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# The Impact of Timing of Pornography Exposure on Mental Health, Life Satisfaction, and Sexual Behavior

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The Impact of Timing of Pornography Exposure on Mental Health,  
Life Satisfaction, and Sexual Behavior

Bonnie Young

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of

Master of Science

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## ABSTRACT

### The Impact of Timing of Pornography Exposure on Mental Health, Life Satisfaction, and Sexual Behavior

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As pornography has become more widespread, young people are being exposed to pornography at earlier ages. Research examining the relationship between timing of exposure to pornography and outcomes in adulthood of mental health, life satisfaction, sexual behavior and attitudes, and pornography viewing patterns is limited. This study focuses on the relationship between timing of exposure to pornography and individual outcomes in adulthood. Results indicate that earlier exposure to pornography may significantly influence mental health, life satisfaction, sexual behavior and attitudes, and pornography viewing patterns in adulthood. Implications of this study include greater awareness of the risks of early exposure to pornography and unrestrained access to sexually explicit material for young people.

Keywords: pornography, early exposure, early use, timing of exposure

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## **The Impact of Timing of Pornography Exposure on Mental Health, Life Satisfaction, and Sexual Behavior**

Primarily due to the Internet, pornography has become an integral part of the everyday life of young people (Griffiths, 2001; Häggström-Nordin et al., 2005; Johansson & Hammarén, 2007;). Studies have shown that up to 84% of adolescents have seen some form of pornography (Kraus & Russell, 2008), and that up to 42% of adolescents experience unwanted exposure to pornography (Wolak, Mitchell, Finklehor, 2007). As pornography has recently become “almost impossible to avoid” (Häggström-Nordin, Sandberg, Hanson, & Tydén, 2006, p. 389), scholarly attention has increasingly focused on those who are being exposed to and are using pornography in childhood and adolescence (Löfgren-Mårtenson & Månsson, 2010; Mattebo, Tydén, Häggström-Nordin, Nilsson, & Larsson, 2013).

Scholars have noted that pornography use during youth and adolescence may have unique outcomes compared to pornography use during adulthood (Ybarra & Mitchell, 2005). To date, research on pornography use during childhood/adolescence has focused predominantly on the relationship between pornography use during early years and negative outcomes, including risky behaviors, skewed attitudes about sexuality, and sexual behaviors (Brown & L’Engle, 2009). Such research has found links between intentional use of pornography during childhood/adolescence and delinquent behavior, increased substance abuse, and higher numbers of sexual partners during adolescence (Braun-Courville & Rojas, 2008; Ybarra & Mitchell, 2005). Scholars have also reported that viewing pornographic material at younger ages can lead to the normalization of violent sexual behavior, promiscuity, and unequal power dynamics between the genders in sexual relationships (Hunter, Figueredo, & Malamuth, 2010). Because children and adolescents often lack sexual experience or understanding, they may be particularly susceptible

to the influence of pornographic content. Messages or practices conveyed in pornography may seem more realistic to a child with no paradigm for realistic sex than for an individual with more discerning power due to age or experience (Hunter, Figueredo, & Malamuth, 2010; Weber, Quiring, & Daschmann, 2012). Some studies, however, deny strong associations between exposure to pornography during childhood and adolescence and risky sexual behaviors (Sinković, Štulhofer, & Božić, 2013).

Although research has begun to examine behavioral and sexual outcomes of exposure to pornography during childhood/ adolescence (Brown & L'Engle, 2009; Hunter, Figueredo, & Malamuth, 2010; Sinković, Štulhofer, & Božić, 2013), no study to date has looked at how the timing of exposure during these stages influences future mental health, life satisfaction, or patterns of pornography use in adulthood. Understanding the relationships between exposure to pornography during childhood/ adolescence and these outcomes is important because of the potential implications on sexual attitudes and behavior that this exposure may have, especially when such material is available to a vulnerable population.

## **Literature Review**

### **Early Sexual Experiences**

Sexual maturation, including increased physical changes, sex hormones, sexual fantasies, sexual curiosity, and experimenting with masturbation, is a normative experience for adolescents (DeLamater & Friedrich, 2002; Drury & Bukowski, 2013). While this sexual transition begins around ages 10-11 for girls and 11-12 for boys (DeLamater & Friedrich, 2002; Rutter, 1970), the average age for sexual initiation in the United States is age 17.2 for girls and 16.8 for boys (Kail & Cavanaugh, 2010; "Key Statistics"). Because of these averages, any sexual behavior (partnered or with pornography) before the age of 16 will be considered "early" behaviors

throughout this paper. Although partnered sexual activity is often delayed until 5 years after puberty, adolescents often have experiences with pornography before they engage in partnered sexual activity, (Morgan, 2010; Sabina, Wolak, & Finkelhor, 2008; “Sexual activity,” 2012) and this use is frequently paired with masturbation (Galatzer-Levy, 2012; Sun, Bridges, Johnson, & Ezzell, 2016). Because viewing and masturbating to pornography is a sexual experience including an external stimuli and a powerful personal physical response, exposure to pornography marks an important sexual experience for most adolescents. While research on this experience is limited, parallels may be made to previous scholarship focused on outcomes associated with age at first intercourse, another powerful first sexual experience (Sandfort, Orr, Hirsch & Santelli, 2008; Zimmer-Gembeck & Helfand, 2008). Further, because the average age of exposure to pornography is significantly younger than the average age of first intercourse (Morgan, 2010; Sabina, Wolak, & Finkelhor, 2008; “Sexual activity,” 2012), it can be expected viewing and masturbating to pornography may be one of the first sexual experiences with external stimuli many adolescents have.

A strong body of research upholds that younger age at sexual initiation is linked with negative outcomes in adulthood (Heywood, Patrick, Smith, & Pitts, 2015). While some research suggests that negative outcomes of early sex may be a product of sexually conservative attitudes and gendered sexuality (Kim, 2016), or unassociated with problem behaviors at all (Udell, Sandfort, Reitz, Bos, & Dekovic, 2010), other studies have shown that early sexual debut is linked to risky sexual behaviors (O’Donnell, O’Donnell, & Stueve, 2001), increased number of sexual partners (Coker et al., 1994; Sandfort, Orr, Hirsch, & Santelli, 2008), decreased likelihood to engage in protected sex (Coker et al., 1994), higher risk of STIs (Kaestle, Halpern, Miller, & Ford, 2005), increased instances of sexual intercourse under the influence of alcohol (Sandfort,

Orr, Hirsch, & Santelli, 2008), higher likelihood of sexual abuse (Edgardh, 2000), and higher instances of accidental pregnancy (Coker et al., 1994).

Intercourse in early adolescence has also been linked to mental health challenges, including higher rates of depression (Kaltiala-Heino, Kosunen, & Rimpelä, 2003; Vasilenko, Kugler, & Rice, 2016), especially for females with a sexual debut before age 16 (Meier, 2007), and an increased likelihood of disordered eating behaviors (Kaltiala-Heino, Rimpel, Rissanen, & Rantanen, 2001). Some studies, however, have shown that the negative effects of early intercourse on mental health do not extend into adulthood (Spriggs & Halpern, 2008). While these findings may, to a certain extent, parallel existing research showing the negative effects of pornography use on adult and adolescent mental health (Cho, 2016; Nelson, Padilla-Walker, & Carroll, 2010), no study to date has looked at the relationship of early pornography use to mental health outcomes in adulthood. However, research on early sexual intercourse suggests that early pornography use may be related to impaired mental health in adulthood. This is because pornography use, paired with masturbation, may be considered a powerful and formative sexual experience.

