

MORAL INCONGRUENCE AND PERCEIVED ADDICTION: A CONTEMPORARY  
DILEMMA WITH PORNOGRAPHY USE

by

David Lewis Shelton

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

April, 2019

MORAL INCONGRUENCE AND PERCEIVED ADDICTION: A CONTEMPORARY  
DILEMMA WITH PORNOGRAPHY USE

by David Lewis Shelton

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University, Lynchburg, VA

2019

APPROVED BY:

---

Fred Volk, Ph.D., Committee Chair date

---

Aly Taylor, Ph.D., Committee Member date

## ABSTRACT

Exposure to pornography has become more widespread due to the Internet, with the age of exposure as early as 13 years of age. With the shift of the moral narrative that pornography use is harmful personally and relationally, many who advocate against pornography use do so primarily on the basis of its maladaptive effects on the user and the user's relationships. Within the context of the moral disapproval of pornography use, this study assesses the relationship that age, church attendance, and spirituality have with perceived addiction to pornography. This study hypothesized that age, church attendance, and spirituality will have a moderating effect on perceived addiction. The 127 participants consisted of Protestants, Catholics, and nondenominational Christians. A cross-sectional design was used for this study. This study found a strong relationship between moral incongruence and perceived pornography addiction. Age was found to be negatively correlated with perceived pornography addiction. Spirituality was found to have a strong positive correlation with perceived pornography addiction. Also, spirituality was found to moderate the relationship between moral incongruence and perceived pornography addiction. This study informs practitioners who utilize spirituality when working with those who have maladaptive effects from pornography use.

*Keywords:* pornography, moral incongruence, age, church attendance, spirituality, perceived addiction.

## **Dedication**

In August of 2010, I experienced an epiphany in my home while standing in the kitchen. My wife, Lora, was listening to me as I reassessed my lack of desire to continue my vocation as a truck driver. I sensed a godly discontentment that was directing me to explore certain vocations within the arena of psychology. The first stepping stone was acquiring a bachelor's degree in psychology with a Christian specialization from Liberty University; the second was acquiring a master's degree in psychology from Grand Canyon University. But from the onset, a doctoral degree was the ultimate goal.

This journey would not have been possible without myriad friends and family who have encouraged me and challenged me along the way. Lora has stood by me from the beginning. She has sacrificed her life in so many ways so that I could pursue my dreams. Her willingness to stand in the gap and often do more than her part was unnoticed by many, and yet, she never wavered. Without her by my side, I would not have been victorious.

My children have sacrificed as well. Kendra, Wesley, and Kristen have seen their father at the computer many times working, but they were understanding and did not complain. Rather, they cheered me on as I gained ground toward finishing my educational goals.

My mother and father were also instrumental as encouragers. The routine long-distant phone calls were always a breath of fresh air. They were a constant source of encouragement and wisdom. When I would feel discouraged due to the arduous journey of driving a truck full time and going to school full time, they were there to tell me that God has a plan for my life and that I should continue to trust him.

The highest praise must go to the Lord Jesus Christ. Although my vision has been dimmed on many occasions through my lack of faith, "He brought me up also out of an horrible

pit, out of the miry clay, and set my feet upon a rock, and established my goings” (Ps. 40:2, KJV).

### **Acknowledgments**

My father asked me if I wanted to take a Bible course by correspondence from Liberty University; the late Dr. Harold Wilmington was the first voice that came to my ears from Liberty. Numerous professors since then have been instrumental in my life: Dr. Fernando Garzon and Dr. Clay Peters had a great influence on my personal and professional development. My reader, Dr. Aly Taylor, showed compassion and encouragement through the dissertation process. Dr. Ed Barker demonstrated a welcoming and kind spirit when I came to the campus for my first intensive. To all of you (and others that I forgot to mention), I am thankful.

Dr. Fred Volk, my chair, has been invaluable. His directness has been a driving force for me to excel toward mastery. The challenges I faced often seemed like insurmountable hurdles, but Dr. Volk did not allow my disbelief to injure his belief that I could complete this journey. He has been my mentor and friend. Thank you, Dr. Volk.

## TABLE OF CONTENTS

ABSTRACT .....	3
Dedication .....	4
Acknowledgments .....	6
List of Tables .....	11
List of Figures .....	12
List of Abbreviations .....	13
CHAPTER ONE: INTRODUCTION .....	14
Background to the Problem .....	15
Changes in the Moral Narrative .....	16
Positive and Negative Views Among the Religious Community .....	18
Positive and Negative Views Among the Secular Community .....	18
Effects of Pornography Use .....	20
Perceived Pornography Addiction .....	21
Purpose of the Study .....	24
Research Questions .....	25
Limitations to the Study .....	26
Definitions .....	26
Significance of the Study .....	27
Theoretical/Conceptual Framework .....	27
Organization of Remaining Chapters .....	27
Chapter Summary .....	28
CHAPTER TWO: LITERATURE REVIEW .....	29

Implications from Exposure.....	29
Religiosity and Age.....	30
Moral Incongruence .....	30
Shame-Proneness .....	31
Sexual Shame.....	32
Religious Practices .....	33
Church Attendance.....	34
Spirituality.....	36
Perceived Pornography Addiction .....	37
Chapter Summary .....	39
Hypotheses .....	39
Hypothesis 1.....	39
Hypotheses 2.....	39
Hypotheses 3.....	40
Hypotheses 4.....	41
CHAPTER THREE: METHODS .....	42
Research Purpose .....	42
Research Questions and Hypotheses .....	42
Research Design.....	44
Selection of Participants .....	44
Research Instruments .....	45
Research Procedures .....	47
Data Processing and Analysis.....	47

Ethical Concerns .....	49
Chapter Summary .....	50
<b>CHAPTER FOUR: RESULTS .....</b>	<b>51</b>
Data Screening .....	51
Demographics .....	52
Sample Means .....	55
Data Analysis .....	55
Hypothesis 1.....	56
Hypothesis 2.....	56
Hypothesis 3.....	59
Hypothesis 4.....	62
Chapter Summary .....	67
<b>CHAPTER FIVE: SUMMARY, CONCLUSIONS, &amp; RECOMMENDATIONS.....</b>	<b>69</b>
Summary of Findings and Implications.....	69
Research Question 1 .....	71
Research Question 2a.....	71
Research Question 2b .....	71
Research Question 3a.....	72
Research Question 3b .....	72
Research Question 4a.....	72
Research Question 4b .....	73
Limitations of the Study.....	73
Suggestions for Future Research .....	74

Implications for Practice .....	76
Biblical Application .....	78
Progressive Sanctification and Moral Incongruence .....	79
Progressive Sanctification and Perceived Pornography Addiction .....	80
Progressive Sanctification and Spirituality .....	80
Chapter Summary .....	81
Study Summary .....	81
REFERENCES .....	83

### List of Tables

Table 4.1 Participant Demographics .....	53
Table 4.2 Pornography Use Statistics .....	54
Table 4.3 Frequency of Yearly Church Attendance .....	54
Table 4.4 Pearson's <i>r</i> , Means and <i>SDs</i> .....	55
Table 4.5 Process Model Results for Model One for Hypothesis 2b.....	58
Table 4.6 Process Model Results for Model One for Hypothesis 3b.....	58
Table 4.7 Process Model Results for Model One for Hypothesis 4b1.....	61
Table 4.8 Process Model Results for Model One for Hypothesis 4b2.....	62
Table 4.9 Process Model Results for Model One for Hypothesis 4b3.....	64

### List of Figures

Figure 3.1 Visual depiction of Hypothesis 1 .....	48
Figure 3.2 Visual depiction of Hypotheses 2a, 3a, and 4a.....	48
Figure 3.3 Visual depiction of Hypotheses 2b, 3b, and 4b .....	49
Figure 4.1 Hypothesized theoretical model 1 .....	56
Figure 4.2 Hypothesized theoretical model 2a .....	57
Figure 4.3 Hypothesized theoretical model 2b .....	57
Figure 4.4 Interaction of perceived pornography addiction x age on moral disapproval .....	59
Figure 4.5 Hypothesized theoretical model 3a .....	59
Figure 4.6 Hypothesized theoretical model 3b .....	60
Figure 4.7 Interaction of perceived pornography addiction x church attendance on moral disapproval .....	61
Figure 4.8 Hypothesized theoretical model 4a .....	62
Figure 4.9 Hypothesized theoretical model one for Hypotheses 4b1, 4b2, and 4b3 .....	63
Figure 4.10 Interaction of perceived pornography addiction x realistic acceptance on moral disapproval .....	64
Figure 4.11 Interaction of perceived pornography addiction x Instability on moral disapproval ..	66
Figure 4.12 Interaction of perceived pornography addiction x Awareness on moral disapproval ..	67

### **List of Abbreviations**

Cyber-Pornography Use Inventory (CPUI-9)

Mechanical Turk (MTurk)

Moral Disapproval-Pornography (MDP)

Spiritual Assessment Inventory (SAI)

## **CHAPTER ONE: INTRODUCTION**

In a seminal qualitative study, 100 media sources were analyzed to assess the emerging themes in research on pornography. The sources included studies conducted in the United States, the United Kingdom, Canada, Europe, and Asia. Based upon a systematic review of these sources, Montgomery-Graham, Kohut, Fisher, and Campbell (2015) listed the following items in order of prevalence:

- Pornography addiction
- Pornography is good for relationships
- Pornography use is a form of adultery
- My partner's pornography use makes me feel inadequate
- Pornography use changes expectations about sexual behavior
- Pornography harms intimacy
- Pornography and masturbation
- Increased accessibility of pornography because of technology
- Pornography ends relationships
- Pornography and sexual scripts/gender stereotypes
- Pornography is neutral for couples
- Pornography and erectile dysfunction
- My religion says pornography is bad
- Pornography use and shame. (p. 247)

Diverse responses from the literature suggested pornography use as being addictive, harmful, immoral, good for relationships, and neutral for couples. The emerging themes that the media gathered about pornography use are varied, which seems to illuminate how pornography

use can be perceived as problematic or beneficial. Many within the scientific community have investigated the frequency of use, duration of use, ever use, and the associations surrounding these variables (Short, Black, Smith, Wetterneck, & Wells, 2012). The adverse effects of pornography use seem to be associated with the moral objection to pornography use. With the appearance of moral incongruence toward pornography use, the current research appears to be focused on understanding if these effects are due to the actual use of pornography or the perception of the effects as being harmful; this is a contemporary dilemma.

### **Background to the Problem**

The frequency of pornography use has been increasing since the inception of the Internet (Jnr & Oppong, 2014; Mattebo, Tydén, Häggström-Nordin, Nilsson, & Larsson, 2013; Price, Patterson, Regnerus, & Walley, 2016). In the United States, survey data revealed that 46% of men and 16% of women ages 18 to 39 reported having deliberately viewed pornography during the week (Willoughby, Carroll, Nelson, & Padilla-Walker, 2014). Short, Kasper, and Wetterneck (2015) surveyed 223 college students and found that 64% have viewed pornography, and 26% currently view pornography, averaging around 74 minutes per week. O'Reilly, Knox, and Zusman (2007) surveyed 318 undergraduates at East Carolina University and found that 92.4% reported having used pornography at least once, and 41.3% viewed pornography between one and two times per week. This young demographic has been shown to have a higher frequency of use than other demographics due to the correlation with access to the Internet. But among the college students surveyed at a conservative Christian university, the amount of time spent using pornography was lower than the general population by 50% (Baltazar, Helm, McBride, Hopkins, & Stevens, 2010). This distinction in the level of frequency between

religious and nonreligious populations may be better understood by assessing the moral underpinnings in its relationship to perceived pornography addiction.

### **Changes in the Moral Narrative**

Chaves (1994) suggested that secularization is best understood as a decline of religious authority. This decline has partially come about due to the dual structure of religious denominations (Chaves, 1993). One authority is the ministerial aspect, which provides exhortation and edification to the congregates; the other authority is the administrative aspect that provides organizational oversight, much like that of a CEO. Consequently, the administrative authority has become more prevalent and necessary due to the abundance of secular agencies that offer similar services that provide for physical, emotional, social, and even spiritual needs. This paradigm seems to have strengthened the authority of the administrative aspect and weakened the authority of ministerial aspect due to competition and the need to remain viable (Chaves, 1993). Social structures (such as philanthropic organizations) seem to have altered the religious structures' authority; thereby, the religious organization has become secularized. This shift is described by Thomas (2013) as internal secularization: the decline of religious authority in that the supernatural justification has a lessening influence on social control. One construct where the lessening of religious authority on social control can be seen is through the antipornography narrative.

The antipornography narratives by American evangelicals have been influenced by an internal secularization (Thomas, 2013). Thomas (2013) gave three examples of this influence of internal secularization that he coded as traditional values, public-performer-harm, and personal viewer harm. From the time pornographic images became available in the mid-1800s up until the 1960s, the antipornography narrative was based on traditional values (Downs, 1987;

McConahay, 1988; West, 1987). Then by the 1970s, the anti-pornography narrative had become centered on the idea of public-performer harm (Bronstein, 2011; McConahay, 1988; Palys, 1986). Then, over the last 20 or more years, the emerging narrative has become personal-viewer harm as defined by Thomas (2013). Thomas (2013) reviewed Christian literature and identified these narrative shifts in the American evangelical community, but the moral authority has been led by these three secular narratives given by society through science and other groups (e.g., the feminist movement). These three identified narrative shifts suggest that the antipornography movement of American evangelicals is not voiced by their internal moral authority, but their voice is a mere echo of the narrative of secular entities. One aspect to consider of how this antipornography is propagated in the religious community is through the church attendance of the congregates. The frequency of church attendance seems to correlate with the psychological effect that the antipornography narrative has on the congregate.

**Church attendance.** Thomas, Alper, and Gleason (2017) addressed how the antipornography narrative from religion on the meso-level (e.g., religious tradition of a church body being antipornography), and then, a narrative of an antipornography script (e.g., sermons to church members) heard by church attendees can have a negative impact on the marital happiness of husbands who view pornography (i.e., micro level). They argued for a causal chain in suggesting that the antipornography narrative in this context is a self-fulfilling prophecy: The husbands who hear the antipornography narrative that pornography is harmful to their marriage will view pornography as harmful to their marriage, and in turn, those absorbed in this narrative at the meso/micro level and do view pornography will present as believing harmful effects to their marriage have been produced. Further, this belief (that pornography use harms their marriage) may be the cause of the harmful effect and not the actual use of pornography itself

(Thomas et al., 2017). The current antipornography narrative propagated within a congregation seems to parallel the focus toward the maladaptive aspects of pornography use as well as how people generally feel about pornography and its use.

### **Positive and Negative Views Among the Religious Community**

Religious groups have continued to view pornography and its use as negative. Patterson and Price (2012) presented a comparison between different religious denominations' attitudes toward pornography use. They found that evangelical Protestants, mainline Protestants, Catholics, black Protestants, and those in the category of "other" religious affiliation have the strongest attitude against pornography, whereas Jews and the nonreligious had the weakest attitudes concerning pornography. In addition, Muslims were less likely to engage in pornography use than non-Muslims (Jafarkarimi, Sim, Saadatdoost, & Hee, 2015). Among the religious community, the strongest attitude is negative in relation to pornography consumption. But there are some among the religious community that have rationalized its use to have positive effects. For example, Baltazar et al. (2010) showed that 39% of men and 25% of women use pornography because they want a sexual arousal; 23% of men cite they use pornography when experiencing a negative emotion, while only 4% of women would use pornography when experiencing a negative emotion.

### **Positive and Negative Views Among the Secular Community**

Löfgren-Mårtenson, and Månsson (2010) conducted surveys and interviews and found that among their 51 participants in Sweden (ages 14–20), the most common reasons for viewing pornography were sexual arousal and stimulus, a source of information, and a means of sexual intercourse; these participants normalized pornography use by suggesting that it was no longer viewed as shameful and morally apprehensible by society as a whole, but that it was socially

accepted as a part of a young person's everyday life (Löfgren-Mårtenson & Månsson, 2010; Rothman, Kaczmarzsky, Burke, Jansen, & Baughman, 2015). Also, 40% of men and 25% of women related that they believed that pornography use led to an increase in sexual behavior; 27% of men and 19% of women responded that pornography use was beneficial in producing sexual arousal (Baltazar et al., 2010). Other positive beliefs of pornography use were that it made consumers not as inhibited about sex, more open-minded about sex, and more tolerant of others' sexuality. Additionally, some believe it gives pleasure to the user, is educational, can help the sustainability of long-term relationships, help the partners who use pornography to be more aware of their partner's sexual desires, help the consumers talk about sex, and help users find a community or an identity (McKee, 2007). Negative beliefs about pornography use include that it led to pornography consumers viewing the people as objects, having unrealistic sexual expectations, losing interest in sex, becoming addicted, and having relationship issues (McKee, 2007). The effects of pornography use seem to be associated with one's personal assessment; this could be related to why specific populations differ in whether they view pornography use as acceptable or unacceptable behavior.

Pornography use is viewed as acceptable behavior by more men than women (Carroll et al., 2008; O'Reilly, 2007), but the rationale for its acceptability varies depending upon the relational dynamics. For example, Brown et al. (2017) found a positive association between pornography acceptance and both spouses using pornography. Olmstead, Negash, Pasley, and Fincham, (2013) surveyed 404 heterosexual college students and found that 70.8% of men and 45.5% of women reported that pornography use was acceptable behavior, whether used alone or with their partner. The survey also showed that 22.3% of men and 26.2% of women believed that pornography use was unacceptable if in a committed relationship, and 5.4% of men and

12.9% of women reported pornography use as unacceptable in any circumstance. The beliefs about pornography consumption vary, but among the religious community it is exponentially less acceptable; it seems that the positive and negative rationales about the effects of pornography use are determinants in assessing the actual effect of pornography use.

### **Effects of Pornography Use**

There are numerous psychological, behavioral, and relational effects of pornography use on the user. For example, in one study, individuals who did not use pornography had higher levels of self-worth and identity development concerning family and dating while showing lower levels of depression (Nelson, Padilla-Walker, & Carroll, 2010). Reid (2010) found joy was the self-reported emotion that was absent among 100 participants who reported as having hypersexual issues. More recently, Perry (2017c) found that men who view pornography at a high frequency may be attempting to alleviate depressive symptoms. Along with the psychological effects, pornography use has an association with sexual behaviors.

