18
Open				1	.61***	-0.09	-0.39	0.01	-0.07
Agree					1	-0.01	-0.29	0.05	-0.32
Consc						1	-0.28	-0.19	-0.39
HV							1	0.75***	0.72***
SV								1	0.81***
IV									1

*** $p < .01$ ** $p < .05$ * $p < .10$

Note. Neurot = Neuroticism, Extra = Extraversion, Open = Openness, Agree = Agreeableness, Consc = Conscientiousness, HV = Hedonistic Value, SV = Social Value, IV = Internal Value

sex and the following individual variables: Neuroticism, Extraversion, Openness, Conscientiousness, and Hedonism. As shown in Table 6, an analysis of variance validated the findings of the zero-order correlation with significant group differences between the male and female child pornography users for Agreeableness, F(1, 13) = 4.19 with p = .06, Social Values F(1, 13) = 8.73 with p = .01, and Internal Values, F(1, 13) = 4.73 with p = .05, respectively.

In order to discriminate between the self-reported child pornography users by sex based on individual differences, a backward stepwise (Wald) logistic regression was conducted. Based on the zero-order correlation and ANOVA, only the variables

Agreeableness, Social Values, and Internal Values were included in the logistic regression to determine which factors discriminated the male and female child pornography users.

Table 6. *Means and Standard Deviations for CP Users by Sex and Individual Differences*

	Sex	
Individual Differences	Male	Female
FFMRF		
Neuroticism	2.53 (0.74)	2.11 (0.63)
Extraversion	3.29 (0.66)	3.83 (0.17)
Openness	3.53 (0.75)	4.17 (0.58)
Agreeableness*	3.60 (0.45)	4.17 (0.33)
Conscientiousness	3.76 (0.51)	3.44 (0.82)
MDKS		
Hedonism	5.22 (0.84)	5.33 (1.53)
Internal**	5.39 (1.02)	6.73 (0.46)
Social***	3.48 (0.99)	5.47 (1.29)

***$p < 0.01$ **$p < 0.05$ *$p < 0.10$

Note. Values represent means with standard deviations in parentheses. FFMRF = Five Factor Model Rating Form; Scale ranges from 1 (Extremely Low) to 5 (Extremely High). MDKS = Moral Decision-Making Scale; Scale ranges from 1 (Not Important) to 7 (Very Important)

As show in Table 7, child pornography use by males and females was best discriminated by the factor, Social Values ($W = 3.40$, $p = .07$). Hosmer and Lemeshow test was non-significant, X^2 (6) = 4.73 with $p = .58$, indicating the final model fit the data. To test for multicollinearity, the variance inflation factor (VIF) value indicated no cause

for concern (Social Values, VIF = 1.00). Overall, results suggested female child pornography users were more likely to make decisions based on Social Values compared to male child pornography users. The author's expectation of differences in the personality characteristics of self-reported male and female consumers of Internet child pornography was supported.

Table 7. *Exploratory Backward (Wald) LR for CP Use Discriminating by Sex*

Variable	*B*	*SE B*	*β*
Step 1			
Agree	6.38	6.91	590.90
SV	3.05	3.86	21.03
IV	-1.69	4.18	0.18
Step 2			
Agree	4.45	3.46	85.53
SV	1.73	1.16	5.63
Step 3			
SV	1.73	0.94	5.62*

*$p < .10$
$R^2 = 0.47$ for Step 1; $\Delta R^2 = -0.014$ for Step 2; $\Delta R^2 = -0.049$ for Step 3
Note. Agree = Agreeableness; SV = Social Values; IV = Internal Values

4.2.3 H_3: There will be personality differences associated with the types, content, or genre of images preferred and/or collected by the self-reported consumers of Internet child pornography.

Inferential statistics were unable to be computed for this hypothesis due to a systematic error in the survey's code. As stated in the methodology section, all

respondents reporting some level of intentional child pornography use were to view the CPIPS in order to assess their preference for child pornography images. Due to a coding error, only two of the child pornography users (n = 2) were routed to the CPIPS scale whereas all of the other child pornography users (n = 14) skipped the CPIPS questionnaire, just like the non-child pornography users (n = 257). Therefore, only descriptive statistics are available for the responses of the two child pornography users, who will be referred to by their randomly assigned ID number: #2488 and #297.

As shown in Table 8, child pornography user #2488 was more likely to prefer pornographic images of teens. In addition, #2488 was indifferent towards nonsexual and sexual images of children posing and did not prefer pornographic images of children perform sexual acts on themselves (e.g., self-masturbation) or pornographic images of children from different racial or ethnic backgrounds. Overall, this respondent appeared to prefer pornographic images of teens, regardless of whether the child was posing in a nonsexual or sexually provocative manner.

However, child pornography user #297 self-reported stronger preferences for a wider range of image content. As shown in Table 8, #297 strongly preferred all of the child pornography image content except pornographic images of children who are developed (e.g., pubic hair) and non-pornographic images of children posing, both of which received a rating of 1 (Strongly Do Not Prefer). Overall, this respondent preferred a wider range of image content except those images, which depicted older, post-pubescent children, and images that were less sexual or nonpornographic in nature.

The author's expectation of personality differences associated with the types, content, or genre of images preferred and/or collected by the self-reported consumers of

Internet child pornography was refuted. Not enough data from the CPIPS was collected in order to make a reliable or valid statistical comparison.

Table 8. *CP image preference ratings for CP User #2488 and #297*

	CP User	
Image Content	ID #2488	ID #297
Infants	1	5
Toddlers	1	5
Pre-Teens	1	5
Teens	4	5
Developed	1	1
Boys	1	5
Girls	1	5
Child-Only	1	5
Adult-Child	1	5
Nonsexual Posing	3	1
Sexual Posing	3	5
Genitals	2	5
Child w/ Child	1	5
Child w/ Adult	1	5
Child w/ Self	2	5
Child w/ Animals	1	5
Power Over Child	1	5
Bondage	1	5
Violence	1	5
Racial or Ethnic	2	5
Novel or Unusual	1	5

Note. Values represent respondent's self-reported preference for certain types of child pornograpy images. Values scaled 1 (Strongly Do Not Prefer), 2 (Do Not Prefer), 3 (Indifferent), 4 (Prefer), and 5 (Strongly Prefer).

4.2.4 $H_{4:}$ There will be a predictive-risk model which best represents the relationship between the personality characteristics and the types of images preferred by the self-reported Internet child pornography consumers.

The author's expectation was refuted due to the lack of data collected from the CPIPS. At this time, the author was unable to determine if a relationship existed between the personality characteristics and the types of images preferred by the self-reported Internet child pornography consumers.

4.3 Exploratory Analyses

4.3.1 CP Use and Agreeableness

Exploratory analyses were conducted in order to better understand the relationship suggested by the results between Agreeableness and child pornography use. As shown in Table 2, there was a significant positive correlation between Sex and Agreeableness, $r_{pb}(274) = 0.16$ with $p = .01$. Due to the disparity in sample size between the self-reported male ($n = 12$) and female child pornography users ($n = 3$), a partial correlation was calculated controlling for Sex. Still, a significant positive relationship emerged between child pornography use and Agreeableness with Sex held constant, $pr(267) = 0.13$ with $p = .04$, indicating this relationship was not a female artifact.

As indicated previously, Cronbach's alpha was low ($\alpha = 0.60$) for the Agreeableness trait. Therefore, a principle axis factor analysis with varimax rotation was performed on the Five-Factor Model Rating Form (FFMRF), which measured the big five personality traits (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness). The FFMRF Agreeableness scale was comprised of six items, each individually measuring six agreeableness traits: Trust, Straightforwardness,

Altruism, Compliance, Modesty, and Tender-Mindedness. According to the factor analysis, the six items did not load onto a single dimension; in other words, the six items did not converge to form the factor, Agreeableness. Instead, Compliance, Modesty, and Tender-Mindedness loaded onto a single factor, that of which appeared to be the "Agreeableness" factor while the item Altruism loaded onto the Extraversion factor, and the items measuring Trust and Straightforwardness solely created two separate factors (i.e., did not load onto any big five factor or with any other big five item).

