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# Proposed Treatment of Problematic Pornography Use: A Cognitive-Behavioral Approach

Jennifer Minarcik

*University of Arkansas, Fayetteville*

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Proposed Treatment of Problematic Pornography Use:  
A Cognitive-Behavioral Approach

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Clinical Psychology

by

Jennifer Minarcik  
Texas A&M University  
Bachelor of Arts in Psychology, 2008  
University of Houston-Clear Lake  
Masters of Arts in Clinical Psychology, 2010

August 2016  
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

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Dr. Ana Bridges  
Dissertation Director

---

Dr. Matthew Feldner  
Committee Member

---

Dr. Denise Beike  
Committee Member

## Abstract

As pornography use increases across the general population, mental health professionals are encountering more patients who present symptoms of sexual addictions and sexual compulsivity (Cooper et al., 2001). Never before have pornographic materials been so accessible to consumers. Viewing pornography is related to many negative consequences for the individual, including impairment of academic and professional functioning, subjective distress, and sexual compulsivity (Cooper et al., 1999a; Manning, 2006). Studies found pornography use by an individual typically leads to a decline in relationship and sexual satisfaction (Bridges, 2008a). Despite the growth in research related to problematic pornography use, to date there have been very few research studies assessing the efficacy of interventions. The current study evaluated a 12-session cognitive-behavioral treatment protocol developed by Bridges and Minarcik (2012) for the reduction of problematic pornography use and related impairments in men who present with “pornography addiction”. Participants (n=12) were randomly assigned to a 1, 2, or 3-week baseline prior to the initiation of treatment. Primary measures assessed daily minutes of pornography use, self-reported addiction to pornography, sexual cognitions, sexual compulsivity, hypersexual behavior, and pornography craving. Secondary measures were sexual cognitions, mood, relationship satisfaction, and OCD symptoms. There were consistent reductions in weekly pornography use, as measured by self-report daily monitoring forms, which supported the first hypothesis. Self-reported reductions in sexual cognitions, hypersexual behavior, sexual compulsivity, and pornography craving from pre- to post-treatment tended to be reliable and clinically significant, supporting the second hypothesis. One exploratory question revealed the cognitive content of the treatment protocol did not add incremental efficacy above and beyond the behavioral treatment content. Another exploratory question demonstrated the

treatment show specificity, such that treatment gains were specific to sexual behaviors and not evidence in other measures of psychiatric distress. The last exploratory question supported that baseline pornography use did not relate to treatment outcomes, suggesting this treatment protocol was equally effective for low- and high-frequency pornography users. Overall, this protocol was found to be effective at reducing problematic pornography use. Future directions include conducting long-term follow ups of the treatment efficacy and conducting dismantling studies to enhance understanding of the relative impact of different treatment components.

**Key Words:** pornography use, compulsive sexual behavior, sexually explicit material, Internet use, addictive behaviors, randomized-control trial

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## Proposed Treatment of Problematic Pornography Use: A Cognitive-Behavioral Approach

While pornography as it is conceptualized today has existed since the late 1800s, significant increases in pornography availability and use have recently prompted researchers to explore its impact on the individual user and interpersonal relationships (Bridges, 2008a; Schneider, 2000a; Schneider, 2000b). As technology has advanced with the advent of the Internet, sexually explicit material distribution also has adapted to new digital formats, thus increasing availability. Currently, nearly 4.2 million pornography websites (12% of total websites) are available for use, and every second, over \$3,000 is being spent on pornography (Ropelato, 2010). Never before have pornographic materials been so accessible to consumers. In addition to the growing use of online sexually explicit materials, the use of pornographic materials in general has increased. For example, in 1992, 405 million adult videos were sold or rented while in 2006, the number more than doubled to 957 million (Ropelato, 2010). A large proportion of the population views pornography. The majority of college students (males and females) report viewing pornography in their lifetime (approximately 90%) and almost half (40%) report viewing pornography weekly (O'Reilly, Knox, & Zusman, 2007). However, excessive use that interferes with well-being and functioning is relatively rare. For instance, a large survey of Internet users found that 8% engaged in excessive online pornography viewing (defined as 11 hours per week) that negatively impacted an important area of life, such as work or romantic relationships (Cooper, Scherer, Boies, & Gordon, 1999b). In a more recent study, 68% of respondents (N=1,047) from an online survey titled "Personality, Beliefs, and Behavior" indicated viewing pornography in their lifetime and 40% viewed in the past year (Grubbs et al., 2015). Furthermore, this study found that the perception of psychological addiction to pornography use - regardless of the amount of time spent viewing pornography - was strongly

related to psychological distress (e.g., depression, anxiety, perceived stress, anger) even when accounting for traits of neuroticism and socially desirable responding (Grubbs et al, 2015).

As the use of pornography increases, mental health professionals are encountering more patients who present with symptoms of sexual addiction and compulsivity (Briken et al., 2007, Kafka, 2009), with Internet usage cited as the primary reason for the increase in these difficulties (Short et al., 2012). The “Triple-A Engine” theory may account for the increased use of pornography on the Internet (Cooper, 1998). This theory states that the Internet has led to dramatic increases in pornography use in the population because pornography is more accessible, affordable, and can be accessed in a seemingly anonymous way.

What exactly is pornography? Justice Potter Stewart infamously stated "I shall not today attempt further to define that short-hand description [e.g., 'hard-core pornography']; and perhaps I could never succeed in intelligibly doing so. But I know it when I see it...." (Jacobellis v. Ohio, 1964). While research has recently begun to assess the use and consequences of pornography, often the authors do not give a definition of pornography or utilize definitions consistently (Manning, 2005; Short et al., 2012). Sapolsky and Zillmann (1981) proposed two categories of pornography: (1) soft core – or erotica, where the media has nudity and sexually suggestive scenes and (2) “hard core” - explicit sexual behavior (including penetration), and can be violent or degrading (Russell, 1998). Rea (2001) summarized pornography definitions from the literature into six different categories:

(i) those that define ‘pornography’ as the sale of sex for profit, (ii) those that define it as a form of bad art, (iii) those that define it as portraying men or women as, as only, or only as sexual beings or sexual objects, (iv) those that define it as a form of obscenity, (v) those that define it as a form of (or contributor to) oppression, and (vi) those that define it as material that is intended to produce or has the effect of producing sexual arousal. (p. 123)

The author concludes that, ‘the most pervasive definitions in the literature on pornography are those that hold that the defining feature of pornography is that it is *intended* to produce sexual arousal or in fact has the *effect* of producing sexual arousal’’ (p. 132, italics in the original).

For many decades, researchers have argued that sexually explicit material can be broadly grouped into two types: erotica (non-degrading sexually explicit depictions of people engaging in mutually enjoyable sexual activity) and pornography (sexually explicit depictions of sexual activity that includes themes of violence, degradation, sexism, and racism; Steinem, 1978). Researchers have long documented the relative negative effects of violent and degrading pornography, compared to erotica, on viewers (Hald, Malamuth, & Yuen, 2010; Mulac, Jansma, & Linz, 2002; Peter & Valkenburg, 2006; Senn & Radtke, 1990).

Degrading pornography is becoming more accessible, particularly on the Internet (Barron & Kimmel, 2000; Sun, Bridges, Wosnitzer, Scharrer, & Liberman, 2008). Men tend to report pornography as arousing while women more commonly report it as degrading (Daneback, Traeen, & Mansson, 2009). Compared to women, men are introduced to pornography at a younger age, view larger amounts of pornography and, as time progresses, expose themselves to increasingly violent and degrading content (Johansson & Hammafen, 2007; Sabina et al., 2008; Wallmyr & Welin, 2006).

Research has supported concerns about the increased access of degrading pornography (Mulac et al., 2002; Sun et al., 2008), particularly concerns that consumers may habituate to the degradation and violence and seek ever-more arousing stimuli (Grundner, 2000). Specifically, one survey revealed that participants (regardless of gender) who endorsed a higher frequency of pornography use also rated degrading pornography as more arousing than participants who

endorsed less frequent pornography use (Anton, Minarcik, McGahan, & Bridges, 2010). These results are consistent with theories that consumers of pornography may habituate and become desensitized to the content of frequently consumed pornography (see, for instance, Linz, Donnerstein, & Penrod, 1988), leading to a decrease in sexual arousal after viewing the same film or similar content and a need for increasingly extreme and/or degrading content to achieve a similar level of arousal (Bridges, 2010). This is consistent with assertions that more frequent consumption of pornography is associated with higher arousal to more degrading materials, which in turn have been shown to have negative impacts (Bridges, 2008b).

### **Conceptualization of Problematic Pornography Use**

In addition to not defining adequately what constitutes pornography, many authors do not describe what constitutes problematic pornography use. Definitions range from hours per week spent viewing to self-reported measures of distress or impairment (Cooper et al., 1999b; Wetterneck, Burgess, Short, Smith, & Cervantes, 2012). These definitional inconsistencies make reviewing the literature and comparing findings across studies more difficult.

The Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> edition (DSM-5; American Psychiatric Association [APA], 2013) does not officially recognize problematic pornography use as a mental disorder. Therefore, people with problematic pornography use are currently diagnosed with a Sexual Disorder, Not Otherwise Specified. One of the proposed new disorders considered for inclusion in the 5<sup>th</sup> edition of the DSM included *Hypersexual Disorder* (with a subtype of pornography), which best exemplifies what researchers in this area have been calling pornography addiction or compulsive pornography use (Kafka, 2010). However, insufficient data on the disorder led to it being eliminated from inclusion in the revised DSM.

The limited body of research on problematic pornography use has struggled with how to accurately conceptualize and diagnosis this behavior. One could conceptualize viewing pornography as a paraphilic behavior, such as a form of voyeurism. However, it is important to note research generally promotes the idea that the actual viewing of pornography is non-paraphilic, but the content of what is being viewed (e.g., child pornography) could be associated with a paraphilia (Kafka, 2010). Online pornography use has recently been included in a broader group of behaviors known as cybersex; where the internet facilitates sexually gratifying behaviors (see Wéry & Billieux, 2015 for a diagnostic conceptualization of problematic cybersex). Instead, three broad disorder classes have been used to explain the development and maintenance of problematic pornography use.

**Obsessive-compulsive spectrum disorder.** “Sexual compulsivity” was first introduced by Quadland (1983, 1985) to describe the voluntary, risk-taking behavior associated with hypersexual, promiscuous behavior. Sexual compulsivity is described as a manifestation of an obsessive-compulsive disorder (OCD; Coleman, 1990). OCD is a specific anxiety disorder (APA, 2013) characterized by intrusive or unwanted images and thoughts (obsessions), and habitual responses designed to reduce anxiety or tension (compulsions). Sexual compulsivity, according to the OCD model, involves behavior driven by dysphoric anxiety in conjunction with irrational sexual obsessions (Coleman, 1990). In this formulation, sexually compulsive behaviors are an attempt to reduce anxiety or other drive states. The time spent fantasizing about the compulsive behavior characterizes the sexual obsessions.

The conceptualization of problematic pornography use as an obsessive-compulsive spectrum disorder has shortcomings. For instance, generally those with OCD are described as ‘risk-adverse’ or harm avoidant while problematic pornography users are ‘risk-takers’ or



sensation seekers (Kafka, 2010). Furthermore, empirical studies find comorbid OCD to be present in only 10-14% of men meeting criteria for hypersexual disorder; furthermore, OCD is not the most prevalent comorbid anxiety disorder in people who present with compulsive sexual behaviors (Black, Kehrberg, Flumerfelt, & Schlosser, 1997; Kafka & Prentky, 1994, 1998).

**Addictive disorder.** Oxford (1978, 1985) has suggested that even without the presence of an externally derived substance of abuse, appetitive behaviors could resemble an addiction-like behavioral syndrome. While problematic pornography use fits this description, most of the conceptual literature has focused on the area of sexual behaviors more broadly. The term and clinical concept of sexual addiction was widely used after Carnes' (1983) book, *Out of the Shadows: Understanding Sexual Addiction*. The proposed addiction model by Carnes (1989) first suggested that a sexual behavior is repetitively misused as a way to self-medicate or self-soothe dysphoric mood states. Next, Carnes describes an escalation of the sexual behavior as tolerance builds and risk-taking increases (e.g., multiple partners, sex without a condom). Then, an individual begins to 'lose control' at the same time as negative interpersonal and intrapersonal consequences happen. Lastly, when reducing the sexual behavior, Carnes argues the user goes through a withdrawal state. Proponents of the addictions model, later expanded by others (e.g., Goodman, 2008), propose that all addictive process (including ingestion of psychoactive substances of abuse, pathological gambling, and sexual addition) share commonalities across biological, psychological, and developmental factors, which in turn affect three behavioral processes: motivation-reward, behavioral inhibition, and affect-regulation (Goodman, 1997, 2008).

However, there is certainly controversy in the scientific literature about whether problematic pornography use should be considered an addiction (e.g., Griffiths, 2000; Schneider,

1994). Even though compulsive behaviors (similar to pornography use, such as pathological gambling, and compulsive shopping) have been referred to as behavioral ‘addictions,’ they historically have been diagnostically classified as impulse-control disorders (APA, 1980, 1987, 1994, 2000). However, in the most recent edition of the DSM-5 (APA, 2013) gambling disorder has been categorized as a “Substance-Related and Addictive Disorder” to reflect the new research that demonstrates this behavior’s effect on the brain’s reward system, one that is akin to substance use disorders.

Labeling appetitive behaviors as addictions is also potentially problematic. Sexual, sleeping, and eating/drinking behaviors are all appetitive or “drive” behaviors that propagate survival of a species (Kafka, 2010). These biopsychosocially-mediated behaviors have extensive central nervous system states, such as “cravings” and satiation, which are partially driven by neurotransmitters. Many psychiatric (e.g. mood disorders, schizophrenia) and neurological (e.g., brain injury) conditions can disinhibit the appetitive drives. When any given drive (such as the sexual drive) is in a state of deprivation (perceived or actual), there are accompanying mental processes (e.g., thoughts, images, fantasies) and overt behaviors that are motivated to assuage the deprived state. Despite recognition of cravings that motivate survival-relevant behaviors like sex and eating, applying an addiction model to an appetitive drive can be problematic. First, there is a lack of empirical evidence to support the notion of tolerance and withdrawal for sexual behaviors (Wines, 1997). Second, if sexual behaviors were to be classified as addictions, what could that mean for other behaviors that have a biological substrate and are necessary for the survival of a species? As Kafka (2010) argues, when someone is depressed, they may frequently engage in a pleasurable activity (namely, sleep); however, they do not have a “sleep addiction”. Another example is those diagnosed with schizophrenia that develop excessive thirst do not have

a “thirst addiction”. In these examples, the dysregulated appetitive drives do not satisfy the conditions of a behavioral addiction (such as impulsive engagement in drinking, sleeping, or sex, as described by Carnes, 1983; 1989). Kafka (2010) asserts that clearer characterizations of sexual disorders such as problematic pornography use require additional biological and clinical investigation.

**Impulse control disorders.** An impulse-control disorder model has been suggested as the best fit for excessive sexual behaviors (including problematic pornography use; Barth & Kinder, 1987). In the DSM-IV (APA, 2000), impulse control disorders have been characterized by:

The failure to resist an impulse, drive or temptation to perform an act that is harmful to the person or others... A person may feel an increased sense of tension or arousal before committing the act and then experiences pleasure, gratification, or relief at the time the act is committed. Following the act, there may or may not be regret, self-reproach or guilt. (p. 663)

More recently, DSM-5 (2013) has created a new chapter highlighting disruptive, impulse-control, and conduct disorders. The diagnosis of other DSM disorders, including paraphilias, states that the disorder may have features that involve problems of impulse control. Furthermore, several researchers have proposed that the constructs of “sexual risk-taking” (Bancroft et al., 2003, 2004; Kalichman & Rompa, 1995, 2001), “sexual sensation seeking” (Kalichman & Rompa, 1995; Zuckerman, 1979, 1983), and “sexual impulsivity” (Hoyle, Fefjar, & Miller, 2000) have considerable overlap.

Nevertheless, the conceptualization of problematic pornography use as an impulse-control disorder has limitations. For instance, research does not support the idea that impulsivity is the maintaining mechanism for problematic Internet pornography (IP) use (Wetterneck et al., 2012). In an online survey ( $N = 94$  adults), there was no difference in a measure of trait

impulsivity when comparing problematic IP users and non-problematic IP users. Furthermore, there was no difference between IP users and non-IP users. This suggests that impulsive traits may not be implicated in problematic pornography use and further research is still needed to explore the role of coping with impulsive urges specifically related to this disorder.

**Hypersexuality – Emerging new diagnostic nomenclature.** Hypersexuality developed from the concept of paraphilic-related disorders, which acknowledged the manifestation of sexual problems with characteristics akin to obsessive-compulsive disorders (Coleman, 1987, 1990, 1992), addiction disorders (Carnes, 1983, 1989, 1991; Goodman, 1997), and disorders of sexual desire (Kafka, 1997a, 1997b; Kafka & Hennen, 1999; Kafka & Prentky, 1992). Hypersexual disorder is defined as “a sexual disorder associated with increased or disinhibited expressions of sexual arousal and desire in association with a dimension of impulsivity” (Kafka, 2010, p. 393). Hypersexual disorder is associated with (1) sexual preoccupations or sexual “obsessions” (e.g., spending increased time engaging in sexual fantasies and behaviors), and (2) “loss of control” (such as a significant degree of voluntary impairment characterized by disinhibition, impulsivity, compulsivity, or behavioral addiction). Table 1 outlines the possible diagnostic criteria for Hypersexuality, pornography type (adapted from Kafka, 2010, p.379).