Wright (2012) showed that those who are exposed to pornography were seven times more likely to engage in casual sex because of their unhappiness; of those who were generally happy individuals, pornography exposure and casual sex behavior showed no relationship. Women's high levels of pornography use had no association with sexual behaviors in a relationship but did have an association with adverse outcomes for their mental health (Willoughby et al., 2014). Internet pornography use had a positive association with having extramarital affairs, engaging in sexual intercourse with multiple partners, and participating in paid sex (Wright, 2013; Wright & Randall, 2012). Individuals who self-reported as having greater exposure to pornography reported a higher number of sexual partners and lower sexual anxiety and are more likely to be sexually experienced (Morrison, Harriman, Morrison, Bearden, & Ellis, 2004).

Casual sex behavior seems not to affect a change in pornography exposure, but pornography exposure may influence future causal sexual behavior (Wright, 2012). These findings are consistent with Braithwaite, Coulson, Keddington, and Fincham's (2015) study, which found a positive association between pornography consumption and risky sexual behavior such as engaging in one-night stands (i.e., having sex randomly with another person), having more variations in the kind of sexual partners, and having plans to engage in future sex with more partners. Pornography consumption has a positive association with engaging in sex, having more sexual partners, and paying for sexual behaviors (Wright, 2013). Even more, higher levels of pornography use in males were associated with higher levels of sex in a relationship (Willoughby et al., 2014). Given that pornography use has been shown to have a positive association with sexual behaviors and the religious community tends to be more restrictive in their view on sexual behavior outside of a marital union, the psychological effect of pornography use seems to influence perceived pornography addiction.

### **Perceived Pornography Addiction**

Almost a four decades ago, Carnes (1983) first introduced the term *sexual addiction*. Since then, some have suggested that the reconceptualization of pornography use as an addiction is a strategy to regulate pornography, academic freedom, and free speech. Those who are opposed to pornography use, performance, and distribution may find it appealing to equate pornography use with a substance addiction, such as drugs or alcohol, to promote policies through legislation to suppress, control, or attempt to eradicate pornography use, performance, and distribution (Clarkson & Kopaczewski, 2013). Another possibility as to why pornography users may associate their behavior as an addiction is to lessen the maladaptive effects of sexual shame. The perception of having a pornography addiction has been shown to be greater for

those users who have stronger moral disapproval of pornography use (Grubbs, Exline, Pargament, Hook, & Carlisle, 2015; Grubbs, Exline, Pargament, Volk, & Lindberg, 2017). Since religious communities tend to propagate a message of pornography use as immoral behavior, the effects upon the psychological and relational health of these users could be dependent upon the level of their perceived addiction.

**Emerging adults.** Since the conception of the Internet, pornography use has exponentially increased among the emerging adult (Price et al., 2016). A study consisting of a nonclinical population of emerging adults ( $N = 813$ ), 67% of the men and 49% of women reported that viewing pornography is acceptable (Carroll et al., 2008). As aforementioned, the perception of pornography use as problematic (i.e., perceived addiction) is higher for those with a higher level of moral disapproval (Grubbs, Exline, et al., 2015; Grubbs, Wilt, Exline, Pargament, & Kraus, 2018). Considering this, the relationship between perceived addiction and moral disapproval among the demographic of emerging adults may be distinct. A potential factor to note is the contemporary focus on addiction, in general, as it relates to the use of the Internet. Much research has been done on Internet and addictions and/or compulsive behavior, to the point that internet gaming disorder has been inserted in the *Diagnostic Statistical Manual* (5th ed.; American Psychiatric Association, 2013). Differences in personality traits have been found in those with Internet-related addictive behaviors (Wang, Ho, Chan, & Tse, 2015). Also, neuropsychological and neuroimaging results found reductions in executive control that coincide with the findings of other behavioral addictions such as gambling addiction (Brand, Young, & Laier, 2014). This further adds to the need to explore the associations with the effects and behaviors of pornography use as they relate to the Internet and neurodevelopment, particularly for emerging adults, whose prefrontal cortexes are still at the developmental stage (Fuster, 2015).

Consequently, since the prefrontal cortex is associated with emotional regulation (Etkin, Egner, & Kalisch, 2011; Ochsner & Gross, 2005; Quirk & Beer, 2006; Wager, Davidson, Hughes, Lindquist, & Ochsner, 2008) and emotional regulation is negatively associated with impulsive and compulsive behaviors, (Wetterneck, Burgess, Short, Smith, & Cervantes, 2012), the emerging adult's age is a unique variable to consider as it may be a moderating factor in understanding the rationale of pornography use as well as the level of moral incongruence associated with pornography use.

**Spirituality.** Mackenzie, Rajagopal, Meibohm, and Lavizzo-Mourey (2000) found that the religious beliefs of older adults have a significant effect on their psychological health. The belief in a higher power that supports them by protecting, guiding, and healing them and the belief that praying to this higher power (e.g., God) can heal mental and physical ailments is influential in their holistic well-being. The participants ( $N = 41$ ) in this study were ministered to routinely by a community chaplain; further, many of them still attended a local church. Religious practice (e.g., attending church, listening to the chaplain) appeared to serve as a reinforcing factor in their spiritual beliefs about a higher power (Mackenzie et al., 2000).

Adolescents have also been assessed with regard to their spiritual beliefs and religious practices. Cotton, Zebracki, Rosenthal, Tsevat, and Drotar (2006) reviewed the literature of religious/spirituality and overall adolescent health. They cited resources that offered separate definitions to differentiate between spirituality and religion (Hill & Pargament, 2008; Miller & Thoresen, 2003), stating that religion can be measured by one's belief in God, importance of religion, frequency of church attendance, prayer, and/or meditation (Koenig & McCullough, 2001; Miller & Thoresen, 2003), whereas spirituality is the expression of one's sacred beliefs and is measured by spiritual connectedness, spiritual well-being, and the peace and comfort

received the beliefs (George, Larson, Koenig, & McCullough, 2000; Hill & Pargament, 2003; Koenig, McCullough, & Larson, 2001). Cotton et al. (2006) made a distinction between religion and spirituality by describing religious practices as distal domains and spirituality as proximal domains. Further, they described spirituality as a strategy for support and coping with physical stressors and psychological distress (Cotton, Larkin, Hoopes, Cromer, & Rosenthal, 2005; Cotton et al., 2006). Consequently, the social experiences of adolescents seem to be interdependent upon their view of spiritual connectedness, which can be influenced by factors such as negative religious experiences with their congregation (Pearce, Little, & Perez, 2003).

The transition to adulthood has markers that are different than those of older adults and adolescents. In a longitudinal study, it was found that the frequency of church attendance declined when the strength of young adults' belief system remained somewhat consistent (Stoppa & Lefkowitz, 2010). As previously mentioned, the continuation of church attendance among older adults and the support and coping that adolescents report receiving from their spirituality has its own distinction. As the emerging adult attempts to search for identity, it may be that a shifting social paradigm and continuing cognitive development impacts the level of church attendance negatively while spiritual beliefs are strengthened (McNamara Barry, Nelson, Davarya, & Urry, 2010). It is plausible to suggest that the lack of church attendance to reinforce antipornography use, along with the rationale of pornography use as acceptable behavior by many, among those who consider themselves spiritual and yet have a lower level of religious practices may measure as having less moral incongruence about their pornography use.

### **Purpose of the Study**

The purpose of this study was to examine the relationship between moral incongruence and perceived addiction. Age, church attendance, and spirituality were examined as independent

variables to determine how they influence perceived addiction. In addition, age, church attendance, and spirituality were studied as moderators for their association between moral incongruence and perceived addiction. The findings from this study add to the current research on the moral incongruence of pornography use and its influence on perceived addiction by limiting the focus of the research to the variables of age, church attendance, and spirituality as predictors and moderators of perceived addiction.

### **Research Questions**

The purpose of this study was to examine the moderating influence that age, church attendance, and spirituality has on perceived pornography addiction and on the association between moral incongruence and perceived pornography addiction. That is, under what conditions of age, church attendance, and spirituality is the relationship between moral incongruence and perceived addiction strengthened, attenuated, or changed in its impact on the user? The outcome variable is perceived addiction. Age, church attendance, and spirituality are examined as independent variables as well as moderators between moral incongruence and perceived addiction.

**RQ1:** Does moral incongruence relate to perceived addiction?

**RQ2a:** Does age influence perceived addiction?

**RQ2b:** Does age moderate the relationship between moral incongruence and perceived addiction?

**RQ3a:** Does church attendance influence perceived addiction?

**RQ3b:** Does church attendance moderate the relationship between moral incongruence and perceived addiction?

**RQ4a:** Does spirituality influence perceived addiction?

**RQ4b:** Does spirituality moderate the relationship between moral incongruence and perceived addiction?

### **Limitations to the Study**

There are some limitations to consider in this study. A methodological limitation is that self-reported data may contain potential biases due to the inability to independently verify participants responses. And, although the ethnic differences of the participants may lead to beneficial culturally diverse responses, they may be an impediment for interpreting greater generalizability to specific demographics. In addition, the cross-sectional design of this study limits any causal inference of the results (Warner, 2013).

### **Definitions**

The following terms operationalized for this study are:

*Current church attendees* – Individuals who have attended church within the past six months.

*Current pornography users* – Individuals who have viewed pornography within the past six months.

*Moral incongruence* – The violation of one's personal values (Grubbs, Exline, et al., 2015; Grubbs & Perry, 2018).

*Perceived addiction* – The self-identification of being addicted to pornography (Grubbs, Volk, Exline, & Pargament, 2015).

*Spirituality* – The level of an individual's awareness of God and the quality of the relationship with God (Hall & Edwards, 2002).

*Religiosity* – An individual's religious values and beliefs and the exercise of those values and beliefs (Worthington et al., 2003).

### **Significance of the Study**

The exposure to pornography at an early age along with the easier accessibility due to the Internet has coincided with higher levels of pornography use (Jnr & Oppong, 2014; Mattebo et al., 2013; Price et al., 2016) consequently, myriad studies have attempted to assess the repercussions associated with pornography use. Considering the findings from Grubbs and Perry (2017), that higher levels of moral incongruence were associated with higher levels of perceived addiction, assessing those who are younger, spiritual, and attend church regularly within this association may offer further insight into the psychological effects associated with pornography use.

### **Theoretical/Conceptual Framework**

This research assessed the association of moral incongruence and perceived addiction. Age, church attendance, and spirituality were assessed to determine how these variables influence perceived addiction. Also, the former three variables were measured as moderators to assess if they had an effect on any association between moral incongruence and perceived addiction. The variable moral incongruence was measured using the Moral Disapproval-Pornography (MDP) Inventory (Grubbs, Exline, et al., 2015). The outcome variable of perceived addiction was measured using the Cyber-Pornography Use Inventory (CPUI-9; Grubbs, Volk, et al., 2015). Spirituality was measured using the Spiritual Assessment Inventory (SAI; Hall & Edwards, 2002).

### **Organization of Remaining Chapters**

Chapter Two offers a more extensive review of the literature on pornography use. Information on exposure to pornography, its implications, the frequency of use, and the dynamic of religiosity and age are discussed. The independent variable of moral incongruence is

discussed and positioned as the theoretical foundation for the development of perceived addiction as the outcome variable. In addition, the literature on certain religious practices and spirituality is summarized, as these are relevant variables that may affect perceived addiction. The chapter will conclude with the hypotheses and research questions. Chapter Three will provide an overview of the methodology used in this study by outlining the design, measurements, procedures, and ethical considerations.

### **Chapter Summary**

With the progression of the moral narrative shifting to focus on the maladaptive effects of pornography use, the rationale for pornography use has become more diversified. Still, religious communities object to the use of pornography on moral grounds. With the focus on the harmful effects conjoined with moral disapproval, the feelings of shame and guilt may affect religious and/or spiritual individuals in such a way that heightens their self-perception of being addicted to pornography.

## **CHAPTER TWO: LITERATURE REVIEW**

With the ease of access from the Internet, harmful effects from the exposure of pornography among the youth have been widespread (Brown & L'Engle, 2009; Flood, 2009; McPherson, Clayton, Wood, Hiskey, & Andrews, 2013). Notably, pornography use is strongly opposed within religious communities, and religious practices are known to be a protective factor against pornography use (Patterson & Price, 2012; Short et al., 2015). In addition, those who do use pornography and have a moral objection to its use appear to experience a more adverse effect on their psychological state (Nelson et al., 2010; Patterson & Price, 2012; Pearce et al., 2003; Perry, 2017c). More recently, it has been suggested that the moral disapproval of pornography is a mediating factor of religiousness and pornography use resulting in moral incongruence; consequently, the level of moral incongruence appears predictive of self-perceived pornography-related problems and psychological, interpersonal, and religious/spiritual distress (Grubbs & Perry, 2018). In this study, these concepts were applied to understand the relationship between moral incongruence further and perceived addiction, specifically, the association that age, spirituality, and church attendance have with moral incongruence and perceived addiction.

### **Implications from Exposure**

Exposure to pornography at an early age has been predictive of maladaptive developmental and sexual behaviors in both male and females. Brown and L'Engle (2009) found that exposure to pornography for males was predictive a slower progression of gender role attitudes, engagement in oral and sexual intercourse two years after exposure and a more permissive view of sexual norms and sexual harassment acts. For females, it was found that early exposure was predictive of a slower progression of gender roles and engagement in oral and sexual intercourse. In a multiple regression analysis, it was found that gender, sexual

orientation, exposure to pornography during childhood, emotional abuse during childhood, and parental sexual addiction were associated with the development of sexual compulsivity, whereas childhood sexual and physical abuse and other addictive behaviors were not (McPherson et al., 2013). The factors related to early exposure have negative outcomes, but religiosity seems to be beneficial as a protective factor for pornography use.

### **Religiosity and Age**

Religiosity of adolescents is a protective factor against pornography use; that is, adolescents who are religious and adhere to an internal religious motivation have a more conservative attitude toward pornography, stronger social norms against the use of pornography, and a higher level of self-regulation (Hardy, Steelman, Coyne, & Ridge, 2013). There is a positive association between adolescents being allowed access to birth control and pornography consumption, and this association was stronger for adults who were morally individualistic (Wright & Bae, 2015). Pornography use has been shown to increase with age with emerging adults (Price et al., 2016; Rasmussen & Bierman, 2016) but begin to decrease during middle adulthood (Price et al., 2016). But in adolescents who attend religious services at a higher frequency, pornography use is weaker for both boys and girls (Rasmussen & Bierman, 2016). Perry and Hayward (2017) found that the more frequently pornography is viewed by younger Americans (of either gender), the lower the rate of church attendance, in addition to lower perceptions of closeness to God, frequency of prayer, and importance of faith; further, there is an increase in religious doubt.

### **Moral Incongruence**

Moral dissonance is defined as when an individual's behaviors are contrary to his or her stated values (Rabin, 1994), whereas, moral incongruence is the experience of physical and

emotional distress as a result of these behaviors (Grubbs & Perry, 2018). Internet pornography use and moral incongruence were found to be associated with a higher level of distress about Internet pornography use, higher levels of psychological distress, reported problems in relation to Internet pornography use, and a greater level of perceived addiction to Internet pornography use (Grubbs & Perry, 2017). In a cross-sectional longitudinal analysis, men who believed the viewing of pornography was immoral and yet viewed pornography at a lower level than the other participants experienced depressive symptoms, while others who did not hold to these beliefs and viewed pornography (at the same level) did not experience depressive symptoms (Perry, 2017c). This same study also found that men who did not believe viewing pornography was immoral but did it at the highest frequency demonstrated depressive symptoms; it was suggested that this was a reversed causation: The men viewed pornography as an attempt to relieve their depressive symptoms. One of the adverse effects of pornography use, particularly for those who believe it is immoral, may be experiencing some of these effects due to the level of moral incongruence, which appears to be affected by one's level of shame-proneness.

### **Shame-Proneness**

Shame has been associated with aggression and emotional avoidance (Amodio, Devine, & Harmon-Jones, 2008; Tangney, 1991; Tangney, Wagner, Fletcher, & Gramzow, 1992). Also, shame as a state and trait has been addressed in clinical settings and studies examining addictive and compulsive behaviors. Gilliland, South, Carpenter, and Hardy (2011) related that shame and guilt are self-conscious emotions in response to a negative self-evaluation. They delineate the difference between guilt and shame as thus: When someone is experiencing guilt, he or she is evaluating a behavior negatively; when someone is experiencing shame, he or she is evaluating himself or herself negatively. Further, a distinguishable difference between guilt and shame from

a social perspective is that an individual with guilt is more concerned about how the behavior affected others, whereas an individual with shame is more concerned about how others perceived him (Tangney, 1991).

The higher frequency of presenting symptoms (i.e., psychological distress) in religious pornography users seems to correlate with the development of the trait of shame. Religious beliefs and practices align with the moral and ethical principles propagated in the religious community, and parishioners adopt these standards as part of their social and moral norms. Pornography use is a construct that is considered an immoral behavior in religious communities, but the trait of shame as an added deterrent for engaging in immoral behaviors seems apparent.

### **Sexual Shame**

Volk, Thomas, Sosin, Jacob, and Moen (2016) confirmed their hypothesis that the developmental context of religiosity was a precursor to personal religiosity and consequently had a significant effect on sexual shame. Dhuffar and Griffiths (2014) found that hypersexual behaviors were predictive toward a small percentage of the variability in shame; this was found while controlling for sexual orientation and religious beliefs. Reid, Cooper, Prause, Li, and Fong (2012) showed that hypersexual behaviors and perfectionism shared some variance. Their examination of the subscale scores revealed that hypersexuality could be associated with perfectionistic traits such as self-evaluative perfectionism (i.e., a high concern for making a mistake), suggesting a strong shame component and implying that shame is not a predictor of hypersexuality (Reid, Stein, & Carpenter, 2011) but rather a consequence of hypersexual behavior. Shame was suggested to lead to blunting of awareness, impulse-pleasure seeking as a defense to the negative affect from shame by those who are neurotically disposed, and increased self-devaluation (Reid et al., 2011). Contrary to the former study, Gilliland et al. (2011) found

that shame was positively predictive of hypersexual behavior, whereas guilt was predictive of a motivation to change. Conversely, it was shown that guilt had a negatively predictive relationship with hypersexuality (Gilliland et al., 2011; Reid, 2010), and shame had a negatively predictive relationship with motivation to change (Gilliland et al., 2011). With the tradition of the religious community that moral behaviors are the standard of a righteous life, feelings of shame seem to have a role in the moral disapproval of pornography use. In addition, the moral narrative that pornography use is harmful to the user psychologically (in the least) appears to play into the consensus of many people in the general public that pornography can be an addiction (whether it is or not). These factors seem to tie into the perception of those who have moral incongruence about their pornography use; thereby, they may perceive themselves as addicted due to factors such as compulsive or hypersexual tendencies that they relegate as “out of their control.”