Next, a zero-order correlation between child pornography use and the six original agreeableness items was conducted. Based on the factor analysis, the author created a "New Agreeableness" variable by averaging the respondents' scores on the three items (Compliance, Modesty, and Tender-Mindedness) that loaded together and was interpreted as measuring a form of the original trait, Agreeableness (W. Graziano, personal communication, May 23, 2011). As shown in Table 9, the original agreeableness items with the strongest correlation with child pornography use which was statistically significant was Trust vs. Suspicion, $r_{pb}(273) = 0.12$ with $p = .045$ and Compliance vs. Opposition, $r_{pb}(272) = 0.117$ with $p = .054$. In addition, Altruism vs. Selfishness and the New Agreeableness variable were marginally related to child pornography use, $r_{pb}(273) = 0.10$ with $p = .10$ and $r_{pb}(270) = .0107$ with $p = .08$, respectively. However, Straightforwardness, Modesty, and Tender-Mindedness were not significantly related to child pornography use (see Table 9).

Taken together, these results suggest the six items intending to measure Agreeableness did not form a single, coherent latent variable. Instead, the relationship between child pornography use and Agreeableness was driven by weak correlations with

items, which measured the lack of suspicion (Trust) and lack of aggressive opposition (Compliance).

Table 9. *Zero-Order Correlation for CP Use and Agreeableness Items*

	CP User	Trust	SF	Altruism	Compliance	Modesty	TM	New Agree
CP User	1	0.12**	0.02	0.10*	0.12*	0.07	0.05	0.11*
Trust		1	0.20***	0.18***	0.30***	0.11*	0.22	0.29***
SF			1	0.28***	0.12**	-0.01	0.13**	0.12**
Altruism				1	0.26***	0.07	0.34***	0.31***
Compliance					1	0.19***	0.36***	0.71***
Modesty						1	0.25***	0.67***
TM							1	0.76***
New Agree								1

*** $p < .00$ ** $p < .05$ * $p < .10$

Note. CP = Child Pornography, SF = Straightforwardness, TM = Tender-Mindedness, Agree = Agreeableness, New Agree = New Agreeableness Variable

4.3.2 Impulsive-Seeker

While exploring the factor analysis of the FFMRF, the author noticed two scale items, which did not load onto their respective big five personality factors but instead created a new factor. This suggested new factor included the Neuroticism item, "Impulsivity vs. Control," and the Extraversion item, "Excitement-Seeking vs. Cautious." Deviance studies often report higher levels of sensation seeking and impulsivity (c.f., Zuckerman, 1994; Lynam, 2011). Therefore, a new variable, Impulsive-Seeker, was created by averaging the respondents' scores on these two items to determine if there was a statistically significant relationship between child pornography use and impulsive, sensation seeking.

The zero-order correlation did not suggest a significantly relationship between Impulsive-Seeker and self-reporting child pornography use, $r_{pb}(271) = .05$ with $p = .45$. Due to the lack of evidence suggested by the zero-order correlation, no further analyses were conducted between child pornography use and Impulsive-Seeker.

4.3.3. Level of CP Use

A new dependent variable was computed based on the participants' responses to the Online Pornography Survey to measure their *level* of child pornography use. The OPS measured four intentional child pornography behaviors: searching, accessing, downloading, and exchanging. Therefore, the new variable, CP Level, was an ordinal scale from 0 (no behaviors) to 4 (all behaviors). Respondents who did not report engaging in any child pornography behaviors were labeled "0 = none." Respondents who engaged in all of the child pornography behaviors were labeled as "4 = all." Again, the respondents' ranking on CP Level reflected the number of behaviors rather than the type of behavior. For example, someone who self-reported engaging in "searching and downloading" would receive the same value (2) as someone who self-reported engaged in "downloading and exchanging" child pornography. Therefore, this variable intended to measure the respondent's level of engagement in Internet child pornography.

Exploratory analyses were conducted in order to determine if individual differences were related to level of child pornography use. As shown in Table 2, the zero-order correlation suggested a statistically significant relationship between child pornography level (CP Level) and the following individual differences variables: Extraversion, $r(273) = 0.11$ with $p = .08$, Openness, $r(273) = 0.13$ with $p = .04$, Agreeableness, $r_{pb}(273) = 0.13$ with $p = .03$, Social Values, $r_{pb}(272) = -0.11$ with $p = .06$,

and Internal Values, $r(272) = -0.11$ with $p = .06$, respectively. In addition, Sex was significantly related to child pornography level, $r_{pb}(270) = -0.11$ with $p = .08$. However, there was no evidence to suggest a significant relationship between child pornography level and the following individual difference variables: Neuroticism, Conscientiousness, and Hedonistic Values.

Based on the findings revealed by the factor analysis conducted on the FFMRF, a zero-order correlation was conducted with the New Agreeableness variable, the Impulsive-Seeker variable, and the Trust and Compliance items. As shown in Table 10, the zero-order correlation revealed a marginally significant relationship between child pornography level and New Agreeableness, $r(270) = 0.107$ with $p = .08$, Impulsive-Seeker, $r(271) = 0.114$ with $p = .06$, and Trust, $r(273) = 0.109$ with $p = .07$, respectively.

Table 10. *Zero-Order Correlation for CP Level and Exploratory Individual Differences*

	CP Level	New-Agree	Trust	Compliance	Imp-Seek
CP Level	1	0.11*	0.11*	0.09	0.11*
New-Agree		1	0.29***	0.71***	-0.13**
Trust			1	0.30***	0.05
Compliance				1	-0.17**
Imp-Seek					1

*** $p < .00$ ** $p < .05$ * $p < .10$

Note. CP = Child Pornography, New Agree = New Agreeableness Variable, Imp-Seek = Impulsive-Seeker

Overall, the zero-order correlation suggested level of child pornography use was positively related to Extraversion, Openness to Experience, Agreeableness, New

Agreeableness, Trust, Impulsive-Seeker, and negatively related to Social Values, Internal Values, and Sex.

Next, the Analysis of Variance verified the following variables identified from the zero-order correlation were significantly related to child pornography level: Extraversion, $F(4, 267) = 2.35$ with $p = .06$, Openness to Experience, $F(4, 268) = 2.86$ with $p = .02$, Social Values, $F(4, 267) = 3.80$ with $p = .01$, Internal Values, $F(4, 267) = 6.54$ with $p = .00$, and Impulsive-Seeker, $F(4, 266) = 2.16$ with $p = .07$. However, the ANOVA also suggested a significant relationship between child pornography level and Hedonism, which was not suggested by the zero-order correlation, $F(4, 267) = 4.87$ with $p = .00$.

Finally, the ANOVA did not confirm the relationship between child pornography level suggested by the zero-order correlation for Sex, Agreeableness, Trust, and New Agreeableness; although, it did confirm the lack of evidence for a relationship between Conscientiousness, Neuroticism, and Compliance.

To identify the best predictive model for child pornography level, only the variables (Extraversion, Openness, Social Values, Internal Values, and Impulsive-Seeker) identified by the zero-order correlation and further validated by the ANOVA were included in a backward linear regression. As shown in Table 11, the best predictive model for level of child pornography use included Extraversion, Openness to Experience, and Internal Values. In addition, variance inflation factor (VIF) values were calculated in order to test for multicollinearity, which indicated no cause for concern (Extraversion, VIF = 1.05; Openness, VIF = 1.04; Internal Values, VIF = 1.01).

Overall, the results suggested a higher level of child pornography use corresponded to higher scores on Extraversion, higher scores on Openness to Experience, and lower scores Internal Values.

Table 11. *Exploratory Backward Linear Regression for CP Level*

Variable	*B*	*SE B*	*β*
Step 1			
Extra	0.08	0.06	0.09
Open	0.09	0.06	0.10
Imp-Seek	0.01	0.05	0.01
SV	-0.02	0.04	-0.03
IV	-0.07	0.05	-0.11
Step 2			
Extra	0.08	0.05	0.10
Open	0.09	0.06	0.10
SV	-0.02	0.04	-0.03
IV	-0.07	0.05	-0.11
Step 3			
Extra	0.08	0.05	0.09
Open	0.10	0.06	0.12*
IV	-0.08	0.04	-0.13**

**$p < .05$ *$p < .10$

$R^2 = 0.04$ for Step 1; $\Delta R^2 = 0.00$ for Step 2; $\Delta R^2 = -0.001$ for Step 3

Note. Extra = Extraversion, Open = Openness to Experience, Imp-Seek = Impulsive-Seeker, SV = Social Values, IV = Internal Values

CHAPTER FIVE: DISCUSSION

The current study was the first to assess the relationship between individual differences and the types of images preferred by Internet child pornography users from an Internet-based research sample. Several findings are noteworthy but are limited to this specific study; therefore, no claims are warranted for the general population of Internet child pornography users. Significant differences emerged between the self-reported consumers of child pornography and the self-reported non-consumers of child pornography in this sample. First, the results suggested the best predictive model for child pornography use included Sex and high levels of Agreeableness.