Even though distinct models of psychopathology have been proposed to characterize the intensity, frequency, and impulsivity-associated component of problematic pornography use, many of these ‘distinct’ models do in fact have considerable overlap (Kafka, 2010). For instance, the concepts of impulsivity and compulsivity recently have been characterized as dimensions found in sexual impulsions, sexual compulsions, paraphilias, and sexual addictions (Hollander & Rosen, 2000; McElroy, Phillips, & Keck, 1994). Furthermore, the substance dependence literature describes “impulsivity” as characteristics of early stages of substance use, while

“compulsivity” is related with later stages of substance dependence (Koob, 2008). This framework is suitable for Hypersexual Disorder when the problematic pornography use is associated with an escalating course, impairment in roles or well-being, and progressive worsening of negative consequences (Kafka, 2010).

### **Behavioral Analysis of Pornography Use**

As reviewed above, problematic pornography use can be conceptualized from various theoretical lenses. Similarly, the maintenance factors surrounding the use of pornography also vary based on the function and context of use. The behavioral reinforcement model proposes that both positive and negative reinforcement are likely to maintain problematic pornography use (Wetterneck et al., 2012), which is often accompanied by masturbation and sexual gratification. The use of pornography generally provides both psychological and physiological reinforcement (e.g., sexual arousal and/or sexual gratification) at a high schedule of reinforcement, thus encouraging maintenance of problematic pornography use. Additionally, problematic pornography use may be maintained through negative reinforcement as a method of distraction from unpleasant internal events (e.g., boredom, loneliness, or sadness). The question of whether positive reinforcement or negative reinforcement has the greatest influence on frequency and effect of use is still unanswered, although researchers in this area have long noted an association between problematic use and depression (Cooper, Putnam, Planchon, & Boies, 1999a). The frequency of problematic pornography use is related to both positive (e.g., gaining sexual knowledge, sexual arousing stimuli) and negative (e.g., negative attitudes towards the opposite gender, negative impacts with sexual partners) consequences of use (Minarcik, Wetterneck, & Short, 2014).

As mentioned previously, problematic pornography use has characteristics of impulsivity, compulsivity, and addiction (Griffiths, 2001; Mick & Hollander, 2006; Putnam, 2000). Like the theoretical conceptualization of problematic pornography use, there is also a lot of overlap in the behavioral maintenance factors (e.g., the regulation of thoughts, feelings, or urges through behavior). Consistent with this model, impulsive urges drive the individual to initiate the behavior. This is particularly the case when the person encounters unexpected invitations to engage in pornography use, such as pornographic pop-up advertisements, spam emails, or search engines return results that include adult content (Davis, Flett, & Besser, 2002; Shapira, Goldsmith, Keck, Khosla, & McElroy, 2000). Being pleasurable at first, the sexual behavior is maintained by the physiological reinforcement of sexual arousal and orgasm. The viewing of pornography may condition a temporary reduction in negative moods, such as loneliness, anxiety, depression, or interpersonal stress (Cooper et al., 1999a). Essentially, this allows for a brief escape from the demands and stresses of reality (Young, 1999). This reduction in negative mood, or experiential avoidance, is proposed to maintain and/or exacerbate the compulsive behavior (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Twohig & Crosby, 2010). In summary, a pleasurable physiological response initiates the pornography viewing, while the pornography use cycle is maintained by physiological and psychological reinforcement.

The regulation or avoidance of negative emotions is also implicated in addictive behaviors, such as substance abuse (Hayes et al., 2004; Stotts, Masuda, & Wilson, 2009; Wilson, Byrd, Hayes, & Strosahl, 2005), which supports the conceptualization of pornography use as a problem with addiction (Wetterneck et al, 2012). Problematic pornography users who experience negative interpersonal and relational outcomes may continue to use pornography due to the positive reinforcement (i.e., sexual gratification) they receive from it. Quayle and Vaughan

(2006) suggested that individuals who use the Internet to satisfy sexual needs might be particularly vulnerable to addictive use as a result of the cycle of reinforcement. Specifically, they asserted that the accessibility of the Internet, its capabilities for mood alteration, and the relative anonymity one can maintain while using it motivate addictive use.

### **Effects of Problematic Pornography Use**

Viewing pornography has been found to have many negative consequences for the individual, including impairment of academic and professional functioning, subjective distress, and sexual compulsivity (Cooper et al, 1999a; Manning, 2006). Zillman and Bryant (1984, 1988) found that repeated exposure to commonly available, standard, non-violent pornography led to an increase in sexual addiction. Similarly, other studies found that exposure to pornographic material increases aggressive behaviors from the viewer (for a meta-analytic review, see Allen, D'Alessio, & Brezgel, 1995) and occupational impairments due to accessing pornography at work (Cooper et al., 1999a).

Studies found that higher use of pornographic materials is associated with increased difficulties in intimate relationships (Bridges & Morokoff, 2011; Deloy 2007; Oddone-Paolucci, Genuis, & Violato, 2000). More specifically, the use of pornography by an individual typically is associated with a decline in relationship and sexual satisfaction (Bridges, 2008a; Deloy, 2007; Schneider, 2000a; Schneider, 2000b; Yucel & Gassanov, 2010). As pornography is becoming more available, two areas that may be affected are relationship satisfaction and sexual satisfaction. Relationship satisfaction is a measure of the comparative frequency and intensity of positive and negative interactions between partners and is a critical aspect of one's romantic relationships (Byrne & Blaylock, 1963). Sexual satisfaction is a measure of sexual discord in one's relationship (Hudson, Harrison, & Crosscup, 1981). Often, one's relationship satisfaction

mediates satisfaction in other areas of life (Landis, Peter-Wright, Martin, & Bodenmann, 2013; Mark, Milhausen, & Maitland, 2013). Furthermore, high relationship satisfaction is associated with increased marital satisfaction (Landis et al., 2013), increased agreement in a couple's sex life (Mark et al., 2013), and perceived similarity of sexual activity preferences (Mark et al., 2013). The use of pornography within a romantic relationship, by an individual or used together, may be one of those preferred sexual activities that impacts the couple's sexual and relationship satisfaction (Bridges, 2008a).

Sexual problems, such as sexual addiction and compulsivity associated with problematic pornography use, are predictors of decreased marital satisfaction and intimacy (Schneider, 2000a; Schneider, 2000b). These difficulties have been found to be a major contributor to separation and divorce (Schneider, 2000b). Marriages where one partner struggles with sexual addiction problems often have low relationship satisfaction and increased reports of anxiety, secrecy, isolation, diminished intimacy, sensitivity, relationship dysfunction, and fear of job loss or related debts (Carnes, 1983; Schneider, 2000b; Wildmon-White & Young, 2002). These difficulties are more pronounced in couples where only one partner regularly engages in the compulsive sexual behavior and may result in a loss of interest in sex and a lack of sexual intimacy for several months, or sometimes years (Schneider, 2000b). Zillman and Bryant (1984, 1988) also found experimental evidence that viewing pornography led to decreased satisfaction in one's real life sexual partner (including sexual performance, affection, and physical appearance), increased callousness toward women, distorted perceptions of sexuality, decreased value on monogamy in a relationship, decreased value on the principles of marriage, and decreased interest in having children. More recently, using data from a nationally representative sample of US-residing adults, pornography has shown to be positively and prospectively



correlated with extramarital sex, having more sexual partners, and receiving money for engaging in sexual behaviors (Wright, 2013). Research also has shown that viewing pornography increases one's judgment of non-monogamous relationships as natural and normal behavior (Drake, 1994). Furthermore, studies have revealed that the more pornography use heterosexual men report, the less committed they felt to their romantic partners (Bridges, 2008a).

Some studies have examined women's reactions to a male partner's pornography use. Men's use of pornography can generate a variety of negative emotions for women, which frequently results in termination of relationships (Schneider, 2000a; Schneider, 2000b). Women in these relationships commonly report feeling "hurt, betrayal, rejection, abandonment, devastation, loneliness, shame, isolation, humiliation, jealousy...anger...loss of self-esteem" (Schneider, 2000a, pg. 252) and some have suicidal thoughts (Schneider, 2000b). Women who discover their male partner's pornography use often begin to view themselves as sexually undesirable, worthless, weak, and stupid (Bergner & Bridges, 2002). In addition, women also change their view of their male partners, now seeing them as sexually degraded (e.g. a pervert or sexual degenerate), liars, unloving, selfish, inadequate husbands/fathers, and sometimes sick (e.g., addicted or with a mental illness; Bergner & Bridges, 2002). As a result, people who engage in heavy pornography use may present for treatment in part to improve their relationship, which is often negatively impacted by their sexual behavior.

### **Psychosocial Interventions**

Despite the growth in research related to problematic pornography use, to date there have been very few research studies assessing the efficacy of interventions. Furthermore, there are no dismantling studies assessing the effectiveness of treatment components related to problematic pornography use. Additionally, while the number of self-help books for problematic

pornography use is growing, these resources are, at best, grounded in theory but generally lacking in supportive research. There have been group treatments that address problematic internet-enabled sexual behavior (Orzack, Voluse, Wolf, & Hennen, 2006), based on group treatments for sexual addictions that are founded in substance addiction treatments and 12-step programs. However the research establishing individual treatments conceptualizing problematic pornography use, reviewed next, is sparse.

**Acceptance and commitment therapy.** To date, only one experimental treatment trial of pornography use has been conducted (Twohig & Crosby, 2010). The researchers used Acceptance and Commitment Therapy (ACT), a third-wave cognitive behavioral process-based intervention that targets inner experiences (such as feelings, thoughts, and bodily sensations) and uses behavior change strategies. The authors proposed “viewing can be triggered by various events and includes persistent thoughts and urges to view that are regulated through the act itself” (p. 286). Conceptualizing problematic pornography use as an OCD spectrum disorder, the authors stated that viewing is mediated by the effort one exerts by struggling and attempting to control the urges to view pornography. As such, treatment targets acceptance of urges (versus fighting urges) and helps people break the cycle between experiencing and urge needing to act on that urge. Male participants ( $N = 6$ ) completed eight 1.5-hour sessions of ACT. The treatment resulted in an 85% reduction of pornography viewing (with 4 of the 6 participants choosing to abstain) and treatment gains were maintained at three-month follow-up (83%). One limitation to this study, other than its small sample size, is the degree to which acceptance-based therapeutic techniques, above and beyond behavioral techniques, resulted in positive treatment gains.

**Cognitive-behavioral therapy – Single case design.** McGahan and Bridges (2010) reported data on a 23-year-old White male who presented to treatment for help reducing his daily

pornography use. The therapist did not apply a specific disorder framework to the conceptualization of the case; instead, a functional analysis of the client's pornography use guided treatment intervention. Treatment was cognitive-behavioral in nature. After the initial clinical interview, the client attended nine treatment sessions over a period of three months. The treatment protocol consisted of several components: psychoeducation, identifying triggers of use, challenging cognitive distortions that served as triggers for use, seeking alternative activities, and controlling the environment by reducing tempting materials or stimuli. Furthermore, the client and therapist generated a list of alternative pleasurable activities, other than viewing pornography, in which the client could engage, such as spending time with friends and cooking. The client successfully reduced his problematic pornography use to viewing at a level that no longer interfered with his self-worth and ability to form/engage in romantic relationships (abstinence was never a therapeutic goal). During the course of therapy, the client was successful at abstaining from viewing pornography for 45 days, although he viewed pictures of underwear models on occasion during this period. Shortly after treatment ended, the client reported that he viewed pornography once in a 60-day period and decreased his underwear model viewing to approximately 15 minutes once per week. This study was limited to a single case study, did not include a baseline assessment period, and did not employ a long-term follow-up period.

**Cognitive-behavioral therapy—Treatment development and initial piloting.** Bridges and Minarcik (2012) developed and piloted a cognitive-behavioral treatment for problematic pornography use. The treatment approaches problematic pornography use as an impulse-control disorder, similar to pathological gambling, and a restriction of one's behavioral repertoire for coping. In the initial stages, pornography use is seen as a behavior that is positively reinforced (i.e., motivated by pleasure seeking), while later use may also be negatively reinforced (i.e.,

motivated by escaping negative emotions or tension). The treatment, as originally designed, includes components that are designed to do the following: (1) enhance motivation and readiness to change; (2) provide psychoeducation regarding why and how pornography use becomes problematic, from a biopsychosocial perspective; (3) utilize behavioral strategies to manage the contextual factors that trigger pornography use; (4) utilize cognitive strategies to manage the negative self-talk that triggers pornography use; (5) use relationship-enhancement techniques to improve the primary romantic relationship, if applicable; and (6) provide instruction in relapse-prevention.

In the initial treatment development and pilot testing, a total of 10 male participants who responded to Internet advertisements for free treatment of “pornography addiction” were recruited into the study (Bridges, Minarcik, & Gomez, 2014). Participants were randomly assigned to a 3-month waitlist or to begin treatment right away. While a broad outline of treatment components was developed, the number of sessions (average of 8.2 sessions) and duration of components varied by participants based upon their specific presentation. Primary measures included looking at the perceived psychological and spiritual outcomes from sexual behaviors, sexual compulsivity, hypersexual behavior, sexual functioning, quality of life, and relationship satisfaction. There were a number of improvements across these domains for the participants who completed the treatment protocol ( $n = 6$ ). Reliable change indices were computed and notable results include: 67% of participants reliably reduced negative psychological and spiritual outcomes from sexual behaviors, 50% reliably reduced sexual compulsivity symptoms, and 50% reliably reduced their hypersexual behavior. Improvements were also noted for sexual functioning, quality of life, and relationship satisfaction, but these did not meet criteria for reliable change. Importantly, no reliable changes were noted in these arenas

during the three-month pre-treatment wait period. A critical limitation to this study, beyond its small sample size, is that the treatment protocol was being actively modified during the pilot-testing phase. For instance, the initial protocol did not include a review of the stages of change in the earlier sessions; instead, it was limited to the last few sessions focusing on relapse prevention. However, the clinicians involved in the study determined it would be beneficial to cover this prior to the client experiencing a lapse while in treatment; therefore, it was added to the psychoeducation component of treatment. Because of these sorts of active modifications in treatment, the extent to which the final treatment is efficacious remained unknown.

### **Proposed Study**

The current study sought to determine whether the finalized 12-session cognitive-behavioral treatment protocol developed by Bridges and Minarcik (2012) would result in reductions of problematic pornography use and related impairments in men who present with “pornography addiction”. Furthermore, analyses explored potential clinically relevant correlates, specificity of treatment effects, and treatment component effects. The following hypotheses were made:

**Hypothesis 1:** There will be consistent reductions in weekly pornography use, as measured by self-report daily monitoring forms.

**Hypothesis 2:** Self-reported reductions in sexual cognitions, hypersexual behavior, sexual compulsivity, and pornography craving from pre- to post-treatment will be reliable (i.e., reductions would be notable above and beyond variations to be expected because of measurement error) and clinically significant (i.e., reductions will be meaningful, so people above clinical-cut offs at pre-treatment will report scores that are no longer clinically elevated at post-treatment).

In addition, the following exploratory questions were pursued:

**Question 1:** Does the cognitive content of the treatment add incremental efficacy above and beyond the behavioral treatment content?

**Question 2:** Does treatment show specificity (i.e., are gains specific to sexual behaviors and not evidence in other measures of psychiatric distress, such as depression)?

**Question 3:** Does baseline pornography use relate to treatment outcome?

## **Method**

### **Participants**

Adult community participants were recruited from June 2014 through February 2015 via newspaper advertisements, online advertisement (e.g., Craigslist Fayetteville), flyers, and radio announcements. Interested participants called the investigator to answer screening questions about their current pornography use behaviors. Participants must have met criteria for problematic pornography use, which included (a) viewing pornography more than once a week; (b) experiencing significant distress or impairment as a result of pornography use; and (c) at least one unsuccessful attempt at stopping or reducing pornography use. Inclusion criteria for study participation also included being 18 years or older and male. Since a majority of pornography use research has been completed with male samples (e.g., Manning, 2006) and less is known about problematic pornography use in women, the study was limited to men. Participants were excluded if: (a) they were receiving any other treatment; (b) they reported current suicidal ideation and intent; (c) they reported symptoms consistent with a psychotic disorder; or (d) they met criteria for any other *interfering* mental disorder. If they met the predetermined criteria, then an initial appointment session was scheduled. Any person who was ineligible for the study was referred to other community resources.

A total of 16 participants met initial eligibility requirements and consented to participate in the study. Their demographic characteristics are detailed below. Of these, 13 started treatment while 3 were determined ineligible (two for infrequent pornography use and one having an interfering mental health disorder). Only one person chose to withdraw from the study leaving 12 who completed the treatment. The one participant (29 year old, Asian, married, Hindu male) who did not complete the study dropped out immediately (after the initial session) due to the burden of transportation time in addition to a low level of distress over his behavior.