While scholars have recognized the link between early sexual experiences and mental health outcomes, research linking pornography use during childhood and adolescence and overall life satisfaction is somewhat limited. In fact, research connecting pornography use and life satisfaction at any developmental stage is limited. However, looking at the relationship between pornography use and life satisfaction is relevant because of the implications of life satisfaction on overall mental, sexual, and emotional health (Headey, Kelley, & Wearing, 1993; Woloski-Wruble, Oliel, Leefsma, & Hochner-Celnikier, 2010). In one of the only studies examining pornography use and quality of life, Hald and Malamuth (2008) found that higher rates of using

pornography depicting explicit sexual acts were associated with positive self-reports of general quality of life. This finding may be evidence of the “third person effect,” in which individuals perceive more negative impact on others than on the self (Lo & Paddon, 2000). Research has also supported that those who experience higher sexual satisfaction experience higher levels of life satisfaction, (Christopher & Sprecher, 2000; Stephenson & Meston, 2015) and some scholars have found that pornography use can increase sexual satisfaction (Lofgren-Martenson & Mansson, 2010; Poulson & Busby, 2013; Weinberg, Williams, Kleiner, & Irizarry, 2010). Thus, using pornography as a mechanism for increasing sexual satisfaction, whether in youth or adulthood, may lead to higher levels of life satisfaction. Yet, pornography has more commonly been found to decrease rather than increase sexual satisfaction (Daneback, Træen, & Månsson, 2009; Morgan, 2011; Peter & Valkenburg, 2009; Yucel & Gassanov, 2010; Zillman & Bryant, 1988), and has also been linked to lower levels of relationship satisfaction (Bridges & Morokoff, 2011; Christopher & Sprecher, 2000; Doran, & Price, 2014; Maddox, Rhoades, & Markman, 2011), which are generally associated with less overall life satisfaction. Thus, because of its effects on sexual, relational, and mental well-being, it is expected that pornography use during childhood or adolescence will be tied to less life satisfaction in adulthood.

Similar to the absence of research examining pornography use and life satisfaction, the relationship between pornography use during adolescence and adulthood has also remained unexamined. It is well established in the literature that sexual behavior during childhood and adolescence has a trajectory throughout the life course (Heywood, Patrick, Smith, & Pitts, 2015), and that some sexual behaviors, such as sexual initiation, in earlier life will influence mental health in adulthood (Vasilenko, Kugler, & Rice, 2016). Because pornography use can be considered sexual activity, we may expect a similar pattern with pornography use across the life

course. Although presently unstudied in the literature, because it has been shown that early sexual behavior is tied to outcomes in adulthood, we suspect that exposure to and use of pornography during childhood and adolescence will also be tied to the patterns of pornography use in adulthood.

### **Early Pornography Exposure Literature**

Many scholars hold that early exposure to pornography is a risk factor in immediate and long-term outcomes because of the potential emotional and physical reactions of children or adolescents and the developmental appropriateness of sexual content at young ages (Cantor, Mares & Hyde, 2003; Owens, Behun, Manning, & Reid, 2012). Research looking at intentional vs. accidental pornography exposure has found that the majority of pornography exposure among young people is accidental, and young children often encounter sexual media by circumstances beyond their control (Cantor, Mares, & Hyde, 2005; Flood, 2007). Adults and older adolescents are frequently absent when young people are exposed to sexual content (Cantor, Mares & Hyde, 2003). Further, scholars have found that individuals exposed to pornography at later ages have more power over decision-making, and more capable of discerning reality and interpreting sexual meaning (Cantor, Mares & Hyde, 2003).

Yet other research supports that exposure to pornography, even at young ages, is a normative experience (Sabina, Wolak, & Finkelhor, 2008; Ybarra & Mitchell, 2005). For example, according to González-Ortega and Orgaz-Baz (2013), only one of six Spanish university students exposed to pornography during adolescence remembered having a strong or negative reaction to it. Other studies have reported that most adolescents are able to acquire the necessary skills to use and interpret pornographic material in a thoughtful manner (Löfgren-Mårtenson & Månsson, 2010). Adolescents often self-report no personal effects as a result of pornography use (Cameron, et al., 2005). However, these perceptions may be a result of

adolescents' developmental capabilities to recognize effects of such use, or are connected to individual characteristics or cultural contexts such as sexual attitudes or general acceptance of pornography use.

A majority of the early exposure literature has paralleled studies on adult pornography use outcomes, with a focus on how pornography influences sexual attitudes, risks, and behaviors. Generally, it is supported that adolescent pornography use is significantly related to early partnered sexual behavior, more sexual partners, less relationship satisfaction, and less sexual satisfaction during adolescence (Braun-Courville & Rojas, 2008; Brown & Engle, 2009; Collins et al., 2004; Morgan, 2011). Further, frequency of adolescent pornography use is linked to higher sexual preference for sexual practices conveyed in pornography, agreement of stereotyped gender roles and power imbalance in sexual relationships, acceptance of premarital sex, and preoccupation with sexual fantasies (Brown & L'Engle, 2009; Morgan, 2011). However, no significant relationship has been found between exposure to pornography during childhood or adolescence and sexual compulsivity (Stulhofer, Jelovica, & Ruzic, 2008) or sexual risk taking, although early exposure may be seen as an additive risk factor for sexual risk taking (Sinković, Štulhofer, & Božić, 2013). Some research has found, however, pornography use during childhood/adolescence to be linked to continued patterns of pornography use in adulthood (Willoughby, 2016).

### **Sexual Script Theory**

Many of the outcomes of early exposure to pornography discussed in this paper may be explained by sexual script theory. According to sexual script theory, the timing of pornography exposure may be an important factor in the attitudes and beliefs about sex and sexuality held by children and adolescents. Scholars studying the functions of pornographic scripts as frames of reference for young people in relation to sexual ideals and expectations have found that young

people are especially susceptible to themes conveyed in sexual material (Häggström-Nordin, Sandberg, Hanson, & Tydén, 2006). According to sexual script theory, individuals learn “the when, where, how, with whom, and why of sexuality” from cultural and social messages about and portrayals of sexuality (Löfgren-Mårtenson & Månsson 2010, p. 2). Many studies have found that pornography users acquire information and learn sexual scripts through their pornography use, including creating sexual expectations or performing certain acts (Alexy, Burgess, & Prentky, 2009; Häggström -Nordin, Tydén, Hanson, & Larsson, 2009; Häggström-Nordin, Sandberg, Hanson, & Tydén, 2006; Hunter, Figueredo, & Malamuth, 2010). Thus, if certain acts are frequently viewed in pornography, viewers (and especially younger viewers) may begin to see those behaviors as normative or acceptable.

Peter and Valkenburg (2010) found that the more frequently adolescents are exposed to pornography, the more likely they are to perceive pornographic content to be similar to real-world sex, as well as more likely to believe that pornography is a useful source of information about sex. As many popular pornographic videos normalize having multiple sexual partners or suggest that having more sexual partners will lead to greater sexual satisfaction (Klaassen & Peter, 2015), it could be expected that those who view pornography more frequently, especially starting at younger ages, will have more sexual partners. These studies suggest that pornography use influences sexual attitudes and behaviors, and provide evidence that early experiences with pornography may lead to outcomes in adulthood. Experiencing a disconnect between sexual expectations and actual partnered sexual behavior could contribute to lower levels of mental health or life satisfaction. However, no research to date examines how pornography use during childhood or adolescence is linked to adult sexual attitudes or behaviors such as number of sexual partners or acceptability of certain sexual acts.