Previous research has consistently shown a relationship between sex and child pornography use in that child pornography users are more likely to be men; however, many of these studies solely focus on the male population while ignoring any female consumers (c.f., Seigfried, 2007). The prevalence of male to female child pornography users is unknown, but a few studies have reported less than 1% of their sample of child pornography users from the clinical or forensic population were women (e.g., Seto & Eke, 2005; Sullivan, 2005). However, the Seigfried et al. (2008) study found 10 of the 30 self-reported child pornography users from an Internet-based research study were women. In other words, there was a 2:1 ratio of male to female child pornography users.

In the current study, 3 or 20% of the 15 self-reported child pornography users were women, indicating a 4:1 ratio of male to female Internet child pornography users.

Overall, this finding supports the conclusion by Seigfried et al. (2008) that women may be engaging in child pornography use more than previously suggested by research. Intuitively, as the population of Internet users diversifies, so follows the consumers of child pornography. Prior to 2000, a U.S. research study found more men reported using the Internet than women, but this difference has since evened out (Fallows, 2005). Overall, as the Internet becomes more global and child pornography becomes more assessable, the stereotypic user of child pornography may be changing to reflect the increase in female Internet users worldwide.

Along with the variable sex, the predictive model included the trait Agreeableness, which suggested that the child pornography users were more agreeable than the non-users of child pornography. This initial relationship between Agreeableness and child pornography use was unexpected based on the field's current understanding of the trait, Agreeableness. People who score high on the agreeableness trait are often described as "kind, warm, and considerate" (c.f., Graziano & Eisenberg, 1997; Graziano & Tobin, 2009). In addition, agreeable individuals are more likely to engage in prosocial behaviors, such as helping, and are more motivated to maintain positive interpersonal relationships (Graziano & Tobin, 2009). On the other hand, individuals who score low on agreeableness are often described as high antagonists, for they are at a higher risk of engaging in antisocial interpersonal and externalizing behaviors, such as overt aggression and substance abuse (c.f., Miller, Lynam, & Jones, 2008). Using the Internet to engage in illegal activity, an external behavior, suggests child pornography users or individuals who

self-report engaging in more child pornography behaviors score low on agreeableness (high on antagonism).

Many theoretical and alternative explanations were considered prior to conducting the exploratory analyses involving the factor analysis of the FFMRF scale. First, a review of the literature suggests a relationship between agreeableness and socially desirable responding. Socially desirable responding is the tendency to respond in a way, which puts the individual in a more positive light (see Paulhus, 2002). Thus, individuals high on agreeableness are more likely to be influenced by socially desirable responding due to their desire to be liked and viewed positively by others. For example, Pauls and Stemmler (2003) suggest individuals who score high on impression-management (i.e., a socially desirable response style where respondents knowingly enhance positive self-ratings) are more likely to score high on agreeableness.

One explanation for the relationship between child pornography use and high agreeableness is the respondents' were being influenced by socially desirable responding and were responding so to enhance their ratings on prosocial behaviors. However, Graziano and Tobin (2002) conducted three studies to explore the relationship between agreeableness and self-favoring biases. The authors concluded, "impression management is a heterogeneous set of processes, and, as such, is unlikely to offer a single, systematic, plausible alternative account for more reliable Agreeableness effects" (Graziano & Tobin, 2002, pg. 721). The study provided empirical evidence through laboratory manipulations that individuals higher on agreeableness are not influenced by social compliance.

Finally, the theoretical explanation that the child pornography users in this study were concerned with how they would be perceived based on their responses to the survey does not seem to make intuitive sense. Assuming their responses to the survey are honest, impression management would be better achieved by denying their engagement in child pornography behaviors rather than inflating their scores on the agreeableness trait. In addition, the literature has consistently shown that individuals who engage in antisocial behaviors are more likely to report higher levels of antagonism or low levels of agreeableness. Finally, research suggests Internet-based research designs decrease the respondent's level of socially desirable responding (see Joinson, 1999; Chang & Krosnick, 2009) while self-disclosure of sensitive topics is increased due to the Internet's perceived anonymity (see Birnbaum, 2000; Gosling et al., 2004). At this time, the positive relationship found in this study between child pornography use and agreeableness does not appear to be an artifact of socially desirable responding.

Another theoretical explanation explored was the relationship between high agreeableness and positive attitudes toward diversity. Strauss, Connerley, and Ammermann (2003) found high agreeableness was related to positive attitudes toward diversity with regard to work environments (e.g., minority workers). The authors concluded "the related trends of increased diversity and changing work environments lead to a need for more people who are able to interact positively with diverse others in work settings" (Strauss et al., 2005, p. 46). If agreeableness is related to positive attitudes toward diversity, it may be possible the child pornography users' high level of agreeableness is actually reflecting a form of acceptance in diversity. After all,

individuals with socially isolated interests are able to network and find acceptance on the Internet through various social media websites, chatrooms, and discussion forums.

However, this plausible, but unparsimonious, alternative explanation was not supported by the exploratory analyses conducted by the author or strongly validated in the literature. The best explanation for the relationship between child pornography use and agreeableness was revealed by the factor analysis of the FFMRF rather than the previous theories reviewed from the current literature. Overall, the author concluded the agreeableness trait was influenced by weak correlations to specific items, rather than an actual latent variable. Based on the given information, the respondents who self-reported using Internet child pornography were more likely to be trusting and compliant compared to those individuals who did not self-report child pornography use in this study. In other words, the self-reported child pornography users in this sample were more trusting (less suspicious) and compliant (less oppositional) whereas the respondents who did not self-report child pornography use were more suspicious (less trusting) and oppositional (less compliant).

The relationship between self-reporting child pornography use and higher agreeableness item ratings for trust and compliance compared to the non-child pornography users may be further explained by the design changes imposed by the IRB for this study. In the previous study conducted by Seigfried et al. (2008), the university's IRB did not require a debriefing form or withdraw of data option after the study was completed. Instead, the IRB determined the study was completely confidential, anonymous, and minimal deception was used, if any. Moreover, informed consent was

obtained using an online form similar to the one used for this study, and the respondents were allowed to skip any item on the survey and/or dropout during the study at any time.

In addition, the data from the respondents who dropped out of the study was retained in order to analyze dropout rates and nonresponse styles. In other words, even though the respondent's who dropped out from the study were not included in the final analyses, the IRB allowed the authors to retain the raw data. This raw data allowed the Seigfried et al. (2008) study to calculate the percent of people who dropped out from each stage of the online survey. Since the Seigfried et al. (2008) study was the first one conducted using an online sample of self-reported child pornography users, the ability to study the response styles and mechanism of missingness was invaluable for improving Internet-based research studies on sensitive social topics.

Instead, the university's IRB determined deception was used since the consent form stated the purpose of the current study was to examine "attitudes toward adult websites" rather than "assessing the relationship between personality characteristics and child pornography use." In addition, the OPS items do not specifically refer to "child pornography" but instead "pornographic materials featuring individuals under the age of 18 years." Thus, the IRB determined the deception used in the consent form and OPS did not reveal the true purpose of the research study, which was to determine the relationship between personality characteristics and child pornography use. In addition, the IRB was concerned that after completing the OPS, the respondents would suddenly have an interest in child pornography when this interest did not exist or they were previously unaware of it prior to the study.

As a result, the IRB determined the author had to include a debriefing form for the current study stating the purpose of the current study was to determine if "certain personality characteristics were associated with people's interests toward pornographic images of individuals under the age of 18 years." In addition, the author was required to provide websites and contact information for Internet and Computer Addiction services, specifically for cybersex and online pornography addiction. Finally, after completing the study, the respondents had to provide consent to use their data after completion (i.e., opt to withdraw data from study) by clicking either "keep your responses to the survey" or "remove your responses from the data file."

When comparing the current study to the Seigfried et al. (2008) study, the only differences were the inclusion of a debriefing form and option to withdraw responses. Since the previous study did not find a relationship between agreeableness and child pornography use, and the current study identified child pornography users who were more trusting and compliant, it is possible this finding is an artifact of the research study design. The respondents who self-reported the use of child pornography had to trust that this study was truly an anonymous and confidential study conducted at a major university rather than a law enforcement sting operation or undercover television show, such as *Dateline's* "To Catch A Predator."