Of the treatment completers, the average age was 28.87 ( $SD = 8.26$ ). In terms of race/ethnicity, 81% were White, 9% were Asian, and 9% were African American. Thirteen participants reported a heterosexual sexual orientation; one reported being gay, and two reported being bisexual. Most (63%) were in a romantic relationship. In terms of religion, most participants were affiliated with Christian religions (60%, Catholic, Protestant, Baptist, Church of God, and Presbyterian) while 27% endorsed no organized religious affiliation. Of those who endorsed a religious affiliation, 78% stated that their religion was “important” or “very important” in their life. Participants reported spending an average of 33.66 minutes per day using pornography at pre-treatment ( $SD = 34.71$ ). Using a psychiatric screener, some participants endorsed symptoms consistent with a number of mental health disorders; such as obsessive-compulsive disorder (25%), major depression (17%), substance abuse (17%), and other anxiety disorders (8%)

### **Compensation**

Participants were compensated with cash for completing measurements throughout the assessment and treatment process. For the initial 1.5-hour assessment and posttreatment assessment, participants were given \$25. Throughout treatment, participants would earn stamps

for every week they complete their daily self-report measures. At the end of treatment, participants were paid \$5 for each stamp earned. Participants had the ability to earn \$110 in total for their participation (\$50 for assessment measures and \$60 for weekly measures).

## **Design**

The efficacy of the treatment was assessed through a nonconcurrent multiple-baseline design, which controlled for changes that may naturally happen as result of time passing (Kazdin, 2003). Despite a small number of participants who were enrolled in the study, relationships between behavior and controlling variables could be inferred with proper controls (Morgan & Morgan, 2003). Once enrolled in the study, participants completed a randomly assigned baseline of 1, 2, or 3 weeks prior to beginning treatment. While this was a relatively short baseline period, a pilot study found that problematic pornography use persists after a 12-week baseline period (Bridges et al., 2014). A waitlist design was beneficial because it allowed all participants to eventually receive treatment and did not necessitate the need for placebo controls (Kazdin, 2003). Participants were also invited to a complete a three-month follow up, but reporting of these results is beyond the scope of the present study.

## **Procedures**

Participants were recruited from an adult community population via newspaper advertisements, online advertisement (e.g., Craigslist Fayetteville), flyers, and radio announcements (Appendix A). Since popular media frequently uses the phrase “pornography addiction” to describe problematic pornography use, this wording was utilized in recruitment efforts. Interested individuals were invited to contact the researcher by phone or email. After the completion of the screener (Appendix B), potential participants were invited to participate in an initial assessment where they reviewed and signed an informed consent document (Appendix C).



The informed consent document included a description of the study's purpose, procedures, risks/benefits, and privacy policies. The 1.5-hour initial assessment included a semi-structured clinical interview, a structured diagnostic interview, and self-report measures (see Appendix D for all measures administered and below for a full description of measures) to assess eligibility, participant's pornography use history, pornography use problems, and information pertaining to other research questions.

After completing the initial assessment, all eligible participants were randomly assigned to a variable baseline wait time (1, 2, or 3 weeks). At the conclusion of the baseline time period, participants returned to the lab, were re-administered the series of self-report measures, and began treatment. The treatment protocol consisted of 12 sessions (Appendix E). A checklist of specific techniques and components to be covered in each session was utilized to ensure treatment fidelity. All treatment sessions were conducted by the investigator. Self-report measures were administered at posttreatment to assess treatment effectiveness. In addition to the pre- and post-measures, self-report behaviors (e.g., of mood, pornography use) were tracked daily and turned into the researcher on a weekly basis. Of note, one participant (TX06) was seen via computer-based communication rather than traditional in-person therapy due to geographic barriers. Measures were sent to this participant via email who would scan completed measure back. The participant and therapist held weekly sessions via video-chat service.

## **Measures**

**Daily tracking sheets.** Participants were asked to complete daily tracking sheets to monitor and report actual pornography use, which was used as one of the study's primary outcome measures. This sheet assessed the participant's frequency and daily time spent viewing pornography, how problematic they felt their use was that day, in addition to their mood,

perceived control over their use, their desire to use, and any notable events that occurred that day. A similar self-report daily tracking sheet was developed by Twohig and Crosby (2011) and utilized by Bridges et al (2014).

**Clear Lake Addiction to Pornography Scale (CLAP).** The CLAP is a 30-item unpublished measure that assesses one's self-reported symptoms of addiction to internet pornography. This scale asked participants to rate statements on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*). Items were changed to focus on all pornography, not just internet pornography. Sample items include "*My use of pornography disregards my basic rules or beliefs,*" "*I feel like my use of pornography is hurting someone I love by being dishonest,*" and "*I am worried that my use of pornography may be discovered.*" Five questions from the CLAP were omitted from analyses because the questions inquired about a partner's behavior rather than the participant's own (e.g., "*I have been in situations where I wanted a sexual partner to stop using pornography*"). The remaining 25 items were summed to create a total score. The score could range from 25-125, with higher scores indicating greater difficulty with pornography use. A test-retest reliability coefficient was calculated using the baseline and pre-treatment assessment scores of the present sample (differences in time points range from 1-3 weeks). The calculated test-retest reliability was excellent,  $r = .91$ . From a previous unpublished study of college students, those who reported pornography use greater than once a week ( $n = 22$ ) scored 61.46 ( $SD = 19.90$ ), while men in general scored 57.99 ( $SD = 20.54$ ). Participants from this study scored an average of 81.42 ( $SD = 21.89$ ) at baseline (Minarcik & Bridges, 2012).

**Cognitive and Behavioral Outcome Scales – (CBOS).** The CBOS is a 36-item scale that measures the negative cognitive and behavioral outcomes resulting from engagement in sexual behaviors (McBride, Reece, & Sanders, 2010). The cognitive subscale, which is 20 items,

has responses that range from 1 (*Never*) to 4 (*Always*). The behavioral subscale, which has 16 items, is measured dichotomously with *Yes* or *No* responses. Sample items from the cognitive scale include “*I am worried that the things I have done sexually might have been against the law*” or “*I am worried that the things I have done sexually might be leading to problems with my boyfriend/girlfriend/spouse.*” The behavioral scale asked participants to indicate if they have experienced specific consequences in the past year as a result of their sexual behavior, such as “*I caused pain, injury, or other physical problems for myself*” or “*I experienced spiritual distress.*” Six subscales can be computed from this measure: Legal/Occupational (4 items), Psychological/Spiritual (4 items), Social (4 items), Pain/Injury (3 items), Disease/Pregnancy (3 items), and Financial (2 items). This measure is scored by a simple summation of “yes” items, and the threshold for clinically significant sexual compulsivity is those who meet or exceed the 80<sup>th</sup> percentile (range of 0 – 76; cut-off of 60.8). Internal consistency is adequate for both the cognitive ( $\alpha$  coefficients from .75 to .95) and behavioral ( $\alpha = .75$ ) subscales (McBride, 2006; McBride et al., 2010). Validity was demonstrated with significant ( $p < .01$ ) correlations between subscale scores on the CBOS and the Sexual Compulsivity Scale (McBride, 2006). In prior evaluations using this scale with pornography treatment-seeking populations, the elevations for the Psychological/Spiritual subscale (test-retest reliability = .97) were more elevated at baseline than the other subscale scores (Bridges et al., 2014).

**Sexual Compulsivity Scale (SCS).** The SCS is a 10-item scale that measures sexual compulsivity by inquiring about negative effects of sexual thoughts and behaviors, sexual desires, and how an individual reacts to those desires (Kalichman & Rompa, 1995). Responses range from 1 (*Not at all like me*) to 4 (*Very much like me*) on items such as “*Sometimes I get so horny I could lose control*” and “*My sexual thoughts and behaviors are causing problems in my*

*life.*” Scores are computed by averaging responses. Internal consistency is good for both male ( $\alpha = .77$ ) and female ( $\alpha = .81$ ) college students (Dodge, Reece, Cole, & Sandfort, 2004). The Sexual Compulsivity Scale has a two-week test-retest reliability of .95 (Kalichman & Rompa, 1995). Discriminant validity has been supported by higher scores on the scale by gay and bisexual men who fully understand their risks of engaging in high-risk sexual behavior (Halkitis et al., 2005).

**Hypersexual Behavior Inventory (HBI).** The HBI is a 19-item measure that assesses hypersexuality symptoms (Reid, Garos, & Carpenter, 2011). There are three subscales looking at Coping (7 items, assessing the use of sexual behaviors to cope with negative internal states), Control (8 items, assessing how difficult it is for the participant to control their sexual behavior), and Consequences (4 items, looking at the reported outcomes of their sexual behaviors). Responses range from 1 (*Never*) to 5 (*Very often*). Sample items include, “*Doing something sexual helps me cope with stress,*” “*Even though my sexual behavior is irresponsible or reckless, I find it difficult to stop,*” and “*My sexual activities interfere with aspects of my life, such as work or school.*” The HBI has been shown to have good internal consistency ( $\alpha = .96$ ) and test-retest reliability after two weeks ( $r = .91$ ; Reid et al., 2011). Additionally, this scale demonstrates good concurrent validity (such as positive relationship with diminished self-regulation and impulsivity). Furthermore, discriminant validity is supported by the measure yielding non-significant low correlations with strong emotions (e.g., disgust, fear, surprise, interest) and other psychiatric disorders (e.g., paranoid ideation, hostility, somatization; Reid et al., 2011). A cut-off score of 53 (from a summation of all three subscales) distinguishes clinically significant hypersexual behavior in men from non-hypersexual men. Discriminant validity has been supported by a standard deviation difference in mean score among those seeking help for hypersexuality versus a nonclinical population.

**Pornography Craving Questionnaire (PCQ).** The PCQ is a 12-item measure that assesses one's craving for viewing pornography (Kraus & Rosenberg, 2014). Responses range from 1 (*Disagree complete*) to 7 (*Agree completely*) on items such as “*If the situation allowed, I would watch pornography right now*” and “*The thought of watching pornography makes me sexually aroused.*” The PCQ is internally reliable ( $\alpha = .91$ ) and has good one-week test-retest stability ( $r = .82$ ). This scale demonstrates convergent and criterion validity (positively correlates with scores of preoccupation with pornography, sexual compulsivity, and compulsive internet use) in addition to discriminant validity (a non-significant correlation with a non-sexual sensation seeking scale; Kraus & Rosenberg, 2014). The PCQ has good predictive validity, correlating with future pornography viewing (Kraus & Rosenberg, 2014). A mean score is taken from all the items and scores of 5 or greater are considered positive for craving (Kraus & Rosenberg, 2014).

**Mini-International Neuropsychiatric Interview (M.I.N.I.).** The M.I.N.I. is a frequently used psychiatric structured diagnostic interview based on DSM-IV-TR criteria. This brief interview only requires ‘*Yes*’ or ‘*No*’ answers to endorse symptoms read aloud from the interviewer across a number of clinical diagnoses and typically can be administered in 15 minutes (Sheehan et al., 1998). The M.I.N.I. is found to have good inter-rater and test-retest reliability after two days (Lecrubier et al., 1997; Sheehan et al., 1997). Additionally, sensitivity and specificity range from good to very good for most diagnoses. This interview demonstrates convergent validity with the Structured Clinical Interview for Diagnostic and Statistics Manual of Mental Disorders-III-Revised Patient Version (SCID-P) and Composite International Diagnostic Interview (CIDI) for International Statistical Classification of Disease-10 (Lecrubier et al., 1997; Sheehan et al., 1997).

**Dyadic Adjustment Scale (DAS).** The DAS is a 32-item scale that measures relationship quality (Spanier, 1976). There are four subscales: Dyadic Consensus (13 items; the amount of agreement on important matters in a relationship), Dyadic Satisfaction (10 items; the degree of couple satisfaction in their relationship), Dyadic Cohesion (5 items; closeness, activities, and shared experiences by the couple), and Affectional Expression (4 items; frequency of affectionate and sexual behavior). Items are summed to obtain a total score ranging from 0 to 151, with higher scores indicating more positive relationship satisfaction. The internal consistency of the DAS total score is excellent ( $\alpha = .92$ ; Graham, Lui, & Jeziorski, 2006). The DAS also has a two-week test-retest reliability of .87 (Carey, Spector, Lantinga, & Krauss, 1993). The DAS has been successful in discriminating between distressed and nondistressed couples (Crane, Busby, & Larson, 1991, Schumm, Paff-Bergen, Hatch, & Obiorah, 1986; Spanier, 1988; Spanier & Thompson, 1982) by using cutoff scores between 92 and 107 (Sabourin, Valois, & Lussier, 2005).

**Obsessive Compulsive Inventory-Revised (OCI-R).** The OCI-R is an 18-item measure that assesses distressing or bothersome obsessive-compulsive symptoms in the past month (Foa, Kozak, Salkovskic, Coles, & Amir, 1998). There are six subscales with three questions each for the following domains: washing, checking, ordering, obsessing, hoarding, neutralizing. Responses range from 0 (*Not at all*) to 4 (*Extremely*) to questions such as “*I frequently get nasty thoughts and have difficulty in getting rid of them*” and “*I check things more often than necessary.*” Items are summed; higher scores indicate greater obsessive-compulsive symptomology. The OCI-R has good internal consistency ( $r = .81$ ) and test-retest reliability ( $r = .82$  for OCD individuals and  $r = .84$  for non-OCD individuals) (Foa et al., 1998). This scale has been shown to differentiate well between individuals with and without OCD. With a possible

range of scores from 0-72, the authors have recommended a cut-off of 21 to indicate the likely presence of OCD.

**Depression Anxiety Stress Scale – 21 (DASS-21).** The DASS-21 is a 21-item measure that assesses self-reported symptoms of depression, anxiety, and stress/tension over the past week. Responses range from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much, or most of the time*). Items are summed to form total scores by subscales, and a total DASS-21 score. Higher scores indicate greater internalizing symptoms. While there is a 42-item version, the 21-item version is preferable because it has a cleaner factor structure, smaller inter-factor correlations, and fewer items (Antony, Bieling, Cox, Enns, & Swinson, 1998). There are three subscales: Depression, Anxiety, and Stress. The DASS-21 is found to have high internal consistency ( $\alpha = .94, .87, .91$  for the three subscales, respectively; Antony et al., 1998). Test-retest coefficients for the 21-item version are not available; however, test-retest reliability coefficients for the three subscales from the full 42-item measure are  $r = .71$  (depression),  $.79$  (anxiety), and  $.81$  (stress; Brown, Chorpita, Korotitsch, & Barlow, 1997). The DASS-21 has good concurrent validity, with positive correlations with other depression and anxiety measures (e.g., Beck Depression Inventory and Beck Anxiety Inventory; Antony et al., 1998). The DASS-21 also has recommended clinical ranges, which are as follows for each of the subscales (Depression, Anxiety, and Stress, respectively): Normal (0-4, 0-3, 0-7), Mild, (5-6, 4-5, 8-9), Moderate (7-10, 6-7, 10-12), Severe (11-13, 8-9, 13-16), and Extremely severe (14+, 10+, 17+; Eng & Chan, 2013).

**Client Satisfaction Questionnaire (CSQ-8).** The CSQ-8 is an 8-item measure that assesses a client's satisfaction with their provided treatment. Each question is accompanied by a four-point Likert scale with multiple-phrased anchors that code an extremely positive to an

extremely negative response. This unidimensional scale is scored by summing the individual item scores (range of 8–32), with higher scores indicating greater satisfaction.

### **Analytic Plan**

For each of the hypotheses and exploratory questions, the following analytic strategies were used.

**Hypothesis 1:** In order to best determine whether there was consistent reduction in weekly pornography use and self-reported rates of problematic pornography use, data gathered from the self-report weekly measures are presented graphically and a percent reduction is reported for each participant.

**Hypothesis 2:** In order to determine if there were reliable reductions in the primary dependent variables (i.e., pornography use and perceptions of use, as measured by the Psychological/Spiritual CBOS subscale, HBI, SCS, and PCQ) from pre- to post-treatment, reliable change indices (Jacobson & Truax, 1991) were computed using test-retest reliability coefficients previously established by scale developers (see Method section above). A reliable change index indicates whether a change in an individual’s pre- and post-treatment scores are reliably different from each other (meaning the difference cannot be solely accounted for by measurement error).

For this study, clinically significant reliable changes were defined as occurring when a participant who was above a clinical cut-off score prior to treatment was below clinical cut-off after treatment, in addition to demonstrating change about and beyond potential measurement error. Therefore, no person below clinical cut-off before treatment could have experienced “clinically” significant change nor could a person show clinical significant improvement without reliable change.



**Exploratory Aim 1:** Self-reported rates of problematic pornography use were computed in order to determine if the cognitive content of the treatment added incremental efficacy above and beyond the behavioral treatment content. In particular, a Tau-U analysis was completed across participant data and compared across phases of treatment: baseline, psychoeducation, behavioral, cognitive, relapse prevention.

**Exploratory Aim 2:** Reliable change indices were also computed for measure of sexual cognitions, mood, OCD behaviors, and relationship satisfaction (CBOS, DASS-21, OCI-R, and DAS, respectively) in order to determine if the treatment showed effects that were specific to problematic pornography use, or also showed benefits to participants in areas not directly targeted in treatment (see Appendix F).

**Exploratory Aim 3:** In order to determine how baseline pornography use related to treatment outcomes, correlations were run between participants' average daily pornography use and pre-post treatment difference scores on the primary dependent variables.

## **Results**

### **Treatment Acceptance**

**Retention.** Twelve of the 13 participants invited to participate in the treatment completed all 12 sessions. The first participant who was invited to the study dropped out after the intake session. He reported that (1) he was having minimal negative consequences to his pornography use, and (2) the weekly treatment sessions paired with a 45 minute commute to and from treatment (i.e., 1.5 hours of total travel time) was a barrier. He was given treatment referrals to a provider located closer to him and invited to contact the study if he reconsidered.

