



# Individual Differences of Internet Child Pornography Users: Peculiar Findings in a Community-Based Study

Kathryn Seigfried-Spellar<sup>1</sup>

The University of Alabama, USA

## Abstract

*The current study explored the personality and cognitive characteristics of self-reported consumers and non-consumers of Internet child pornography. Respondents were solicited to complete an anonymous online survey from countries where it is illegal to possess, distribute, and produce Internet child pornography; 257 respondents (94%) were classified as non-consumers, and 16 respondents (6%) were classified as Internet child pornography consumers. Results suggested child pornography consumers are more agreeable and less likely to make moral decisions based on social values compared to non-consumers. By exploring the trait “agreeableness,” the author believes that individuals who reported child pornography use were more trusting and compliant compared to those individuals who did not. The author further discusses this finding and how the Institutional Review Board protocol restrictions may have impacted the inferential validity of the findings.*

Keywords: Child pornography, Individual differences, Personality, Institutional review board, Internet-based research.

## Introduction

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. For instance, the United Kingdom’s Internet Watch Foundation’s Hotline (IWF, 2012) processed 39,211 reports of child sex abuse content online; 25% (9,702) of the reported cases were confirmed. 9,550 websites contained child pornography hosted on 1,591 domains worldwide and traced to 38 countries. 54% or 5,155 of these websites were hosted by North America. Finally, the number of child sex abuse images showing children under the age of 10 has increased from 74% in 2011 to 81% in 2012, respectively (IWF, 2012).

From a socio-cultural perspective, there is a detrimental separation between the social (norms, legislation) and environmental (computer availability) constraints of computer criminal behavior, which is a direct result of the globalization of technology. Despite national and international attempts at regulating child pornography (high social constraint), the low environmental constraint is a result of the ease of accessibility and availability of

<sup>1</sup>Assistant Professor, Department of Criminal Justice, The University of Alabama, P.O. Box 870320, 425 Farrah Hall, Tuscaloosa, AL 35487, USA. Email: [kseigspell@as.ua.edu](mailto:kseigspell@as.ua.edu)

computers and the Internet. According to Bandura's Theory of Reciprocal Determinism, an individual's personality traits become important in predicting human behavior when environmental constraints are low (Bandura, 1986; 1994). The globalization of technology will continue to make it easier for individuals to engage in criminal behaviors involving computers, such as Internet child pornography. Still, even with the globalization of technology, only some individuals engage in Internet child pornography. Therefore, it is important to understand the personality and psychological characteristics related to Internet 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), 160 male undergraduate students responded to personality measures then indicated their preference for various descriptions of sexual (violent sex, child sex) and nonsexual media themes in order to assess whether personality differences predicted their preference for certain types of pornography. Results suggested 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 (Bogaert, 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 (Bogaert, 1993).

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) for 90 men convicted of Internet child pornography offenses 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. Reijnen et al. (2009) reported 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 suggested the 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. A 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). The results indicated the female consumers of child pornography had 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). 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).

Research has shown a relationship between individual differences and preferences in sexual media. The current study had two 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 an Internet sample of respondents via an online web survey rather than offenders from the clinical or forensic population. Second, the study examined whether the consumers of Internet child pornography exhibited different personality characteristics and traits from the non-consumers by using several personality and psychological surveys, such as the Five Factor Model Rating Form, which have been previously validated in the area of general and computer deviance.

The non-manipulated independent variable or predictor variable for this study was self-reported consumption of Internet child pornography (i.e., viewing, downloading, or exchanging pornographic materials featuring individuals under the age of 18 years). The dependent variables for this study were the scores on various questionnaires assessing personality (i.e., neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) and cognitive (i.e., moral decision-making) characteristics. Based on the modest amount of research assessing the personality characteristics of child pornography users, the author expects to find personality and cognitive differences between self-reported consumers and non-consumers of Internet child pornography.

## Method

### 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 met the current needs of this study, which desired to: 1) sample respondents from the “general population of Internet users” and 2) increase the respondents’ confidence in self-disclosure of sensitive topics. In order to participate in the study, the respondents had to indicate on the demographics questionnaire 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. The participants were not provided with an incentive by the author. The participants were required to provide consent, and they were able to quit the survey at any time.

### Materials

The respondents’ Internet child pornography behavior was measured using the Online Pornography Survey (OPS; Seigfried, 2007; Seigfried et al., 2008; Seigfried-Spellar & Rogers, 2010). 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. Finally, the word “child” never appears in the OPS, but instead the survey uses the phrase “under the age of 18 years” when referring to child pornography. The phrase “under the age of 18

years” compared to “child” is less inhibiting for the respondents when admitting to criminally sanctioned behaviors and this phrase is the most prevalent definition in national and international law (see Seigfried, 2007).