In addition, the item "Compliance" describes people who are "docile and cooperative" rather than "oppositional, combative, and aggressive." The child pornography users in the current study were more "docile and cooperative" than the non-child pornography users or those individuals who did not report engaging in child pornography. Again, this item suggests those individuals who were willing to report

engaging in child pornography use were more cooperative, and cooperative may be seen by the fact they selected “use my responses” on the debriefing form. By considering the factor analysis of the Agreeableness scale for the FFMRF as well as the inclusion of a debriefing form, it is possible the respondents in the current sample were a small subset of the child pornography population – a subset who was more trusting of the research design therefore willing to submit their data.

Secondly, when comparing the male and female consumers of Internet child pornography, the current study suggested the child pornography users were best discriminated by sex based on cognitive differences in decision-making. In general, the child pornography users had lower Social Values compared to the non-consumers of child pornography, but when discriminating by sex for the child pornography consumers, the men scored even lower than the women on the Social Values trait. Based on the results, the author concluded the male consumers were less likely to make moral decisions based on social values (e.g., societal norms, laws) compared to the female consumers of Internet-child pornography. This difference may indicate the male child pornography users engage in, or are more accepting of, other forms of antisocial behavior (e.g., substance abuse, risky sex) compared to the female child pornography users.

In essence, the male child pornography users may be “general deviants” whereas the female child pornography users are “specific deviants.” In other words, the female users may be engaging in child pornography behaviors due to the perceived anonymity and “cloak of safety” offered by the Internet (c.f., Seigfried & Rogers, 2010). On the other hand, the male consumers make fewer decisions based on social values, which may suggest a higher level of antisocial activity both off and on the Internet. Future research

should determine if there is a relationship between general deviance and child pornography use when discriminated by sex.

With regard to image content, the results suggested the self-reported child pornography users in this sample prefer different types of child pornography. Based on the limited data collected, the author was unable to draw statistical inferences from the results. However, there were notable descriptive differences in the types of images preferred by child pornography user #2488 and #297. In general, respondent #2488 appeared to prefer pornographic images of teens, regardless of whether the child was posing in a nonsexual or sexually provocative manner, while respondent #297 preferred a wider-range of sexually explicit image content.

Although only two of the self-reported child pornography users were given access to the Child Pornography Image Preference Scale due to a technological error in the survey coding, this study provides preliminary evidence that individuals are willing to self-report deviant image preferences in an online, anonymous environment. In addition, the face validity of the CPIPS appears promising since the responses to the CPIPS for #2488 and #297 yielded a different pattern of endorsements, which suggest a different pattern of interest. In future studies, this pattern of interest or preference in the child pornography images may reflect different motivations and personality characteristics. Overall, the deployment of the CPIPS in this study was disappointing, but not damning, and with future replication and empirical validation, this scale may be the first measure of people's preferences for child pornography images.

One interesting finding is the resemblance of respondent #2488 and #297's preferences with Lanning's situational and preferential sex offender typology (Lanning,

2010). The current typology places the original, dichotomous categories of situational and preferential child molester onto a motivational continuum with basic or nonsexual needs and deviant sexual needs (paraphilias) on polar opposite ends, respectively. In addition, the current typology uses the term "sex offender" instead of "child molester" to address cases in which the offender may not be a child molester but instead an individual who is a hands-off sex offender, such as someone who collects child pornography (Lanning, 2010). For clarification, the terms situational and preferential child pornography user will be used instead of sex offender, unless specifically emphasized otherwise, to protect the respondents of this study from the consequences of inconsistent and misconstrued labels.

According to Lanning (2010), situational child pornography users tend to be motivated by sexual (lust) or nonsexual needs (power) whereas preferential child pornography users are more motivated by deviant sexual needs (paraphilias). In addition, situational child pornography users are more likely to collect violent, sadistic pornography, and their behavior tends to focus on general victim characteristics. Lanning (2010) states situational *sex offenders* "do not have a true sexual preference in children . . . [but] may molest them for a variety of reasons" (p. 34). Therefore, it may be possible the collection of child pornography images by the situational user does not reflect a sexual interest in children but other nonsexual motivational factors, such as curiosity, networking, boredom, or the antisocial attitude of "why not?"

On the other hand, the preferential child pornography user may be driven by "persistent, compulsive, and fantasy-driven" sexual needs (Lanning, 2010, p. 34). The paraphilias of preferential *sex offenders* reflect both general and specific victim

characteristics, and they tend to collect theme pornography. Again, if these characteristics are adapted to preferential child pornography users, their collections may include a wider range of images (i.e., both general and specific victim characteristics) as well as theme or scripted pornography, which may reflect other paraphilias (e.g., sadism). Overall, the preferential child pornography user is usually more compulsive and driven by deviant sexual needs compared to the situational child pornography user, who is impulsive and driven by opportunity (Lanning, 2010).

Using Lanning's 2010 typology, respondent #2488 appears to be a situational child pornography user. Lanning (2010) stated situational *sex offenders* prefer general victim characteristics, and specifically, the morally indiscriminate situational *sex offender* is more likely collect images depicting pubescent children (2010). The preferences self-reported by respondent #2488 reflect a general interest in pubescent children (see Table 8), which is similar to the situational offender described by Lanning (2010). However, the item ratings are weak indicating the image preferences may be the result of non-sexual motivations, such as opportunity or curiosity. In general, based on image preferences from the CPIPS, this type of child pornography user may best be described as a dissident, or social deviant, rather than a sexual predator.

As shown in Table 8, respondent #297 strongly endorsed several of the CPIPS items indicating a preference for a wider range of child pornography content and themes. Based on Lanning's (2010) new typology, respondent #297 may be described as a diverse preferential offender. Previously known as the "sexually indiscriminate" situational child-molester, the new typology describes the diverse behavioral pattern as preferential *sex offenders* who select their victims based on the situation (Lanning, 2010). According

to Lanning (2010), the diverse pattern offender "discriminates in his behavior except when it comes to sex. He is a 'try-sexual' – willing to try anything sexual that he prefers" (p. 39). In essence, child pornography users, like respondent #297, may have a diverse range of image content because they are "try-collectors" – willing to collect anything and everything. However, based on respondent #297's item ratings from the CPIPS, it is unclear whether this strong, but wider range in preference reflects paraphilic tendencies or sexual experimentation.

Research suggests child pornography users collect sexualized images of children for a variety of reasons. Interviews with child pornography users have suggested some offenders move "thorough a variety of pornographies, each time accessing more extreme material" (Quayle & Taylor, 2002, p. 343) as a result of desensitization or appetite satiation, which lead to collecting and discovering other forms of deviant pornography (Quayle & Taylor, 2003). Also, some of the consumers stated they downloaded the images simply because they were available and accessible, making the behaviors primarily a result of compulsivity rather than a specific sexual interest in children (Basbaum, 2010).

Child pornography consumers exhibit a complex array of sexual interests, which may be representative of a more general level of paraphilic tendencies rather than a specific sexual interest in children. Research suggests the majority of Internet child pornography users are collecting a wider range of deviant pornography, which may reflect a general level of sexual deviance rather than a specific paraphilia, such as pedophilia. The extent to which a child pornography user is likely to be a pedophile or a

"dissident" expressing a wide range of sexual interest will best be understand through rigorous, empirical research.

As suggested by Lanning (2010), pornography collections including sexualized images of children may not reflect a specific paraphilia, but a general sexual experimenter. Although Lanning (2010) uses the term sex offender to include a wide range of hands-off and hands-on offenses toward children, it is unclear whether parallels may truly be drawn from his typology to consumers of child pornography. For instance, if the diverse *sex offender* lacks a sexual preference toward children, is the typology suggesting the diverse *child pornography user* lacks a sexual preference toward child pornography, or is it still referring to hands-on sex offenses even when describing hands-off sex offenders. In other words, is respondent #297 a diverse *sex offender* who lacks a sexual preference toward children or a sexual preference toward child pornography? Future research needs to address the relationship between image content and sexual preference as well as offender individual differences in order to empirically differentiate the general deviant from the sexual predator.