**Satisfaction.** Treatment completers ( $N = 12$ ) scored an average of 30.20 (range: 27-32,  $SD = 2.21$ ) on the CSQ after the completion of the twelve sessions of cognitive behavioral

therapy for problematic pornography use. This suggests high overall levels of treatment satisfaction.

### **Primary Hypotheses**

The first goal of the current study was to determine if there was a consistent reduction in numerous self-reported measures of problematic pornography use. It was hypothesized that treatment would result in significant overall reductions pre- to post-treatment. In contrast, no change in pornography use was expected during the baseline phase.

**Time spent viewing pornography.** Information was charted daily by participants (and gathered weekly by the clinician) to calculate pornography use reduction (Table 1). The ‘Baseline’ measure included the period of time between the initial intake assessment and session one of treatment. The ‘Treatment initiation’ period is the reported average pornography use between session 1 and session 2 of the treatment protocol. Lastly, the ‘Treatment completion’ measure is the period between session 11 and session 12 of the treatment protocol. Follow-up data collected after the 12<sup>th</sup> and final session of treatment are not reported here.

*Pre-treatment phase.* An overview of the data revealed that overall, participants experienced minimal reduction ( $M$  minutes = -7.40,  $SD$  = 40.88) in weekly pornography use during the pre-treatment phase; the average percent change in pornography use during the pre-treatment phase was even-to-slight-increase (1.67%,  $SD$  = 127.27%). The high standard deviations indicated greater variability in pre-treatment phase changes in pornography use. During this pre-treatment, or baseline, phase, two-thirds of participants ( $n$  = 8) reported a decrease in average weekly minutes of pornography use which ranged from 12-100%. One-third of participants ( $n$  = 4) experienced an increase in pornography use, with an average increase of 44-372%.

*Treatment phase.* All but one participant experienced reductions in weekly pornography use during the treatment phase ( $M$  minutes = -16.17,  $SD$  = 13.57); the average percent change in pornography use during the treatment phase was notable (82.53%,  $SD$  = 30.08%, range 0-100%). The one participant who evidenced no change in the treatment phase was a person who had begun abstaining altogether from pornography use in the pre-treatment or baseline phase. When examining baseline to post-treatment changes, all participants reported a decrease in pornography use, with an average reduction of 32.86 minutes per week ( $SD$  = 34.67). Given the average minutes of weekly pornography use the participants experienced at baseline was 34.87, this represents a 94% reduction in overall pornography use from baseline to post-treatment. Therefore, the first hypothesis was supported with respect to time spent using pornography.

Weekly pornography use was also graphed for participants by baseline condition (Figure 1) and individually (Figures 2-13). Occasionally, a participant may have one or two “bad weeks” where pornography use was noticeably higher than the previous week’s uses.

**Self-report measures of problematic pornography use.** To further test the first hypothesis, reliable change indices were calculated to determine if there were reliable and clinically significant reductions across self-reported addiction to pornography, sexual cognitions, hypersexual behavior, sexual compulsivity, and pornography cravings from pre- to post-treatment. Tables 4-8 outline the participants’ pre- and post-treatment scores on the diverse self-report measures, whether or not a reliable change happened across the treatment period, and whether that change was also clinically significant. For the reliable change indices, the standard deviations were used from the current study’s pre-treatment assessment period. Often the standard deviations were very similar to the scales’ original published psychometrics; however, when they differed the means of the present study were larger (see Appendix E for comparisons).

This would require a large pre-to-post treatment difference score to indicate reliable change; therefore, this represents a more conservative statistical test of the hypothesis.

*CLAPS.* Overall, there was mixed success in participants obtaining reliable and clinically significant change for reported addiction to pornography. Specifically, 25% of participants ( $n = 3$ ) demonstrated reliable change in the hypothesized direction as measured by the CLAPS. Of note, the three participants who demonstrated reliable change had some of the highest scores at baseline on the CLAPS. Because the CLAPS does not indicate a clinical cut-off, no assessment of clinically significant change was calculated (Table 2).

*CBOS Psychological/Spiritual subscale.* A total of 42% of participants ( $n = 5$ ) demonstrated reliable change in the hypothesized direction in self-reported sexual cognitions, as measured by the Psychological/Spiritual subscale of the CBOS. Notably, 4 of these 5 participants were among the highest scorers on the CBOS at baseline. Of those above the clinical cut off of 3.2 at pre-treatment ( $n = 3$ ), 66% ( $n = 2$ ) reported clinically significant reductions post-treatment (i.e., were no longer above the clinical cut-off at treatment) (Table 3).

*HBI.* On the HBI, 50% of participants ( $n = 6$ ) demonstrated reliable decreases in hypersexual behaviors. Of those above the cut off of 53 ( $n = 7$ ), 71% ( $n = 5$ ) reported clinically significant and reliable change (Table 4).

*SCS.* For the SCS, 50% of participants ( $n = 6$ ) demonstrated reliable lowering of sexually compulsive behaviors (Table 5). Because the SCS has no clinical cut-offs, no calculations for clinically significant reductions in sexually compulsive behavior were conducted.

*PCQ.* Lastly, for the PCQ, 50% of participants ( $n = 6$ ) demonstrated reliable reductions in self-reported cravings for pornography. Of participants above the clinical cut-off of 5 ( $n = 2$ ), 100% reported clinically significant and reliable change (Table 6).

## Exploratory Questions

**Question 1.** The first exploratory question asked if the cognitive component of the treatment added incremental efficacy (as measured by daily self-reported pornography use) above and beyond the behavioral treatment component. To answer this, a Tau-U statistic was calculated for the five phases of the treatment protocol: baseline, psychoeducation, behavioral, cognitive, and relapse prevention. A Tau-U analysis is a statistic that “combines non-overlap between phases with trend from with the intervention phase” (Parker et al., 2011, pg. 284). There were times when the weekly training sheets were not turned in for that week for some participants; in these instances, the statistic was run with the data on-hand for each phase.

Initially analyses revealed no need to correct for baseline phase trend due to significant variance within the first phase (Table 7). Tau-U analyses (Table 8) revealed a significant decline from the baseline phase to the psychoeducation phase (Tau-U = -0.14,  $p = .03$ ) and again from the psychoeducation phase to the behavioral component phase (Tau-U = -0.12,  $p = .03$ ). The negative statistic indicates the trend for pornography use reduction was amplified once treatment began, and again once the behavioral component of treatment was administered. When comparing the behavioral and cognitive phases, however, no significant change in downward trend of pornography use was observed (Tau-U = 0.07,  $p = .12$ ). There was a significant decline from the cognitive component phase to the relapse prevention phase (Tau-U = -0.13,  $p = .03$ ). In summary, all consecutive phases of treatment showed a significant change in the trend towards decreased pornography use *except* the transition from the behavioral to the cognitive components.

**Question 2.** The second exploratory questions asked if treatment benefits showed specificity (i.e., were gains specific to sexual behaviors and not evidenced in other measures of psychiatric distress, such as depression). To answer this question, reliable change indices were

calculated across measures of financial outcomes related to compulsive sexual behavior, mood, OCD symptoms, and relationship satisfaction (CBOS Financial subscale, DASS-21, OCI-R, and DAS, respectively). As before, the standard deviations were used from the current study's pre-treatment assessment period. Often the standard deviations were very similar to the scales' original published psychometrics, however, when they differed the means of the present study were larger (see Appendix F for comparisons). Therefore, these analyses are relatively conservative.

Overall, few participants reported reliable changes in the set of variables not directly targeted by the treatment protocol, suggesting good treatment specificity. For the CBOS Financial Subscales (Table 9), 17% of participants ( $n = 2$ ) demonstrated reliable reductions in negative financial impacts of compulsive sexual behavior and no participant scored above the clinical cut-off of 3.2 at pre-treatment. For the DASS depression subscale, 25% of participants ( $n = 3$ ) demonstrated reliable reductions in depressive symptoms. Of those above the cut-off of 4 at baseline ( $n = 5$ ), 60% ( $n = 3$ ) reported clinically significant improvements in mood (Table 10). There was one participant who reported a reliable iatrogenic effect of treatment where they reported a worsening of depressive symptoms. Near the end of treatment, this participant reported emotional distress related to multiple unsatisfying romantic relationships, which may explain the scores reflected here. For the DASS anxiety subscale, only one participant demonstrated reliable reductions in anxious symptoms. Of the 3 participants who scored above the clinical cut-off of 3 at baseline, 2 (67%) were below the cut-off at the end of treatment (Table 11). However, 2 participants who were below the clinical cut-off at baseline were above it at post-treatment indicating a clinical worsening of anxiety symptoms. For the DASS stress subscale, no participants demonstrated reliable reductions in stress symptoms over the course of

treatment. Of participants above the clinical cut-off of 7 ( $n = 5$ ), 40% ( $n = 2$ ) reported clinically significant change (Table 12). Changes in relationship satisfaction were only examined for the 6 participants who were in romantic relationships at baseline. None of the participants demonstrated reliable improvements in relationship satisfaction from pre- to post-treatment. Of the 33% of participants in relationships who were below the clinical cut-off of 100 at baseline ( $n = 2$ ), 100% reported clinical improvements in relationship satisfaction (Table 13). Lastly, for the OCI-R, 25% of participants ( $n = 3$ ) demonstrated reliable reductions in obsessive-compulsive behaviors from pre- to post-treatment. Of those above the cut off of 21 ( $n = 4$ ), 50% ( $n = 2$ ) reported clinically significant change (Table 14).

**Question 3.** The final exploratory question investigated whether treatment effects varied as a function of baseline frequency of pornography use. Correlations were run between participants' average daily pornography use at baseline and the difference between the pre- and post-treatment scores on sexual cognitions (CBOS psychological/spiritual subscale), hypersexual behavior (HBI), sexual compulsivity (SCS), and pornography craving (PCQ) (Figures 14-17). Although not significant, the correlations for sexual cognitions ( $r_{CBOS} = -.293, p = .355$ ), hypersexual behavior ( $r_{HBI} = -.199, p = .585$ ), and sexual compulsivity ( $r_{SCS} = -.176, p = .535$ ) suggested higher pornography use at baseline was associated with smaller difference scores between pre- and post-treatment. In contrast, although also not significant, higher pornography use was associated with larger difference scores between pre- and post-treatment in pornography cravings ( $r_{PCQ} = .299, p = .334$ ). The lack of significant associations between baseline pornography use and primary dependent variable measures suggests that the treatment protocol was equally effective for moderate and severe users of pornography.

## Discussion

While problematic pornography use is becoming increasingly more common, there are few studies that have looked at the efficacy of treatment for this concern. The current dissertation reviewed a 12-session cognitive-behavioral treatment protocol developed by Bridges and Minarcik (2012) for the reduction of problematic pornography use and related impairments in men who present with “pornography addiction”. Twelve of the 13 people who began were randomly assigned to a 1, 2, or 3-week baseline prior to the initiation of treatment. Primary measures assessed daily minutes of pornography use, self-reported addiction to pornography, sexual cognitions, sexual compulsivity, hypersexual behavior, and pornography craving. Secondary measures were sexual cognitions, mood, relationship satisfaction, and OCD symptoms.

In summary, the proposed cognitive-behavioral treatment protocol appeared to have worked well for many participants. All participants consistently and reliably reduced their pornography use, which supports the primary hypothesis. The ‘least’ successful participant still reduced his weekly pornography use 75% to 12 minutes a week. No one increased their pornography use during the course of treatment. Some participants made notable reductions in their use prior to the start of active treatment components. This may be in response to self-monitoring or perhaps the non-specifics of psychotherapy. Most importantly, 100% of participants met their stated treatment goals for minutes of weekly use by post-treatment (these were not always abstentions, but reductions to a specific amount per week).

At only 12 sessions in length, the protocol is brief and therefore provides a relatively low burden to participants. Nearly everyone who started the program remained enrolled until completion. The one participant who did not complete the study dropped out immediately (after



the initial session) due to the burden of transportation time in addition to a low level of distress over his behavior. The participant specifically cited the unique opportunity of receiving treatment for pornography use (as he reported not being aware of other resources) as his primary motivator for coming in (i.e., he felt that this was a ‘limited time opportunity’ for him to receive treatment information). However, when faced with a 2.5-hour commitment for weekly sessions (1 hour for sessions, 1.5 hours for travel), the participant weighted that concern against the minimal functional impact of his current pornography use on his work productivity and marriage.

Furthermore, as supported by the third descriptive aim, this treatment protocol was helpful for a wide range of problematic pornography viewing frequencies. Participants did not have to view copious amounts of pornography in order to receive treatment benefit. In other words, moderate pornography viewers were just as likely to benefit from treatment as more frequent pornography viewers.

The second hypothesis, which looked at clinically reliable change across multiple measures, had mixed support. The constructs of interest were sexual cognitions, hypersexual behavior, and pornography craving. Of the people who exceeded clinical cut-offs on these measures at pre-treatment, 66%, 71%, and 100% respectively were below the clinical cut off at post-treatment. Furthermore, 75% of these clinical improvements were clinically significant reliable changes. Another construct of interest was self-reported addiction to pornography and sexual compulsivity, in which 25% and 50% respectively reported reliable change; however, clinical change could not be determined due to no validated clinical cut-off point for these measures. These results are similar to the second descriptive aim, which asked whether the treatment shows effects that were specific to problematic pornography use, or also showed benefits to areas not directly targeted in treatment; such as sexual cognitions, mood (e.g.,

depression, anxiety, and stress), relationship satisfaction, and OCD symptoms. Like the primary targets of treatment, of the people who exceeded clinical cut-offs on these secondary measures at pre-treatment 0% (none were above the clinical cut off at pre-treatment), 60%, 67%, 40%, 100% and 50% respectively were below the clinical cut off at post-treatment. However, clinically significant reliable change was demonstrated in much less frequency than the primary constructs of interest. In summary, the protocol was most effective for primary outcome variables, and there was little if any effect or clinically significant reliable change on secondary variables that were not direct targets of treatment. These results highlight the specificity of the treatment.

### **Treatment Acceptability and Components**

Participants found the treatment protocol to be highly satisfactory, as measure by the CSQ-8. Participants reported the treatment program met their needs and felt they received helpful services, which helped them deal with their concerns. Furthermore, many participants stated they would return to the program should they need help again. Observationally as the treating therapist, I noted participants were most engaged during the psychoeducation and behavioral components of treatment. Many times participants expressed relief to hear about why pornography had become a problem for them and to begin to understand why it can be a difficult behavior from which to disengage. Furthermore, participants were also very engrossed in the behavioral exercises such as creating a personalized functional analysis of their pornography use in order to identify ways of controlling environmental triggers and engaging in alternative behaviors. These exercises happened within the first four sessions of treatment; therefore, the noticeable enthusiasm might have been a response to initiating treatment in general.

At the end of treatment, when asked what was the most helpful part of the program, almost every participant cited the benefits of having weekly accountability. Participants would

frequently state that having to share their weekly progress at the next session with the therapist helped them opt for alternative behaviors, outside of pornography use, when temptation hit. Additionally, a large portion reported daily documentation and self-monitoring were helpful for changing behaviors, and many participants cited a sense of accomplishment when indicating an absence of viewing for that day on their daily tracking sheets.

According to the results of the Tau-U, each phase of treatment (with the exception of the cognitive phase) provided additional accelerations in reduction of pornography use than the prior phase. Graphs of daily pornography use for each participant across the treatment phases also suggested a reduction in pornography use each time a new treatment component was implemented. No treatment phase appeared to contribute a significantly greater amount of acceleration reduction than others. The only treatment component to not perform at these standards was the cognitive component, which did not add additional acceleration of treatment gains. This is consistent with previous component analyses of cognitive-behavioral treatments. For instance, a meta-analysis of 17 dismantling studies for anxiety disorders revealed addition of cognitive modification strategies do not provide additional treatment benefits above and beyond behavioral components (Adams, Brady, Lohr, & Jacobs, 2015). Perhaps these results lend support to the idea that cognitive and behavioral techniques involve similar processes rather than represent distinct treatment components. This idea works particularly well if one conceptualizes thought patterns as behaviors (Brown & Gillard, 2015). For instance, if having a particular thought results in a more distressing subsequent thought, then thought challenging or replacing the original thought with a newer, more rational thought (a cognitive technique) is much like deliberately choosing an alternative behavior (a behavioral technique). If indeed these two components are actually similar except for the target behaviors (thoughts versus actions), then

participants were not gaining any new knowledge or skill in the cognitive phase, which may explain the lack of acceleration in pornography use reduction across these two phases.

Importantly, while the cognitive component did not additionally accelerate treatment gains, it also did not result in any undoing of previously obtained treatment gains. Therefore, until the utility of cognitive components is clear, evidence from this study demonstrates that adding this component will not produce any worsening of the problem behavior.

### **Theoretical Mechanisms**

The present study and treatment protocol were derived from a proposed behavioral model of pornography use. The treatment emphasized the learned behavioral chain of an individual's pornography use in addition to the problematic thoughts that contributed to one's use. As reviewed above, the behavioral reinforcement model proposes that both positive and negative reinforcement are likely to maintain problematic pornography use (Wetterneck et al., 2012).

Anecdotally, this process appeared to be supported by reasons participants reported they viewed pornography, such as to remove stress or unhappiness or to gain a sense of pleasure or relaxation. The treatment protocol evaluated in the current study addressed this cycle by helping participants create a functional analysis of their own pornography use – assessing antecedents and consequences of their use. Treatment skills then focused on manipulations for different parts of the behavioral chain. For instance with stimulus control, participants worked on ways to create deterrents to conditions that were favorable to pornography use, such as creating passwords for their computers or only accessing the Internet in a public place. Subsequent treatment components focused on functionally similar behavioral alternatives to pornography use; such as going for a walk when stressed or masturbating without pornography use when sexually aroused. Additionally, participants received psychoeducation about short-term and long-term

consequences of pornography use. Participants were encouraged to create rewards for themselves as they made progress towards behaviorally specified treatment goals. Lastly, treatment components also addressed mediating dysfunctional thought processes that resulted in pornography use rather than a goal-directed behavior. This protocol successfully addressed behavioral contingencies outlined in the above-proposed behavioral model of pornography use.