### **Religious Practices**

Although religious people have been found to be less likely to engage in pornography use overall (Baćak & Štulhofer, 2011; Grubbs, Exline, et al., 2015; Hardy et al., 2013; Poulsen, Busby, & Galovan, 2013; Short et al., 2015), religiosity was an unrelated factor for those individuals who admitted to viewing pornography online (Grubbs, Exline, et al., 2015). The discreetness of viewing pornography online may be a factor in this outcome. Although religiosity and nonuse of pornography showed the strongest association, the timing of the first sexual encounter and the number of reported sexual partners had a strong association with pornography use as well (Poulsen et al., 2013). Perry (2017a) showed that earlier pornography use affects religiosity negatively: Those who had previously viewed pornography reported having a lower frequency of prayer and church attendance and viewed religion as less important

to their lives. He noted that this association leveled off or religiosity increased when the frequency of pornography use lessened to just two to three times per month. Pornography use among religious individuals has an adverse effect on religious practices; similarly, the nonuse of pornography is shown to have an association with more frequent religious practices. Nelson et al. (2010) showed that those who did not use pornography reported having past religious family practices and higher levels of past and recent individual religious practices. Also, those whose religiosity was found to be based on intrinsic and personal purposes attended church more frequently, and those who were more active in their religion were less likely to have ever engaged in pornography use (Short et al., 2015).

### **Church Attendance**

Church attendance is associated with specific outcomes physically, personally, relationally, and psychologically. Mahoney (2010) found church attendance to be positively associated with marital quality directly and indirectly. Lower levels of smoking and improved mood were suggested as possible mediating factors for church attendance and health (Koenig & Vaillant, 2009). Church attendance was found to be beneficial for cognitive functioning and was a moderating factor for depressive symptoms in older adults (Reyes-Ortiz et al., 2008).

Although there are benefits to church attendance, pornography use seems to affect the church attendance of men negatively more than women (Perry, 2017a), such that religious attendance has a greater effect on happiness than happiness has on religious attendance (Childs, 2010). Patterson and Price (2012) showed that those who use pornography and regularly attend services for a religious denomination with strong attitudes against pornography use report having lower levels of happiness compared to those who do not attend church regularly. Though church attendance has a negative effect on the psychological state of pornography users, those who

attend church services regularly were less likely to have viewed an X-rated movie in the last year: For men, it was 56% less likely, and women, it was 49% less likely (Patterson & Price, 2012); this demonstrates that church attendance is a preventative or a possible deterrent for engaging in pornography use at all.

Recently, Rasmussen and Bierman (2017) analyzed the associations between the probability of pornography consumption, religious behaviors (i.e., prayer and scripture study), church attendance, and community volunteering. They found the level of probability of consumption was similar for those who never attend and have low personal religious behaviors, those who never attend and have high religious behaviors, and those who attend once a week and have low religious behavior. But for those who attended at least once a week and had high personal religious behaviors, the probability of consumption was significantly lower (nearly half of the other three groupings). Also, the researchers found the probability of consumption to be similar for those who never attend and have high volunteering, and those who attend once a week and have high volunteering. But for those who attended once a week and had high volunteering, the probability of consumption was significantly lower (nearly half that of the other three groupings; Rasmussen & Bierman, 2017).

Church attendance has other implications related to pornography use as well. It was shown by Perry (2017b) that spousal religiosity had a strong negative relation to pornography use; the strength of this relationship was moderated by the participants' age, gender, and religious service attendance. The mediating effect of frequent attendance on religious bonding activities suggested that spousal religiosity could decrease pornography use for married Americans because it promotes religious intimacy and unity (Perry, 2017e). Perry (2017d) also found that pornography viewing influenced the bonding of heterosexual married Americans by

affecting the frequency of spouses praying together. He discovered that couples who never viewed pornography reported praying together more than average, those who did view pornography at moderate levels prayed with their spouses below the average, and a small fraction who viewed pornography at the highest levels prayed with their spouses more than the average.

### **Spirituality**

Hall and Edwards (2002) measured one's level of spirituality using two factors: an awareness of God and the quality of the relationship with God. However, Worthington et al. (2003) measured religious commitment based on one's internalized religious beliefs and the practice of those beliefs. Myriad research has been conducted around the association of pornography use and religious commitment, practices, and beliefs, but little research has been conducted to explore the association of pornography use and spirituality (Chisholm & Gall, 2015). Excessive or problematic pornography use is believed to have an adverse effect on (Baltazar et al., 2010), disrupt, or interfere with one's relationship with God, but those who practice their spiritual values are less likely to use pornography (Short et al., 2015). Even further, pornography use may be preventative toward establishing a relationship with God (Johnson, 2013).

Wilt, Cooper, Grubbs, Exline, and Pargament (2016) found that perceived addiction to Internet pornography had spiritual and psychological implications. The self-report of 1,070 undergraduate students revealed perceived addiction to pornography was associated with lower self-esteem, more anger, and more anger directed toward God. The level of anger that these users experience seems to relate to their awareness of and relationship with God. For example, participants in a mindfulness-based stress reduction treatment showed positive changes in

spirituality when they increased in their trait mindfulness (i.e., attention/awareness) and state mindfulness (i.e., thought and feeling regulation; Carmody, Reed, Kristeller, & Merriam, 2008). Spirituality is the view of one's beliefs, but the practicing of these beliefs is done through the practice of mindfulness (Leigh, Bowen, & Marlatt, 2005). Although religious beliefs have been shown to have a preventative effect on pornography use, the interdependent constructs of mindfulness and spirituality show interventive effects for those who have problems with pornography use (Chisholm & Gall, 2015).

### **Perceived Pornography Addiction**

Certain behaviors, such as compulsive sexual behaviors, have been argued to be categorically defined within the parameters of what constitutes as an addiction, although the controversy is the deficiency in how to define the term *addiction* (Hilton, 2013). With this in view, perceived addiction to Internet pornography has been defined as when individuals report feeling compulsive in their behavior or believe they are addicted to use pornography, even though this self-perception may not be accurate (Grubbs, Exline, et al., 2015). Consequently, the self-perception of being addicted to pornography has been shown to have numerous implications.

The perceptions of what constitutes pornography are diverse (Willoughby & Busby, 2016), but the association of pornography use and perceived addiction seems to be based on behaviors and subjective feelings (Grubbs et al., 2019). When assessing unmarried Christian men who use pornography, Kwee, Dominguez, and Ferrell (2007) found that many believed they had an addiction to pornography. These participants were religious; religion has been found to be predictive of perceived Internet pornography addiction with moral disapproval of Internet pornography use as a mediating factor (Grubbs, Exline, et al., 2015). In addition, while the actual use of pornography was associated positively with perceived pornography addiction,

religious individuals' self-perceptions of pornography use showed a variance greater than the actual use (Grubbs, Exline, et al., 2015). Perceived addiction to Internet pornography seems to be a consistent predictor of spiritual and religious struggle (Grubbs, Exline, Pargament, Volk, & Lindberg, 2017), and this outcome partially mediates relationship anxiety (Leonhardt, Willoughby, & Young-Petersen, 2018). When testing perceived pornography addiction as a mediator between religiosity and relationship anxiety, the perception of perceived addiction to pornography showed a high association with relationship anxiety but a low association with religiosity (Leonhardt et al., 2018). It seems that perceived addiction is more psychologically impactful than the actual pornography use, particularly for those who are religious (Bradley, Grubbs, Uzdevins, Exline, & Pargament, 2016).

Perceived addiction to pornography seems to be driven by pornography users' belief that their use is wrong rather than the amount of pornography they use on a daily basis (Grubbs, Wilt, et al., 2018). In a national survey performed in the United States, Grubbs et al. (2019) found that a majority of participants who described themselves as Internet users ( $N = 2,075$ ) reported as using pornography within their lifetime ( $n = 1,466$ ), and just over half reported as using within the past year ( $n = 1,056$ ). Of these respondents, 11% of the men and 3% of the women reported some level of perceived addiction. Further, these feelings of perceived addiction were higher for those who were younger, more religious, more morally incongruent about their use, were male, and used pornography at a higher frequency. In summary, perceived addiction seems to be associated with two basic factors: the behavioral aspects of pornography use and the subjective beliefs about that behavior (Grubbs et al., 2019).

## **Chapter Summary**

The review of this collection of literature analyzed pornography use as it relates to moral incongruence, perceived addiction, age, church attendance, and spirituality. The findings in this review add to the knowledge of contemporary pornography use. Consequently, this study lends results that increase the knowledge base of the effects of pornography use, thereby leading to further insight in assessing, developing, or altering methods of prevention and intervention for those who are negatively affected by pornography use.

## **Hypotheses**

### **Hypothesis 1**

The current moral narrative that focuses on pornography use as being harmful to the user has implications psychologically (Grubbs & Perry, 2017, 2018; Perry, 2017c). Further, the self-perception that pornography use is harmful psychologically and relationally appears to be a stand-alone effect regardless of the actual frequency of pornography use (Grubbs, Wilt, et al., 2018). This seems to relate to the moral incongruence that is experienced due to the dissonance of an individual's actual behaviors with an individual's personal and sacred beliefs and values. Those with sexual compulsive behaviors, such as pornography use, who perceive these behaviors as uncontrollable may categorize themselves as having an addiction due to their moral standards (Grubbs, Exline, et al., 2017).

**H1:** Moral incongruence is associated with perceived addiction such that a higher level of moral incongruence is predictive of higher levels of perceived addiction.

### **Hypotheses 2**

Pornography use has been self-reported to begin as early as age 13 (Brown & L'Engle, 2009). As pornography users age, their pornography use has been shown to increase

exponentially into young adulthood (Price et al., 2016; Rasmussen & Bierman, 2016), but it begins to decrease during middle adulthood (Price et al., 2016). Hypersexual behaviors seem to influence a small percentage of the variability in shame (Dhuffar & Griffiths, 2014). With this, it appears that the moral values instilled into a developing child who has begun to use pornography may cause the individual to use pornography discreetly via the Internet to avoid the repercussions of feeling sexual shame (Volk et al., 2016).

**H2a:** Age is associated with perceived addiction such that a younger age is more predictive of perceived addiction.

**H2b:** Moral incongruence and perceived addiction is moderated by age such that the relationship between moral incongruence and perceived addiction is attenuated for older users.

### **Hypotheses 3**

Viewing pornography online is a unique variable when assessed in the context of religiosity. Myriad studies have shown that religious people were less likely to view pornography (Baćak & Štulhofer, 2011; Grubbs, Exline, et al., 2015; Hardy et al., 2013; Poulsen et al., 2013; Short et al., 2015). However, for religious individuals who viewed pornography online, their religiosity was not related to their use (Grubbs, Exline, et al., 2015). One notable religious practice that appears significant in affecting pornography and pornography users is church attendance. Church attendance has been shown to be a possible preventative or deterrent factor for engaging in pornography use (Patterson & Price, 2012). To narrow the focus even further, individuals who engage in community outreach and other religious activities reported as being less frequent in pornography use; the tangent was that this was only true for those who attended church regularly (Rasmussen & Bierman, 2017).

**H3a:** Church attendance is associated with perceived addiction such that more frequent church attendance is predictive of higher levels of perceived addiction.

**H3b:** Moral incongruence and perceived addiction are moderated by church attendance such that the relationship between moral incongruence and perceived addiction is stronger for more frequent church attendees.

#### **Hypotheses 4**

Religiosity and spirituality seem to be categorically enmeshed with little distinction. Religiosity is known as the practice of one's personal and sacred values (Worthington, 2010), whereas spirituality is known as one's awareness of God and relationship with God (Hall & Edwards, 2002). With this distinction, it may be insightful to measure how individuals who consider themselves to be spiritual categorize pornography use. Though excessive or problematic pornography use has been shown to have adverse effects (Baltazar et al., 2010), the individual who considers himself to be more spiritual may agree that it interferes with or disrupts one's relationship with God (Short et al., 2015). Since religious practices are associated with behaviors, and spirituality appears to be more experiential:

**H4a:** Spirituality is associated with perceived addiction such that higher levels of spirituality are predictive of lower levels of perceived addiction.

**H4b:** Moral incongruence and perceived addiction are moderated by spirituality such that the relationship between moral incongruence and perceived addiction is weaker for those who report as having higher levels of spirituality.

### **CHAPTER THREE: METHODS**

This chapter will discuss the methodology used to assess the relationship between the moral incongruence of pornography users and their perceived pornography addiction and whether age, spirituality, and church attendance moderate this relationship. Also, age, church attendance, and spirituality were examined for their influence on perceived addiction. In addition, the purpose of this study, research questions and hypothesis will be discussed in this chapter, as well as participant recruitment, measures, research procedures, and data analysis are included.

#### **Research Purpose**

The purpose of this study was to gain an additional perspective on the moral incongruence of pornography users and its relationship to perceived pornography addiction. This study assessed how moral incongruence is moderated by age, church attendance, and spirituality and how these three variables affect the relationship with perceived addiction. Further, this study assessed whether age, church attendance, and spirituality were predictive of perceived addiction. The results of this study gives additional insight to mental health providers to offer more comprehensive and effective treatment to those that use pornography.

#### **Research Questions and Hypotheses**

**RQ1:** Does moral incongruence relate to perceived addiction?

**H1:** Moral incongruence is associated with perceived addiction such that higher levels of moral incongruence are predictive of higher levels of perceived addiction.

**H01:** There is no relationship between moral incongruence and perceived addiction.

**RQ2a:** Does age relate to perceived addiction?

**H2a:** Age is associated with perceived addiction such that a younger age is more predictive of perceived addiction.

**H02a:** There is no relationship between age and perceived addiction.

**RQ2b:** Does age moderate the relationship between moral incongruence and perceived addiction?

**H2b:** Moral incongruence and perceived addiction are moderated by age such that the relationship between moral incongruence and perceived addiction is attenuated for older users.

**H02b:** Age does not moderate the relationship between moral incongruence and perceived addiction.

**RQ3a:** Does church attendance relate to perceived addiction?

**H3a:** Church attendance is associated with perceived addiction such that more frequent church attendance is predictive of higher levels of perceived addiction.

**H03a:** There is no relationship between church attendance and perceived addiction.

**RQ3b:** Does church attendance moderate the relationship between moral incongruence and perceived addiction?

**H3b:** Moral incongruence and perceived addiction are moderated by church attendance such that the relationship between moral incongruence and perceived addiction is stronger for more frequent church attendees.

**H03b:** Church attendance does not moderate the relationship between moral incongruence and perceived addiction.

**RQ4a:** Does spirituality relate to perceived addiction?

**H4a:** Spirituality is associated with perceived addiction such that higher levels of spirituality are predictive of lower levels of perceived addiction.

**H<sub>0</sub>4a:** There is no relationship between spirituality and perceived addiction.

**RQ4b:** Does age spirituality moderate the relationship between moral incongruence and perceived addiction?

**H4b:** Moral incongruence and perceived addiction are moderated by spirituality such that the relationship between moral incongruence and perceived addiction is weaker for those who report as having higher levels of spirituality.

**N<sub>0</sub>4b:** Spirituality does not moderate the relationship between moral incongruence and perceived addiction.

### **Research Design**

This study used a nonexperimental cross-sectional design and did not include any treatment or intervention. Participants were recruited through Amazon.com's Mechanical Turk (MTurk) system. The results of research using MTurk have been found to be equally valid with other standard samples acquired at college campuses; further, the participants at MTurk were significantly more ethnically and socioeconomically diverse (Casler, Bickel, & Hackett, 2013).

### **Selection of Participants**

Participants were recruited through MTurk, an online data collection service through which participants are paid for completing tasks. Researchers within the social and behavioral sciences use this system to acquire large samples with relatively minimal cost within a short time frame. This method provides more diverse participants than and is equally reliable as other methods such as the recruitment of college students (Buhrmester, Kwang, & Gosling, 2011). To be eligible for this study, participants must have reported as being current Internet pornography users (within the last six months) and between 18 and 66 years of age.

## Research Instruments

After completing the appropriate informed consent procedures, participants were asked to complete basic demographic information and necessary measures for the study. These measures included the Spiritual Assessment Inventory (SAI) to assess spirituality, the MDP to assess moral incongruence, and the Cyber-Pornography Use Inventory-9 (CPUI-9) to assess perceived pornography addiction.

**Demographic information.** Participants were asked for basic demographic information such as age, race, gender, educational level, sexual preference, relationship status (e.g., currently single but not dating or currently single and never dated), marital status (e.g., currently married, separated, or divorced), annual household income, employment status, sexual activity (last six months), religious affiliation, and pornography use as to determine the respondents' suitability for this study.

**Pornography use.** Participants were asked questions about their frequency of pornography use and masturbation within the past six months, one month, and one week. Also, they were asked how many hours per week they use pornography.

**Church attendance.** Participants were asked a question about the frequency of church attendance.

**The Spiritual Assessment Inventory.** The SAI was designed to assess two dimensions of spiritual development: quality of relationship with God and awareness of God. There are five subscales used in this measurement: awareness, instability, grandiosity, realistic acceptance, and disappointment. Awareness is measured with statements like "I have a sense of how God is working in my life" (Hall & Edwards, 2002, p. 354). Instability is measured with statements such as "I am afraid that God will give up on me" (Hall & Edwards, 2002, p. 354). Grandiosity

is measured with statements including: “God recognizes that I am more spiritual than most people” (Hall & Edwards, 2002, p. 354). Statements about realistic acceptance and disappointment are conjoined and utilized together. For example, a statement such as “There are times when I feel disappointed with God” (Hall & Edwards, 2002, p. 354) is used to measure disappointment, then a following question such as “When this happens, I still want our relationship to continue” (Hall & Edwards, 2002, p. 354) measures realistic acceptance. The participants responded on a five-point Likert scale from 1 (not at all true) to 5 (very true). The Cronbach’s alpha coefficient are as follows: awareness (.95); instability (.84); grandiosity (.73); realistic acceptance (.83); and disappointment (.90; Hall & Edwards, 2002).