Finally, the results suggested a relationship between level of child pornography use and higher scores on Extraversion and Openness to Experience and lower scores on Internal Values make intuitive sense. Consistent with the Seigfried et al. (2008) study, individuals with lower Internet Values were more likely to engage in more child pornography behaviors. In other words, individuals who engage in more deviant child pornography behaviors are not governed by personal, moral values; in other words, they do not make decisions based on their "internal moral compass." Unlike the Reijnen et al. (2009) study, this study suggested individuals who engaged in more child pornography

behaviors were more extraverted, which may reflect the offender's ability to socially network on the Internet in order to gain access to child pornography. Finally, Openness to Experience was related to level of child pornography use, which may reflect the user's willingness to engage in unconventional behaviors and ideas. Overall, this study suggests those individuals who engage in more Internet child pornography behaviors are more social, unconventional, and follow a different moral compass (i.e., do not make decisions based on moral beliefs).

The findings of this study further validate the expectations of Bandura's Theory of Reciprocal Determinism in that personality and cognitive characteristics appear to drive a person's behavior when environmental constraints are weak despite high social constraints. The author specifically sampled respondents who were permanent residents of either the US, UK, Canada, and Australia due to their similar laws prohibiting the possession, distribution, and production of Internet child pornography. In addition, the study was conducted via the Internet (i.e., instead of face-to-face interview, postal-mail survey) to suggest each respondent had the opportunity to engage in online deviant behavior. Overall, this research design assessed whether in weak environmental and high social constraints individual differences were predictive of child pornography use.

Based on the evidence from the current study, the author concludes there are personality and cognitive differences between individuals who knowingly search, view, download, and exchange Internet child pornography from those who do not. In addition, the types of images preferred by child pornography users vary, and future research should address whether individual differences are predictive of the image content and genre collected by these individuals. Future research should address whether personality and

cognitive differences exist between respondents who reside in countries with different environmental/social constraints regarding child pornography use. For instance, do personality characteristics drive deviant online behavior in countries where the possession of child pornography use without the intent to distribute is legal? Internet-based research designs assessing psychology constructs within a socially hidden population is possible, but this type of research is not without limitations.

5.1 Limitations

Although this study sampled from the "general population of Internet users," there is no claim that the findings are representative of the population of Internet users at large. There may be individual differences between those individuals who chose to complete and submit their data compared to those individuals who chose not to participate, who dropped-out during, or chose to withdraw their data after completion of the study. Volunteer bias may have impacted the results of this study; however, this problem presents itself in many forms of psychological research, including laboratory research. Overall, due to the IRB's restrictions, the findings are most likely representative of those individuals who trusted the confidentiality and anonymity of the research design.

Despite the limited external validity, the current study improved the inferences drawn from the results by limiting a possible confound identified in the Seigfried et al. (2008) sample. Unlike the Seigfried et al. (2008) study, the current sampling methodology targeted Internet users who were permanent residents of countries where child pornography possession, distribution, and production were criminally sanctioned. Therefore, the self-reported Internet child pornography users in the current study were knowingly engaging in illegal child pornography behaviors. Again, the self-reported

child pornography users in this study may not be representative of consumers from the general population of Internet users, but a possible confound, legality of child pornography use, was eliminated in the current study.

Although the IRB impacted the generalizability of the current study, it identified an avenue for future Internet-based research designs. Future studies, especially on socially sensitive topics, should manipulate whether respondents complete a survey with and without the option to withdraw at the end of the study as well as the inclusion of a debriefing form. This research design would strengthen the validity of the findings by identifying the level of influence IRB restrictions may have on the researcher's ability to determine response styles, mechanisms of missingness, and the validity of the conclusions drawn from the results.

5.2 Conclusion

Previous research studies are interested in understanding the child pornography user, but few have investigated whether searching, viewing, downloading, and exchanging child pornography may be predicted by an individual's personality and cognitive characteristics. In addition, the majority of research studies sample from the clinical or forensic population, which are biased due to differences between samples of accused, convicted, and plea-bargained offenders, and the majority of which are men. Finally, the literature suggests a relationship between child pornography use and image collection; although, little empirical research has investigated whether personality and cognitive characteristics are related to the types of images collected by child pornography use.

The current research study contributes to this gap in the literature by expanding outside of the usual sampled populations to include general Internet users, for the Internet child pornography user from the "general population of Internet users" may be different from the forensic or clinical population. Validating the Seigfried et al. (2008) findings, the current study identified personality and cognitive differences between child pornography consumers and non-consumers. The current study suggests those individuals who self-report the use of Internet child pornography are less suspicious and oppositional compared to the non-child pornography consumers. Although this finding was influenced by the methodology restrictions set by the IRB, it confirms that psychological studies involving sensitive populations is possible using Internet-based research designs. Furthermore, an avenue of future research has been identified by comparing the influence of Internet-based research designs with and without the option to withdraw as well as the debriefing form.

Furthermore, female respondents self-reported the use of Internet child pornography which suggests women are engaging in this type of behavior more than expected by the background literature (see Seigfried & Rogers, 2010). There was a 4 to1 ratio of male to female child pornography users in the current study, and again, this small cell count may be due to the design restrictions set by the IRB. With little information known about the female consumer of Internet child pornography, a study's design and research methodology may be more important than ever. Intuitively, this hidden population may be more stigmatized than men since women are seen as being incapable of being sexually attracted toward children due to their role as mothers and child-bearers (see Seigfried & Rogers, 2010). Therefore, empirical research should not exclude or

overlook this “hidden” population of users in order to strengthen the validity of inferences regarding Internet child pornography use. Most importantly, the sex difference in personality characteristics between consumers may suggest the need for alternative investigative law enforcement strategies as well as therapeutic treatment programs.

Finally, this study demonstrates that respondents are willing to report their level of preference for various types of child pornography. Understanding the types of images preferred by child pornography users may assist in understanding their motivation for engaging in this illegal behavior. After all, previous research suggests those individuals who possess child pornography images are not at a greater risk for becoming child sex offenders (Hessick, 2010; Malamuth & Huppin, 2007). Therefore, the size and content of their collections may indicate a general need or addiction to sexual stimuli, such as other forms of deviant pornography, rather than an intense sexual arousal toward children (pedophilia).

Overall, Internet-based research will continue to increase in popularity due to its advantages over more traditional forms of methodology, such as the accessibility of target populations with narrow interests. With regards to child pornography research, the Internet may be the best place to analyze both the users and behaviors due to the perceived anonymity and cloak of safety offered by the Internet. However, the final conclusions will only be as good as the original design and methodology, and if IRBs continue to disallow researchers from determining response rates and attrition bias, the true validity and reliability of the findings may never be known. This type of research

will continue to be a socially sensitive topic, but it is only with the support of the institution that objective research may be scientifically pursued.

LIST OF REFERENCES

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Adler, A. (2001). The perverse law of child pornography. *Columbia Law Review*, *101*(2), 209-273.

Akdeniz, Y. (2008). *Internet child pornography and the law: National and international responses*. Burlington, VT: Ashgate Publishing Co.

Altemeyer, B. (1998). The other 'authoritarian personality'. In M. Zanna (Ed.), *Advances in Experimental Social Psychology*, Vol. 30. San Diego: CA: Academic Press.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, New Jersey: Prentice Hall.

Bandura, A. (1978, April). The self system in reciprocal determinism. *American Psychologist*, *33*, 344-358.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive*. Englewood Cliffs, New Jersey: Prentice-Hall.

Bandura, A. (1994). Social Cognitive Theory of Mass Communication. In J. Bryant & D. Zillmann, *Media Effects: Advances in Theory and Research* (pp. 61-90). Hillsdale, New Jersey: Erlbaum.

Barak, A., Fisher, W.A., Belfry, S., & Lashambe, D.R. (1999). Sex, guys, and cyberspace: Effects of Internet pornography and individual differences on men's attitudes toward women. *Journal of Psychology and Human Sexuality*, *11*(1), 63-91.

Barnes, G., Malamuth, N., & Check, J. (1984). Personality and sexuality. *Personality and Individual Differences, 5*, 159-172.

Basbaum, J.P. (2010, May). Sentencing for possession of child pornography: A failure to distinguish voyeurs from pederasts. *Hastings Law Journal*, *61*, 1-24.

Beech, A., Elliott, I., Birgden, A., & Findlater, D. (2008). The Internet and child sexual offending: A criminological review. *Aggression and Violent Behavior*, *13*, 217-228.

Birnbaum, M.H. (Ed.). (2000). *Psychological experiments on the internet*. San Diego, CA: Academic Press.

Bogaert, A. F. (1993). *The Sexual Media: The Role of the Sexual Media*. Unpublished doctoral dissertation, University of Western Ontario, London, Canada.