Research on adolescent sexual initiation provides compelling evidence that early sexual experiences impact sexual, relational, and mental health outcomes. Because viewing and masturbating to pornography is a sexual experience, significant results may be expected from early exposure to pornography. The research on early exposure to pornography during childhood and adolescence is predominately focused on prevalence of exposure and sexual outcomes, and has yet to address mental health, quality of life, or patterns of pornography use in adulthood. Thus, this study aims at answering the following research questions:

RQ1: How does timing of pornography exposure impact mental health in adulthood?

RQ2: How does timing of exposure to pornography impact overall quality of life in adulthood?

RQ3: How does timing of pornography exposure impact partnered sexual behavior and attitudes toward partnered sex?

RQ4: How does timing of pornography exposure impact future pornography viewing behaviors?

## **Methods**

### **Participants**

This study is based on data collected in 2015 from an international sample of 1697 individuals who took an online survey via Amazon's Mechanical Turk (MTurk) website and answered questions on past and present pornography use and attitudes, mental health, and relationship patterns. Forty-eight percent of the sample was male and 52% was female. Participants ranged in age from 18-72 ( $M=31.9$ ,  $SD=9.83$ ). Fifty-three percent of the sample was White, 33.1% was Asian, 6.3% was Black, and 4.5% was Latino. Participants reported a variety

of religious affiliations: 28% reported none, 24.5% reported Hindu, 19.6% reported Protestant, 15.9% reported Catholic, 3.1% reported Muslim, and 5.3% reported “other.” Our two largest cultural groups were North American (56.3%) and Southeast Asian (31%). T-test analyses revealed no significant differences between North American and Southeast Asian participants in frequency of viewing pornography. However, significant differences were found between North American and Southeast Asian participants with all of our other outcomes of. Because of this, and because nearly 100% of the participants from Southeast Asia were Asian, we included race as a control variable in all of our analyses.

### **Procedure**

Participants were recruited to take an online survey via MTurk website in the spring of 2015. Informed consent was obtained online, and only after participants indicated consent were they able to take the 20-30 minute survey and receive the compensation (.25\$) through MTurk. Sections of the survey addressed areas such as life satisfaction, depression, emotional regulation, history of pornography use, attitudes about pornography, and relationship history.

### **Measures**

**Pornography use.** In the survey participants took, pornography was defined as “any material intended for the sexual arousal of its viewer.” To measure frequency of pornography use, each participant was asked “Have you viewed pornography in the last 12 months?” and could select “yes” or “no.” If respondents selected “yes,” they were directed to the question: “How often do you typically view pornography?” and were instructed to choose from the following responses: Daily (7), 2-6 times a week (6), About every other week (5), About every month (4), About once every few months (3), About twice a year (2), About once a year or less (1), and those who selected “no” to viewing pornography in the last 12 months were classified as “never” (0) ( $M=3.89$ ,  $SD=1.92$ ). Participants were also instructed to select “yes” (1) or “no” (0)

for the item “In the past 12 months, I viewed hardcore material including violent sex, child sex, or rape.”

**Age of exposure.** To measure first exposure to pornography, participants were asked to indicate every year that they had viewed pornography from ages 7 through 30. First exposure was measured by each respondent’s earliest selection from these items. For our categorical analyses, participants were placed in one of five categories: ages 7-11 (1), ages 12-15 (2), ages 16-17 (3), ages 18-30 (4), and those who were never exposed (did not select any of the ages) were included in a final (5) category ( $M=3.21$ ,  $SD=1.24$ ). Based off scholarship on human development and sexual maturation (Marshall & Tanner, 1969; Marshall & Tanner, 1970; Morris & Udry, 1980), combined with the assumption that adolescents who are more advanced in pubertal development are more likely to be engaged in sexual behavior (Baams, Dubas, Overbeek, & Van Aken, 2015), participants were split into these groups. The first group (ages 7-11) parallels Freud’s latency stage where children generally experience little or no sexual motivation (Bidwell, 2003; Freud, 2014). Our second group (ages 12-15) captures the beginning stages of sexual development. This stage is commonly characterized by increasing sexual feelings and preoccupations and may be accompanied by masturbating behaviors, experimenting with sexuality, sexual conversation between peer groups, and fantasies (Bidwell, 2003). Partnered sexual behavior on average does not happen in this stage, but in the age ranges captured in the third group (Kail & Cavanaugh, 2010; “Key Statistics”). The third group (age 16-17) captures later adolescence when participants may have real-life sexual experiences to compare their pornography behaviors with. The fourth group (ages 18+) marks a more complete stage sexual development where adolescents have more sexual knowledge, experience, and control over decision making (Bidwell, 2003). While individual variation exists in sexual

maturation, these age groups were created based on general sexual development averages for boys and girls (Parent et al., 2003).

**Sexual partners.** Sexual partners ( $M=4.99$ ,  $SD=3.61$ ) were measured by the item “How many sexual intercourse partners have you ever had?” Participants were instructed to select the number of partners from the responses 0-9 or 10+. As the median number of lifetime sexual partners for American women is 4.3 and American men is 6.6 (“Key statistics”), we chose ten as our upper cutoff.

**Attitudes about sexual behavior.** Attitudes about sexual behavior were explored by asking participants to indicate how acceptable it was for “women/ men (different items) to view hardcore pornography containing abuse or coercion.” Participants responded on a scale from 1-10, where 1 indicated participants believed viewing pornography containing abuse or coercion was “not acceptable” for women/ men and 10 indicated participants believed viewing pornography containing abuse or coercion was “completely acceptable” for women ( $M=2.44$   $SD=1.37$ )/ men ( $M=2.49$   $SD=1.36$ ).

**Mental health.** Depression ( $M=2.06$ ,  $SD= .715$ ) was measured using 7 items from the validated CES-D scale (Radloff, 1977). The CES-D scale is a self-report depression scale for research in the general population, and although it has somewhat different factor structures across racial and ethnic groups, it is appropriate to use with diverse populations (Roth, Ackerman, Okonkwo, & Burgio, 2008). The Chronbach’s alpha was .863, indicating strong reliability. Items included on this scale were “I felt that I could not shake off the blues even with the help from my family or friends,” “I felt depressed,” “I had trouble keeping my mind on what I was doing,” “I felt that everything I did was an effort,” “My sleep was restless,” “I enjoyed life,” and “I felt sad.” Participants rated each item with the frequency of each event: 1= Rarely or

none of the time (less than 1 day), 2= some or a little of the time, 3= Occasionally or a moderate amount of time (3-4 days), or 4= most or all of the time (5-7 days).

**Life satisfaction.** Life satisfaction measures the global assessment of a person's quality of life according to his or her chosen criteria, and not to externally imposed criteria (Shin & Johnson, 1978). In this study, life satisfaction ( $M=4.69$ ,  $SD= 1.41$ ) was measured by Diener et al.,'s 5 items (1985). The scale was reliable (Chronbach's  $\alpha = .915$ ). Participants responded on a Likert scale (1=strongly disagree, 7= strongly agree) to the following items: "In most ways my life is close to my ideal," "The conditions of my live are excellent," "I am satisfied with my life," "So far, I have gotten the important things I want in life," and "If I could live my life over, I would change almost nothing."