**Moral Disapproval-Pornography.** The MDP is a scale that was formulated from the Grubbs, Exline, et al. (2015) scale CPUI-9 to assess the participant’s level of ethical and moral disapproval of pornography use. As noted in Volk et al. (2016), this scale was adapted to be used in a nonreligious population by removing the reference to sin, thereby making this scale more applicable for those who do not put the same weight on sin as a religious participant. The scale in this form consist of four statements: viewing pornography is inappropriate; viewing pornography violates my personal values; viewing pornography troubles my conscience; viewing pornography is morally wrong. The participants respond to a seven-point Likert scale from 1 (not at all) to 7 (extremely). The Cronbach’s alpha coefficient was .93 for the study conducted by Volk et al. (2016).

**Cyber-Pornography Use Inventory.** The CPUI-9 attempts to measure the perceived addiction to Internet pornography use among participants (Grubbs, Volk, et al., 2015). This inventory, condensed from the previous version of 32 items with four subscales (Grubbs, Sessoms, Wheeler, & Volk, 2010), examines the participants’ view of their perceived addiction

to Internet pornography in its relation to other aspects of their psychological functioning (Grubbs, Volk, et al., 2015). There are nine items used in this measurement: Internet pornography use, individual differences, neuroticism, self-control, social desirability, psychological distress, depression, anxiety, and stress. The first of the three subscales measures access efforts with statements such as “At times, I try to arrange my schedule so that I will be able to be alone in order to view pornography” (Grubbs, Volk, et al., 2015, p. 91). The second scale measures compulsivity with statement such as “I believe I am addicted to Internet pornography” (Grubbs, Volk, et al., 2015, p. 91). The last scale measures negative effect with questions such as “I feel ashamed after viewing pornography” (Grubbs, Volk, et al., 2015, p. 91). The participants respond using a Likert scale ranging from “not at all like me” to strongly like me” (Grubbs, Volk, et al., 2015). The Cronbach’s alpha coefficient are as follows: compulsivity (.81); efforts (.75); and distress (.85; Grubbs, Volk, et al., 2015).

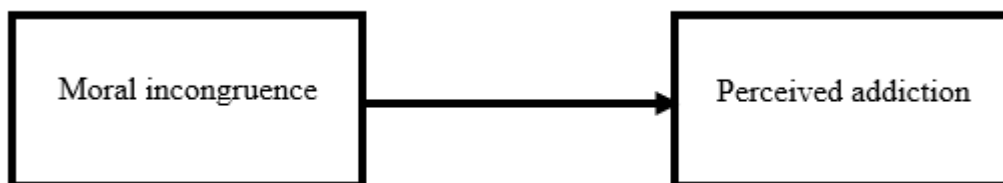
### **Research Procedures**

The procedures for recruitment, consent, participation, and payment were conducted online through Amazon MTurk (Buhrmester et al., 2011). A survey was posted on MTurk and all participants self-selected to be a part of the study. Each participant was paid \$1.00 for was participation through MTurk. It is estimated that it would take 20 to 45 minutes for the participants to complete the survey.

### **Data Processing and Analysis**

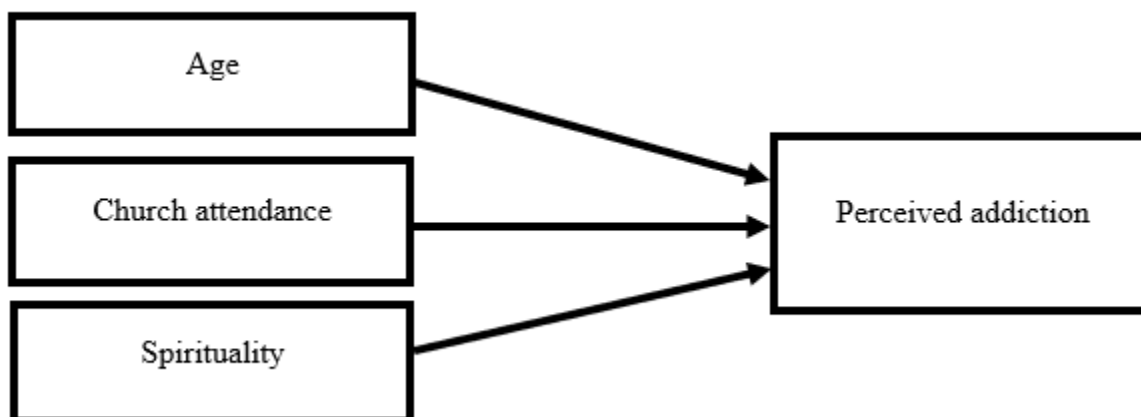
The data collected were screened for outliers and missing or incomplete data using the IBM SPSS Statistic Version 25 (Hayes, 2017; Warner, 2013). Regression analysis and Pearson’s correlation were used to test the relationship and moderation for the research questions (Heppner, Wampold, Owen, Thompson, & Wang, 2016).

For Hypothesis 1, Pearson's correlation was performed. Figure 3.1 depicts how moral incongruence relates to perceived addiction such that moral incongruence is the independent variable and perceived addiction is the outcome variable.



*Figure 3.1.* Visual depiction of Hypothesis 1.

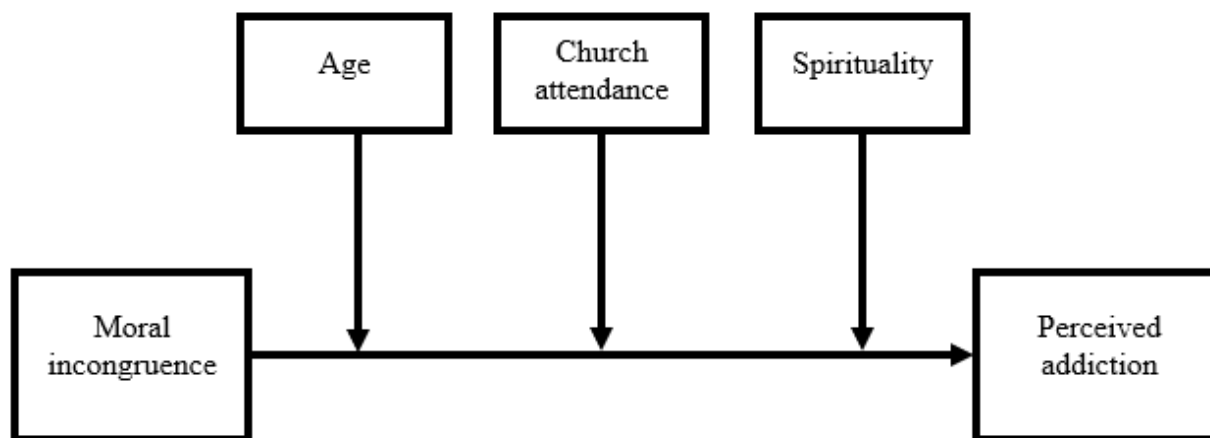
Multiple regression analysis was performed for Hypotheses 2a, 3a, and 4a to measure the influence of age, church attendance, and spirituality on perceived addiction. Figure 3.2 depicts how age, church attendance, and spirituality are the independent variables where perceived addiction is the outcome variable.



*Figure 3.2.* Visual depiction of Hypotheses 2a, 3a, and 4a.

Moderated regression analysis was performed for Hypotheses 2b, 3b, and 4b to measure the effect that age, church attendance, and spirituality had on the relationship between moral incongruence and perceived addiction. In Figure 3.3, age, church attendance, and spirituality are

hypothesized to be moderators of the relationship between moral incongruence and perceived addiction.



*Figure 3.3.* Visual depiction of Hypotheses 2b, 3b, and 4b.

### **Ethical Concerns**

All procedures for this study were approved by the Institutional Review Board before the study was implemented. Sensitive information such as frequency of pornography use, masturbation, and spirituality were disclosed by the participants. In this study, all participants remained anonymous to minimize the risk to them. MTurk paid the participants directly to ensure their anonymity. No participants had their responses connected to them in a way that reveals their identity.

Due to the sensitive nature of the survey, psychological discomfort and distress was a risk. To minimize this risk, measures that have been previously used in similar studies were incorporated. In addition, access to an online counseling resource was provided for the participants in case they experienced any distress or discomfort from completing the survey. Currently, limited research has been conducted with these variables. The potential risk of conducting this study appears to be at an appropriate level considering the potential to achieve

results that may lead to beneficial insights. Further, the conclusions may lead to other methods of prevention and intervention for individuals that are affected by pornography use.

### **Chapter Summary**

The purpose of this study was to: (a) examine the association between moral incongruence and perceived addiction, (b) assess how age, church attendance, and spirituality influence perceived addiction, and (c) assess whether age, church attendance, and spirituality moderate the relationship between moral incongruence and perceived addiction. The research design is a cross-sectional survey of self-reported pornography users. The data were analyzed by hierarchical regression and Pearson correlation.

## **CHAPTER FOUR: RESULTS**

The purpose of this study was to investigate the relationship between moral incongruence and perceived pornography addiction. Also, this study assessed whether age, church attendance, and spirituality were associated with perceived addiction. In addition, this study investigated to determine if age, church attendance, and spirituality moderated the effect of the relationship between moral incongruence and perceived addiction. This study sought to address the following research questions: First, does moral incongruence, age, church attendance, or spirituality relate to perceived addiction? Second, does age, church attendance, or spirituality moderate the relationship between moral incongruence and perceived addiction?

The first research question was assessed using Pearson's  $r$  to determine the strength of the correlation between moral incongruence, age, church attendance, and spirituality in their relationship to perceived addiction. The second research question was assessed using multivariate regression analysis to determine whether age, church attendance, or spirituality moderated the relationship between moral incongruence and perceived addiction. This chapter presents the results and a summary of the findings along with the hypotheses and statistical analysis of these research questions for this study.

### **Data Screening**

The data was obtained in March of 2019. The initial sampling obtained 515 participants. Data were screened using the IBM SPSS Statistics Version 25. Pornography use and frequency of use, age, and church attendance were assessed with demographic questions. Also, participants completed measures that assessed moral incongruence, perceived pornography addiction, and spirituality. Data screening was performed to exclude any participant from the study that did not

respond to all pertinent demographic questions and measures for this study. The final screening reduced the sample size to 127 participants.

### **Demographics**

The 127 participants ranged in age from 21 to 63 years. The average participant age was 35.83. Other demographic information is found in Table 4.1.

Table 4.1

*Participant Demographics*

	<i>n</i>	%
Gender		
Male	67	52.8
Female	60	47.2
Racial identity		
Caucasian/White	81	63.3
African American	19	15.0
Hispanic	15	11.8
Asian	6	4.7
American Indian or Alaska Native	2	1.6
Other	4	3.1
Educational background		
Less than high school	0	0.0
High school diploma or equivalent (e.g., GED)	18	14.2
Current college student	19	14.9
Trade, technical, or vocational training	5	3.9
Bachelor's degree	49	38.6
Master's degree	31	24.4
Professional degree	4	3.1
Doctorate	1	0.8
Employment status		
Employed for wages	96	75.6
Self-employed	17	13.4
Not employed	6	4.7
Homemaker	4	3.1
Student	1	0.8
Military	1	0.8
Retired	2	1.6
Unable to work	0	0.0
Annual household income		
Currently single – never in a relationship	15	11.8
Single – not currently in a relationship	23	18.1
Noncommitted dating relationship	5	3.9
Monogamous dating relationship	5	11.8
Married life partner	62	48.8
Married, but legally separated	2	1.6
Divorced	4	3.1
Widowed	1	0.8
Religion		
Protestant (Methodist, Baptist, etc.)	46	36.2
Catholic	47	37.0
Christian (nondenominational)	34	26.8

*Note.* *N* = 127.

The average hours the participants reported using pornography per week ranged from 0 to 72, with a mean of 2.58 ( $SD = 3.457$ ). In addition, participants were asked to report how frequently they have used pornography in the last week, month, and six months. See Table 4.2 for pornography use statistics and Table 4.3 for church attendance statistics.

Table 4.2

*Pornography Use Statistics*

	<i>n</i>	%
Use in the past week		
0 times	44	34.6
1–3 times	61	48.0
4–6 times	11	8.7
7–9 times	9	7.1
10 or more times	2	1.6
Use in the past month		
0 times	20	15.7
1–3 times	30	23.6
4–6 times	46	36.2
7–9 times	17	13.4
10 or more times	14	11.0
Use in the past six months		
0 times	0	0.0
1–3 times	21	16.5
4–6 times	28	22.0
7–9 times	34	26.8
10 or more times	44	34.6

*Note.*  $N = 127$

Table 4.3

*Frequency of Yearly Church Attendance*

	<i>n</i>	%
0 Times	15	11.8
1–10 Times	68	53.6
11–30 Times	14	11
31–50 Times	13	10.2
51 or More Times	17	13.4

*Note.*  $N = 127$

## Sample Means

The minimum score, maximum score, mean, and standard deviation were calculated for all of the measures used. The results are recorded in Table 4.4.

Table 4.4

Pearson's  $r$ , Means and  $SD$ s

	Age	Church attendance <sup>a</sup>	Pornography use <sup>b</sup>	MDI (moral incongruence)	SAI (realistic acceptance)	SAI (awareness of God)	SAI (instability)	CPUI-9
Age	1	.004	.065	-.131	.122	-.180*	-.215*	-.180*
Church attendance <sup>a</sup>		1	-.219*	.291**	.163	.325**	-.038	.046
Pornography use <sup>b</sup>			1	-.131	-.098	-.192*	.030	-.072
MDP				1	.223*	.327**	.462**	.671**
SAI: Realistic acceptance					1	.607**	-.027	.196*
SAI: Awareness of God						1	.129	.287**
SAI: Instability							1	.654**
CPUI-9								1
Mean	35.83	19.89	3.80	3.79	3.71	3.26	2.50	4.19
$SD$	9.46	35.80	1.09	1.93	1.56	1.06	1.05	2.14
$N$	127	127	127	127	121	127	127	127
Minimum	21	0	2	1	1	1.05	1	1.22
Maximum	63	300	5	7	5	5	5	9.56

\*Correlation is significant at the .05 level (2-tailed).

\*\*Correlation is significant at the .01 level (2-tailed).

<sup>a</sup>Past year

<sup>b</sup>Past six months

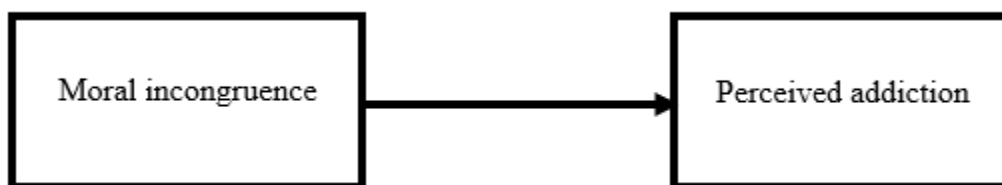
## Data Analysis

Data analysis was performed using IBM SPSS Statistics Version 25 with the PROCESS macro for SPSS (Hayes, 2017). The participants who did not complete all the items for any measure were excluded from the analysis. Pearson's  $r$  correlations were completed to determine

the relationship of moral incongruence, age, church attendance, and spirituality to perceived pornography addiction. The moderator models that assessed age, church attendance, and spirituality and how they affected the relationship between moral incongruence and perceived addiction were tested using multivariate regression; the results of these analyses are discussed.

### Hypothesis 1

**Moral incongruence and perceived addiction.** Pearson's  $r$  was used to assess the relationship between moral incongruence and perceived pornography addiction. The analysis found a significant correlation,  $r(127) = .671, p < .001$ . This finding furthers the understanding of the construct of perceived pornography addiction. In addition, it can aid in the discovery of other variables that can influence perceived pornography addiction. A diagram of model one is presented in Figure 4.1. Hypothesis 1 was supported.



*Figure 4.1.* Hypothesized theoretical model 1.

### Hypothesis 2

**Hypothesis 2a: age and perceived addiction.** Pearson's  $r$  was used to assess the relationship between age and perceived pornography addiction. The analysis found a significant correlation,  $r(127) = -.180, p = .043$ . This contributes to a further understanding of the construct of perceived addiction. In addition, this supports the discovery of other variables that can influence perceived pornography addiction. A diagram of model 2a is presented in Figure 4.2. Hypothesis 2a is supported.

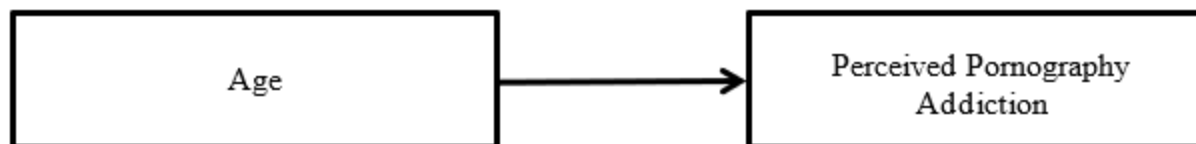


Figure 4.2. Hypothesized theoretical model 2a.

**Hypothesis 2b: Age, moral incongruence, and perceived addiction.** Research question 2b asked if age moderates the relationship between moral incongruence and perceived addiction. Moderation analysis was performed using Hayes Process Macro 3.0 (Hayes, 2017) for SPSS to determine the degree to which age moderates the relationship between moral incongruence and perceived pornography addiction. Hayes's (2017) Conditional Process Analysis PROCESS macro for SPSS was used to test the moderation model and interaction one. Model 2b used moral incongruence as the predictor variable and perceived pornography addiction as the outcome variable. The proposed moderator for this model was age. A diagram of the theoretical model is presented in Figure 4.3. Prior to analysis, age was mean-centered for ease of reporting results (Dalal & Zickar, 2012) to allow the *B* coefficients to be more interpretable (Hayes, 2017).