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.

Individual differences were measured by employing several questionnaires or surveys. First, the Five-Factor Model Rating Form (FFMRF) measured the following individual differences: Neuroticism (emotional instability), Extraversion (positive affect), Openness to Experience (unconventionality), Agreeableness (vs. antagonism), and Conscientiousness (constraint; Widiger, 2004; Widiger & Lowe, 2007). 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. 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.

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.” Cronbach’s alphas for the Moral Decision-Making subscales were acceptable: Social Values ( $\alpha = .65$ ), Internal Values ( $\alpha = .71$ ), and Hedonistic Values ( $\alpha = .69$ ).

### **Design and Procedure**

The study was conducted electronically using an Internet-based survey, and at no time were the respondents asked for any identifying information (e.g., name). Conducting research via the Internet has increased due to the accessibility of respondents and the perceived anonymity and increased willingness to self-disclose socially unacceptable or controversial behaviors or attitudes (Birnbaum, 2000). The survey was publicized or advertised using free online resources including chat rooms, bulletin boards, discussion forums, and social media websites. 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. Next, the respondents were asked to complete the questionnaires, which would take approximately 20 minutes to complete in total. Finally, the participants were taken to the survey’s “Debriefing” page, and the respondents had to decide whether to submit (opt-in) or withdraw their responses (opt-out) from the final dataset.

## Statistical Analyses

Due to the exploratory nature of this study, a zero-order correlation was conducted to identify any personality or cognitive 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 for 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). 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).

## Results

### 1. Descriptives

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 ( $n = 12$ , 75%) and between 18 to 35 years of age ( $n = 12$ , 75%). In addition, the majority self-reported a Caucasian/White identity ( $n = 15$ , 94%) and were current residents of the United States ( $n = 13$ , 81%). 69% ( $n = 11$ ) of the child pornography users were single, and 44% ( $n = 7$ ) 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 religious preference ( $n = 7$ , 44%) compared to non-religious preference ( $n = 9$ , 56%). It should be noted that 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).

Of the demographic variables, sex was significantly associated with child pornography use (Two-Tailed Fisher’s Exact Test,  $p = 034$ ), suggesting male respondents were more likely to self-report engaging in Internet child pornography use compared to female respondents (see Table 1).

**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,  $p = .034$



## 2. Hypothesis Testing

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. The zero-order correlation suggested child pornography use is positively related to Agreeableness and negatively related to Social Values.

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

	CP User	Sex	Neurot	Extra	Open	Agree	Consc	HV	SV	IV
CP User	1	-0.13**	0.02	0.03	0.09	0.14**	0.01	-0.03	-0.12*	-0.09
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, 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  $p = .056$ . 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**

Individual Differences	Child Pornography	
	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 personality and cognitive variables (Agreeableness, Social Value) 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 ( $W = 6.51, p = .01$ ) and Social Values ( $W = 5.02, p = .03$ ), meaning individuals who scored high on agreeableness and low on social values were 3.7 times and .6 times (respectively) more likely to be consumers of Internet child pornography.

**Table 4. Exploratory Backward (Wald) Logistic Regression for CP Use (N = 272)**

Variable	<i>B</i>	<i>SE B</i>	<i>Exp (B)</i>
Step 1			
Agree	1.31	0.51	3.71**
SV	-0.50	0.22	0.61*

\*\*  $p < .01$  \*  $p < .05$

Note.  $R^2 = .08$  (Hosmer & Lemeshow) .04 (Cox & Snell) .10 (Nagelkerke). Model  $\chi^2(2) = 10.33, p < .01$ . SV = Social Values; Agree = Agreeableness

The Hosmer and Lemeshow goodness-of-fit test was non-significant,  $X^2(8) = 12.58$  with  $p = .13$ , indicating the final model fit the data. In addition, collinearity diagnostics were conducted in order to test for multicollinearity; Variance inflation factor (VIF) values indicated no cause for concern (Agreeableness, VIF = 1.05; Social Values, VIF = 1.05) and the condition index was less than 30. Overall, the authors' expectation of significant individual differences between child pornography users and non-users was supported; Internet child pornography users were more likely to score high on agreeableness and low on social values compared to non-users of Internet child pornography.

### 3. Exploratory Analyses

Exploratory analyses were conducted in order to better understand the relationship suggested by the results between Agreeableness and child pornography use. Since the Cronbach's alpha was low ( $\alpha = 0.60$ ) for the Agreeableness trait, a principle axis factor analysis with varimax rotation was performed on the Five-Factor Model Rating Form (FFMRF). 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. Instead, Compliance, Modesty, and Tender-Mindedness loaded onto a single 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 (W. Graziano, personal communication, May 23, 2011). As shown in Table 5, 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 5).