**Control variables.** The control variables we used included gender, race, relationship status, age, parents' marital status, and religiosity. Categorical variables were recoded into bivariate controls. Gender was measured by male (0) and female (1). Because approximately 50 percent of our sample was white, race was simplified into two categories: white (0) and non-white (1). Relationship status also divided into two categories. Those who were engaged, in a committed relationship, married, or cohabiting were "in a relationship" (1) and individuals who were divorced, separated, widowed, or single were "not in a relationship" (0). The marital status of participants' parents was measured by married (1) or not married (0). Race and relationship status were included in our analysis based on previous scholarship that has acknowledged potential differences in cultural norms with sexuality (Attwood, 2006) and relationship status (Carroll et al., 2008).

Individuals were asked, "How important is your religious faith to you?" and were able to choose from "very important," "important," "somewhat important," and "not important." They

also were asked to indicate their religious affiliation, and were able to choose from “Catholic,” “Protestant,” “Hindu,” “Muslim,” “LDS,” “Jewish,” “None,” or “Other.” Using these items, we divided our sample into “religious” (1) and “non-religious” (0) categories. Those who reported high religious importance (religious faith was “very important” or “important”) *and* a religious affiliation were labeled as “religious.”

Emotional regulation has also been recognized as an important contextual variable adding to pornography use and outcomes (Seidman, 2004; Young-Petersen & Willoughby, 2016). Emotional regulation was assessed by averaging the responses of 5 items from the emotional self-regulation scale from Novak and Clayton (2001): “I have difficulty controlling my temper,” “I get so frustrated I am ready to explode,” “I get upset easily,” “Often I am afraid I will lose control over my feelings,” and “I slam doors when I am mad.” A 5-point Likert scale measured the agreement with these items (1 = *never true*; 5 = *always true*). These items showed strong internal reliability (  $\alpha = .87$  )

### **Data Analysis Plan**

Data analysis was realized in several steps. First, bivariate correlations were explored to find general patterns and relationships between variables. Next, hierarchical regression analyses were run to assess whether participants’ age of first exposure to pornography predicts depression, life satisfaction, hardcore material including violent sex, child sex, or rape, number of sex partners, attitudes about partnered sex, and frequency of pornography over and above the control variables of age, race, religiosity, gender, emotional regulation, parents marital status, and relationship status. Next, the individuals in our study were placed into five groups based on exposure to pornography, as discussed above. Finally, multivariate analyses of variance (MANCOVAS) were run to assess general patterns and outcomes and to determine where there

were differences in depression, life satisfaction, number of sex partners, attitudes about partnered sexuality, use of hardcore pornography containing violent, coercive, or child sex, and frequency of pornography use between our different exposure groups while controlling for age, race, religiosity, gender, emotional regulation, parents marital status, and relationship status.

## Results

### Regression

Bivariate correlations revealed significant correlations between first exposure to pornography and all outcome variables: depression ( $r = -.046, p < .05$ ), life satisfaction ( $r = .160, p < .01$ ), number of sexual partners ( $r = -.207, p < .01$ ), frequency of adulthood pornography use ( $r = -.627, p < .01$ ), use of hardcore pornography containing violent, coercive, or child sex ( $r = -.082, p < .01$ ) acceptance of violent/ coercive pornography use for women ( $r = -.191, p < .01$ ), and acceptance of violent/ coercive pornography use for men ( $r = -.173, p < .01$ ). To see if these significant relationships held with the introduction of control variables, regressions were then run. As mentioned above, I then ran regression analyses predicting the outcomes of life satisfaction, depression, frequency of viewing pornography, viewing pornography containing abuse, rape, or child pornography, number of sexual partners, and acceptance of abusive/ coercive pornography for men and women. Where controls were present, analyses controlled for emotional regulation, gender, religiosity, age, relationship status, parent's marital status, and race. All analyses were free from multicollinearity (see Table 2).

Results for the model predicting life satisfaction are summarized in Table 3. Utilizing the controls mentioned above, a significant model fit was found ( $R^2 = .104, F(7, 1537) = 25.36, p < .001$ ). Less emotional regulation significantly predicted less life satisfaction ( $\beta = -.122, t = -4.91, p < .001$ ). Higher religiosity ( $\beta = .209, t = 8.14, p < .001$ ), being in a relationship ( $\beta = .165, t = 6.56, p < .001$ ), age ( $\beta = -.051, t = -2.05, p = .041$ ) and having parents married ( $\beta = .104, t =$

4.180,  $p < .001$ ) also significantly predicted more life satisfaction, though age was not a strong predictor. Gender and race were not significant predictors of life satisfaction. Model 2 introduced age of exposure. This significantly increased the prediction of the model ( $R^2$  change = .014,  $F(8, 1536) = 25.67, p < .001$ ). Earlier exposure to pornography significantly predicted less life satisfaction in adulthood ( $\beta = .133, t = 5.002, p < .001$ ). Age became more significant in model 2, with younger age predicting more life satisfaction ( $\beta = -.076, t = -3.024, p < .01$ ).

Results for the model predicting depression are summarized in Table 4. Utilizing the controls mentioned above, a significant model fit was found ( $R^2 = .375, F(7, 1537) = 131.468, p < .001$ ). Less emotional regulation significantly predicted more depression ( $\beta = .587, t = 28.349, p < .001$ ). Younger age ( $\beta = -.064, t = -3.108, p < .01$ ) and being in a relationship ( $\beta = -.171, t = -5.098, p < .001$ ) significantly predicted less depression. Religiosity, race, parents' marital status and gender were not significant predictors of life satisfaction. Model 2 introduced age of exposure. This significantly increased (although the effect is very small) the prediction of the model ( $R^2$  change = .003,  $F(8, 1536) = 116.43, p < .001$ ). Earlier exposure to pornography significantly predicted more depression in adulthood ( $\beta = -.061, t = -2.714, p < .01$ ). Gender was also significant in model 2, with being female predicting more depression ( $\beta = .048, t = 2.26, p < .05$ ).

Results for the model predicting number of sexual partners are summarized in Table 5. Utilizing the controls mentioned above, a significant model fit was found ( $R^2 = .137, F(7, 1523) = 34.60, p < .001$ ). Being female significantly predicted more sexual partners ( $\beta = .058, t = 2.382, p < .05$ ), as did being in a relationship ( $\beta = .096, t = 3.864, p < .001$ ) and being older ( $\beta = .170, t = 6.95, p < .001$ ). Being non-white ( $\beta = -.194, t = -7.58, p < .001$ ) and having married parents ( $\beta = -.127, t = -5.18, p < .001$ ) significantly predicted less sexual partners. Emotional

regulation was the only non-significant predictor in model 1. Model 2 introduced age of exposure. This significantly increased the prediction of the model ( $R^2$  change = .035,  $F(8, 1522) = 39.701, p < .001$ ). Earlier exposure to pornography significantly predicted more sexual partners in adulthood ( $\beta = -.209, t = -8.077, p < .001$ ). Emotional regulation remained insignificant in model 2.