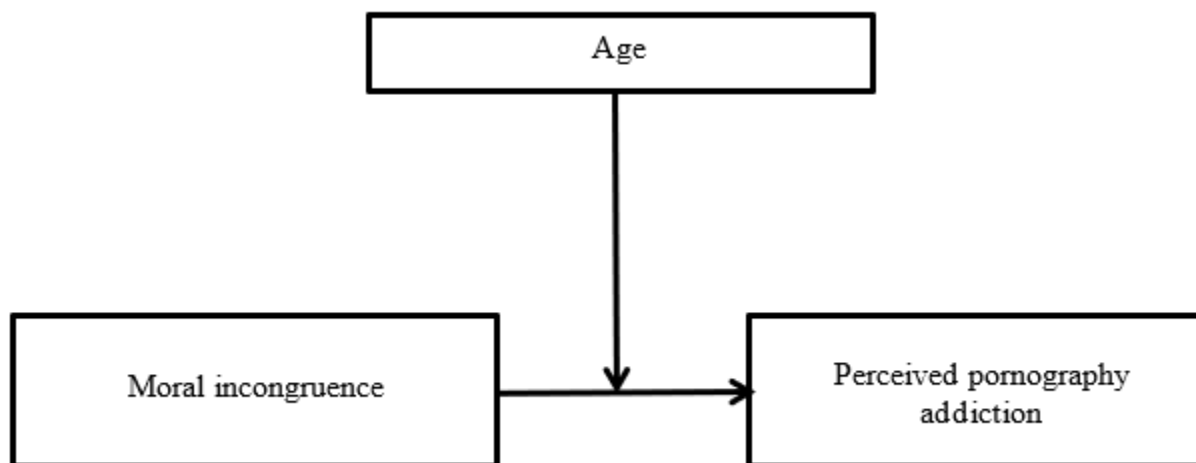


Figure 4.3. Hypothesized theoretical model 2b.

Model 2b was statistically significant,  $F(36.76)$ ,  $p < .001$ ,  $R^2 = .472$ . With this, the predictors and their interaction were shown to account for 47.2% of the variance in perceived pornography addiction. Moral incongruence,  $b = .719$ ,  $t(9.802)$ ,  $p < .001$ , was a significant predictor of perceived pornography addiction. Age,  $b = -.024$ ,  $t(-1.643)$ ,  $p = .103$ , was found not to be a statistically significant predictor of perceived addiction. The model overall was found as not statistically significant,  $b = -.014$ ,  $t(-1.81)$ ,  $p = .072$ , accounting for 1.4% of the variance in perceived addiction. Process model results are shown in Table 4.4. The interaction is illustrated in Figure 4.4 at the 14th, 50th, and 84th percentile of moral incongruence and perceived pornography addiction. Those who had the highest levels of moral incongruence and the highest levels of perceived pornography addiction were younger.

Table 4.5

*Process Model Results for Model One for Hypothesis 2b*

Source	<i>b</i>	<i>SE</i>	<i>t</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Constant	4.157	.141	29.472***	3.878	4.436
Moral disapproval	.719	.073	9.802***	.574	.865
Age	-.024	.015	-1.643	.102	.005
Moral disapproval x age	-.014	.008	-1.814	-.030	-.001

\*Note. Number of bootstrap samples for percentile bootstrap confidence intervals = 5000.

\*\*\* $p < .001$ .

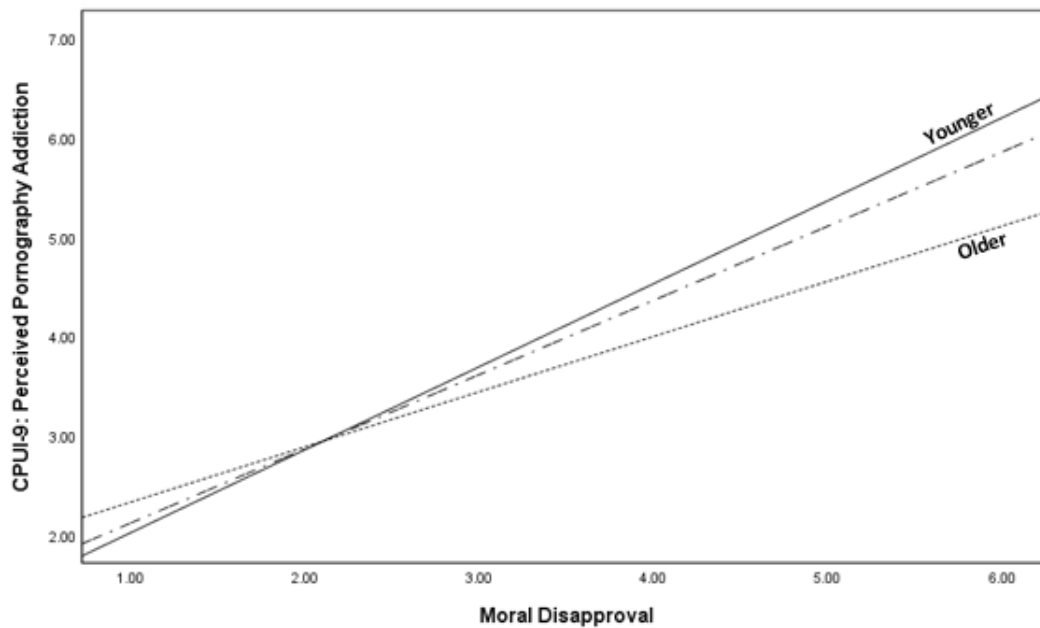


Figure 4.4. Interaction of perceived pornography addiction x age on moral disapproval.

### Hypothesis 3

**Hypothesis 3a: Church attendance and perceived addiction.** Pearson's  $r$  was used to assess the relationship between church attendance and perceived pornography addiction. The analysis found a weak correlation,  $r(127) = .046$ ,  $p = .607$ . This suggests that there are other important variables to consider in understanding the relationship that church attendance has on perceived addiction. A diagram of model 3a is presented in Figure 4.5. Hypothesis 3a is not supported.

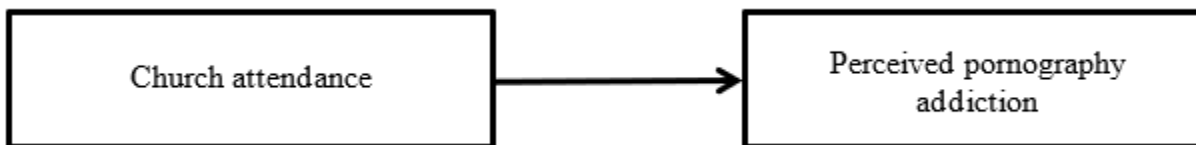


Figure 4.5. Hypothesized theoretical model 3a.

### Hypothesis 3b: Church attendance, moral incongruence, and perceived addiction.

Research question 3b asked if church attendance moderates the relationship between moral

incongruence and perceived addiction. Moderation analysis was performed using Hayes Process Macro 3.0 (Hayes, 2017) for SPSS to determine the degree to which church attendance moderates the relationship between moral incongruence and perceived pornography addiction. Hayes's (2017) Conditional Process Analysis PROCESS macro for SPSS was used to test the moderation model and interaction one. Model 3b used moral incongruence as the predictor variable and perceived pornography addiction as the outcome variable. The proposed moderator for this model was church attendance. A diagram of the theoretical model is presented in Figure 4.6. Prior to analysis, church attendance was mean-centered for ease of reporting results (Bell, Jones, & Fairbrother, 2018; Dalal & Zickar, 2012) to allow the *B* coefficients to be more interpretable (Hayes, 2017).

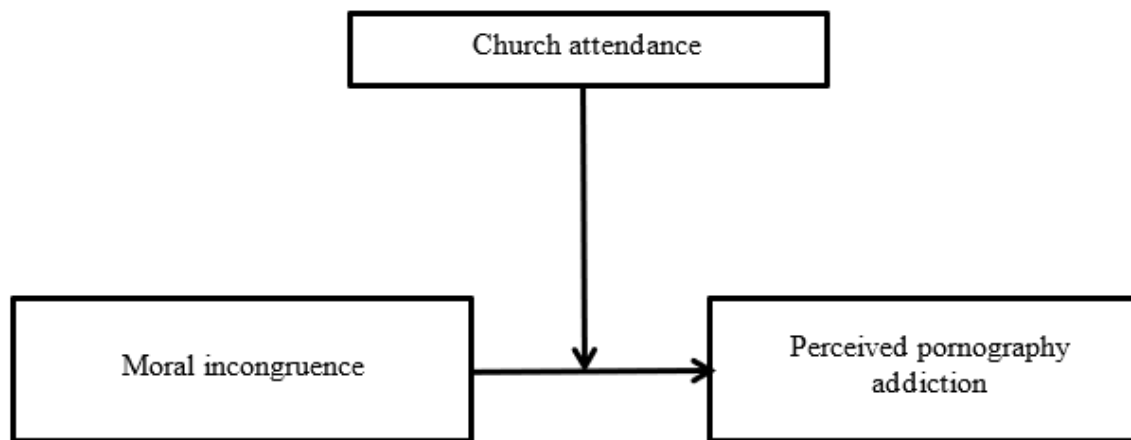


Figure 4.6. Hypothesized theoretical model 3b.

Model 3b was statistically significant,  $F(37.01)$ ,  $p < .001$ ,  $R^2 = .474$ . With this, the predictors and their interaction were shown to account for 47.4% of the variance in perceived pornography addiction. Moral incongruence  $b = .799$ ,  $t(10.383)$ ,  $p < .001$ , was a significant predictor of perceived pornography addiction. Church attendance.  $b = -.010$ ,  $t(-1.781)$ ,  $p = .077$ , was nearly found to be a statistically significant predictor of perceived addiction. The model overall was found as not statistically significant,  $b = .000$ ,  $t(.253)$ ,  $p = .800$ , accounting for

0.03% of the variance. Process model results are shown in Table 4.5. The interaction is illustrated in Figure 4.7 at the 14th, 50th, and 84th percentile of moral incongruence and perceived pornography addiction. Those who attended church more often had slightly lower levels of moral incongruence and perceived pornography addiction than those who attended church the least.

Table 4.6

*Process Model Results for Model One for Hypothesis 3b*

Source	<i>b</i>	<i>SE</i>	<i>t</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Constant	4.181	.146	28.558***	3.891	4.471
Moral disapproval	.799	.077	10.383***	.647	.952
Church attendance	-.010	.006	-1.781	.023	.001
Moral disapproval x church attendance	.000	.002	.8001	-.003	.005

\*Note. Number of bootstrap samples for percentile bootstrap confidence intervals = 5000.

\*\*\* $p < .001$ .

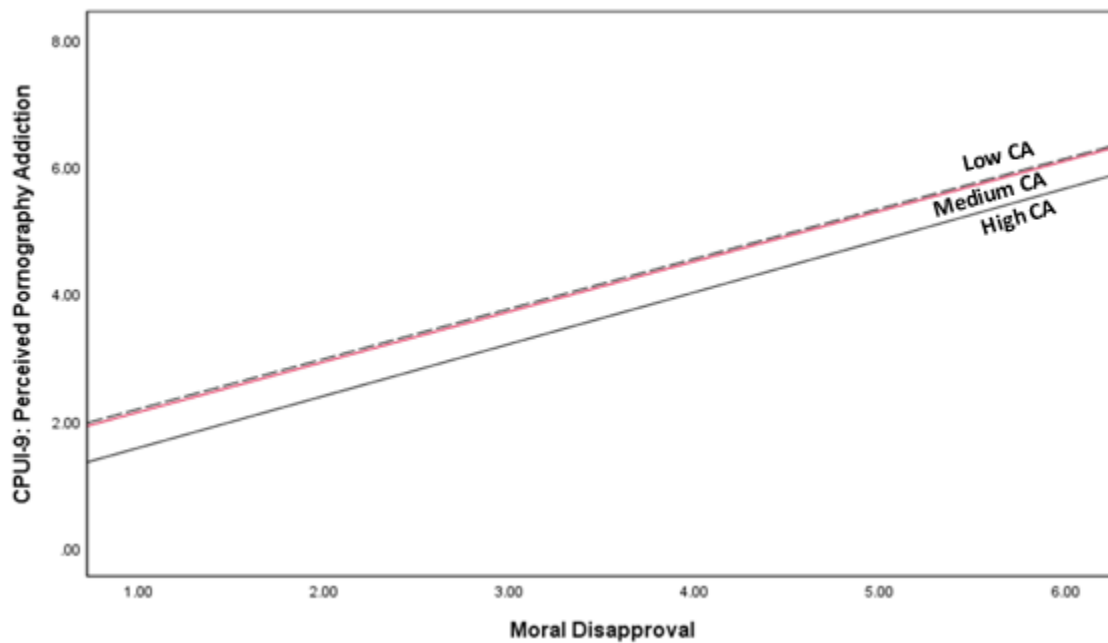


Figure 4.7. Interaction of perceived pornography addiction x church attendance on moral disapproval.

## Hypothesis 4

**Hypothesis 4a: Spirituality and perceived addiction.** Pearson's  $r$  was used to assess the relationship between age and perceived pornography addiction. The analysis found a significant correlation,  $r(127) = .196, p = .031$ , for the SAI–Realistic Acceptance,  $r(121) = .287, p = .001$ , for the SAI–Awareness of God, and  $r(127) = .654, p < .001$ , for the SAI–Instability. This finding contributes further understanding of the construct of perceived addiction. In addition, this finding can aid in the further discovery other variables that can influence perceived pornography addiction. A diagram of the theoretical model is presented in Figure 4.8. Hypothesis 4a was not supported.

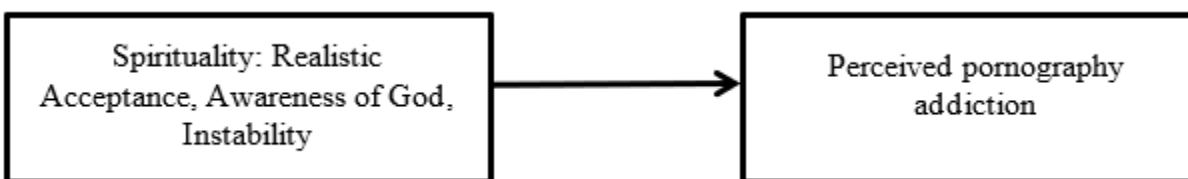


Figure 4.8. Hypothesized theoretical model 4a.

**Hypothesis 4b: Spirituality, moral incongruence, and perceived addiction.** Research question 4b asked if spirituality moderates the relationship between moral incongruence and perceived addiction. The three items that were assessed for spirituality were realistic acceptance, instability, and awareness. Moderation analysis was performed using Hayes Process Macro 3.0 (Hayes, 2017) for SPSS to determine the degree that spirituality moderates the relationship between moral incongruence and perceived pornography addiction. Hayes's (2017) Conditional Process Analysis PROCESS macro for SPSS was used to test the moderation model and interaction one, two, and three. Models one, two, and three for hypothesis 4b used moral incongruence as the predictor variable and perceived pornography addiction as the outcome

variable. The proposed moderator for this model was spirituality. A diagram of the theoretical model one, model two, and model three is presented in Figure 4.9.

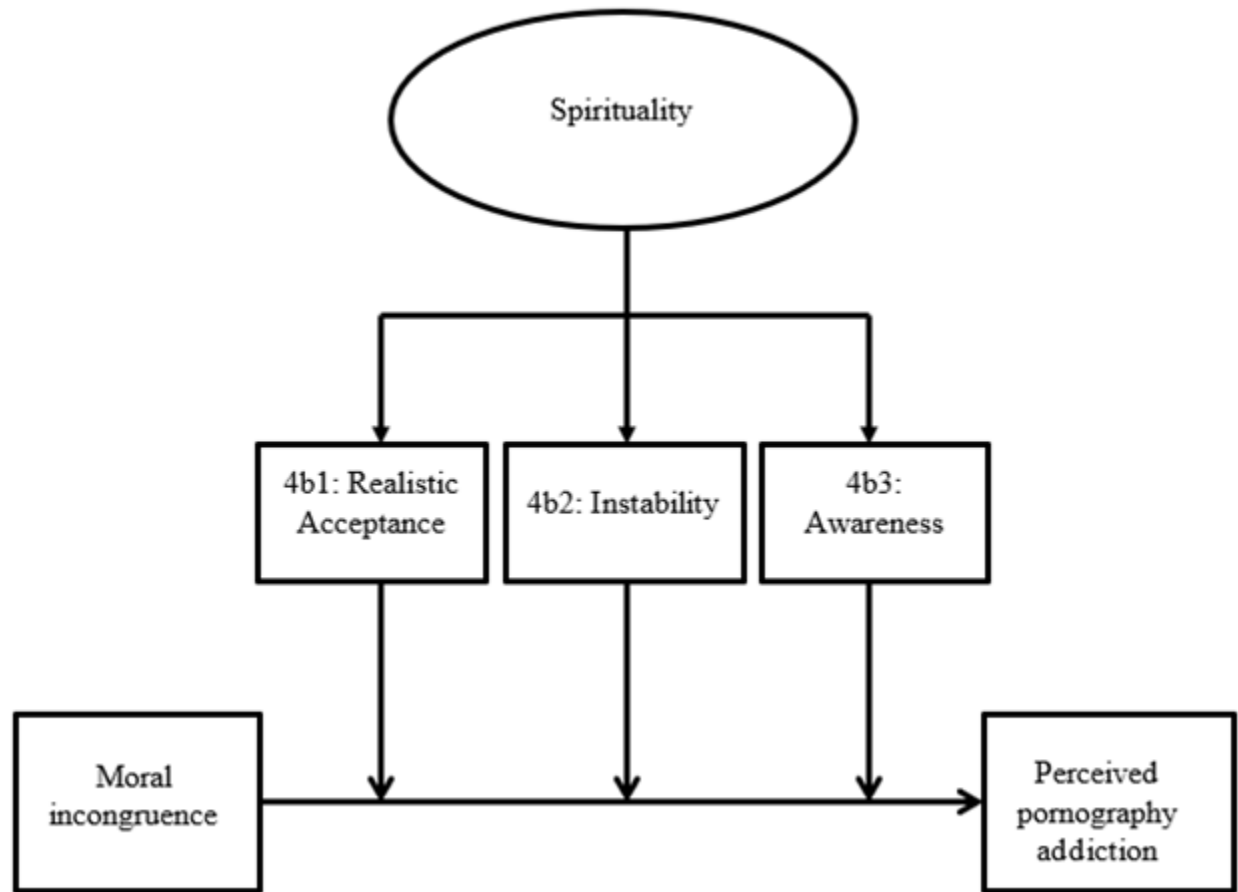


Figure 4.9. Hypothesized theoretical model one for Hypotheses 4b1, 4b2, and 4b3.