### **Comparisons to Previous Treatments**

Only one other study has completed an experimental treatment trial of pornography use (Twohig & Crosby, 2010). In that study, male participants ( $N = 6$ ) completed eight 1.5-hour sessions of ACT. The authors conceptualized problematic pornography use as an OCD spectrum disorder, stating that viewing is mediated by the effort one exerts by struggling and attempting to control the urges to view pornography. The participants in their study and those in the current study reported similar rates of pornography use per week. The ACT treatment developed by Twohig and Crosby resulted in an 85% reduction of pornography viewing (with 4 of the 6 participants choosing to abstain), and treatment gains were maintained at three-month follow-up. Both their study and the current study provided 12 hours of total treatment time. Similar to the ACT study, 58% of the current study's participants achieved abstinence goals, while every participant met their individualized treatment goal. The current study does not have follow up data to report, although a 3-month follow-up is being conducted. Similarities between the Twohig and Crosby ACT study and the current study also included changes on a measure of OCD symptoms. The ACT study reported significant reduction in symptoms on the OCI (Foa et al, 1998), while similar changes were seen for participants in the present study using the OCI-R (Twohig & Crosby, 2010). However, only 25% of the current study's sample was above clinical cut-off at pre-treatment for the OCI-R, and no participants in the ACT study were above the OCI

scale cutoff. Despite differences in reported OCD symptomatology, both studies demonstrated comparable effects. This suggests a similarity in active treatment components across both treatment protocols; perhaps engaging in distractions or alternative behaviors despite having an urge to view pornography is the key to reducing addictive pornography viewing behaviors.

### **Limitations**

It is important to consider the findings of this study in the context of its limitations. First, problematic pornography use was defined more broadly in this study than in previous studies (presently defined as viewing more than once a week, experiencing significant distress or impairment, and having at least one prior unsuccessful attempt at stopping or reducing pornography use). Therefore, in general, participants reported low pornography use in comparison to other studies in this area. For instance, Cooper et al. (1999b) previously establish a cut-off for online sexual compulsivity as use that exceeds 11 hours per week. The participants in this sample reported significantly fewer hours of weekly pornography viewing, even at treatment baseline. This may have limited the study's ability to find significant associations between baseline minutes of use and treatment effects, as measured by change in scores from pre- to post-treatment on the primary measures. If the present study had included some participants whose baseline pornography use met Cooper and colleagues' definition for sexual compulsivity, results may have demonstrated differential effectiveness of treatment for high pornography viewers vs. low/moderate pornography viewers. Similarly, secondary treatment effects or gains may have been uncovered in that case and were not evident in the current study. In comparison to Cooper et al.'s definition, this sample was fairly high functioning, despite their self-reported distress about and interference of pornography use. Therefore, this study simply

cannot generalize these treatment effects to the online sexually compulsive users described by Cooper and colleagues.

This study found a lack of support for an increased effectiveness of cognitive components of treatment above and beyond behavioral components. In actuality, the cognitive components may indeed have been effective; however, they did not accelerate the rate of change already begun by psychoeducation and behavioral techniques. Future studies should randomize or change the order in which treatment components are presented (especially flipping the order of cognitive and behavioral components). If this design revealed significant Tau-U phase change (or acceleration in pornography reduction) in the behavioral phase after the cognitive phase, this would be very strong evidence that behavioral techniques produce stronger treatment gains than purely cognitive techniques. If, as occurred here, no differences in phases are evident even when cognitive techniques precede behavioral techniques, this would support the notion that these are two facets of the same treatment component.

Another limitation of this study is that it included only one therapist who conducted all of the treatments. Therefore, therapist-specific effects were unable to be modeled. Additionally, the therapist was female and all participants were male. The degree to which gender-matching impacts behavior change remains unknown. Future studies should include other therapists to determine the degree to which therapist factors affect therapeutic change.

Additionally, this study limited its sample to only men. Descriptively, a majority were college students and relatively young adults. In fact, few were married or had kids. The present study cannot speak to how these demographics affect the treatment response. Moreover, it is unclear how these results generalize to other populations, such as women, fathers, or older participants.

Furthermore, the successes of the present study are limited to the timeframe immediately after the completion of the treatment protocol. Unlike the study looking at the ACT protocol by Twohig & Crosby (2010), this study does not have any follow-up data to report. Although this project is currently underway, data were not fully collected in time for this study's report. During this study, participants cited they were particularly motivated to commit to treatment due to the weekly accountability, therefore understanding the maintenance of behavioral change beyond the treatment timeframe is important.

Yet another limitation this study encountered was a potential cohort effect. Qualitatively, nearly all participants reported their first experience with pornography was in a paper format. Eventually, they all transitioned into a digital format. As discussed in the introduction, the digital format allows for the user to experience pornography in an increasingly accessible, affordable, and seemingly anonymous way (Cooper, 1998). Pornography use that is initiated in digital format may have a developmental trajectory of use that could be substantially different from those whose preliminary viewing experiences were in a more antiquated format. Some researchers are suggesting that online viewing of pornography is particularly detrimental because visual stimulation can be provided in quantity and quality beyond one's natural libido (e.g., quickly clicking through numerous images, browsing multiple windows, streaming and downloading seemingly endless content, fast-forwarding to "the good part" of films; Wilson, 2011). In regards to treatment, it is not clear if future cohorts whose first introduction to pornography is digital would show the same progression of compulsivity in their pornography use, and therefore they may not respond to the current treatment protocol in a similar fashion.

Lastly, the current study was underpowered for some of its aims and therefore was descriptive in nature. Future studies should include larger samples and move towards a stronger



treatment evaluation. Treatment designs such as a small randomized-control trial or protocols with random assignment would enhance support for the efficacy of this protocol. Furthermore, in this small sample, demonstrating efficacy of the intervention for reducing pornography use was challenging because some participants made notable reductions prior to the introduction of any therapy skills. This may be due to the effect of self-monitoring, which can result in adjustments to behavior. This may also speak to the role of accountability; perhaps participants already had the skills for behavior change and were implementing them during the initial stages of treatment knowing they would be reporting their pornography use to the therapist on a weekly basis.

### **Future Directions**

The results of this study, while preliminary, show promising outcomes. Research in the protocol is at its beginning stage. The present study was completed after theoretical development, completion of a treatment manual, and a brief pilot study. No other studies have tested this treatment protocol. Using the outline and guidance from Rounsaville, Carroll, and Onken (2001), this study is in Stage I of treatment research development and as such its purpose was to develop the foundation required to test the efficacy of a new therapy. Future research should focus on bringing this research into Stage II, by completing a randomized control trial. At minimum, this would require random assignment of participants to one of two conditions: (1) the proposed protocol, and (2) a manualized treatment as usual condition OR a minimal treatment contrast.

Future studies may also want to alter the delivery method of this treatment to increase reach. For instance, the treatment could be adapted to be delivered online. Perhaps a self-paced online treatment would allow potential participants to engage in therapy from the comfort of their homes. One study of individuals with hypersexual behavior (such as problematic

pornography use and excessive masturbation) completed 10 sessions of a psychoeducational online intervention (Hardy, Ruchty, Hull, & Hyde, 2010). Results showed reductions in targeted behaviors and increases in other domains such as temptation management, mood, and frequency reduction of sexual thoughts. On the other hand, an online version may decrease efficacy since many participants reported the in-person accountability of having to report daily pornography use to a therapist was extremely helpful. Alternately, a group therapy format could be used from an adapted version of this treatment protocol that would have the benefit of providing clients with social support. Here, participants could vicariously learn about the successes and failures of group members, in addition to receiving additional accountability and support throughout treatment. There has been one study of individuals presenting with problematic cybersex behaviors who completed 16 sessions of cognitive-behavioral interventions (Orzack et al., 2006). These participants reported improvements in quality of life and depressive symptoms; however, targeted behavior remained relatively unchanged, which was attributed to insensitive measurements of target behavior. In general, the role of importance of accountability on behavior change could better be explained by a study that included a long-term follow up. This would help illuminate whether behavior changes made during the course of treatment would maintain beyond periods of weekly accountability.

Lastly, in order to better understand the mechanisms of change, future studies could complete a dismantling design of the different treatment phases. By manipulating treatment phases, one is better able to understand the mechanisms of changes or phases of treatment that were most impactful.

This research makes an important contribution to the paucity of research on problem pornography use treatment. It provided solid preliminary evidence that cognitive-behavioral

treatment protocols could be useful in reducing pornography use (at least for the duration of the treatment). It also provided important information regarding the practical concerns of a therapeutic protocol: namely treatment feasibility, participant acceptability, and all treatment completers in the study met their outlined treatment goals. Although, much still remains to be learned about the mechanisms of problematic problem use and treatment, this study can provide helpful information for clinicians who treat patients with this concern.

Table 1 *Proposed Diagnostic Criteria for Hypersexual Disorder, Pornography Type*

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Proposed Diagnostic Criteria for Hypersexual Disorder, Pornography Type

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A	Over a period of at least 6 months, recurrent and intense sexual fantasies, sexual urges, and sexual behavior in association with three or more of the following five criteria: (1) Time is consumed by sexual fantasies and urges or behaviors that repetitively interferes with other important (non-sexual) goals, activities and obligations. (2) Repetitively engaging in these sexual fantasies, urges, and behavior in response to dysphonic mood states (e.g., anxiety, depression, boredom, irritability). (3) Repetitively engaging in sexual fantasies, urges, and behavior in response to stressful life events. (4) Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges, and behaviors. (5) Repetitively engaging in sexual behavior while disregarding the risk for physical or emotional harm to self or others.
B	There is clinically significant personal distress or impairment in social, occupational or other important areas of functioning associated with the frequency and intensity of these sexual fantasies, urges, and behavior.
C	These sexual fantasies, urges, and behavior are not due to direct physiological effects of exogenous substances (e.g., drugs of abuse or medications) or to Manic Episodes.

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(Adapted from Kafka, 2010, p.379)

Table 2. Minutes and percent reduction of average pornography use duration across pre-treatment and treatment phases

<b>Pre-treatment Phase</b>				
<b>Participant</b>	<b>Baseline</b>	<b>Treatment initiation</b>	<b>% Change</b>	<b>Δ Avg. Min.</b>
TX01	M = 47.50 (SD = 45.67) 3 week baseline	M = 48.75 (SD = 41.01)	+1.03%	+1.25
TX02	M = 31.07 (SD = 42.71) 2 week baseline	M = 45.00 (SD = 47.43)	+44.83%	+13.93
TX03	M = 21.33 (SD = 34.31) 2 week baseline	M = 15.83 (SD = 24.58)	-25.79%	-5.50
TX04	M = 13.33 (SD = 40.00) 1 week baseline	M = 22.11 (SD = 54.63)	+65.87%	-52.54
TX05	M = 34.29 (SD = 51.10) 2 week baseline	M = 30.00 (SD = 73.48)	-12.51%	-4.29
TX06	M = 109.28 (SD = 84.28) 1 week baseline	M = 25.71 (SD = 32.07)	-76.47%	-83.57
TX07	M = 18.57 (SD = 30.21) 3 week baseline	M = 7.14 (SD = 7.56)	-61.55%	-11.43
TX08	M = 95.28 (SD = 8.57) 2 week baseline	M = 8.57 (SD = 14.64)	-91.01%	+86.71
TX09	M = 4.29 (SD = 11.34) 1 week baseline	M = 2.50 (SD = 3.00)	-41.72%	-2.47
TX10	M = 4.14 (SD = 5.90) 3 week baseline	M = 1.88 (SD = 3.72)	-54.59%	-2.26
TX11	M = 36.43 (SD = 24.05) 2 week baseline	M = 0.00 (SD = 0.00)	-100%	-36.43
TX12	M = 2.88 (SD = 10.40) 1 week baseline	M = 10.71 (SD = 18.80)	+372%	+7.83
<b>Treatment Phase</b>				
<b>Participant</b>	<b>Treatment initiation</b>	<b>Treatment completion</b>	<b>% Change</b>	
TX01	M = 48.75 (SD = 41.01)	M = 11.79 (SD = 23.66)	-75.82%	-36.96
TX02	M = 45.00 (SD = 47.43)	M = 7.50 (SD = 9.35)	-83.33%	-37.50
TX03	M = 15.83 (SD = 24.58)	M = 2.45 (SD = 5.47)	-84.52%	-13.38
TX04	M = 22.11 (SD = 54.63)	M = 0.00 (SD = 0.00)	-100%	-22.11
TX05	M = 30.00 (SD = 73.48)	M = 1.43 (SD = 3.78)	-96.67%	-28.57
TX06	M = 25.71 (SD = 32.07)	M = 0.00 (SD = 0.00)	-100%	-25.71
TX07	M = 7.14 (SD = 7.56)	M = 0.00 (SD = 0.00)	-100%	-7.14

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TX08	M = 8.57 ( <i>SD</i> = 14.64)	M = 0.00 ( <i>SD</i> = 0.00)	-100%	-8.57
TX09	M = 2.50 ( <i>SD</i> = 3.00)	M = 0.00 ( <i>SD</i> = 0.00)	-100%	-2.50
TX10	M = 1.88 ( <i>SD</i> = 3.72)	M = 0.94 ( <i>SD</i> = 2.72)	-50%	-0.94
TX11	M = 0.00 ( <i>SD</i> = 0.00)	M = 0.00 ( <i>SD</i> = 0.00)	0%	-0*
TX12	M = 10.71 ( <i>SD</i> = 18.80)	M = 0.00 ( <i>SD</i> = 0.00)	-100%	-10.71

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*Note.* While TX11 abstained for the Treatment initiation measurement, there were intermittent periods of pornography use until the Treatment completion measurement. See Figure 11.

Table 3. *Individual Scores and Change Status on CLAPS*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable change</b>
TX01	48	46	No
TX02	94	88	No
TX03	80	66	No
TX04	108	46	Yes
TX05	104	104	No
TX06	39	53	No
TX07	113	72	Yes
TX08	94	62	Yes
TX09	77	79	No
TX10	70	85	No
TX11	81	68	No
TX12	80	83	No

Table 4. *Individual Scores and Change Status on CBOS psychological/spiritual scale*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	1.50	1.25	No	--	--
TX02	3.00	2.25	Yes	--	--
TX03	2.00	2.25	No	--	--
TX04	3.50	2.5	Yes	Yes	Yes
TX05	4.00	4.00	No	No	--
TX06	1.00	1.25	No	--	--
TX07	4.00	2.00	Yes	Yes	Yes
TX08	1.50	1.00	Yes	--	--
TX09	3.00	2.00	Yes	--	--
TX10	2.25	2.00	No	--	--
TX11	2.00	1.75	No	--	--
TX12	2.00	2.00	No	--	--



Table 5. *Individual Scores and Change Status on HBI*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	46	30	No	--	--
TX02	62	56	No	No	--
TX03	64	37	Yes	Yes	Yes
TX04	82	20	Yes	Yes	Yes
TX05	83	55	Yes	No	--
TX06	40	43	No	--	--
TX07	84	50	Yes	Yes	Yes
TX08	66	36	Yes	Yes	Yes
TX09	61	43	Yes	Yes	Yes
TX10	52	45	No	--	--
TX11	49	43	No	--	--
TX12	34	30	No	--	--

Table 6. *Individual Scores and Change Status on SCS*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>
TX01	1.22	1.50	No
TX02	2.70	1.90	Yes
TX03	1.90	1.60	No
TX04	2.70	1.30	Yes
TX05	3.30	1.80	Yes
TX06	1.40	1.50	No
TX07	3.00	1.90	Yes
TX08	2.80	2.00	Yes
TX09	1.90	1.20	Yes
TX10	2.10	2.20	No
TX11	1.20	1.30	No
TX12	1.50	1.20	No

*Note.* The SCS does not have pre-established clinical cutoff scores.