Bogaert, A. F. (2001). Personality, individual differences, and preferences for the sexual media. *Archives of Sexual Behavior, 30*(1), 29-53.Briere, J., Henschel, D., &

Bunzeluk, K. (2009). *Child sexual abuse images: An analysis of websites by cybertip.ca.* Winnipeg, Manitoba, Canada: Canadian Centre for Child Protection.

Carr, J. (2002). *Child Pornography. Theme Paper at 2nd World Congress Against Sexual Exploitation of Children*. Yokohama, Japan 17-20 December, 2001.

Chang, L. & Krosnick, J.A. (2009, Winter). National surveys via RDD telephone interviewing versus the internet: Comparing sample representativeness and response quality. *Public Opinion Quarterly*, *73*(4), 641-678.

Child Exploitation and Online Protection Centre (2008). *Strategic overview 2007-2008*. London, England: Child Exploitation and Online Protection Centre.

Child Exploitation and Online Protection Centre (2009). Strategic overview 2008-2009. London, England: Child Exploitation and Online Protection Centre.

CIRCAMP (n.d.). "Child pornography" versus "child sexual abuse material." Retrieved March 20, 2010 from the *Cospol Internet Related Child Abuse Material Project* Web site: http://circamp.eu/

Cohen, J., Cohen, P., West, S., & Aiken, L. (2003). *Applied multiple regression and correlation analysis for the behavioral sciences* (3rd edition). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Cook, T.D. & Campbell, D.T. (1979). *Quasi-experimentation: Design and analysis for field settings*. Chicago, Illinois: Rand McNally.

Egan, V., Kavanagh, B., & Blair, M. (2005, July). Sexual offenders against children: The influence of personality and obsessionality on cognitive disorders. *Sexual Abuse: A Journal of Research and Treatment*, *17*(3), 223-240. doi: 10.1007/s1194-005-5053-4

Elliott, I.A. & Beech, A.R. (2009). Understanding online child pornography use: Applying sexual offense theory to internet offenders. *Aggression and Violence Behavior*, *14*, 180-193.

End Child Prostitution Child pornography and Trafficking of children for Sexual Purposes (1996, August). *Child pornography: An international perspective*. Stockholm, Sweden: Margaret Healy.

Fallows, D. (2005, December). *How men and women use the internet*. Washington, DC: Pew Internet and American Project.

Finkelhor, D., & Ormrod, R. (2004). Child pornography: Patterns from NIBRS. *Juvenile Justice Bulletin*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, Office of Juvenile justice and Delinquency Prevention.

Fisher, W., Byrne, D., White, L.A., & Kelly, K. (1988). Erotophobia-erotophilia as a dimension of personality. *Journal of Sex Research*, *26*, 123-151.

Frei, A., Erenay, N., Dittmann, V., & Graf, M. (2005) Paedophilia on the internet - A study of 33 convicted offenders in the canton of lucerne. *Swiss Medical Review*, *135*, 488-494.

Friendman, I., & Supler, K. (2008, December). Child pornography sentencing: The road here and the road ahead. *Federal Sentencing Reporter*, *21*(2), 83-89.

Gosling, S.D., Vazire, S., Srivastava, S., & John, O.P. (2004, February/March). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, *59*(2), 93-104. doi: 10.1037/0003-066X.59.2.93

Graziano, W. G. & Eisenberg, N. H. (1997). Agreeableness: A new dimension of personality. In R. Hogan, J. Johnson & S. Briggs (Eds.). *Handbook of Personality Psychology* (pp. 795-824). Sand Diego: Academic Press.

Graziano, W. G. & Tobin, R. M. (2002, October). Agreeableness: Dimension of personality or social desirability artifact? *Journal of Personality, 70*(5), 695-728.

Graziano, W. G., & Tobin, R. M. (2009). Agreeableness. In M. Leary & R. Hoyle (Eds.). *Handbook of Individual Differences in Social Behavior*. (pp. 46-61). New York: Guilford.

Hald, G. M. (2006). Gender differences in pornography consumption among young heterosexual Danish adults. *Archives of Sexual Behavior, 35*, 577-585.

Herbeck, D. (2008, March 31). Women Are Seldom Consumers of Child Porn. Retrieved June 30, 2008 from the *The Buffalo News* Web site http://www.buffalonews. com/339/story/185601.html

Hessick, C.B. (2010). Disentangling child pornography from child sex abuse. *Washington University Law Review, 88*, 853-902.

Howitt, D. (1995). Pornography and the paedophile: Is it criminogenic? *British Journal of Medical Psychiatric, 68*, 15-27.

Internet World Stats. (2008, December). *Internet Usage Statistics: The Internet Big Picture – World Internet Users and Population Stat*. Retrieved March 22, 2009 from Internet World Stats Web site: http://www.internetworldstats.com/stats.htm

Internet Watch Foundation. (2009, April). *2008 Annual and Charity Report*. Retrieved November 11, 2009 from Internet Watch Foundation Web site: http://www.iwf.org.uk/corporate/page.208.htm

Jenkins, P. (2001). *Beyond tolerance: Child pornography online*. New York, NY: New York University Press.

Joinson, A. (1999, August). Social desirability, anonymity, and internet-based questionnaires. *Behavior Research Methods, Instruments, & Computers: A Journal of the Psychonomic Society, Inc. 31*(3), 433-438.

Jones, L. (1998). Regulating child pornography on the internet – The implications of Article 34 of the United Nations Convention on the Rights of the Child. *The International Journal of Children's Rights*, 6, 55-79.

Kingston, D. A., Malamuth, N. M., Fedoroff, P., & Marshall, W. L. (2009). The importance of individual differences in pornography use: Theoretical perspectives and implications for treating sexual offenders. *Journal of Sex Research, 46*(2-3), 216-232.

Krone, T. (2005). International police operations against online child pornography. *Trends and Issues in Crime and Criminal Justice, No. 296*. Canberra, Australia: Australian Institute of Criminology.

Lanning, K. V. (1992). *Child molesters: A behavioral analysis*. Washington, DC: National Center for Missing & Exploited Children.

Lanning, K. V. (2010). *Child molesters: A behavioral analysis*. (5th Ed.). Washington, DC: National Center for Missing & Exploited Children.

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology, 22*(140), 44-53.

Lynam, D. R. (2011). Impulsivity and deviance. In M. T. Bardo, D. H. Fishbein, & R. Milich (Eds.), *Inhibitory Control and Drug Abuse Prevention*. (pp. 145-160). New York, NY: Springer. doi: 10.1007/978-1-4419-1268-8_8

Malamuth, N. & Huppin, M. (2007). Drawing the line on virtual child pornography: Bringing the law in line with the research evidence. *N.Y.U. Review of Law and Social Change, 31*, 773-790.

McLaughlin, J. (1998). Technophilia: A modern day paraphilia. *Knight Stick: Publication of the New Hampshire Police Association, 51,* 47-51.

McLaughlin, J. (2000). *Cyber Child Sex Offender Typology*. Retrieved October 07, 2008 from Keene Police Department Web site: http://www.ci.keene.nh.us/police/ Typology

Mehta, M. D. (2001). Pornography in usenet: A study of 9,800 randomly selected images. *CyberPsychology & Behavior*, *4*(6), 695-703.

Mehta, M. D., & Plaza, D. E. (1997). Pornography in cyberspace: An exploration of what's in usenet. In S. Kiesler (Ed.), *Culture of the Internet*. Mahway, NJ: Lawrence Earlbaum Associates, p. 53-67.

Miller, J. D., Lynam, D. R., & Jones, S. (2008). Externalizing behavior though the lens of the five-factor model: A focus on agreeableness and conscientiousness. *Journal of Personality Assessment*, *90*(2). 158-164. doi: 10.1080/00223890701845245

Morahan-Martin, J. & Schumacher, P. (2000). Incidence and correlates of pathological Internet use among college students. *Computers in Human Behaviour*, *16*, 13-29.

Mueller, J., Jacobsen, D., & Schwarzer, R. (2000). What are computing experiences good for?: A case study in online research. In M. H. Birnbaum (Ed.), *Psychological experiments on the internet* (pp. 195-216). New York, NY: Academic Press.

Mullins-Sweatt, S. N., Jamerson, J. E., Samuel, D. B., Olson, D. R., & Widiger, T. A. (2006). Psychometric properties of an abbreviated instrument of the five-factor model. *Assessment, 13*, 119-137.