Model one for hypothesis 4b1 was statistically significant,  $F(4.123)$ ,  $p < .001$ ,  $R^2 = .69$ . Thus, the predictors and their interaction were shown to account for 46.9% of the variance in perceived pornography addiction. The predictor of moral incongruence  $b = .679$ ,  $t(8.748)$ ,  $p < .001$ , was a significant predictor of perceived pornography addiction. SAI–Realistic Acceptance,  $b = .221$ ,  $t(1.637)$ ,  $p = .104$ , was found not to be a statistically significant predictor of perceived addiction. The model overall was found as statistically significant,  $b = .191$ ,  $t(2.812)$ ,  $p = .005$ , accounting for 3.5% of the variance. Process model results are shown in Table 4.6. The

interaction is illustrated in Figure 4.10 at the 14th, 50th, and 84th percentile of moral incongruence and perceived pornography addiction. Those who had both high levels of moral incongruence and high levels of perceived pornography addiction had higher levels of realistic acceptance.

Table 4.7

*Process Model Results for Model One for Hypothesis 4b1*

Source	<i>b</i>	<i>SE</i>	<i>t</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Constant	4.123	.147	27.931***	3.830	4.415
Moral disapproval	.679	.077	8.748***	.525	.833
SAI–Realistic Acceptance	.221	.135	1.637	-.046	.489
Moral disapproval x Realistic Acceptance	.191	.068	2.812	0.005	.326

\**Note.* Number of bootstrap samples for percentile bootstrap confidence intervals = 5000.

\*\*\* $p < .001$ .

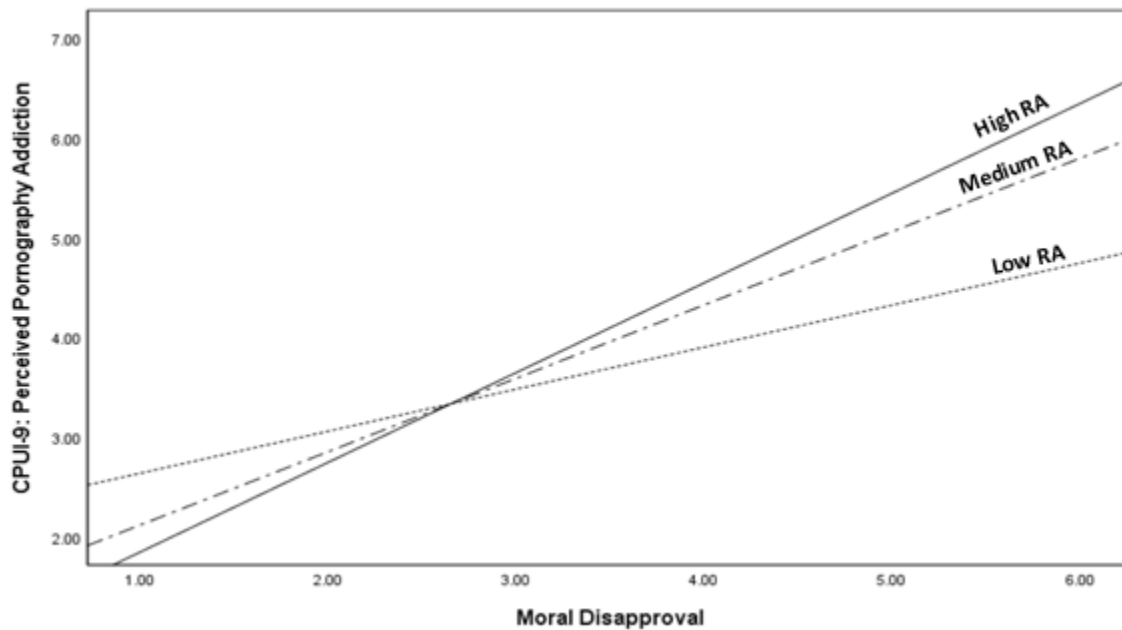


Figure 4.10. Interaction of perceived pornography addiction x realistic acceptance on moral disapproval.

Model one for hypothesis 4b2 was statistically significant,  $F(3.903)$ ,  $p < .001$ ,  $R^2 = .674$ . Thus, the predictors and their interaction were shown to account for 67.4% of the variance in perceived pornography addiction. The predictor of moral incongruence,  $b = .541$ ,  $t(8.405)$ ,  $p < .001$ , was a significant predictor of perceived pornography addiction. SAI–Instability,  $b = .782$ ,  $t(6.542)$ ,  $p < .001$ , was found to be a statistically significant predictor of perceived addiction. The model overall was found statistically significant,  $b = .309$ ,  $t(5.260)$ ,  $p < .001$ , accounting for 7.3% of the variance. Process model results are shown in Table 4.7. The interaction is illustrated in Figure 4.11 at the 14th, 50th, and 84th percentile of moral incongruence and perceived pornography addiction. Those who had both high levels of moral incongruence and high levels of perceived pornography addiction had higher levels of instability. In contrast, moral incongruence only had a marginal influence on perceived pornography addiction when instability was low.

Table 4.8

*Process Model Results for Model One for Hypothesis 4b2*

Source	<i>b</i>	<i>SE</i>	<i>t</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Constant	3.903	.122	31.771***	3.660	4.146
Moral disapproval	.541	.064	8.405***	.414	.669
SAI–Instability	.782	.119	6.542	.545	1.019
Moral disapproval x Instability	.309	.058	5.260	.193	.426

\**Note.* Number of bootstrap samples for percentile bootstrap confidence intervals = 5000.

\*\*\* $p < .001$ .

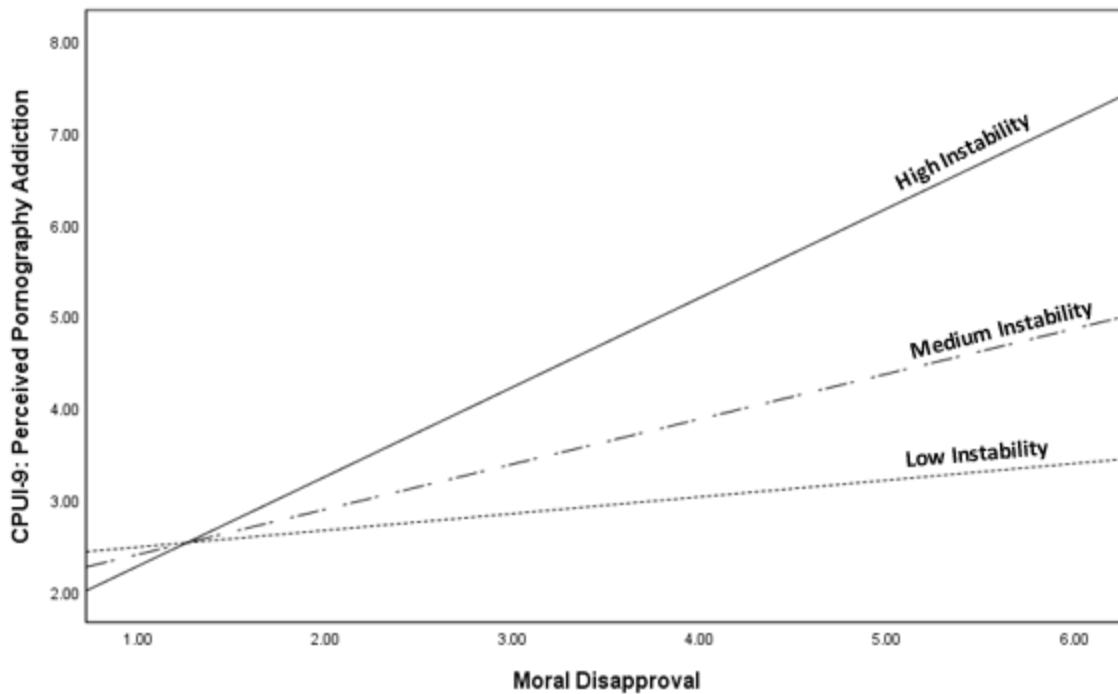


Figure 4.11. Interaction of perceived pornography addiction x Instability on moral disapproval.

Model one for hypothesis 4b3 was statistically significant,  $F(40.365)$ ,  $p < .001$ ,  $R^2 = .496$ . Thus, the predictors and their interaction were shown to account for 49.6% of the variance in perceived pornography addiction. Moral incongruence,  $b = .656$ ,  $t(8.480)$ ,  $p < .001$ , was a significant predictor of perceived pornography addiction. SAI-Awareness,  $b = .301$ ,  $t(2.090)$ ,  $p = .038$ , was found to be a statistically significant predictor of perceived addiction. The model overall was found as statistically significant,  $b = .221$ ,  $t(3.164)$ ,  $p = .002$ , accounting for 4.1% of the variance. Process model results are shown in Table 4.8. The interaction is illustrated in Figure 4.12 at the 14th, 50th, and 84th percentile of moral incongruence and perceived pornography addiction. Those who had both a high level of moral incongruence and a high level of perceived pornography addiction had higher levels of awareness.

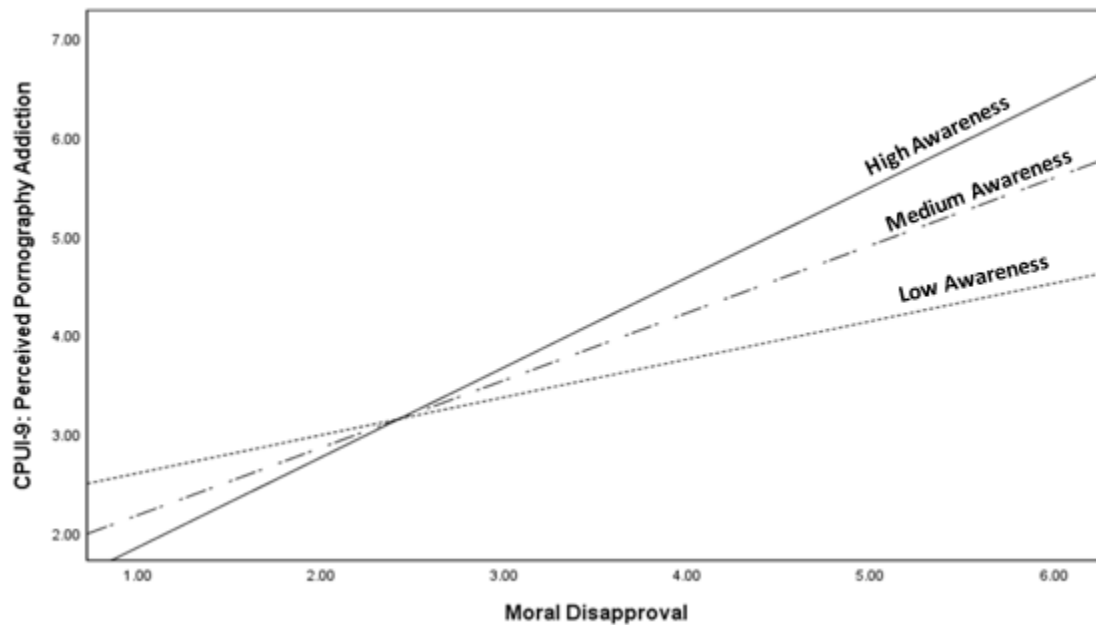
Table 4.9

*Process Model Results for Model One for Hypothesis 4b3*

Source	<i>b</i>	<i>SE</i>	<i>t</i>	95% CI	
				<i>LL</i>	<i>UL</i>
Constant	4.044	.144	28.009***	3.758	4.330
Moral Disapproval	.656	.077	8.480***	0.503	0.809
SAI (Awareness)	.301	.144	2.090*	0.0161	0.587
Moral disapproval x Awareness	.221	.070	3.164**	0.083	0.360

*Note.* Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



*Figure 4.12.* Interaction of perceived pornography addiction x Awareness on moral disapproval.

### Chapter Summary

This research was conducted using Pearson's  $r$  correlation coefficient to assess the relationship that moral incongruence, age, church attendance, and spirituality had on perceived pornography addiction; all hypotheses were supported except for the one regarding church attendance. Regression analysis was used to assess if, age, church attendance, and spirituality

had a moderating effect on the relationship between moral incongruence and perceived pornography addiction. In all three regression models, moral incongruence was predictive of perceived pornography addiction. In addition, age was not predictive while church attendance was nearly predictive of perceived pornography use, and all three factors that were measured for spirituality were found as predictive of perceived pornography addiction. Also, when the overall models were tested, the effect of age and church attendance on perceived pornography addiction were not statistically significant, whereas relational acceptance, instability, and awareness were statistically significant with perceived pornography addiction. Hypotheses 2b, 3b, and 4b1, 4b2, and 4b3 were rejected. Chapter Five will provide a further discussion of these results.

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS, & RECOMMENDATIONS**

This research was grounded in previous research that centered on perceived pornography use. The moral incongruence of those who use pornography use is a fairly new topic of research as it pertains to perceived pornography use. Researchers such as Grubbs, Perry, Volk, and others have continued to pursue a further understanding of how shame (Reid et al., 2011; Volk et al., 2016), psychological distress (Nelson et al., 2010; Patterson & Price, 2012; Perry, 2017c), and moral incongruence (Grubbs, Exline, et al., 2015; Grubbs & Perry, 2017, 2018; Grubbs, Exline, et al., 2017) interact, particularly among those who report as being religious (Grubbs, Exline, et al., 2015; Grubbs, Exline, et al., 2017; Grubbs et al., 2019; Perry, 2015, 2017a; Short et al., 2015). This study focused on how age, church attendance, and spirituality are associated with perceived pornography use. Also, this study asked if age, church attendance, and spirituality moderate the association between moral incongruence and perceived pornography addiction. The previous chapter outlined the results of this study. This concluding chapter will analyze the results, discuss the significance of the findings of this study and the limitations of this study, offer direction for future research, suggest implications for practitioners, and offer a biblical perspective and application.

### **Summary of Findings and Implications**

This study assessed the relationship between moral incongruence and perceived pornography addiction. In addition, age, church attendance, and spirituality were assessed as predictors of perceived pornography addiction and as moderators for the relationship between moral incongruence and perceived pornography addiction. In this study, the relationship between moral incongruence and perceived pornography addiction was found to be statistically significance such that moral incongruence was positively associated with perceived pornography

addiction. Also, the relationship between age and perceived pornography addiction was statistically significant as well, such that age was negatively associated with perceived pornography addiction. This finding supports previous research that has shown how pornography use has risen exponentially among the emerging adult due to the accessibility of the Internet (Price et al., 2016). Spirituality was also found to be statistically significant such that a strong positive correlation was found between the items of realistic acceptance, awareness of God, and instability. Church attendance, however, was found to not be a statistically significant predictor of perceived pornography addiction.

Age, church attendance, and spirituality were assessed as moderators on the relationship between moral incongruence and perceived pornography addiction. Age was found not to be a statistically significant predictor of perceived pornography addiction, church attendance was shown as nearly predictive, realistic acceptance was found not to be a significant predictor of perceived pornography addiction, while awareness and instability were found as statistically significant predictors of perceived pornography addiction.

This research is consistent with the literature pertaining to perceived pornography addiction. In this study, all participants reported as Protestant, Catholic, or nondenominational Christian. Particularly among religious participants, the level of perceived pornography addiction strengthens as the level of moral incongruence increases. Also, it was hypothesized that spirituality would moderate the relationship between moral incongruence and perceived pornography addiction such that higher levels of spirituality would predict lower levels of perceived pornography addiction. Contrariwise, those with high levels of moral incongruence and high levels perceived pornography addiction had higher levels of spirituality, specifically the items of awareness and relational acceptance.

**Research Question 1**

Research question one explored the relationship between moral incongruence and perceived addiction. It was hypothesized that moral incongruence is associated with perceived addiction such that higher levels of moral incongruence are associated with higher levels of perceived addiction. This hypothesis was supported, as there was a strong positive correlation between moral incongruence and perceived pornography addiction. This finding adds to the previous research that supports this relationship as needing further research.

**Research Question 2a**

Research question two assessed the relationship between age and perceived pornography addiction. It was hypothesized that age is associated with perceived addiction. It was hypothesized that younger users are associated with higher levels of perceived pornography addiction. This hypothesis was supported. Further research should be conducted that includes how the level of perceived pornography addiction is dependent upon the age of the user.

**Research Question 2b**

The second research question further explored age to measure if it moderates the relationship between moral incongruence and perceived pornography addiction. It was hypothesized that moral incongruence and perceived addiction would be moderated by age such that the relationship between moral incongruence and perceived addiction would be attenuated for older users. This hypothesis was not supported. This suggests that other variables need to be explored when assessing the relationship between moral incongruence and perceived pornography addiction.

**Research Question 3a**

Research question three assessed the relationship between church attendance and perceived pornography addiction. It was hypothesized that church attendance is associated with perceived addiction such that more frequent church attendance is predictive of higher levels of perceived addiction. A weak correlation was found, but this hypothesis was not supported. Other variables should be considered to further understand what influences perceived pornography addiction.

**Research Question 3b**

The third research question also explored whether church attendance moderated the relationship between moral incongruence and perceived pornography addiction. It was hypothesized that moral incongruence and perceived addiction would be moderated by church attendance such that the relationship between moral incongruence and perceived addiction would be stronger for more frequent church attendees. Although this hypothesis was not supported, church attendance was found to be nearly significant ( $p = .077$ ) as a predictor of perceived addiction. Other variables should be explored to further understand the relationship between moral incongruence and perceived pornography addiction.

**Research Question 4a**

The final research question of this study assessed the relationship between spirituality and perceived pornography addiction. It was hypothesized that spirituality is associated with perceived addiction such that higher levels of spirituality would be predictive of lower levels of perceived addiction. All three items (i.e., realistic acceptance, awareness of God, and instability) were found to have a strong correlation with perceived pornography addiction. This hypothesis

was not supported. This suggests that spirituality should be included in assessing perceived pornography addiction. Further research should be conducted to investigate these variables.