Table 7. *Individual Scores and Change Status on PCQ*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	1.83	1.08	No	--	--
TX02	5.67	3.75	Yes	Yes	Yes
TX03	4.75	1.00	Yes	--	--
TX04	3.17	1.00	Yes	--	--
TX05	7.00	4.17	Yes	Yes	Yes
TX06	4.25	1.75	Yes	--	--
TX07	1.67	2.00	No	--	--
TX08	4.92	3.00	Yes	--	--
TX09	3.00	2.17	No	--	--
TX10	1.92	1.00	No	--	--
TX11	1.83	1.25	No	--	--
TX12	2.75	2.25	No	--	--

Table 8. *Tau-U Analyses of Daily Pornography Use (in minutes) Within Phases of Treatment Protocol*

	<i>S</i>	# of pairs	Tau	<i>Z</i>	<i>p</i>
Trend <sub>Baseline</sub>	38	1,883	0.04	0.76	.45
Trend <sub>Psychoeducation</sub>	-95	1,194	-0.07	-1.23	.22
Trend <sub>Behavioral</sub>	309	11,107	0.02	0.57	.57
Trend <sub>Cognitive</sub>	-488	6,955	-0.05	-1.49	.14
Trend <sub>Relapse Prevention</sub>	25	1,476	0.03	0.30	.76

Table 9. *Tau-U Analyses of Daily Pornography Use (in minutes) Across Phases of Treatment*

	Tau	Var-Tau	Z	p
Baseline vs. Psychoeducation +	-0.14	0.07	-2.12	.03*
Trend <sub>Psychoeducation</sub> – Trend <sub>Baseline</sub>				
Psychoeducation vs. Behavioral +	-0.12	0.05	-2.13	.03*
Trend <sub>Behavioral</sub> – Trend <sub>Psychoeducation</sub>				
Behavioral vs. Cognitive +	-0.07	0.04	-1.57	.12
Trend <sub>Cognitive</sub> – Trend <sub>Behavioral</sub>				
Cognitive vs. Relapse Prevention +	-0.13	0.06	-2.22	.03*
Trend <sub>Relapse Prevention</sub> – Trend <sub>Cognitive</sub>				

*Note.* P values less than .05 indicate significant changes (in this case, reductions) across phases

Table 10. *Individual Scores and Change Status on the CBOS Financial Subscale*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	2	2	No	--	--
TX02	1.5	1	No	--	--
TX03	1	1.5	No	--	--
TX04	1	1	No	--	--
TX05	1	2	No	--	--
TX06	2	1	Yes	--	--
TX07	2	1.5	Yes	--	--
TX08	1.5	1	No	--	--
TX09	1	1	No	--	--
TX10	2	2.5	No	--	--
TX11	1	1	No	--	--
TX12	1	1	No	--	--

Table 11. *Individual Scores and Change Status on DASS-21 Depression Subscale*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	9	6	No	No	--
TX02	0	1	No	--	--
TX03	1	2	No	--	--
TX04	3	1	No	--	--
TX05	6	1	No	Yes	--
TX06	2	4	Yes	Yes	Yes*
TX07	11	1	Yes	Yes	Yes
TX08	1	1	No	--	--
TX09	3	1	No	--	--
TX10	7	1	Yes	Yes	Yes
TX11	11	13	No	No	--
TX12	2	3	No	--	--

\* Indicates clinically significant elevations from pre- to post-treatment.

Table 12. *Individual Scores and Change Status on the DASS-21 Anxiety Subscale*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	0	1	No	--	--
TX02	2	0	No	--	--
TX03	0	1	No	--	--
TX04	4	1	No	Yes	--
TX05	2	3	No	--	--
TX06	0	2	No	--	--
TX07	1	1	No	--	--
TX08	2	3	No	--	--
TX09	3	5	No	Yes*	--
TX10	17	11	Yes	No	--
TX11	2	8	No	Yes*	--
TX12	5	2	No	Yes	--

\* Indicates clinically significant elevations from pre- to post-treatment.



Table 13. *Individual Scores and Change Status on the DASS-21 Stress Subscale*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	1	4	No	--	--
TX02	3	4	No	--	--
TX03	1	1	No	--	--
TX04	6	2	No	--	--
TX05	9	7	No	No	--
TX06	8	5	No	Yes	--
TX07	9	4	No	Yes	--
TX08	10	7	No	No	--
TX09	4	2	No	--	--
TX10	9	13	No	No	--
TX11	2	4	No	--	--
TX12	3	2	No	--	--

Table 14. *Individual Scores and Change Status on the DAS*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	--	--	--	--	--
TX02	123	115	No	--	--
TX03	--	--	--	--	--
TX04	130	141	No	--	--
TX05	96	121	No	Yes	--
TX06	--	--	--	--	--
TX07	77	107	No	Yes	--
TX08	107	115	No	--	--
TX09	--	--	--	--	--
TX10	--	--	--	--	--
TX11	138	132	No	--	--
TX12	--	--	--	--	--

Table 15. *Individual Scores and Change Status on the OCI-R*

<b>Subject</b>	<b>Pretest</b>	<b>Posttest</b>	<b>Reliable Change</b>	<b>Clinical change</b>	<b>Clinically significant reliable change</b>
TX01	3	6	No	--	--
TX02	5	6	No	--	--
TX03	10	6	No	--	--
TX04	21	7	Yes	--	--
TX05	22	9	Yes	Yes	Yes
TX06	2	5	No	--	--
TX07	23	16	No	No	--
TX08	18	11	No	--	--
TX09	15	15	No	--	--
TX10	22	31	No	No	--
TX11	27	14	Yes	Yes	Yes
TX12	3	2	No	--	--

Figure 1. Average weekly pornography use by baseline condition

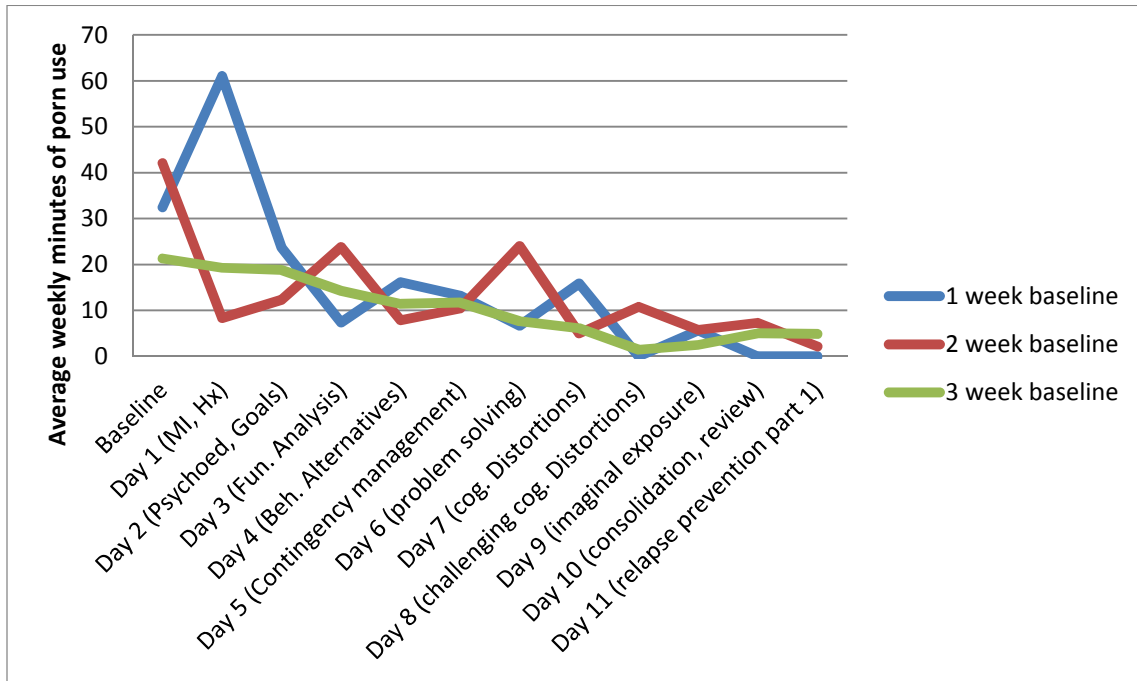


Figure 2: Average weekly pornography use for TX01

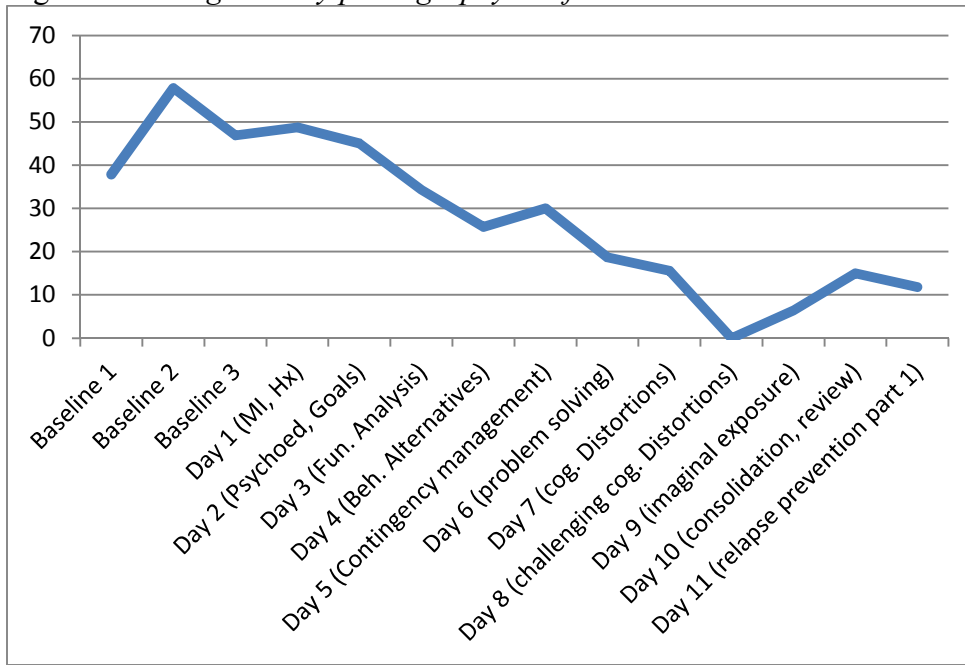
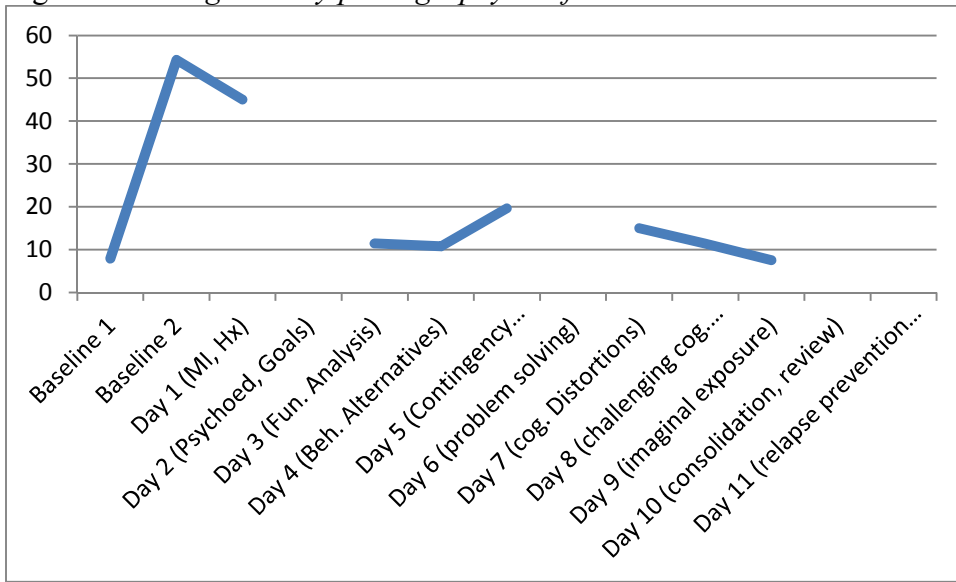