Results for the model predicting frequency of pornography use are summarized in Table 6. Utilizing the controls mentioned above, a significant model fit was found ( $R^2 = .260, F(7,1535) = 76.99, p < .001$ ). Being male ( $\beta = -.452, t = -20.25, p < .001$ ) significantly predicted higher frequency of pornography use. Religiosity predicted lower pornography use in adulthood ( $\beta = -.164, t = -7.01, p < .001$ ), as did age ( $\beta = -.125, t = -5.572, p < .001$ ), race ( $\beta = -.088, t = -3.71, p < .001$ ), and parents relationship status ( $\beta = -.064, t = -2.83, p < .001$ ). Relationship status and emotional regulation were non-significant predictors in model 1. Model 2 introduced age of exposure. This significantly increased the prediction of the model ( $R^2$  change = .230,  $F(8, 1534) = 184.12, p < .001$ ). Earlier exposure to pornography significantly predicted higher frequency of pornography use in adulthood ( $\beta = -.533, t = -26.29, p < .001$ ). This suggested a large effect in that age of first pornography use added an additional 23% explained variance to the model. Parents' marital status, age, and race became insignificant in model 2 and relationship status and emotional regulation remained insignificant.

Results for the models predicting use of hardcore material including violent sex, child sex, or rape are summarized in table 7. Utilizing the controls mentioned above, a significant model fit was found ( $R^2 = .123, F(7,1538) = 30.69, p < .001$ ). Being male ( $\beta = -.166, t = -6.81, p < .001$ ), younger ( $\beta = -.079, t = -3.21, p < .01$ ), religious ( $\beta = .054, t = 2.11, p < .05$ ), single ( $\beta = -.050, t = -2.00, p < .05$ ), non-white ( $\beta = .117, t = 4.52, p < .001$ ), and having less emotional

regulation ( $\beta = .202, t = 8.24, p < .001$ ) significantly predicted use of hardcore material including violent sex, child sex, or rape. Parents' marital status was a non-significant predictor in model 1. Model 2 introduced age of exposure. This significantly increased the prediction of the model ( $R^2$  change = .007  $F(8, 1538) = 29.60, p < .001$ ). Earlier exposure to pornography significantly predicted use of hardcore material including violent sex, child sex, or rape ( $\beta = -.093, t = -3.52, p < .001$ ). Parents' marital status remained insignificant in model 2.

Results for the models predicting acceptance of abusive or coercive pornography use for men and women are summarized in tables 8 and 9. Utilizing the controls mentioned above, a significant model fit was found for both acceptance of abusive/coercive pornography use for men ( $R^2 = .130, F(7, 1451) = 30.89, p < .001$ ) and women ( $R^2 = .097, F(7,1448) = 22.331, p < .001$ ). In model 1, being male significantly predicted higher acceptance of abusive/ coercive pornography use for men ( $\beta = -.248, t = -9.99, p < .001$ ) and women ( $\beta = -.204, t = -8.07, p < .001$ ). Less emotional regulation also significantly predicted more acceptance of abusive or coercive pornography use for men ( $\beta = .203, t = 8.07, p < .001$ ) and women ( $\beta = .188, t = 7.34, p < .001$ ). Being non-white also significantly predicted more acceptance of abusive or coercive pornography use for men ( $\beta = .100, t = 3.81, p < .001$ ) and women ( $\beta = .071, t = 2.64, p < .01$ ). Religiosity (Men:  $\beta = -.097, t = -3.73, p < .001$ ; Women:  $\beta = -.095, t = -3.59, p < .001$ ) and age (Men:  $\beta = -.062, t = -2.46, p < .05$ ; Women:  $\beta = -.070, t = -2.76, p < .01$ ) predicted less acceptance of abusive and coercive pornography for men and women. Relationship status and parental marital status were non-significant predictors in model 1 for acceptance of abusive/ coercive pornography for both men and women.

Model 2 introduced age of exposure. This significantly increased the prediction of the model for acceptance of abusive/ coercive pornography for women ( $R^2$  change = .021  $F(8, 1447)$

= 24.41,  $p < .001$ ) and men ( $R^2$  change = .017,  $F(8, 1450) = 31.15$ ,  $p < .001$ ). Earlier exposure to pornography significantly predicted higher acceptance of using violent or coercive pornography for women ( $\beta = -.162$ ,  $t = -5.94$ ,  $p < .001$ ) and for men ( $\beta = -.144$ ,  $t = -5.37$ ,  $p < .001$ ). Age became insignificant and relationship status and parental marital status remained non-significant predictors in model 2 for both acceptance of abusive/ coercive pornography for men and women.

## MANCOVA

Results from MANCOVA analyses are found in table 10. Mean differences were explored across the five exposure age groups (Group 1: 7-11, Group 2: 12-15, Group 3: 16-17, and Group 4: 18+, Group 5: Never exposed). Mean differences across the five exposure groups were assessed with MANCOVA analyses controlling for gender, emotional regulation, religiosity, age, parent's marital status, race, and relationship status. While running the homogeneity of slopes on interactions between variables, we found the interaction between gender and age of exposure to be significant (Wilks  $\Lambda = .960$ ,  $p < .001$ ). After running the MANCOVA at two levels, we found that the patterns of significance were all equal. Thus, we continued running the MANCOVA at the mean for these variables.

Significant multivariate results were found for age of exposure groups (Wilks  $\Lambda = .914$ ,  $F(7, 1393) = 4.56$ ,  $p < .001$ ). Utilizing step-down F-tests, significant univariate results were found between groups regarding life satisfaction ( $F(4, 1399) = 6.44$ ,  $p < .01$ ), depression ( $F(4, 1399) = 23.79$ ,  $p < .01$ ), acceptance of violent/coercive pornography for men ( $F(4, 1399) = 6.70$ ,  $p < .001$ ), acceptance of violent/ coercive pornography for women ( $F(4, 1399) = 7.83$ ,  $p < .001$ ), number of lifetime sexual partners ( $F(4, 1399) = 14.70$ ,  $p < .001$ ), and frequency of viewing pornography in adulthood ( $F(4, 1399) = 185.12$ ,  $p < .001$ ). The step-down F-tests suggested no significant differences between groups were found for use of hardcore material including violent sex, child sex, or rape ( $F(4, 1399) = 1.62$ ,  $p = .166$ ).

Post-hoc bonferroni tests suggest that those who were exposed before the age of 12 (group 1) experience significantly higher levels of depression ( $M=2.21$ ,  $SE = .054$ ,  $p <.05$ ) than those exposed after the age of 18 (group 4) ( $M=2.00$ ,  $SE =.027$ ,  $p<.05$ ). In addition, those who were exposed before age 12 experience significantly less life satisfaction during adulthood ( $M= 4.41$ ,  $SE = .125$ ,  $p <.05$ ) than those were exposed after age 18 ( $M=4.83$ ,  $SE =.062$ ,  $p <.05$ ) and those who have never used pornography ( $M= 5.02$ ,  $SE = .099$ ,  $p <.05$ ). Those who were exposed before age 12 ( $M=4.63$ ,  $SE= .146$ ,  $p <.05$ ) and between ages 12-15 ( $M=4.46$ ,  $SE = .077$ ,  $p <.05$ ) viewed pornography significantly more than those who were exposed between ages 16 and 17 ( $M=4.05$ ,  $SE =.102$ ,  $p <.05$ ), after age 18 ( $M=3.61$ ,  $SE =.072$ ,  $p <.05$ ), or had never used pornography ( $M=.518$ ,  $SE =.116$ ,  $p <.05$ ).