#### **Research Question 4b**

Last, spirituality was further assessed as a moderator between moral incongruence and perceived pornography addiction. It was hypothesized that moral incongruence and perceived addiction would be moderated by spirituality such that the relationship between moral incongruence and perceived addiction would be lower for those who report as having higher levels of spirituality. This hypothesis was not supported. Spirituality should be included in assessing the relationship between moral incongruence and perceived pornography addiction.

#### **Limitations of the Study**

All of the participants reported as either Protestant, Catholic, or nondenominational Christian. In conjunction with this, spirituality was assessed based upon a monotheistic God. These two factors (i.e., religious affiliation and monotheism) were beneficial in this study as the measurement of spirituality was based upon an apparent monotheistic view. Consequently, the study is limited to be generalized only to this specific population.

The reported racial identity was primarily Caucasian/White (63.3%); this limits the generalizability of the results of this study to populations other than this demographic. In addition, the reporting participants were mainly college graduates with either a bachelor's or master's degree. These parameters limit the findings from this study to not include the less educated or highly educated (e.g., professional and doctoral degrees). Also, the majority of participants reported that they were currently employed. Those who were not employed or unemployed were not adequately represented.

Furthermore, the sensitive nature of this topic along with the anonymity of self-reporting without any supervision or oversight may influence some inconsistencies and underreporting in the responses. Also, opinions differ on the adequacy of the sample size of this study (Green, 1991; Maxwell, 2000; Warner, 2013); a larger sample size would nullify this disagreement among those who published their opinion. And, all measurements incorporated in this study were based on self-reports, which can produce biased results due to social desirability (Van de Mortel, 2008).

### **Suggestions for Future Research**

This study hypothesized that spirituality would moderate the relationship between moral incongruence and perceived addiction so that higher levels of spirituality would lower the effect of this relationship. This hypothesis was not supported. The rationale to support this hypothesis was based upon a distinction between religiosity and spirituality; that is, religiosity was defined in terms of religious practices/behaviors and spirituality was based upon a relationship (awareness, instability, realistic acceptance) with a deity. It has been noted that there is a distinction between those that are religious and spiritual and those that are nonreligious and spiritual (Ammerman, 2013; Fuller, 2001; Saucier & Skrzypińska, 2006). With this, a sample of participants who are not affiliated with any religion and yet report as having a high level of spirituality should be a unique demographic for future research. The distinctions between the spiritual perceptions of these two populations may be valuable in assessing moral incongruence and perceived pornography addiction.

Another suggestion for future research is to gather a more diverse sample that includes multiple ethnicities. The cultural differences of the various ethnicities could add to the distinction of religiosity and spirituality. Also, longitudinal and qualitative studies should be

explored since cross-sectional studies may be more effective at measuring the current state rather than an ongoing trend.

Men and women were nearly equally represented in this study. Men are more likely to use pornography than women (Grubbs, Kraus, & Perry, 2019), but the reasons for this should be further explored. Future research should measure the differences between men and women in pornography use and its effects.

Potential mediators and other moderators should be explored as well to further understand the relationship between moral incongruence and perceived pornography addiction. Personality differences, attachment styles, forgiveness of self, forgiveness of others, and forgiveness of situations may be a direction for future research. It has been suggested that personality differences seem to be associated with forgiveness-relevant dispositions (Mullet, Neto, & Riviere, 2005). Previously, it was found that conciliatory behavior toward a higher power, a decrease in guilt, and perceived transgression severity were associated with increased self-forgiveness (Hall & Fincham, 2008).

Also, attachment styles as a mediator between moral incongruence and perceived pornography addiction should be considered, particularly for those with an insecure attachment. It has been suggested that those with an avoidant attachment use pornography to experience some sexual and emotional satisfaction and to avoid the risk of intimacy (Szymanski & Stewart-Richardson, 2014). Also, individuals with a resistant ambivalent attachment seek closeness emotionally and physically in their romantic relationships, but their attachment behaviors are seen as desperation. The behavior of desperation derives from the belief that their partners are neither reliable nor dependable as a source for emotional and physical support (Hazan & Shaver, 1987; Simpson, Rholes, & Phillips, 1996; Tolmacz, 2004). Those who have an ambivalent

attachment may use pornography as a substitute for intimacy for fear of sexual rejection from their partner (Szymanski & Stewart-Richardson, 2014). With all of this, the rationale to use pornography to alleviate stressors does not necessarily provide a cognitive buffer that could alleviate any potential level of moral incongruence. Thus, the relationship between moral incongruence and perceived pornography addiction could foreseeably strengthen with higher levels of insecure attachment.

Another suggested covariate to include along with personality differences and the previously mentioned variations of forgiveness could be religiosity and spirituality. It could be that those who are highly religious have a higher level of forgiveness toward others but are less forgiving of their own transgressions; however, it could be that those who are nonreligious and highly spiritual (as previously defined) could likewise have a higher level of forgiveness toward themselves but are less forgiving of others due to differences in personality and other unknown factors. Considering all of these suggestions could lead to further understanding of perceived pornography addiction.

### **Implications for Practice**

Pornography use has been overwhelmingly categorized as immoral behavior by the religious community (Patterson & Price, 2012). With the ease of accessibility, discreetness, and anonymity due to the Internet along and the amount of pornography available that is free from monetary expense, pornography use has risen exponentially. One population that appears to be more maladaptively affected is the religious community. The moral narrative has delivered a message about pornography use that it is in and of itself a harmful behavior to the user and to the user's relationships, particularly relationships where intimacy is associated. But among the nonreligious, certain beliefs about pornography use such as that it increases sexual arousal

(Baltazar et al., 2010), creates more open-mindedness about sex, is beneficial to the longevity of a relationship, and promotes awareness of a partner's sexual desires (McKee, 2007) demonstrate that the pornography use in and of itself is not necessarily the etiology behind the distress but rather the perception of the pornography use as an immoral behavior.

With this, myriad approaches to limit or eliminate the use of pornography based upon viewer harm and relational harm have been employed. Acceptance commitment therapy, mindfulness exercises, shame-lowering techniques, and other modalities and techniques have been used to remedy the psychological distress and relational issues surrounding problematic pornography use (Grubbs, Exline, et al., 2015; Grubbs, Exline, et al., 2017). Consideration should be given in the approach of treatment due to the diversity of individuals who present with psychological and relational issues that so happen to use pornography. Addressing the pornography use as problematic (by either the client or clinician) without assessing the individual's level of moral incongruence may lead to an incomplete or incorrect diagnosis of the client's presenting issue. And without an accurate diagnosis, the correct treatment may not be chosen.

The most interesting interaction of this study is the moderating effect of realistic acceptance and awareness on the relationship between moral incongruence and perceived pornography addiction, such that individuals with both high levels of moral incongruence and high levels of perceived pornography addiction had higher levels of realistic acceptance and awareness on the SAI. From a theological perspective, having high levels of awareness and relational acceptance toward God has benefits, but in this context, it appears to have a maladaptive effect. This finding should be considered in practice, particularly for treatment of those in the religious community. Further, it appears that the constructs of realistic acceptance of

one's self and God could be related or even interdependent (Hall, 2004; Hill & Hall, 2002). The realistic acceptance of one's self has been efficacious in treatment (i.e., acceptance commitment therapy) for those with problematic pornography use. But a treatment that includes the realistic acceptance of God could have adverse psychological effects.

### **Biblical Application**

In Christian theology, the parameters of what constitutes a Christian and a non-Christian is whether or not someone has a relationship with God through Jesus Christ. This relationship is actualized when God actively pursues one of his elect through the message of the gospel, and the individual responds with an internalized belief and an external confession (John 14:6; Rom. 10:9–10; 1 Peter 3:18). But this relationship has a working purpose that can be understood in three constructs: justification, sanctification, and glorification. For example, when an individual repents of sin and confesses Jesus as the savior from that sin, he or she is justified before God the Father (Eph.1:7, 2:8–9; Rom. 3:28; Gal. 2:6). At this moment, believers are no longer condemned (Rom. 8:1) but are redeemed (Isaiah 44:22; 2 Peter 3:9; Acts 3:19). Also, the immediacy and process of sanctification is actualized. According to Essex (2010), the process of sanctification understood with three distinctions: definitive sanctification, progressive sanctification, and future sanctification. First, definitive sanctification means that the believer has been set apart or made holy (Rom. 6:3,11; Gal. 2:20). Second, progressive sanctification means that a believer was set apart in order to be free from sin. This freedom from sin does not equate to becoming unable to sin; rather, this freedom allows a believer to live out of a new nature that was given when he or she believed on the gospel of Jesus Christ (Gal. 5:16). Last, future sanctification is understood at the time when Jesus Christ returns to earth to complete the

salvation of all of the elect. At this moment, glorification in its fullness will be actualized (Rom. 8:18–30).

### **Progressive Sanctification and Moral Incongruence**

The state that humans are in when they violate their personal values is known as moral incongruence (Grubbs, Exline, et al., 2015; Grubbs & Perry, 2018). Whether or not these values are violated is a matter of an individual acting upon his nature. The human nature is distinctive from all other natures, in that it consists of a body, soul, and spirit. For example, a plant has a body (in the sense of a physical entity) but has no soul or spirit; an animal has a body and a soul (in the sense that the soul has a will and emotions) but has no spirit. But a human has a body, soul, and spirit (in the sense that he can exist and relate to and within the reality of the metaphysical). All creates act accordingly to their nature (e.g., A dog does not meow, but barks). When an individual becomes a Christian, he is given a new nature (John 3:3,6). The old nature remains (2 Cor. 4:16), but with this added new nature, the believer has the capability to act out of both natures. From a Christian perspective, this can be extrapolated to an internal struggle between the flesh and the spirit. The flesh, in this context, is understood as an old nature, while the spirit, in this context, is understood as the new nature (John 3:6). So, when a believer can behave out of two distinctive natures: the flesh (old nature) or spirit (new nature; Gal. 5:16–18). This is pertinent in understanding the state of moral incongruence, as a believer who uses pornography but believes that it is morally wrong is submitting to the old nature. The believer who uses pornography should recognize that it is not an inability to not use pornography as the basis of their moral dilemma; rather, it is an unwillingness to act out of the new nature. When a believer acts out of the new nature, it is impossible (from a biblical perspective) to gratify the desires of the flesh (Gal. 5:16b). But when a believer acts out of the old nature, it is likewise

impossible to not gratify the desires of the flesh. So, the state of the believers' moral incongruence appears to be strictly linked to their unwillingness to act out of their new nature rather than their inability to not use pornography. This paradigm seems to parallel the view of many pornography users who believe they are addicted to pornography.

### **Progressive Sanctification and Perceived Pornography Addiction**

Perceived pornography addiction is “the propensity of individuals to report feeling addicted or compulsive in their behaviors, regardless of the veracity of this self-perception” (Grubbs & Perry, 2018, p. 29). This perception has no biblical justification for being a credible reason for a believer to use pornography. Again, it is the unwillingness to act out of the new nature, not the inability. This false perception may lead believers to be disjointed when attempting to exercise their faith. For example, if a believer who believes he or she is addicted to pornography attempts to stop using pornography but is doing so from the old nature, it appears that the attempt will be unsuccessful since the old nature desires to fulfill the lust of the flesh (Gal. 5:16). A believer who acts out of their new nature will only act in accordance with that nature. This biblical interpretation prevents a believer from projecting their pornography use to a force beyond their control; rather, their use is actualized solely within the old nature. Even more, a believer's spirituality seems to have an adverse effect when interacting with the relationship between a believer's moral incongruence and perceived pornography addiction.

### **Progressive Sanctification and Spirituality**

Two items that were measured in this study is relational acceptance and awareness. Hall and Edwards (2002) defined relational acceptance as how an individual may become disappointed or frustrated with God, and yet still desire to engage in a relationship with God and put considerable effort in maintaining this relationship. The item of awareness is defined by the

belief or sense of God being present in one's life (Hall & Edwards, 2002). From a Christian perspective, having high levels of realistic acceptance and awareness of God is pertinent in progressive sanctification (John 15:5; 1 Tim. 6:12–16; Heb. 11:6). With this, realistic acceptance and awareness of God are beneficial in regard to overcoming unwanted behavior such as pornography use. But in this study, relational acceptance and awareness were at their highest levels when interacting with high levels of moral incongruence and high levels of perceived pornography addiction. So, in this context, spirituality (a necessary component within the functionality of the new nature) is nonfunctional when linked to a false perception (i.e., a false belief stemmed from the old nature).

### **Chapter Summary**

This chapter discussed the summary of findings and conclusions that were formulated from results of this study, disclosed the limitations of this study, offered possible pathways for future research, gave implications for practice, and offered a biblical application. Significant findings included a strong relationship between moral incongruence and perceived pornography addiction. Also, age was found to have a statistically significant negative correlation with perceived pornography addiction; this finding adds to the current research that shows that pornography use among the emerging adult has risen exponentially. And, those who had both a high level of moral incongruence and a high level of perceived pornography addiction had higher levels of relational acceptance and awareness. The biblical implications were discussed concerning this finding.

### **Study Summary**

Little research exists concerning the construct of moral incongruence. Therapists, lay counselors, pastoral counselors, and others who engage with those who experience negative

symptoms from pornography use often depend upon empirical research for efficacy in diagnosing and treating individuals who are impaired due to pornography use. With the increase in pornography use and the reported psychological and relational issues associated with pornography use, the impetus to research the underpinnings for these maladaptive effects has been centralized to assess the relationship between moral incongruence and perceived pornography addiction. After considerable review of previous literature, age, church attendance, and spirituality were considered in the assessment of this relationship. Significant findings were made that add to the body of literature surrounding the contemporary moral dilemma of pornography use.

## REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.
- Ammerman, N. T. (2013). Spiritual but not religious? Beyond binary choices in the study of religion. *Journal for the Scientific Study of Religion*, 52(2), 258–278.
- Amodio, D., Devine, P., & Harmon-Jones, E. (2007). A dynamic model of guilt: Implications for motivation and self-regulation in the context of prejudice. *Psychological Science*, 18(6), 524–530.
- Bačak a, V., & Štulhofer, A. (2011). Masturbation among sexually active young women in Croatia: Associations with religiosity and pornography use. *International Journal of Sexual Health*, 23(4), 248–257.
- Baltazar, A., Helm, H. W., Jr., McBride, D., Hopkins, G., & Stevens, J. V., Jr. (2010). Internet pornography use in the context of external and internal religiosity. *Journal of Psychology & Theology*, 38(1), 32–40.
- Bell, A., Jones, K., & Fairbrother, M. (2018). Understanding and misunderstanding group mean centering: A commentary on Kelley et al.'s dangerous practice. *Quality & Quantity*, 52(5), 2031–2036.
- Bradley, D. F., Grubbs, J. B., Uzdavines, A., Exline, J. J., & Pargament, K. I. (2016). Perceived addiction to internet pornography among religious believers and nonbelievers. *Sexual Addiction & Compulsivity*, 23(2-3), 225-243.
- Braithwaite, S. R., Coulson, G., Keddington, K., & Fincham, F. (2015). The influence of pornography on sexual scripts and hooking up among emerging adults in college. *Archives of Sexual Behavior*, 44(1), 111–123.

- Brand, M., Young, K. S., & Laier, C. (2014). Prefrontal control and Internet addiction: A theoretical model and review of neuropsychological and neuroimaging findings. *Frontiers in Human Neuroscience*, 8, 375. doi:10.3389/fnhum.2014.00375
- Bronstein, C. (2011). *Battling pornography: The American feminist anti-pornography movement, 1976–1986*. New York, NY: Cambridge University Press.
- Brown, C. C., Carroll, J. S., Yorgason, J. B., Busby, D. M., Willoughby, B. J., & Larson, J. H. (2017). A common-fate analysis of pornography acceptance, use, and sexual satisfaction among heterosexual married couples. *Archives of Sexual Behavior*, 46(2), 575–584.
- Brown, J. D., & L'Engle, K. L. (2009). X-rated: Sexual attitudes and behaviors associated with U. S. early adolescents' exposure to sexually explicit media. *Communication Research*, 36(1), 129–151.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6, 3–5. doi:10.1177/1745691610393980
- Carnes, P. (1983). *Out of the shadows*. Center City, MN: Hazelden.
- Carroll, J. S., Padilla-Walker, L. M., Nelson, L. J., Olson, C. D., Barry, C. M., & Madsen, S. D., (2008). Generation xxx: Pornography acceptance and the use among emerging adults. *Journal of Adolescent Research*, 23(1), 6–30.
- Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, 29(6), 2156–2160.
- Chaves, M. (1993). Intraorganizational power and internal secularization in Protestant denominations. *American Journal of Sociology* 99(1), 1–48.

- Chaves, M. (1994). Secularization as declining religious authority. *Social Forces*, 72(3), 749–774.
- Childs, E. (2010). Religious attendance and happiness: Examining gaps in the current literature—A research note. *Journal for the Scientific Study of Religion*, 49(3), 550–560.
- Chisholm, M., & Gall, T. L. (2015). Shame and the X-rated addiction: The role of spirituality in treating male pornography addiction. *Sexual Addiction & Compulsivity*, 22(4), 259–272.
- Clarkson, J., & Kopaczewski, S. (2013). Pornography addiction and the medicalization of free speech. *Journal of Communication Inquiry*, 37(2), 128–148.
- Cotton, S., Larkin, E., Hoopes, A., Cromer, B. A., & Rosenthal, S. L. (2005). The impact of adolescent spirituality on depressive symptoms and health risk behaviors. *Journal of Adolescent Health*, 36(6), 529.
- Cotton, S., Zebracki, K., Rosenthal, S. L., Tsevat, J., & Drotar, D. (2006). Religion/spirituality and adolescent health outcomes: A review. *Journal of Adolescent Health*, 38(4), 472–480.
- Dalal, D. K., & Zickar, M. J. (2012). Some common myths about centering predictor variables in moderated multiple regression and polynomial regression. *Organizational Research Methods*, 15(3), 339–362.
- Dhuffar, M. K., & Griffiths, M. D. (2014). Understanding the role of shame and its consequences in female hypersexual behaviours: A pilot study. *Journal of Behavioral Addictions*, 3(4), 231–237. doi:10.1556/JBA.3.2014.4.4
- Downs, D. (1987). The Attorney General's Commission and the new politics of pornography. *American Bar Foundation Research Journal*, 12(4), 641–679.