**Table 5. 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

Taken together, these results suggested 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 that measured the lack of suspicion (Trust) and lack of aggressive opposition (Compliance).

## Discussion

In the current study, significant differences emerged between the self-reported consumers and non-consumers of Internet child pornography. The results suggested the best predictive model for child pornography use included low scores on social values and high scores on Agreeableness. Social values refer to the way an individual makes moral decisions when considering informal social controls (e.g., societal norms) and formal social controls (e.g., laws). According to these results, child pornography users are less likely to make moral decisions based on social values compared to non-consumers of Internet child pornography. In other words, child pornography users do not consider whether their behaviors are socially or legally “right or wrong.” Future research should assess the relationship between social values and cyberspace. In other words, child pornography users are less likely to make moral decisions based on social values because of the perceived anonymity of the Internet (social values in cyberspace) or they are engaging in other forms of deviant behavior, such as substance abuse (social values in physical space; see Jaishankar, 2008).

The predictive model also 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 pro-social 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 that 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 pro-social 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, p. 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.

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 concludes that 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. However, in the current study, the university's IRB determined deception was used, and as a result, the IRB required the author to include a debriefing form stating that 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 the 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. In addition, the item "Compliance" describes people who are "docile and cooperative." It is possible 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. 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.

Finally, the findings of this study did 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 (c.f., Bandura, 1994). 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.

### **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. Validating the Seigfried et al. (2008) findings, the current study identified personality and cognitive differences between child pornography consumers and non-consumers. Although this finding was most likely influenced by the methodology restrictions set by the IRB, it confirms that psychological studies' involving sensitive populations is possible using Internet-based research designs. 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, so if researchers are restricted from assessing response rates or 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.

### **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. 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 (i.e., child pornography use is legal in some countries; see International Centre for Missing, 2010).

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.

## References

- 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 Communications. In J. Bryant & D. Zillmann (Eds.), *Media Effects: Advances in Theory and Research* (pp 61-90), Hillsdale, New Jersey: Erlbaum.
- 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.
- Chang, L., & Krosnick, J. A. (2009). National surveys via RDD telephone interviewing versus the internet: Comparing sample representativeness and response quality. *Public Opinion Quarterly*, 73(4), 641-678.
- Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, 59(2), 93-104.
- 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). 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.
- International Centre for Missing & Exploited Children (2010). *Child pornography: Model legislation and global review* (6th ed.). Retrieved on 7<sup>th</sup> November 2013 from [http://www.icmec.org/en\\_X1/pdf/Child\\_Pornography\\_Model\\_Law\\_English\\_7th\\_Edition\\_2012.pdf](http://www.icmec.org/en_X1/pdf/Child_Pornography_Model_Law_English_7th_Edition_2012.pdf).
- Internet Watch Foundation. (2012). *IWF Operational Trends 2012*. Retrieved on 5<sup>th</sup> November 2013 from <https://www.iwf.org.uk/resources/trends>.
- Jaishankar, K. (2008). Space transition theory of cyber crimes. In F. Schmallegger & M. Pittaro (Eds.), *Crimes of the internet* (pp. 283-301). Upper Saddle River, NJ: Pearson Education, Inc.
- Joinson, A. (1999, August). Social desirability, anonymity, and internet-based questionnaires. *Behavior Research Methods, Instruments, & Computers: A Journal of the Psychonomic Society*, 31(3), 433-438.
- Miller, J. D., Lynam, D. R., & Jones, S. (2008). Externalizing behavior through the lens of the five-factor model: a focus on agreeableness and conscientiousness. *Journal of Personality Assessment*, 90(2), 158-164.
- 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.
- 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., Smoak, N.D., & Liu, J. (2006). Self-reported computer criminal behavior: A big-5, moral choice and manipulative exploitive behavior analysis. *Deviant Behavior, 27*, 1-24.
- 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 & Social Networking, 13*(6), 629-635.
- Tabachnick, B., & Fidell, L. (2007). *Using multivariate statistics* (5 ed.). Boston, MA: Pearson Education, Inc.
- Warner, R. M. (2007). *Applied statistics: From bivariate through multivariate techniques*. Thousand Oaks, CA: Sage Publications, Inc.
- Webb, L., Craissati, J., & Keen, S. (2007). Characteristics of internet child pornography offenders: A comparison with child molesters. *Sex Abuse, 19*, 449-465.
- Widiger, T. (2004). *Five Factor Model Rating Form (FFMRF)*. Retrieved on 14<sup>th</sup> October 2012 from [www.uky.edu/~widiger/ffmrf.rtf](http://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.