National Center for Missing and Exploited Children (2009, August). *CyberTipline Fact Sheet*. Retrieved from National Center for Missing and Exploited Children website: http://www.missingkids.com

O'Brien, M. D. & Webster, S. D. (2007). The construction and preliminary validation of the internet behaviours and attitudes questionnaire (IBAQ). *Sex Abuse, 19*, 237-256.

O'Donnell, I., & Milner, C. (2007). *Child pornography: Crime, computers and society*. Portland, Oregon: Willan Publishing.

Paul, B. (2009). Predicting internet pornography use and arousal: The role of indivdiuald difference variables. *Journal of Sex Research, 46*(4), 344-357.

Paulhus, D. L. (2002). Socially desirable responding: The evolution of a construct. In H.I. Braun, D.N. Jackson, & D.E. Wiley (Eds.). *The role of constructs in psychological and educational measurement*, (pp. 46-69). Mahwah, NJ: Lawrence Erlbaum.

Pauls, C. A. & Stemmler, G. (2003). Substance and bias in social desirability responding. *Personality and Individual Differences, 35*, 263-275.

Quayle, E. (2008, September). The COPINE project. *Irish Probation Journal*, 5, 65-83.

Quayle, E. & Taylor, M. (2002). Paedophiles, pornography and the internet: Assessment issues. *British Journal of Social Work, 32*, 863-875.

Quayle, E. & Taylor, M. (2003). Model of problematic Internet use in people with a sexual interest in children. *CyberPsychology & Behavior, 6*, 93–106.

Ray, J.V., Kimonis, E.R., & Donoghue, C. (2010). Legal, ethical, and methodological considerations in the internet-based study of child pornography offenders. *Behavioral Sciences and the Law, 28,* 84-105.

Reijnen, L., Bulten, E., & Nijman, H. (2009). Demographic and personality characteristics of Internet child pornography downloaders in comparison to other offenders. *Journal of Child Sexual Abuse, 18,* 611-622.

Rogers, M., Seigfried, K., & Tidke, K. (2006). Self-reported computer criminal behavior: A psychological analysis. *Digital Investigation, 3*, 116-120.

Rogers, M., Smoak, N., & Liu, J. (2006). Self-reported computer criminal behavior: A big-5, moral choice and manipulative exploitive behavior analysis. *Deviant Behavior*, *27*, 1-24.

Ropelato, J. (2006). *Internet pornography statistics*. Retrieved November 15, 2006, from Internet Filter Review Web Site: http://internet-filter-review.toptenreviews.com /internet-pornography-statistics.html

Sakakibara, N. (2008, December 4). *Japan main culprit in online child pornography*. Retrieved December 15, 2008, from AsiaOne Web Site: http://digital.asiaone.com/

Seigfried, K. (2007). *Self-reported online child pornography behavior: A psychological analysis*. Unpublished master's thesis, John Jay College of Criminal Justice, New York.

Seigfried, K., Lovely, R., & Rogers, M. (2008). Self-reported consumers of Internet child pornography: A psychological analysis. *International Journal of Cyber Criminology*, *2*(1), 286-297.

Seigfried-Spellar, K. & Rogers, M. (2010). Low neuroticism and high hedonistic traits for female Internet child pornography consumers. *CyberPsychology & Behavior.*

Seigfried-Spellar, K., Rogers, M., & Lynam, D. (2010, February). *Psychological assessments and attitudes toward deviant computer behaviors*. Paper presented at the American Academy of Forensic Sciences 62nd Annual Scientific Meeting, Seattle, WA.

Seto, M., & Eke, A. (2005). The criminal histories and later offending of child pornography offenders. *Sexual Abuse: A Journal of Research and Treatment. 17*(2), 201-210.

Sheldon, K. & Howitt, D. (2008). Sexual fantasy in paedophile offenders: Can any model explain satisfactorily new findings from a study of Internet and contact sexual offenders? *Legal and Criminological Psychology*, *13*, 137-158.

Shim, J. W., Lee, S., & Paul, B. (2007). Who responds to unsolicited sexually explicit materials on the Internet?: The role of individual differences. *CyberPsychology & Behavior*, *10*(1), 71-79.

Smiljanich, K. (1992). Attitudes towards sexual abuse: Sex differences and construct validity. *Journal of Research in Personality*, *26*, 398-406.Brown, J. (2008). *The enemy in the screen: A collective case study on perpetrators of internet crimes against children.* Unpublished doctoral dissertation, Liberty University, Lynchburg, Virginia.

Strauss, J. P., Connerley, M. L., & Ammermann, P. A. (2003, March). The "threat hypothesis," personality, and attitudes toward diversity. *The Journal of Applied Behavioral Science*, *39*(1), 32-52. doi: 10.1177/0021886303252594

Sullivan, C. (2005). *Internet traders of child pornography: Profiling research.* Retrieved November 15, 2006 from Censorship Compliance Unit of the Department of Internal Affairs Web site: http://www.dia.govt.nz/Pubforms.nsf/URL/ Profilingupdate3.pdf/$file/Profilingupdate3.pdf

Survey Sampling International (2005). Questionnaire length & fatigue effects. Retrieved March 26, 2010 from *Survey Sampling International Web* site: http://www.surveysampling.com

Survey Sampling International (2009). Verification in the Online World. Retrieved March 26, 2010 from *Survey Sampling International Web* site: http://www.surveysampling.com

Tabachnick, B. G. & Fidell, L. S. (2007). *Using Multivariate Statistics* (5 ed.). Boston, MA: Pearson Education, Inc.

Tate, T. (1990). *Child pornography: An investigation.* London, England: Methuen.

Taylor, M. (1999). The nature and dimensions of child pornography on the Internet *Combating child pornography on the Internet* conference, Vienna. www.asem.org/Documents/aaconfvienna/ pa_taylor.html

Taylor, M., Holland, G., & Quayle, E. (2001). Typology of paedophile picture collections. *The Police Journal, 74*, 97-107.

Taylor, M., & Quayle, E. (2003). *Child pornography: An internet crime*. New York, NY: Brunner-Routledge.

Utting, W., Baines, C., & Stuart, M. (1997). *People like us: The report of the review of the safeguards for children living away from home*. London, England: The Stationary Office.

Warner, R.M. (2007). Applied statistics: From bivariate through multivariate techniques. Thousand Oaks, CA: Sage Publications, Inc.

Weaver, J.B. III. (2000). Personality and entertainment preferences. In D. Zillmann & P. Vorderer (Eds.), *Media Entertainment: The Psychology of its Appeal*. (pp. 235-248). Mahway, NJ: Lawrence Erlbaum Associates, Inc.

Webb, L., Craissati, J., & Keen, S. (2007). Characteristics of internet child pornography offenders: A comparison with child molesters. *Sex Abuse, 19,* 449-465.

Weisskirch, R., & Murphy, L. (2004, Summer). Friends, porn, and punk: Sensation seeking in personal relationships, internet activities, and music preference among college students. *Adolescence, 39*(154), 189-201.

Wells, M., Finkelhor, D., Wolak, J., & Mitchell, K. (2007). Defining child pornography: Law enforcement dilemmas in investigations of Internet child pornography possession. Police Practice and Research, 8(3), 269-282.

Widiger, T. (2004). Five Factor Model Rating Form (FFMRF). Retrieved May 19, 2009 from www.uky.edu/~widiger/ffmrf.rtf

Widiger, T. A. & Lowe, J. R. (2007). Five-factor model assessment of personality disorder. *Journal of Personality Assessment, 89*(1), 16-29.

Williams, K., Cooper, B., Howell, T., Yuille, J., & Paulhus, D. (2009). Inferring sexually deviant behavior from corresponding fantasies: The role of personality and pornography consumption. *International Journal of Criminal Justice and Behavior*, *36*(2), 198-222.

Williams, K., Howell, T., Cooper, B., Yuille, J., & Paulhus, D. (2004, May). *Deviant sexual thoughts and behaviors: The roles of personality and pornography use.* Poster Sessions presented at the 16th Annual American Psychology Society, Chicago.

Wolak, J., Finkelhor, D., & Mitchell, K. (2005). *Child pornography possessors arrested in internet-related crimes: Findings from the national juvenile online victimization study*. Alexandria: VA: National Center for Missing & Exploited Children.

Wolak, J., Finkelhor, D., & Mitchell, K. (2009, December). *Law enforcement responses to online child sexual exploitation crimes: The national juvenile online victimization study, 2000 & 2006*. Washington, DC: National Center for Missing & Exploited Children.