Those who were exposed to pornography before age 12 ( $M=6.13$ ,  $SE= .314$ ,  $p <.05$ ) had significantly more sexual partners than those who were exposed between ages 16 and 17 ( $M=5.02$ ,  $SE =.221$ ,  $p <.05$ ), after age 18 ( $M=4.75$ ,  $SE =.155$ ,  $p <.05$ ), or had never used pornography ( $M=3.36$ ,  $SE =.250$ ,  $p <.05$ ). Those never exposed to pornography were significantly less accepting of abusive pornography use by women ( $M=1.97$ ,  $SE=.097$ ,  $p <.05$ ) than those in all other groups. An identical pattern was found with acceptance of abusive pornography use by men (see table 10).

### **Discussion**

Recognizing that effect sizes of our regression and MANCOVA analyses are mainly small, we believe that the results of our study merit attention to an area that requires further study and investigation. Especially with the presence of so many strong controls (such as gender, emotional regulation, and religiosity), the results of our analyses support that timing of exposure to pornography is a relevant variable in related adulthood outcomes. The findings of this study

suggest that higher levels of depression, less life satisfaction, increased pornography viewing, more sexual partners, and more acceptance of violent/coercive pornography during adulthood are associated with earlier exposure to pornography. These findings align well with past research that has found that pornography-using adolescents have more sexual partners (Braun-Courville & Rojas, 2008; Brown & Engle, 2009; Collins et al., 2004; Morgan, 2011), experience impaired mental health (Cho, 2016), and are more accepting of sexual scripts portrayed in pornography (Häggström-Nordin, Sandberg, Hanson, & Tydén, 2006).

My analyses consistently found that those who were the youngest at exposure (ages 7-11) had significantly more depression and less life satisfaction in adulthood than those exposed at a later age or who had never used pornography. Possible explanations can be found for the relationship between early exposure and such outcomes by turning to child development research. First, because children lack maturity and real-life sexual experiences, they are especially susceptible to internalization of inaccurate portrayals of human sexuality (Weber, Quiring, & Daschmann, 2012; Hunter, Figueredo, & Malamuth, 2010). If left uncontested, these beliefs about sexual relationships may create dissonance, disappointment, or unmet expectations as these individuals seek to form sexual relationships in adolescence and adulthood (Doran & Price, 2014; Lambert, Negash, Stillman, Olmstead, & Fincham, 2012; Štulhofer, Buško, & Landripet, 2010). Further, as these children age, they may base their own feelings of sexual self-worth on comparisons between themselves and the pornographic material they have viewed at a young age and believed to be realistic (Suls, Martin, & Wheeler, 2002). Social comparison research has suggested that such comparisons may lead to dissatisfaction and distress, especially when their partner's or own behavior cannot or does not mirror pornographic material (Festinger, 1954; Suls, Martin, & Wheeler, 2002; Swallow & Kuiper, 1988). The developmental inability to

discern real-life sex from pornographic sex may lead children to experience more depression and less life satisfaction in adulthood as sexual pallets developed at early ages are unfulfilled.

While pornography may be more formative for children's sexual scripts than for older pornography users (Cantor, Mares, & Hyde, 2003), research has shown that it remains a powerful predictor of the sexual scripts of adolescents and young adults. Other studies have shown that pornography is linked to higher acceptance of sexual scripts portrayed in pornography (especially sexual violence) (Hald, Malamuth, & Lange, 2013; Peter and Valkenburg, 2010). Our study's findings that those who were exposed to pornography at younger ages were more accepting of both female and male participation in viewing violent or coercive pornographic material and viewed more hardcore pornography containing abuse, rape, and child sex is a powerful indication of the power of sexual scripts for young people, as well as the normalizing power that early exposure can have on certain sexual behaviors such as coercive or violent sex. As individuals view content at younger ages, it may become more normalized and acceptable for them, even if they personally do not engage in the behaviors that they view. However, our finding that timing of pornography use was linked to number of sexual partners in adulthood may suggest that viewing pornography may be associated with certain sexual behaviors.

Further, childhood research suggests that many parents refrain from communicating to their children about sexuality (DiIorio, Pluhar, & Belcher, 2003; Somers & Paulson, 2000). Similarly, many children/adolescents keep early sexual experiences private from parents or others, especially where there is shame around sexuality (Guerrero & Afifi, 1995). Many children keep sexual secrets due to fear of punishment from parents or embarrassment for sexual behavior (McElvaney, Greene, & Hogan, 2014; McElvaney, 2015). For some individuals,

keeping such sexual secrets could lead to negative self-attributions or shame. The shame that may result from interest in pornography or behaviors relating to pornography (seeking it out in private, masturbation pornography, acting out sexual behaviors learned in pornography) may become internalized over time and lead to decreased mental health and general life satisfaction (Volk, Thomas, Sosin, Jacob, & Moen, 2016). This pattern is often found in religious individuals, as religious groups often preach about the sinful nature of pornography use and young people may fear disclosing this use (Kwee, Dominquez, & Ferrell, 2007).

Undisclosed sexual behavior may also have implications in adult relationships as well. Many individuals have undisclosed sexual behavior in romantic relationships (McCarthy, 2002), and this undisclosed behavior (also called “secret keeping” in the research) is often associated with decreased relationship satisfaction (Laurenceau, Barrett, & Pietromonaco, 1998; Meeks, Hendrick, & Hendrick, 1998; Sprecher, 1987). Other studies have shown that pornography use is rarely discussed with openness in committed romantic relationships (Young-Petersen & Willoughby, 2016). As those exposed at early ages were likely to view pornography more frequently during adulthood, it is likely that these individuals will be faced with certain disclosure behaviors that may be threatening to the relationship. Further, unmatched beliefs toward pornography use has been found to contribute to contention and distress in romantic relationships (Willoughby, Carroll, Busby, & Brown, 2016). In relationships where individuals have differing attitudes toward pornography, pornography-using partners may be inclined to continue keeping secrets from their partners, leading to further internalized distress.

As the results of this study suggest that earlier exposure to pornography leads to increased use during adulthood, it may be possible that this increased use in adulthood is contributing to other outcomes that consequently influence mental health and decreased life

satisfaction. Studies showing a negative relationship between pornography use and sexual satisfaction and relationship satisfaction (Braun-Courville & Rojas, 2008; Brown & Engle, 2009; Collins et al., 2004; Morgan, 2011; Weber, Quiring, & Daschmann, 2012) could illuminate the effect of continued pornography use into relational and sexual outcomes, which may impact mental health and overall life satisfaction. As pornography use has been found to be negatively related to frequency of sex and happiness (Doran & Price, 2014), individuals who begin using pornography at a young age and increase use in adulthood may be more at risk for these outcomes than normative or non-pornography users.

The small effect sizes of age/ timing of exposure to pornography in the regression and MANCOVA analyses may point to other studies that have showed the importance of contextual factors in pornography use outcomes (Hald et al., 2013). In many of the regression analyses, it was apparent that other individual factors besides timing of pornography exposure (such as emotional regulation, religiosity, or gender), were stronger factors in predicting negative outcomes in adulthood. The strength of other predictors is apparent when comparing bivariate correlations to final beta weights for life satisfaction: for all outcomes except depression and sexual partners, the bivariate correlations are stronger than the final beta weights.

Such findings do not discount the relevance of timing of pornography use, but spread further light on the centrality of emotional regulation examining pornography use outcomes. Such themes are popular in emerging pornography research, and greater attention has been given to contextual factors contributing to variation in outcomes of pornography use. This study, combined with other studies (Hald et al., 2013), may also provide important evidence for clinicians working with adolescents or young adults presenting with sexually compulsive

behaviors that clinical interventions should take a more comprehensive view of the client, accounting for emotional regulation.