Figure 3: Average weekly pornography use for TX02



Note. The gaps in the graph reflect missing data

Figure 4: Average weekly pornography use for TX03

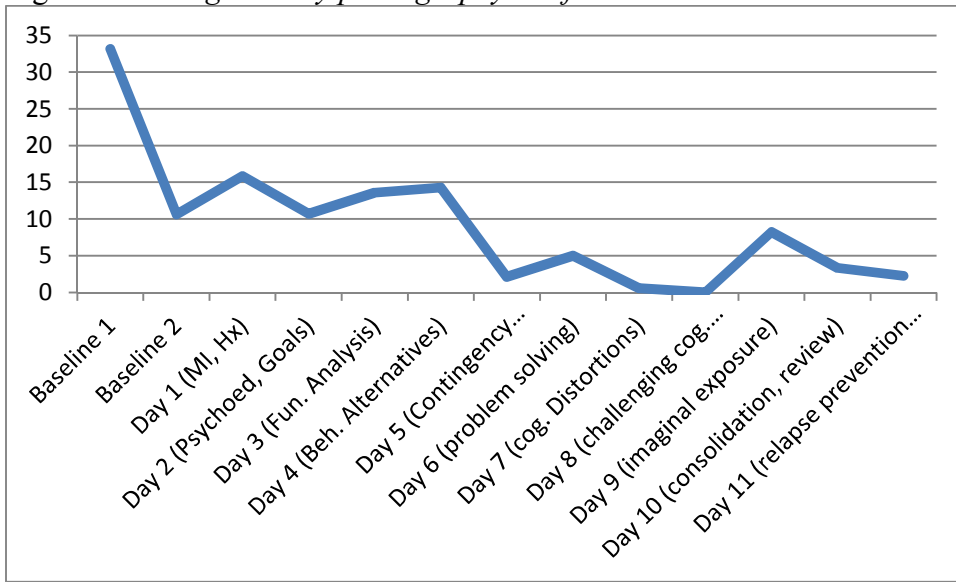


Figure 5: Average weekly pornography use for TX04

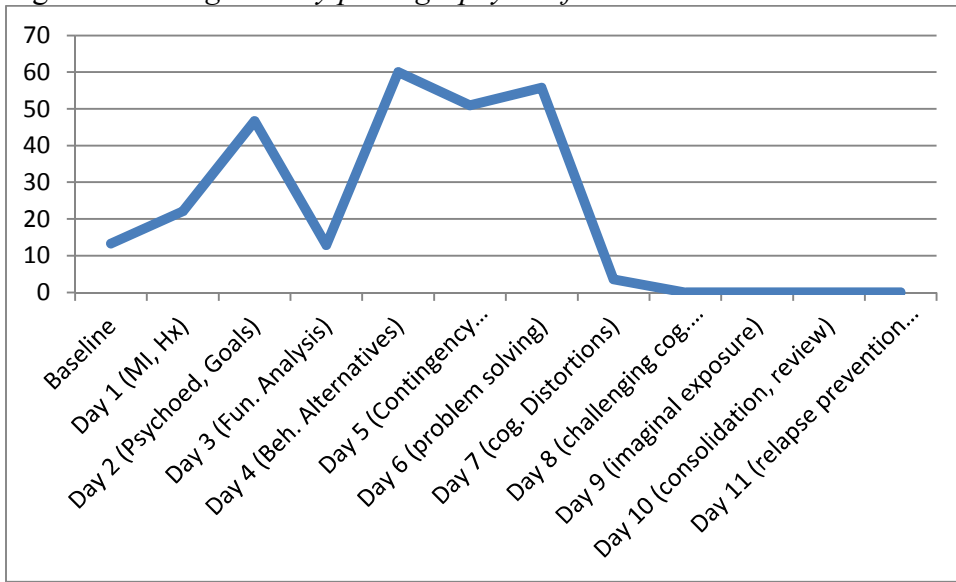




Figure 6: Average weekly pornography use for TX05

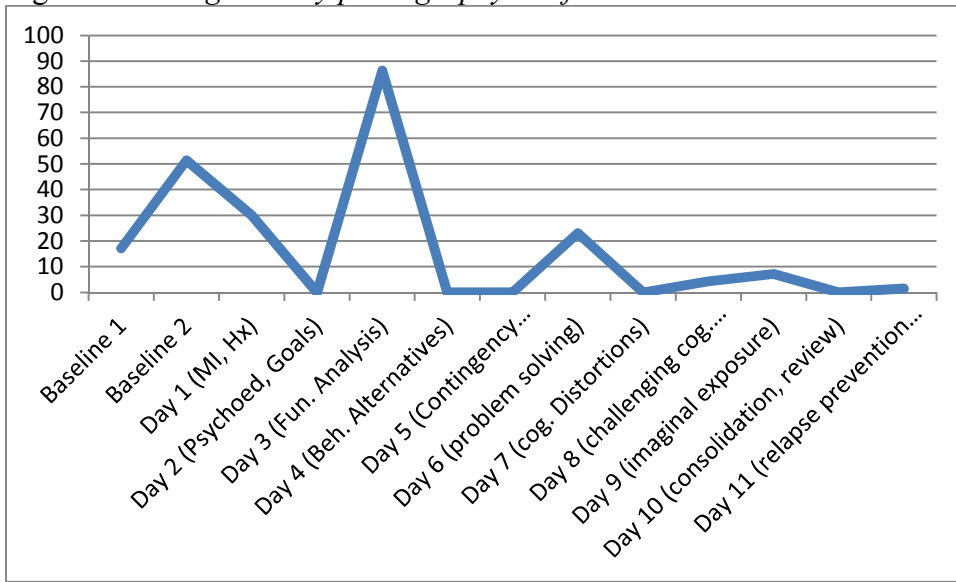


Figure 7: Average weekly pornography use for TX06

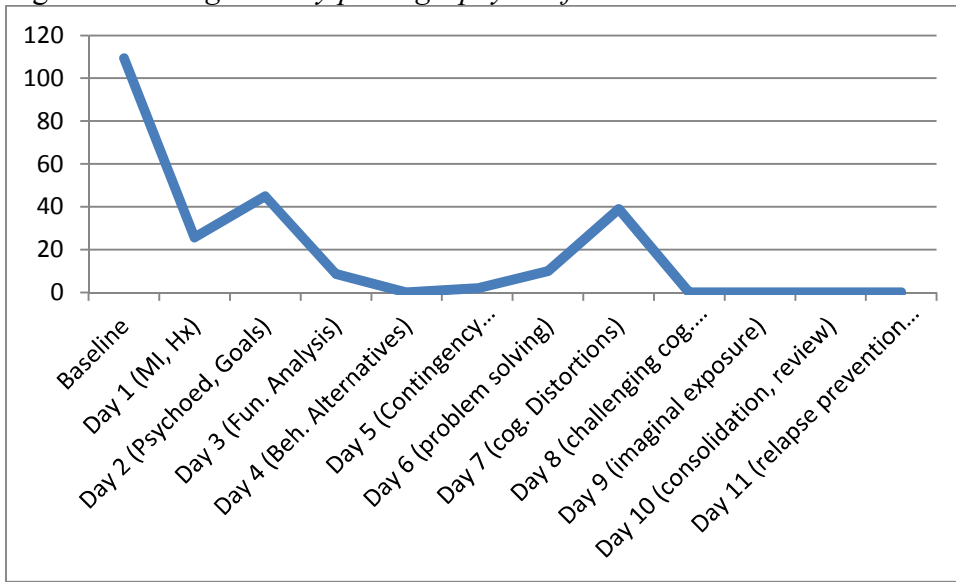
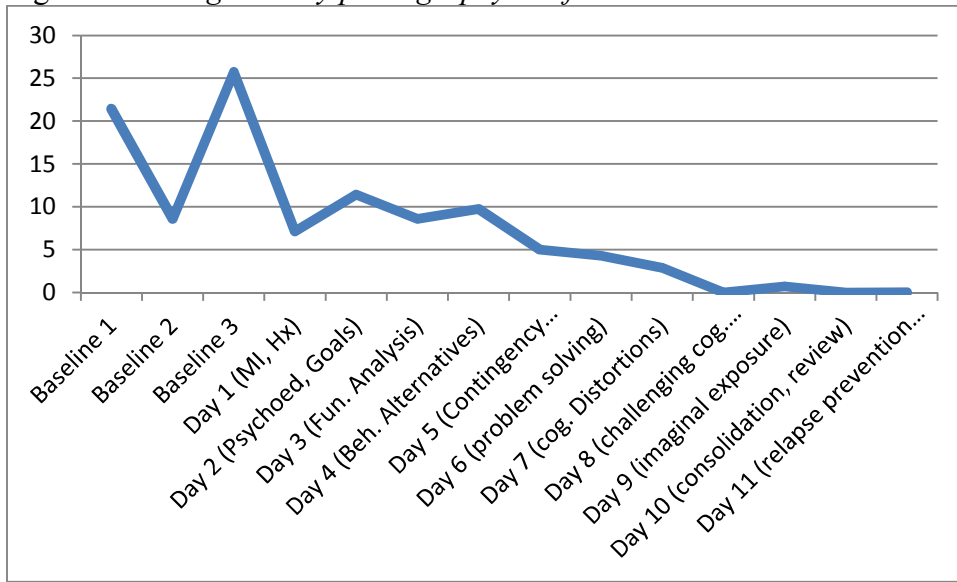
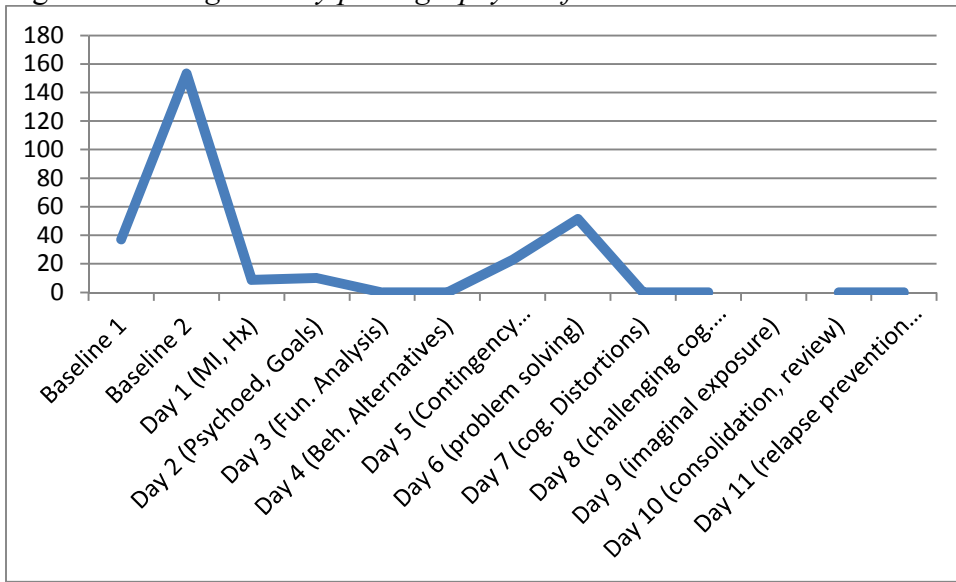


Figure 8: Average weekly pornography use for TX07



*Note.* Due to an error, the participant received session 9 on two occasions. The scores were averaged for that week and were reflected in a single value above.

Figure 9: Average weekly pornography use for TX08



Note. Due to an error, the participant missed session 9 that reflect the break in the graph

Figure 10: Average weekly pornography use for TX09

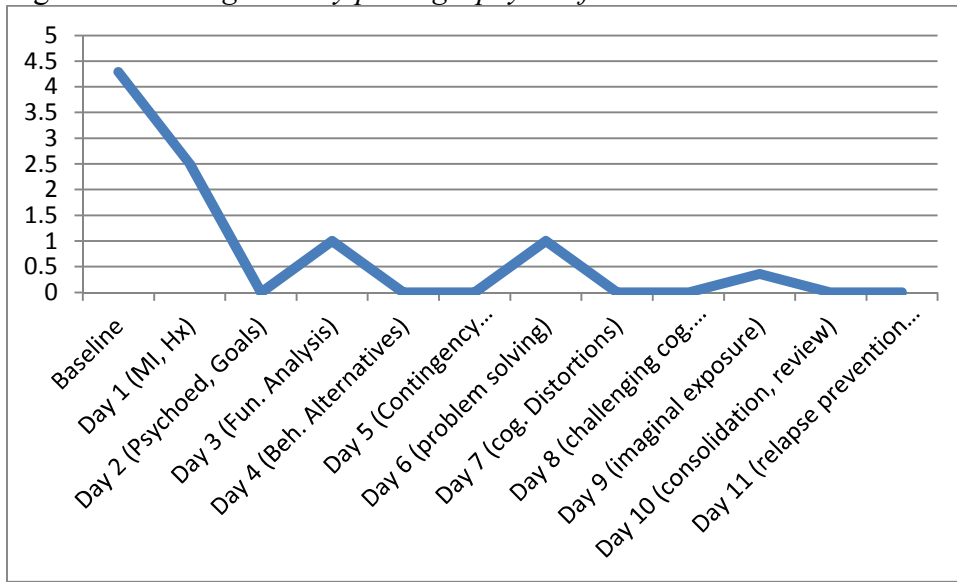


Figure 11: Average weekly pornography use for TX10

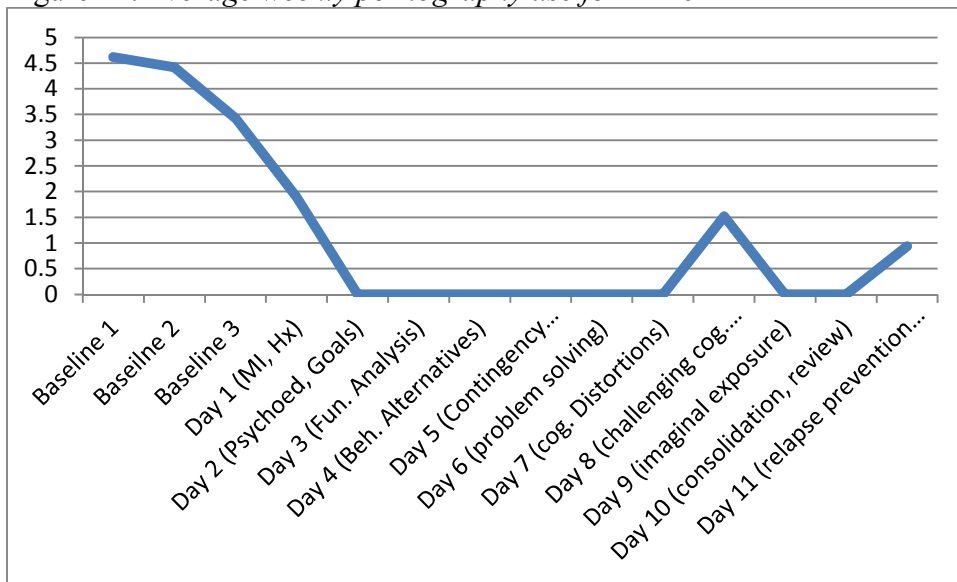


Figure 12: Average weekly pornography use for TX11

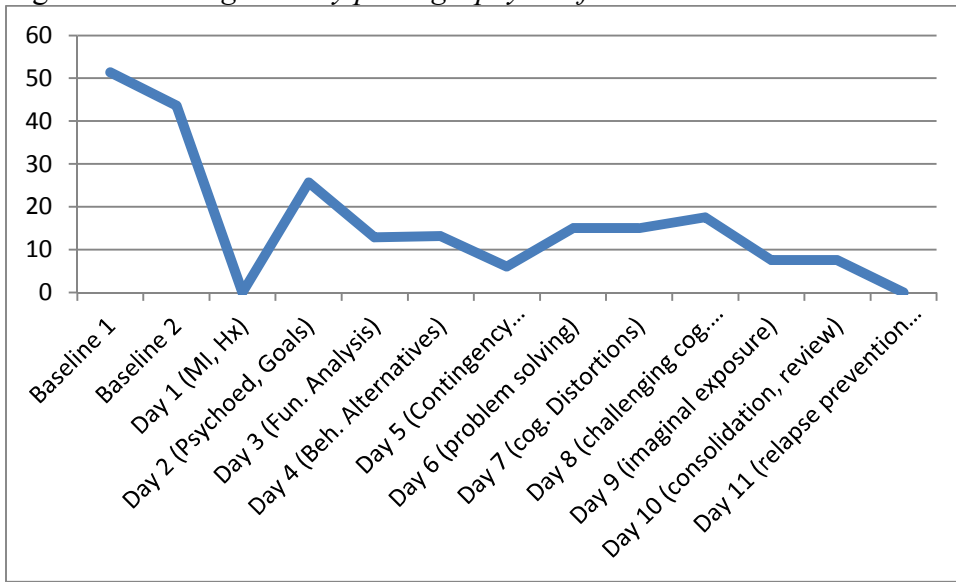


Figure 13: Average weekly pornography use for TX12

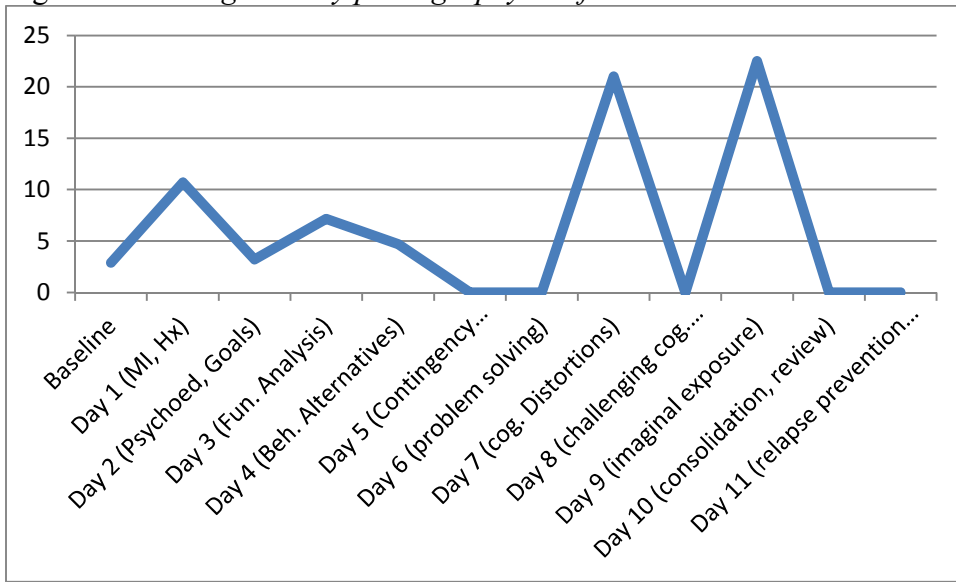




Figure 14. *Average Pre-treatment Porn Use by Differences in Sexual Cognitions Pre- and Post-Treatment*

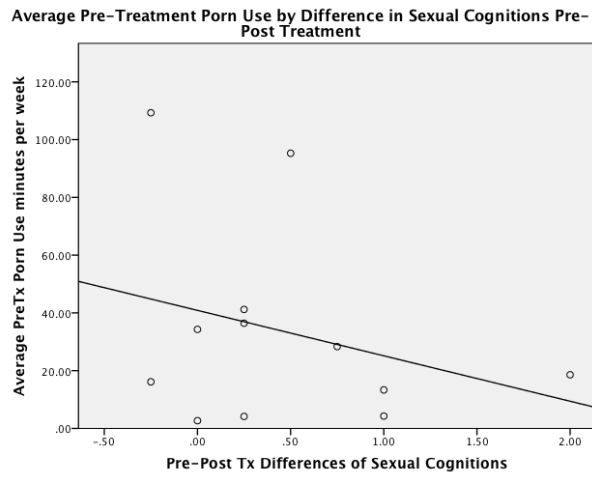


Figure 15. *Average Pre-treatment Porn Use by Differences in Sexual Compulsivity Pre- and Post-Treatment*

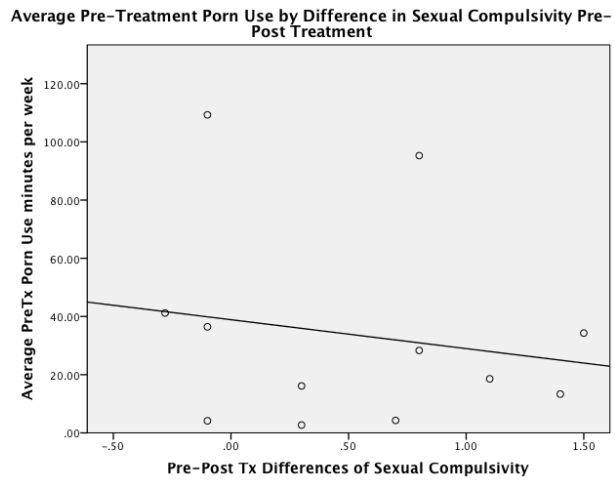


Figure 16. *Average Pre-treatment Porn Use by Differences in Hypersexuality Behaviors Pre- and Post-Treatment*

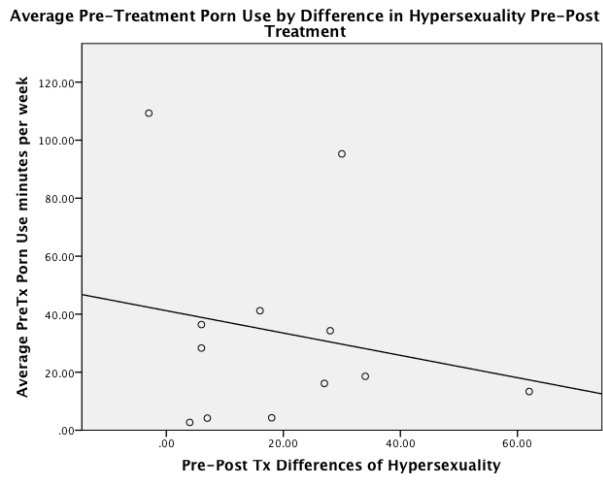
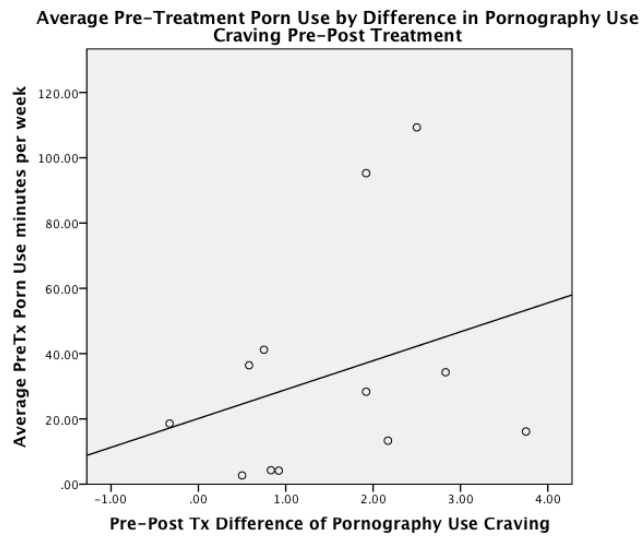


Figure 17. *Average Pre-treatment Porn Use by Differences in Pornography Craving Pre- and Post-Treatment*



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**Appendix A**  
Recruitment Advertisement

The Psychology Department at the University of Arkansas is seeking people with pornography addiction to participate in a study assessing the effectiveness of individual therapy for this problem. The study will involve 15 hours of your time over a period of approximately 6 months. You will be paid \$25 for an initial evaluation, receive free therapy for 12 weeks, earn weekly stamps for \$5 redeemable at the end of therapy for weekly measure, and then paid \$25 for a final evaluation once therapy has ended (potential total earnings of \$110 participation). If you have questions or are interested in learning more about the study, please contact Jenny Minarcik at 479-575-7605 [jennyminarcik@aim.com](mailto:jennyminarcik@aim.com) or Ana Bridges at 479-575-5818 [abridges@uark.edu](mailto:abridges@uark.edu).

**Appendix B**  
Telephone Screening

Hello. May I please speak with \_\_\_\_\_ (*name of caller*)?