- Essex, K. H. (2010). Sanctification: The biblically identifiable fruit. *Master's Seminary Journal*, 21, 193–213.
- Etkin, A., Egner, T., & Kalisch, R. (2011). Emotional processing in anterior cingulate and medial prefrontal cortex. *Trends in Cognitive Sciences*, 15(2), 85–93.
- Flood, M. (2009). The harms of pornography exposure among children and young people. *Child Abuse Review: Journal of the British Association for the Study and Prevention of Child Abuse and Neglect*, 18(6), 384–400.
- Fuller, R. C. (2001). *Spiritual, but not religious: Understanding unchurched America*. England: Oxford University Press.
- Fuster, J. (2015). *The prefrontal cortex*. Amsterdam, Netherlands: Academic Press.
- George, L. K., Larson, D. B., Koenig, H. G., & McCullough, M. E. (2000). Spirituality and health: What we know, what we need to know. *Journal of Social and Clinical Psychology*, 19(1), 102–116.
- Gilliland, R., South, M., Carpenter, B. N., & Hardy, S. A. (2011). The roles of shame and guilt in hypersexual behavior. *Sexual Addiction & Compulsivity*, 18(1), 12–29.  
doi:10.1080/10720162.2011.551182
- Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate Behavioral Research*, 26(3), 499–510.
- Grubbs, J. B., Exline, J. J., Pargament, K. I., Hook, J. N., & Carlisle, R. D. (2015). Transgression as addiction: Religiosity and moral disapproval as predictors of perceived addiction to pornography. *Archives of Sexual Behavior*, 44(1), 125–136.

- Grubbs, J. B., Exline, J. J., Pargament, K. I., Volk, F., & Lindberg, M. J. (2017). Internet pornography use, perceived addiction, and religious/spiritual struggles. *Archives of Sexual Behavior*, 46(6), 1733–1745.
- Grubbs, J., Kraus, S. W., & Perry, S. (2019). Self-reported addiction to pornography in a nationally representative sample: The role of religiousness and morality. *Journal of Behavioral Addictions*, 8(1), 88–93. doi:10.1556/2006.7.2018.134
- Grubbs, J., & Perry, S. L. (2017). *Moral incongruence, pornography use, and perceived addiction: Alternate pathways to problems*. Retrieved from psyarxiv.com/6p5k9
- Grubbs, J. B., & Perry, S. L. (2018). Moral incongruence and pornography use: A critical review and integration. *The Journal of Sex Research*, 56(1), 29–37.
- Grubbs, J. B., Sessoms, J., Wheeler, D. M., & Volk, F. (2010). The cyber-pornography use inventory: The development of a new assessment instrument. *Sexual Addiction & Compulsivity*, 17(2), 106–126. doi:10.1080/10720161003776166
- Grubbs, J. B., Volk, F., Exline, J. J., & Pargament, K. I. (2015). Internet pornography use: perceived addiction, psychological distress, and the validation of a brief measure. *Journal of Sex & Marital Therapy*, 41(1), 83–106.
- Grubbs, J. B., Wilt, J. A., Exline, J. J., Pargament, K. I., & Kraus, S. W. (2018). Moral disapproval and perceived addiction to internet pornography: A longitudinal examination. *Addiction*, 113(3), 496–506.
- Hall, J. H., & Fincham, F. D. (2008). The temporal course of self-forgiveness. *Journal of Social and Clinical Psychology*, 27(2), 174–202.
- Hall, T. W. (2004). Christian spirituality and mental health: a relational spirituality paradigm for empirical research. *Journal of Psychology & Christianity*, 23(1), 66–81.

- Hall, T. W., & Edwards, K. J. (2002). The Spiritual Assessment Inventory: A theistic model and measure for assessing spiritual development. *Journal for the Scientific Study of Religion*, 41(2), 341–357.
- Hardy, S. A., Steelman, M. A., Coyne, S. M., & Ridge, R. D. (2013). Adolescent religiousness as a protective factor against pornography use. *Journal of Applied Developmental Psychology*, 34(3), 131–139.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York, NY: Guilford Press.
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511–524.
- Heppner, P. P., Wampold, B. E., Owen, J., Thompson, M. N., & Wang, K. T. (2016). *Research designs in counseling* (4th ed.). Boston, MA: Cengage Learning.
- Hill, P. C., & Hall, T. W. (2002). Relational schemas in processing one's image of God and self. *Journal of Psychology & Christianity*, 21(4), 365–373.
- Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *Psychology of Religion and Spirituality*, 5(1), 3–17. doi:10.1037/1941-1022.S.1.3
- Hilton, D. L. (2013). Pornography addiction—A supranormal stimulus considered in the context of neuroplasticity. *Socioaffective Neuroscience & Psychology*, 3, 20767. doi:10.3402/snp.v3i0.20767
- Jafarkarimi, H., Sim, A. T. H., Saadatdoost, R., & Hee, J. M. (2015). Individual characteristics and hacking, piracy, online gambling and pornography use among students: A study in

- Malaysia. *International Journal of Cyber Behavior, Psychology and Learning*, 5(2), 30–43.
- Johnson, T. J. (2013). Addiction and the search for the sacred: Religion, spirituality, and the origins and treatment of substance use disorders. In K. I. Pargament (Ed.), *APA handbook of psychology, religion, and spirituality: An applied psychology of religion and spirituality* (Vol. 2, pp. 297–317). Washington DC: American Psychological Association.
- Koenig, H. G., & McCullough, M. E., & Larson D. B. (2001). *Handbook of religion and health*. New York, NY: Oxford University Press.
- Koenig, L. B., & Vaillant, G. E. (2009). A prospective study of church attendance and health over the lifespan. *Health Psychology*, 28(1), 117–124.
- Kwee, A., Dominguez, A., & Ferrell, D. (2007). Sexual addiction and Christian college men: Conceptual, assessment, and treatment challenges. *Journal of Psychology and Christianity*, 26, 3–13.
- Leonhardt, N. D., Willoughby, B. J., & Young-Petersen, B. (2018). Damaged goods: Perception of pornography addiction as a mediator between religiosity and relationship anxiety surrounding pornography use. *The Journal of Sex Research*, 55(3), 357–368.
- Löfgren-Mårtenson, L., & Månsson, S. A. (2010). Lust, love, and life: A qualitative study of Swedish adolescents' perceptions and experiences with pornography. *Journal of Sex Research*, 47(6), 568–579.
- Mackenzie, E. R., Rajagopal, D. E., Meibohm, M., & Lavizzo-Mourey, R. (2000). Spiritual support and psychological well-being: Older adults' perceptions of the religion and health connection. *Alternative Therapies in Health and Medicine*, 6(6), 37–45.

Mahoney, A. (2010). Religion in families, 1999–2009: A relational spirituality framework.

*Journal of Marriage and Family*, 72, 805–827.

Mattebo, M., Tydén, T., Häggström-Nordin, E., Nilsson, K. W., & Larsson, M. (2013).

Pornography consumption, sexual experiences, lifestyles, and self-rated health among male adolescents in Sweden. *Journal of Developmental & Behavioral Pediatrics*, 34(7), 460–468.

Maxwell, S. E. (2000). Sample size and multiple regression analysis. *Psychological methods*, 5(4), 434–458.

McConahay, J. B. (1988). Pornography: The symbolic politics of fantasy. *Law and Contemporary Problems*, 51(1), 31–69.

McKee, A. (2007). The positive and negative effects of pornography as attributed by consumers. *Australian Journal of Communication*, 34(1), 87–104.

McNamara Barry, C., Nelson, L., Davarya, S., & Urry, S. (2010). Religiosity and spirituality during the transition to adulthood. *International Journal of Behavioral Development*, 34(4), 311–324.

McPherson, S., Clayton, S., Wood, H., Hiskey, S., & Andrews, L. (2013). The role of childhood experiences in the development of sexual compulsivity. *Sexual Addiction & Compulsivity*, 20(4), 259–278.

Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health: An emerging research field. *American Psychologist*, 58(1), 24–35.

Montgomery-Graham, S., Kohut, T., Fisher, W., & Campbell, L. (2015). How the popular media rushes to judgment about pornography and relationships while research lags behind. *The Canadian Journal of Human Sexuality*, 24(3), 243–256.

- Morrison, T. G., Harriman, R., Morrison, M. A., Bearden, A., & Ellis, S. R. (2004). Correlates of exposure to sexually explicit material among Canadian post-secondary students. *Canadian Journal of Human Sexuality, 13*, 143–156.
- Mullet, E., Neto, F., & Riviere, S. (2005). Personality and its effects on resentment, revenge, forgiveness, and self-forgiveness. In E. L. Worthington (Ed.), *Handbook of forgiveness* (pp. 159–181). : New York, NY: Routledge.
- Nelson, L. J., Padilla-Walker, L. M., & Carroll, J. S. (2010). “I believe it is wrong, but I still do it”: A comparison of religious young men who do versus do not use pornography. *Psychology of Religion and Spirituality, 2*(3), 136–147.
- Ochsner, K. N., & Gross, J. J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences, 9*(5), 242–249.
- Olmstead, S. B., Negash, S., Pasley, K., & Fincham, F. D. (2013). Emerging adults’ expectations for pornography use in the context of future committed romantic relationships: A qualitative study. *Archives of Sexual Behavior, 42*(4), 625–635.
- O’Reilly, S., Knox, D., & Zusman, M. E. (2007). College student attitudes toward pornography use. *College Student Journal, 41*(2), 402–407.
- Palys, T. S. (1986). Testing the common wisdom: The social content of video pornography. *Canadian Psychology, 27*(1), 22–35.
- Patterson, R., & Price, J. (2012). Pornography, religion, and the happiness gap: Does pornography impact the actively religious differently? *Journal for the Scientific Study of Religion, 51*(1), 79–89.
- Pearce, M. J., Little, T. D., & Perez, J. E. (2003). Religiousness and depressive symptoms among adolescents. *Journal of Clinical Child and Adolescent Psychology, 32*(2), 267–276.

- Perry, S. L. (2015). Pornography consumption as a threat to religious socialization. *Sociology of Religion*, 76(4), 436–458.
- Perry, S. L. (2017a). Does viewing pornography diminish religiosity over time? Evidence from two-wave panel data. *The Journal of Sex Research*, 54(2), 214–226.
- Perry, S. L. (2017b). Does viewing pornography reduce marital quality over time? Evidence from longitudinal data. *Archives of Sexual Behavior*, 46(2), 549–559.
- Perry, S. L. (2017c). Pornography use and depressive symptoms: Examining the role of moral incongruence. *Society and Mental Health*, 8(3), 195–213. doi: 10.1177/2156869317728373
- Perry, S. L. (2017d). Pornography use and religious bonding among heterosexually married Americans: A longitudinal examination. *Review of Religious Research*, 59(1), 81–98.
- Perry, S. L. (2017e). Spousal religiosity, religious bonding, and pornography consumption. *Archives of Sexual Behavior*, 46(2), 561–574.
- Poulsen, F. O., Busby, D. M., & Galovan, A. M. (2013). Pornography use: Who uses it and how it is associated with couple outcomes. *Journal of Sex Research*, 50(1), 72–83.
- Quirk, G. J., & Beer, J. S. (2006). Prefrontal involvement in the regulation of emotion: Convergence of rat and human studies. *Current Opinion in Neurobiology*, 16(6), 723–727.
- Rabin, M. (1994). Cognitive dissonance and social change. *Journal of Economic Behavior and Organization*, 23(2), 177–194. doi:10.1016/0167-2681(94)90066-3
- Rasmussen, K., & Bierman, A. (2016). How does religious attendance shape trajectories of pornography use across adolescence? *Journal of Adolescence*, 49, 191–203.

- Rasmussen, K., & Bierman, A. (2017). Religious and community hurdles to pornography consumption: A national study of emerging adults. *Emerging Adulthood, 5*(6), 431–442.
- Reid, R. C. (2010). Differentiating emotions in a sample of men in treatment for hypersexual behavior. *Journal of Social Work Practice in the Addictions, 10*, 197–213.  
doi:10.1080/15332561003769369
- Reid, R. C., Cooper, E. B., Prause, N., Li, D. S., & Fong, T. W. (2012). Facets of perfectionism in a sample of hypersexual patients. *The Journal of Nervous and Mental Disease, 200*(11), 990–995. doi:10.1097/NMD.0b013e3182718d67
- Reid, R. C., Stein, J. A., & Carpenter, B. N. (2011). Understanding the roles of shame and neuroticism in a patient sample of hypersexual men. *The Journal of Nervous and Mental Disease, 199*, 263–267. doi:10.1097/NMD.0b013e3182125b96
- Reyes-Ortiz, C. A., Berges, I. M., Raji, M. A., Koenig, H. G., Kuo, Y. F., & Markides, K. S. (2008). Church attendance mediates the association between depressive symptoms and cognitive functioning among older Mexican Americans. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 63*(5), 480–486.
- Rothman, E. M., Kaczmarzky, C., Burke, N., Jansen, E., & Baughman, A. (2015). “Without porn . . . I wouldn’t know half the things I know now”: A qualitative study of pornography use among a sample of urban, low-income, black and Hispanic youth. *Journal of Sex Research, 52*(7), 736–746. doi:10.1080/00224499.2014.960908
- Saucier, G., & Skrzypińska, K. (2006). Spiritual but not religious? Evidence for two independent dispositions. *Journal of Personality, 74*(5), 1257–1292.

- Short, M. B., Black, L., Smith, A. H., Wetterneck, C. T., & Wells, D. E. (2012). A review of Internet pornography use research: Methodology and content from the past 10 years. *CyberPsychology, Behavior & Social Networking*, 15(1), 13–23.
- Short, M. B., Kasper, T. E., & Wetterneck, C. T. (2015). The relationship between religiosity and Internet pornography use. *Journal of Religion and Health*, 54(2), 571–583.
- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology*, 71, 899–914.
- Stoppa, T. M., & Lefkowitz, E. S. (2010). Longitudinal changes in religiosity among emerging adult college students. *Journal of Research on Adolescence (Wiley-Blackwell)*, 20(1), 23–38. doi:10.1111/j.1532-7795.2009.00630.x
- Szymanski, D. M., & Stewart-Richardson, D. N. (2014). Psychological, relational, and sexual correlates of pornography use on young adult heterosexual men in romantic relationships. *The Journal of Men's Studies*, 22(1), 64–82.
- Tangney, J. P. (1991). Moral affect: The good, the bad, and the ugly. *Journal of Personality and Social Psychology*, 61(4), 598–607.
- Tangney, J. P., Wagner, P. E., Fletcher, C., & Gramzow, R. (1992). Shamed into anger? The relation of shame and guilt to anger and self-reported aggression. *Journal of Personality and Social Psychology*, 62(4), 669–675.
- Thomas, J. N. (2013). Outsourcing moral authority: The internal secularization of evangelicals' anti-pornography narratives. *Journal for the Scientific Study of Religion*, 52(3), 457–475.
- Thomas, J. N., Alper, B. A., & Gleason, S. A. (2017). Anti-pornography narratives as self-fulfilling prophecies: Religious variation in the effect that pornography viewing has on the marital happiness of husbands. *Review of Religious Research*, 59(2), 1–27.

- Tolmacz, R. (2004). Attachment style and willingness to compromise when choosing a mate. *Journal of Social and Personal Relationships*, 21(2), 267–272.
- Van de Mortel, T. F. (2008). Faking it: Social desirability response bias in self-report research. *Australian Journal of Advanced Nursing* 25(4), 40–48.
- Volk, F., Thomas, J., Sosin, L., Jacob, V., & Moen, C. (2016). Religiosity, developmental context, and sexual shame in pornography users: A serial mediation model. *Sexual Addiction & Compulsivity*, 23(2–3), 244–259.
- Wager, T. D., Davidson, M. L., Hughes, B. L., Lindquist, M. A., & Ochsner, K. N. (2008). Prefrontal-subcortical pathways mediating successful emotion regulation. *Neuron*, 59(6), 1037–1050.
- Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques*. Thousand Oaks, CA: Sage.
- West, R. (1987). The feminist-conservative anti-pornography alliance and the 1986 Attorney General's Commission on Pornography report. *American Bar Foundation Research Journal*, 12(4), 681–711.
- Wetterneck, C. T., Burgess, A. J., Short, M. B., Smith, A. H., & Cervantes, M. E. (2012). The role of sexual compulsivity, impulsivity, and experiential avoidance in Internet pornography use. *Psychological Record*, 62(1), 3–17.
- Willoughby, B. J., & Busby, D. M. (2016). In the eye of the beholder: Exploring variations in the perceptions of pornography. *The Journal of Sex Research*, 53(6), 678–688.
- Willoughby, B. J., Carroll, J. S., Nelson, L. J., & Padilla-Walker, L. M. (2014). Associations between relational sexual behavior, pornography use, and pornography acceptance among US college students. *Culture, Health & Sexuality*, 16(9), 1052–1069.

- Wilt, J. A., Cooper, E. B., Grubbs, J. B., Exline, J. J., & Pargament, K. I. (2016). Associations of perceived addiction to Internet pornography with religious/spiritual and psychological functioning. *Sexual Addiction & Compulsivity*, 23(2–3), 260–278.
- Worthington, E. L., Jr., Wade, N. G., Hight, T. L., Ripley, J. S., McCullough, M. E., Berry, J. W., & O'Connor, L. (2003). The Religious Commitment Inventory-10: Development, refinement, and validation of a brief scale for research and counseling. *Journal of Counseling Psychology*, 50(1), 84–96. doi:10.1037/0022-0167.50.1.84
- Wright, P. J. (2012). A longitudinal analysis of US adults' pornography exposure: Sexual socialization, selective exposure, and the moderating role of unhappiness. *Journal of Media Psychology*, 24(2), 67–76.
- Wright, P. J. (2013). U.S. males and pornography, 1973–2010: Consumption, predictors, correlates. *Journal of Sex Research*, 50(1), 60–71.
- Wright, P. J., & Bae, S. (2015). US adults' pornography consumption and attitudes toward adolescents' access to birth control: A national panel study. *International Journal of Sexual Health*, 27(1), 69–82.
- Wright, P. J., & Randall, A. K. (2012). Internet pornography exposure and risky sexual behavior among adult males in the United States. *Computers in Human Behavior*, 28(4), 1410–1416.