An important consideration at the conclusion of this study is that of the cohort captured by this study. The average age of our sample was 31.8, thus the main group being represented in this study are millennials. Because of this, our study does not include those who grew up with unrestrained access to Internet pornography during childhood and early adolescence. For example, participants in our study did not have the same access to high-speed Internet, smartphones, or tablets during adolescence like today's young people have. Smartphones made their debut in about 2007, the year when the bulk of our sample was entering early adulthood (Gowthami, 2016). Thus, the adults and emerging adults examined in this study began having unrestrained access to Internet pornography once they had already gone through sexual development, had sexual experiences, or could learn about sex through other mediums. In contrast, young people today have more access to private Internet-capable devices than previous generations. Further, recent content analyses of the most popular pornographic content show that a large portion of pornographic films convey male domination, violence toward women, and objectification of females (Gorman, Monk-Turner, Fish, 2010; Häggström-Nordin, Sandberg, Hanson, & Tydén, 2006; Klaassen, & Peter, 2015; Löfgren-Mårtenson & Månsson, 2010). With higher capability and greater free pornographic material displaying the aforementioned themes available to youngsters (Cooper, Delmonico, & Burg, 2000), it can be anticipated that the pornography use of today's youth will have different outcomes than the use of those of older generations. The "pocket-porn" generation is different than the "Penthouse" generation in the access, material, and widespread sexual scripts that are experienced by and normalized for the younger generations.

### **Limitations and Future Directions**

Several limitations should be considered in interpreting the results of this study, including the use of cross-sectional data. As ages of exposure to pornography were gathered retrospectively, they may not be as accurate as if the data were gathered longitudinally. Thus, longitudinal research is needed in further solidifying conclusions about the directionality of the associations that were found. An associated limitation is that our data does not include those who were exposed to pornography before the age of 7. Thus, the potential effects of exposure at younger ages were not captured in this study.

Using Amazon's mechanical Turk online crowdsourcing system may have introduced sample bias into our study. There may be certain characteristics of individuals who utilized Amazon's mechanical Turk site that made them more or less likely to report their attitudes and behaviors relating to pornography use and relationships. Further, because we utilized individual data (vs. dyadic data), the study should not be interpreted to measure couple outcomes, but rather individual outcomes/ individuals' perceptions of our outcomes. Future research should employ dyadic data from romantic partners to further examine relationship outcomes.

In addition, although our sample demographics reflect an impressive level of diversity on relationship and religious factors, our sample was predominantly white. Thus, our sample does not claim to be representative or generalizable to the greater population. For future studies, it may be important to analyze differences in behavior between individuals in different parts of the world, or to compare pornography users in America with emerging adults from other countries.

In terms of religious representation, because our sample was comprised predominantly of Christian (Catholic & Protestant together added up to about 30%) and Hindu individuals (about 30%), we are unable to generalize these findings to all religious circles. There may be specific

scripts and rules within in Hinduism and Christianity that teach about pornography in a way that the effects of its use are magnified compared to other religious groups. In order to produce more generalizable results, we would employ random stratified sampling and include equal proportions of major religious groups. In the future, it would be valuable to study the differences between religious groups regarding pornography use. Further, no variables representing cultural attitudes toward pornography were included in this study. There may be differing cultural attitudes toward sexuality and pornography between our dominate groups (North America and Southeast Asia) that could potentially alter the effects of timing of pornography exposure. Taking cultural and societal norms surrounding pornography into consideration will be an important factor for researchers to consider when looking at pornography outcomes, as different cultural attitudes and beliefs about pornography and sexuality have been seen to alter its effects (Löfgren-Mårtenson & Månsson, 2010).

Despite these limitations, the data presented here, combined with previous scholarship on timing of pornography exposure suggests that timing of pornography exposure is a significant factor in the individual and relational development for young people and adults. Scholars should include age of exposure in future studies, as well as more closely explore the relationship between timing of pornography exposure and outcomes in both adolescence and adulthood. Especially with the changing landscape of pornographic material, it will be essential that young people today receive quality sexual education and are educated on the risks/ harms of early exposure/ use of pornography.

## Tables

Table 1: Demographics of sample

Variable	N	%
Male	799	47.9%
Female	863	51.7%
Age (years)		
<20	51	3.1%
20-29	796	47.6%
30-39	523	31.3%
40-49	184	10%
>49	116	6.9%
Race		
White	889	53 %
Black	106	6.3%
Latino	77	4.6%
Asian	552	32.9%
Other	54	13.2%
Religion		
Catholic	265	15.8%
Protestant	329	19.6%
LDS	44	2.6%
Hindu	406	24.3%
Muslim	52	3.1%
Jewish	17	1%
Other	90	5.4%
None	471	28.1%
Relationship Status		
Single	394	24.3%
Married	728	44.9%
Divorced	62	3.8%
Widowed	7	.5%
Engaged	83	5.1%
Dating	307	18.9%
Other	26	1.6%
N = 1679		

Table 2: Correlations

	Age	Relig	Rel St	Race	Gender	Pt Rel	Imp	Fr Ex	Dep	LS	SP	PF	AW	AM	Hardcore
1. Age	1.00	.095**	.139**	-.054*	-.007	.048*	-.118**	.187**	-.152**	.010	.175**	-.139**	-.100**	-.090**	-.109**
2. Religiosity	.095**	1.00	.036	.293**	-.002	.123**	.128*	.214**	.033	.216**	-.172**	-.204**	-.055*	-.040	.108**
3. Rel Status	.139**	.036	1.00	-.098**	.121**	.167**	-.055*	.027	-.150**	.184**	.199**	-.071**	-.037	-.023	-.097**
4. Race	-.054*	.293**	-.098**	1.00	-.122**	.128**	.162**	.224**	.083**	.074**	-.270**	-.078**	.099**	.137**	.198**
5. Gender	-.007	-.002	.121**	-.122**	1.00	-.025	.007	.241**	.025	-.003	.096**	-.437**	-.208*	-.254**	-.184**
6. Parent Rel.	.048*	.123**	.167**	.128**	-.025	1.00	.066	.137	-.024	.151**	-.143**	-.087**	.011	.051*	.054*
7. Emotional Reg.	-.118**	.128*	-.055*	.162**	.007	.066	1.00	.040	.594**	-.086**	-.067**	.003	.194**	.213**	.241**
8. First Exposure	.187**	.214**	.027	.224**	.241**	.137	.040	1.00	-.046*	.160**	-.207**	-.627**	-.191**	-.173**	-.082**
9. Depression	-.152**	.033	-.150**	.083**	.025	-.024	.594**	-.046*	1.00	--	--	--	--	--	--
10. Life Sat.	.010	.216**	.184**	.074**	-.003	.151**	-.086**	.160**	--	1.00	--	--	--	--	--
11. Sex Partners	.175**	-.172**	.119**	-.270**	.096**	-.143**	-.067**	-.207**	--	--	1.00	--	--	--	--
12. Porn Freq	-.139**	-.204**	-.071**	-.078**	-.437**	-.087**	.003	-.627**	--	--	--	1.00	--	--	--
13. Accep. Women	-.100**	-.055*	-.037	.099**	-.208**	.011	.194**	-.191**	--	--	--	--	1.00	--	--
14. Accep. Men	-.090**	-.040	-.023	.137**	-.254**	.051*	.213**	-.173**	--	--	--	--	--	1.00	--
15. Hardcore porn	-.109**	.108**	-.097**	.198**	-.184**	.054*	.241**	-.082**	--	--	--	--	--	--	1.00