Wolak, J., Mitchell, K., & Finkelhor, D. (2003, November). *Internet sex crimes against minors: The response of law enforcement*. Washington, DC: National Center for Missing & Exploited Children.

Wortley, R., & Smallbone, S. (2006). *Child pornography on the internet*. Washington, DC: United States Department of Justice.

Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge, UK: Cambridge University Press

APPENDIX

APPENDIX

CHILD PORNOGRAPHY IMAGE PREFERENCE SCALE

Below are a number of items related to your preference for sexually explicit websites. You will probably find that you like some of the items and dislike some others and that is okay. We realize that everyone is different, so please respond as honestly as you can.

Remember, this survey is completely confidential and anonymous, meaning there is no way that your responses will be linked back to you.

STRONGLY DO NOT PREFER		*indifferent*		STRONGLY PREFER
1	2	3	4	5

1 if you *strongly do not prefer* the item

2 if you *do not prefer* the item

3 if you feel *indifferent or neutral* about the item

4 if you *prefer* the item

5 if you *strongly prefer* the item

1. Pornographic images of infants.
2. Pornographic images of toddlers.
3. Pornographic images of preteens.
4. Pornographic images of teens.
5. Pornographic images of children who are developed (e.g., pubic hair).
6. Pornographic images of boys.
7. Pornographic images of girls.

8. Pornographic images featuring only children.
9. Pornographic images featuring children with adults.
10. Non-pornographic images of children posing.
11. Images of children posing sexually or provocatively.
12. Pornographic images of children that focus on the genitals.
13. Images of children performing sexual acts on other children.
14. Images of children performing sexual acts on other adults.
15. Images of children performing sexual acts on themselves (e.g., self-masturbation).
16. Images of children performing sexual acts on or with animals.
17. Pornographic images depicting power or control over the child.
18. Pornographic images of children depicting bondage (e.g., being tied-up).
19. Pornographic images of children depicting violence (e.g., hit, kicked).
20. Pornographic images of children from different racial or ethnic backgrounds.
21. Pornographic images of children that are novel or unusual.

VITA

VITA

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EDUCATION

Doctor of Philosophy, PhD Candidate August 2011
Purdue University West Lafayette, IN
College of Technology, Computer & Information Technology, Cyber Forensics
Dissertation: *The Role of Individual Differences in Predicting the Type of Images Collected by Internet Child Pornography Consumers*
Advisor: Dr. Marcus Rogers

Master of Arts in Forensic Psychology May 2007
John Jay College of Criminal Justice, City University of New York New York, NY
Department of Psychology
Thesis: *Self-Reported Online Child Pornography Behavior: A Psychological Analysis*
Advisor: Dr. Richard Lovely

Bachelor of Arts with Highest Distinction May 2005
Purdue University West Lafayette, IN
College of Liberal Arts
Double Major: Psychology, Law and Society
Double Minor: Forensic Science, English

RESEARCH EXPERIENCE

Cyber Forensics Research Coordinator August 2007 – August 2011
Purdue University West Lafayette, IN
College of Technology, Computer & Information Technology, Cyber Forensics

As the research coordinator, duties include developing and conducting research studies in the area of computer deviance, collecting and analyzing the results, and writing reports and manuscripts for journal submission and conference presentations. Responsible for researching and identifying grant opportunities as well as coordinating faculty members from different departments during the development, completion, and submittal of grant applications. Also, responsibilities include mentoring and advising the department's graduate students regarding their research projects, their IRB protocols, and their academic progression within the program.

TEACHING EXPERIENCE

Graduate Teaching Certificate Certified April 2008
Purdue University, Center for Instructional Excellence (CIE) West Lafayette, IN

12 hrs of teaching and professional development training, which included topics such as student-teacher relationships, the basics of testing, and academic integrity and plagiarism.

Psychology Research Methods Teaching Assistant August 2007 – May 2011
Purdue University West Lafayette, IN
Department of Psychological Sciences

Instructor and grader for Psych 203: Intro to Research Methods (Lab), which is a 2 hour class on research design, methodology, and professional writing in psychology. Responsible for approximately 25 students per section. Developed PowerPoint lectures, in-class activities, and class assignments. Received "very good" to "excellent" ratings in the student's evaluation of the course and my teaching performance. Course evaluations are available upon request.

PUBLICATIONS

Rogers, M. K., & Seigfried-Spellar, K. C. (expected 2011). Internet child pornography: Legal issues and investigative tactics. In T Holt (Ed.), *Crime On-Line: Correlates, Causes, and Context*. Durham, NC: Carolina Academic Press.

Seigfried-Spellar, K., Lovely, R., & Rogers, M. (2011, February). Personality assessment of self-reported Internet child pornography consumers using Bandura's theory of reciprocal determinism. In K. Jaishankar (Ed.), *Cyber Criminology: Exploring Internet Crimes and Criminal Behavior*. Boca Raton, FL: CRC Press.

Seigfried-Spellar, K. & Rogers, M. (2010, May 11). Low neuroticism and high hedonistic traits for female Internet child pornography consumers. *Cyberpsychology, Behavior, and Social Networking.* Advance online publication. doi: 10.1089/cyber.2009.0212

Seigfried, K., Lovely, R., & Rogers, M. (2008). *Self-reported Internet child pornography users: A psychological analysis*. International Journal of Cyber Criminology, *2*(1), 286-297.

Seigfried, K. (2007). *Self-reported online child pornography behavior: A psychological analysis*. Unpublished master's thesis, John Jay College of Criminal Justice, New York.

Rogers, M., Seigfried, K., & Tidke, K. (2006). Self-reported computer criminal behavior: A psychological analysis. *Digital Investigation*, 3, 116-120.

Rogers, M. & Seigfried, K. (2004). The future of computer forensics: A needs analysis survey. *Computers & Security*, 23, 12-16.

WORKSHOPS

Rogers, M. & Seigfried-Spellar, K. (2009, July). Investigating online consumers of child pornography. In *1st Annual ACM Northeast Digital Forensics Exchange*. John Jay College of Criminal Justice, City University of New York, New York.

Seigfried-Spellar, K. (2009, August). Investigating computer crime with behavioral science. Symposium conducted at the *Indo-US Conference and Workshop on Cybersecurity, Cybercrime, and Cyberforensics*, Kochi, India.

CONFERENCES

Seigfried-Spellar, K. & Rogers, M. (2011, February). *Exploring the Progression of Nondeviant and Deviant Pornography Use By Age of Onset and Sex*. Accepted for presentation at the American Academy of Forensic Sciences 63rd Annual Scientific Meeting, Chicago, IL.

Rogers, M. & Seigfried-Spellar, K. (2011, February). *Development of an Offender Classification Based Investigative Protocol for Use with Online Consumers of Child Pornography Cases: An Information, Technology, and Behavioral Sciences Approach.* Accepted for presentation at the American Academy of Forensic Sciences 63rd Annual Scientific Meeting, Chicago, IL.

Seigfried-Spellar, K., Rogers, M., & Lynam, D. (2010, February). *Psychological Analysis of Computer Criminal Behavior: Preliminary Findings*. Paper presented at the American Academy of Forensic Sciences 62nd Annual Scientific Meeting, Seattle, WA.

Rogers, M., & Seigfried-Spellar, K. (2009, August). *The future of digital forensics: Merging behavioral science and digital evidence*. Position paper presented at the Indo-US Conference and Workshop on Cybersecurity, Cybercrime, and Cyberforensics, Kochi, India.

Seigfried, K., & Rogers, M. (2008, July*).* Self-reported female consumers of Internet child pornography: A psychological analysis. Paper presented at the 18th International Association of Forensic Science Triennial Meeting, New Orleans, LA.

Rogers, M., & Seigfried, K. (2005, March). *Psychological Profiling and Computer Forensics: Locard's Principle in the Digital World*. Poster session presented at the 6th Annual Information Security Symposium, Purdue University, West Lafayette, IN.

Seigfried, K. (2004, March). *Computer Criminal Taxonomy: A Critical Analysis*. Poster presented at the 5th Annual Information Security Symposium, Purdue University, West Lafayette, IN.

PROFESSIONAL ORGANIZATIONS

American Psychological Association (APA), Associate Member
Sept. 2010 - Present

American Academy of Forensics Sciences (AAFS), Student Affiliate
Feb. 2009 - Present

AWARDS

Bilsland Dissertation Fellowship March 2010
Purdue University, College of Technology

Provides support to outstanding Ph.D. candidates in their final year of writing.