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

Table 3: Regression results for predictors of life satisfaction

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	-.045	.068	-.016	-.147	.071	-.053*
Race	.087	.073	.031	.007	.074	.002
Emotional Reg	-.173	.035	-.122**	-.173	.035	-.122**
Religiosity	.583	.072	.209**	.537	.072	.192**
In a Relationship	.513	.078	.165**	.527	.078	.169**
Age	-.007	.004	-.051*	-.011	.004	-.076**
Parents Married	.295	.071	.104**	.258	.070	.091**
Age of 1 <sup>st</sup> Exposure				.028	.006	.133**
	$R^2 = .104^{**}$			$R^2 = .118$ $R^2 \text{ Change} = .014$		

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

Table 4: Regression results for predictors of depression

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	.045	.029	.032	.069	.030	.048*
Race	-.015	.031	-.011	.003	.032	-.002
Emotional Reg	.428	.015	.587**	.428	.015	.587**
Religiosity	-.035	.031	-.025	-.024	.031	-.017
In a Relationship	-.171	.033	-.107**	-.174	.033	-.109**
Age	-.005	.002	-.064**	-.004	.002	-.053*
Parents Married	-.053	.030	-.037	-.045	.030	-.031
Age of 1 <sup>st</sup> Exposure				-.007	.002	-.061**
	$R^2 = .375^{**}$			$R^2 = .377$ $R^2 \text{ Change} = .003$		

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

Table 5: Regression results for predictors of number of sexual partners

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	.417	.175	.058	.831	.179	.115**
Race	-1.411	.186	-.194**	-1.084	.187	-.149**
Emotional Reg	.027	.099	.007	.055	.089	.015
Religiosity	-.876	.184	-.121**	-.694	.181	-.096**
In a Relationship	.776	.201	.096**	.721	.197	.089**
Age	.064	.009	.170**	.079	.009	.209**
Parents Married	-.937	.181	-.127**	-.793	.178	-.108**
Age of 1 <sup>st</sup> Exposure				-.115	.014	-.209**
	$R^2 = .137^{**}$			$R^2 = .173$ $R^2 \text{ Change} = .035$		

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

Table 6: Regression results for predictors of frequency of pornography use

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	-2.04	.101	-.452**	-1.371	.087	-.304**
Race	-.396	.107	-.088**	.119	.091	.026
Emotional Reg	.072	.052	.031	.159**	.047	.080
Religiosity	-.738	.105	-.164**	-.448	.088	-.099**
In a Relationship	.055	.115	.011	-.035	.096	-.007
Age	-.029	.005	-.125**	-.006	.004	-.024
Parents Married	-.294	.104	-.064*	-.059	.087	-.013
Age of 1 <sup>st</sup> Exposure				-.182	.007	-.533**
			$R^2 = .260^{**}$			$R^2 = .490$ $R^2 \text{ Change} = .230$

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

Table 7: Predictors of use of hardcore pornography including violent sex, child sex, or rape

Variable	Model 1			Model 2			
	b	SE	$\beta$	b	SE	$\beta$	
Female	-.132	.019	-.166**	-.112	.020	-.140**	
Race	.093	.021	.117**	.109	.021	.137**	
Emotional Reg	.082	.010	.202**	.082	.010	.203**	
Religiosity	.043	.020	.054*	.052	.020	-.065*	
In a Relationship	-.044	.022	-.050*	-.047	.022	-.053*	
Age	-.003	.001	-.079**	-.003	.001	-.061*	
Parents Married	.022	.020	.027	.029	.020	.036	
Age of 1 <sup>st</sup> Exposure				-.006	.002	-.093**	
		$R^2 = .123^{**}$				$R^2 = .130$	
						$R^2 \text{ Change} = .007$	

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

Table 8: Regression results for predictors of acceptance of abusive/ coercive pornography use by women

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	-.558	.069	-.204**	-.437	.071	-.160**
Race	.194	.073	.071**	.285	.074	.104**
Emotional Reg	.264	.036	.188**	.266	.036	.189**
Religiosity	-.260	.072	-.095**	-.207	.072	-.076**
In a Relationship	.059	.079	.019	.045	.078	.015
Age	-.010	.004	-.070**	-.006	.004	-.039
Parents Married	-.019	.072	-.007	.024	.071	.009
Age of 1 <sup>st</sup> Exposure				-.034	.006	-.162**
	$R^2 = .097^{**}$			$R^2 = .119$ $R^2 \text{ Change} = .021$		

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

Table 9: Regression results for predictors of acceptance of abusive/ coercive pornography use by men

Variable	Model 1			Model 2		
	b	SE	$\beta$	b	SE	$\beta$
Female	-.671	.067	-.248**	-.565	.069	-.209**
Race	.271	.071	.100**	.353	.072	.130**
Emotional Reg	.282	.035	.203**	.284	.035	.204**
Religiosity	-.262	.070	-.097**	-.215	.070	-.079**
In a Relationship	.115	.077	.038	.102	.076	.034
Age	-.009	.004	-.062*	-.005	.004	-.034
Parents Married	.061	.069	.022	.098	.069	.036
Age of 1 <sup>st</sup> Exposure				-.030	.006	-.144**
			$R^2 = .130^{**}$			$R^2 = .147$ $R^2 \text{ Change} = .017$

\*p &lt; .05; \*\*p &lt; .01

Table 10: MANCOVA results for differences between groups of exposure to pornography by age

Age Group	7-11 (n=113)	12-15 (n=433)	16-17 (n=227)	18+ (n=478)	Never (n=188)
Life Satisfaction	4.407 <sup>a</sup>	4.468 <sup>a</sup>	4.612 <sup>ab</sup>	4.828 <sup>bc</sup>	5.021 <sup>c</sup>
Depression	2.206 <sup>a</sup>	2.103 <sup>ab</sup>	2.051 <sup>ab</sup>	2.007 <sup>b</sup>	2.020 <sup>ab</sup>
Frequency of Viewing Pornography	4.633 <sup>a</sup>	4.464 <sup>a</sup>	4.052 <sup>b</sup>	3.608 <sup>c</sup>	.518 <sup>d</sup>
Sexual Partners	6.133 <sup>a</sup>	5.567 <sup>ab</sup>	5.018 <sup>bc</sup>	4.744 <sup>c</sup>	3.366 <sup>d</sup>
Hardcore Porn	.283 <sup>a</sup>	.215 <sup>a</sup>	.224 <sup>a</sup>	.201 <sup>a</sup>	.096 <sup>b</sup>
Acceptance of Abusive/ Coercive Pornography for Men	2.777 <sup>a</sup>	2.621 <sup>a</sup>	2.634 <sup>a</sup>	2.404 <sup>a</sup>	2.060 <sup>b</sup>
Acceptance of Abusive/ Coercive Pornography for Women	2.652 <sup>ab</sup>	2.632 <sup>a</sup>	2.610 <sup>ab</sup>	2.315 <sup>b</sup>	1.976 <sup>c</sup>

Differing superscripts indicate significant mean differences between classes ( $p < .05$ ) All analyses control for emotional regulation, religiosity, age, relationship status, parent's marital status, and race.

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