Hello \_\_\_\_\_ (*name of caller*). I am \_\_\_\_\_  
(*your name*), a [graduate student... faculty member] at the University of Arkansas in the  
Psychology Department.

I am returning your call about the research study on treating pornography addiction. I would like to tell you a little bit about the study, ask you a few questions, and then hopefully set up a time for your intake assessment. Does this sound okay?

\_\_\_\_\_ YES (*continue*)

\_\_\_\_\_ NO (*thank the caller for their interest, wish them well and hang up*)

Great! The goal of this study is to improve our understanding of how to treat people with pornography addiction. We want to meet one on one with you first and ask you a number of questions. Some of these questions are personal. We ask a lot of questions about intimacy and sex, and about your pornography use. You should know that your answers will be completely private and anonymous and that we will not share your personal answers with anyone.

Do you have any questions so far?

*Answer questions caller may have.*

In order to be eligible to participate in this study, you need to be 18 years of age or older. Are you 18 or older?

\_\_\_\_\_ YES (*continue*)

\_\_\_\_\_ NO (*thank the caller for their interest, say that we cannot include them in the study because they are a minor, wish them well and hang up*)

How often do you view pornography?

\_\_\_\_\_ If more than once a week (*continue*)

\_\_\_\_\_ If once a week or less (*thank the caller for their interest, say we cannot include them in the study because we are exploring how to treat pornography addiction, wish them well and hang up*)

What I would like to do now is to set up a time for us meet here at the University. I would like to interview you and tell you more details about the study and see if you are fully eligible to participate. The interviews will probably only take about an hour. Once you are done, you will receive \$25 for your time.

Here are some possible days and times that we can meet with you... Which one will work?

(LOOK AT CURRENT SCHEDULE)

Perfect! I have you down for

\_\_\_\_\_ (day of week), the \_\_\_\_\_ (day) of \_\_\_\_\_ (month), at  
\_\_\_\_\_ AM / PM.

Would you like me to email you a confirmation of our appointment along with directions?

\_\_\_\_\_ YES (write email address down them email information immediately)  
\_\_\_\_\_ NO (proceed to give verbal directions below)

Email address: \_\_\_\_\_

Would you like me to call you the day before and remind you of this appointment?

\_\_\_\_\_ YES  
\_\_\_\_\_ NO

The interviews will take place at the University in room 116 Memorial Hall. Memorial Hall is located at 801 West Maple, on the corner of Maple and Leveritt. The best way to get to room 116 is to take the side entrance into Memorial Hall, the doors that are on Maple Street. Once inside, you will see a large sign that says "Experiment Waiting Area." This is where I will meet you (describe the area as needed). Do you need instructions for how to arrive? (If yes, provide information... can use Mapquest or Google Maps while on the phone, if necessary)

You can also call me at this number if you get lost or need some additional help that day (provide lab phone number: 575-7605).

Thank you so much for helping us with this! I look forward to meeting you soon.

(CODE IF CALLER IS MALE or FEMALE)

\_\_\_\_\_ Male  
\_\_\_\_\_ Female

### Call Log

Date and Time of Call	Description of Call


**Appendix C**  
Intake Assessment Materials

Informed Consent

*Title:* Treating compulsive pornography use

*Researchers:*

Ana J. Bridges, Ph.D.  
Jennifer Minarcik, M.A.  
Department of Psychology  
University of Arkansas  
121 Memorial Hall  
Fayetteville, AR 72701  
479-575-7605  
abridges@uark.edu

*Administrator:*

Ro Windwalker, Compliance Coordinator  
Research & Sponsored Programs  
Research Compliance  
University of Arkansas  
210 Administration Building  
Fayetteville, AR 72701  
479-575-2208  
irb@uark.edu

*Description:* The purpose of this study is to see how effective cognitive-behavioral therapy is for treating pornography addiction. Even though many people seek therapy for this problem, very few studies exist for how to treat it effectively. If you agree to participate, you will be asked to complete an intake interview and a series of questionnaires that will include questions about your attitudes and behaviors regarding pornography use, your quality of life, your relationship satisfaction, and your mood. A total of 12 therapy sessions will then be provided to you. In these sessions, you will talk about your problems and do exercises and assignments to help you gain more control over your problem. This therapy *does not* include medication. You have been asked to take part in this study because you are at least 18 years old and are interested in receiving treatment for pornography addiction. There will be approximately 50 people enrolled in this study.

*Procedures:* If you agree to participate, the following will happen:

1. You will attend an intake interview and be asked to complete a packet of questionnaires that will help us understand your problem and track how well treatment is working.
2. Once treatment begins, you will be asked to attend 12 1-hour therapy sessions. Sessions will focus on how you think about your problem, what strategies you have used in the past to quit or reduce using pornography, how to structure your environment to maximize success, how to think about your problem in ways that will help you meet your goals, and how to increase your satisfaction in your romantic relationship. You will also complete a short survey at each therapy session to see how you are progressing towards your treatment goals and how well you understand the material presented in therapy to that point.
3. All of the therapy sessions will be recorded so that we can be sure the treatment is being delivered as it is designed. These recordings will be kept in a password protected file in Dr. Bridges' lab and only she and her research assistants will have access to these files. The recordings will be transcribed and then erased. The transcribed files will have all identifying information (such as your name) removed so no one will know which ones are your responses.

4. Each week you will be expected to turn in a weekly form of data points. This can be done with paper and pencil or electronically. Each week that data is turned in on time and completed you will earn a stamp. Each stamp is worth \$5 that will be paid at the final assessment. You will have one “freebie” stamp where (1) partially completed form or (2) completed but late tracking form will earn you a stamp. Subsequent instances will forfeit your stamp for that week.
5. At the end of the 12 weeks of treatment, you will once again complete the packet of questionnaires you completed at your intake assessment. This helps us see if and in what areas treatment gains were made.
6. If you choose, you will be invited to return once again, 12 weeks *following* your last appointment, to complete a final set of questionnaires. This helps us see whether treatment gains were maintained after treatment ended. This is a separate project that you can be reimbursed \$50 for your time.

*Risks:* Every effort will be made to keep psychological, social, legal, and other risks as low as possible. You may feel mild discomfort or distress from answering some of the questions or discussing your problem. You are free to discontinue participating in this study at any time for any reason. There are no penalties for stopping your participation.

*Benefits:* It is possible that this treatment will help you gain control of your pornography use. Findings from this study may also help psychologists and others learn how to help other people with similar problems. You will be paid \$25 for your intake assessment. You will also be paid \$25 for your post treatment assessment follow-up assessment. You will receive therapy free of charge. You will have to opportunity to also be paid \$50 for a final 12-week follow-up assessment.

*Voluntary Participation:* Your participation in the study is completely voluntary. You are free to discontinue participation at any time, for any reason, without penalty.

*Confidentiality:* Your data will be maintained confidential to the fullest extent allowed by university policy and the law. All of your questionnaire and your session recordings will be stored with a unique participant identification number, not your name. A separate password protected file will be kept that matches your name and participant identification number, but only Dr. Bridges and the graduate therapist will have access to that file. Once we are finished collecting data for this study and its follow-up, your identifying information (name, telephone number) will be removed from the database so that your responses will be rendered anonymous. Your data may contribute to publications or presentations in a conference, but such data will be reported in aggregate form.

*Limits to confidentiality:* Although most of what we discuss is confidential, there are a few important limits to confidentiality. If you reveal plans to harm yourself or someone else, the researchers are ethically and legally obligated to break confidentiality in order to keep you or others safe. If you reveal current child abuse or elder abuse, including the use of child pornography, the researchers must act to protect the abused. If you have questions at any time about the limits of confidentiality, we will answer them openly and honestly.

*Right to discontinue:* You have the right to discontinue participating in this study at any time, for any reason. Choosing to discontinue your participation will not prevent you from receiving any incentives promised to you as a participant of this study.

*Informed Consent:* I have read the description, including the purpose of the study, the procedures to be used, the potential risks and benefits, the confidentiality, as well as the option to discontinue participation in the study at any time. Each of these items has been explained to me by the investigators. The investigators have answered all of my questions regarding the study, and I believe I understand what is involved. By signing below, I indicate that I freely agree to participate in this experimental study.

\_\_\_\_\_  
Participant signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Participant name (printed)

\_\_\_\_\_  
Witness

**Appendix D**  
Intake Assessment Interview

**Please answer the following questions to the best of your ability.**

1. What is your sex?
  - Male
  - Female
  
2. What is your age? \_\_\_\_\_ years
  
3. What is your race/ethnicity?
  - White/European American
  - Black/African American
  - Latino (a)/ Hispanic American
  - Asian/Asian American
  - Native American
  - Biracial
  - Other \_\_\_\_\_
  
4. What is your religious affiliation?
  - Baptist
  - Catholic
  - Jewish
  - Latter-day saint
  - Lutheran
  - Methodist
  - Muslim
  - No affiliation
  - Unitarian
  - Other \_\_\_\_\_
  
5. How important is religion to you?
  - Not at all important
  - A little bit important
  - Important
  - Very important
  
6. How long have you been with your current romantic partner? \_\_\_\_\_ years
  
7. What is your current marital status?
  - single
  - married
  - divorced
  - separated
  - widowed



cohabiting

8. Who are your preferred sexual partners?

- Always men
- Usually men, but sometimes women
- Equal preference for men and women
- Usually women, but sometimes men
- Always women

9. Do you have any children?

- No
- Yes, *List ages:* \_\_\_\_\_

10. How long has pornography addiction been a problem for you? (*In what ways has your life been impacted by your pornography use?*)

11. Is masturbation a problem for you as well?

12. How do you typically access pornography? (*internet, magazines, television, movie rentals, etc.*)

13. Are you worried about any other related problematic sexual behaviors? If yes, what are they?

14. Has your pornography use impacted your romantic relationship? If yes, how?

15. Have you ever sought treatment or tried to stop or reduce your pornography use? If yes, what did you try?

16. Have you ever been diagnosed with a psychological disorder? If yes, please list/explain.

17. Are you currently in therapy for any reason, including for pornography addiction?

18. Please list all medications you are currently taking (prescription *and* non-prescription, such as vitamins or herbal supplements).

## **Sexual Functioning**

*Please indicate whether or not you have experienced the following problems within the past year. Use the following scale from 1 (never) to 4 (always or almost always).*

1. Pain during sex
2. Sex not being pleasurable
3. Unable to reach orgasm
4. Lack of interest in sex
5. Anxiety about sexual performance
6. Reaching climax too early
- 7a. (MEN ONLY) Unable to keep an erection
- 7b. (WOMEN ONLY) Having trouble lubricating

## Sexual Compulsivity Scale

Please indicate the extent to which the following statements apply to you:

1 = Not at all like me

2 = Slightly like me

3 = Mainly like me

4 = Very much like me

1. My sexual appetite has gotten in the way of my relationships.
2. My sexual thoughts and behaviors are causing problems in my life.
3. My desires to have sex have disrupted my daily life.
4. I sometimes fail to meet my commitments and responsibilities because of my sexual behaviors.
5. I sometimes get so horny I could lose control.
6. I find myself thinking about sex while at work (or in class).
7. I feel that my sexual thoughts and feelings are stronger than I am.
8. I have to struggle to control my sexual thoughts and behavior.
9. I think about sex more than I would like to.
10. It has been difficult for me to find sex partners who desire having sex as much as I want to.

## Cognitive and Behavioral Outcomes Scale

Below is a list of things that some people worry about as a result of their sexual activities (including things people do alone and those they do with others). Please indicate the extent to which the following apply to you.

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 4 = Always

I am worried that the things I have done sexually:

1. \_\_\_\_\_ Might have placed me or one of my sex partners at risk for pregnancy.
2. \_\_\_\_\_ Might have placed me or one of my sex partners at risk for a sexually transmitted infection (like herpes, gonorrhea, or crabs).
3. \_\_\_\_\_ Might have placed me or one of my sex partners at risk for HIV.
4. \_\_\_\_\_ Might have resulted in pain, injury or other problems for others.
5. \_\_\_\_\_ Might have resulted in pain, injury or other problems for myself.
6. \_\_\_\_\_ Might have presented the potential for serious physical injury or death.
7. \_\_\_\_\_ Might be leading to problems with my friends.
8. \_\_\_\_\_ Might be leading to problems with my family members.
9. \_\_\_\_\_ Might be leading to problems with my boyfriend/girlfriend/spouse.
10. \_\_\_\_\_ Might have placed me at risk of being arrested.
11. \_\_\_\_\_ Might have been against the law.
12. \_\_\_\_\_ Might have led to financial problems.
13. \_\_\_\_\_ Might have caused me to waste my money.
14. \_\_\_\_\_ Were interfering with my ability to complete tasks for work or school.
15. \_\_\_\_\_ Might have had presented the potential for me to lose my job.
16. \_\_\_\_\_ Could lead to school-related problems, such as probation, expulsion or other sanctions.
17. \_\_\_\_\_ Were inconsistent with my spiritual beliefs.
18. \_\_\_\_\_ Were inconsistent with my religious values.
19. \_\_\_\_\_ Were making me feel guilty.
20. \_\_\_\_\_ Were making me ashamed of myself.

Below is a list of things that sometimes happen to people as a result of their sexual activities (including those they do alone and those they do with others). Please indicate whether these things have happened to you during the **last year** as a result of your sexual activities (Y=Yes, N=No).

In the past year, as a result of the things you have done sexually, did the following happen to you:

1. \_\_\_\_\_ I or my sexual partner(s) became pregnant.
2. \_\_\_\_\_ I contracted a sexually transmitted infection.
3. \_\_\_\_\_ I contracted HIV.
4. \_\_\_\_\_ I gave someone else a sexually transmitted infection.
5. \_\_\_\_\_ I gave someone else HIV.
6. \_\_\_\_\_ I caused pain, injury or other physical problems for myself.

7. \_\_\_\_\_ I caused pain, injury or other physical problems for a sex partner.
8. \_\_\_\_\_ My relationships with friends and/or family members were damaged.
9. \_\_\_\_\_ My relationships with a spouse or other relationship partner were damaged.
10. \_\_\_\_\_ I was arrested.
11. \_\_\_\_\_ I experienced financial problems.
12. \_\_\_\_\_ I experienced problems at school.
13. \_\_\_\_\_ I experienced problems at work.
14. \_\_\_\_\_ I experienced spiritual distress.
15. \_\_\_\_\_ I was embarrassed or ashamed of myself.
16. \_\_\_\_\_ I felt guilty.

## Dyadic Adjustment Scale

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list:

	Always Agree	Almos t Always Agree	Occasionall y Disagree	Frequentl y Disagree	Almost Always Disagree	Always Disagree
1. Handling family finances	5	4	3	2	1	0
2. Matters of recreation	5	4	3	2	1	0
3. Religious matters	5	4	3	2	1	0
4. Demonstrations of affection	5	4	3	2	1	0
5. Friends	5	4	3	2	1	0
6. Sex relations	5	4	3	2	1	0
7. Conventionality (correct or proper behavior)	5	4	3	2	1	0
8. Philsophy of life	5	4	3	2	1	0
9. Ways of dealing with parents or in-laws	5	4	3	2	1	0
10. Aims, goals, and things believed important	5	4	3	2	1	0
11. Amount of time spend together	5	4	3	2	1	0
12. Making major decisions	5	4	3	2	1	0
13. Household tasks	5	4	3	2	1	0
14. Leisure time interests and activities	5	4	3	2	1	0
15. Career decisions	5	4	3	2	1	0

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
16. How often do you discuss or have consider divorce, separation, or terminating your relationship?	0	1	2	3	4	5
17. Often do you or your mate leave the house after a fight?	0	1	2	3	4	5
18. In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
19. Do you confide in your mate?	5	4	3	2	1	0
20. Do you ever regret that you married?	0	1	2	3	4	5
21. How often do you and your partner quarrel?	0	1	2	3	4	5
22. How often do you and your mate "get on each other's nerves?"	0	1	2	3	4	5

	Every Day	Almost Every Day	Occasionally	Rarely	Never
23. Do you kiss your mate?	4	3	2	1	0
24. Do you and your mate engage in outside interests together?	4	3	2	1	0

How often would you say the following events occur between you and your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas	0	1	2	3	4	5
26. Laugh together	0	1	2	3	4	5
27. Calmly discuss something	0	1	2	3	4	5
28. Work together on a project	0	1	2	3	4	5

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no).

	Yes	No	
29.	0	1	Being too tired for sex.
30.	0	1	Not showing love

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect

32. Which of the following statements best describes how you feel about the future of your relationships?

5	I want desperately for my relationship to succeed, and <i>would go to almost any length</i> to see that it does.
4	I want very much for my relationship to succeed, and <i>will do all I can</i> to see that it does.
3	I want very much for my relationship to succeed, and <i>will do my fair share</i> to see that it does.
2	It would be nice if my relationship succeeded, but <i>I can't do much more than I am doing</i> now to help it succeed.
1	It would be nice if it succeeded, but I <i>refuse to do any more than I am doing</i> now to keep the relationship going.
0	My relationship can never succeed, and <i>there is no more than I can do</i> to keep the relationship going.



## Hypersexual Behavior Inventory

*Below are a number of statements that describe various thoughts, feelings, and behaviors. As you answer each question, select a response that best describes you. Only choose one response per statement and please be sure to answer every question. For the purpose of this questionnaire, sex is defined as any activity or behavior that stimulates or arouses a person with the intent to produce an orgasm or sexual pleasure (e.g., self-masturbation or solo-sex, using pornography, intercourse with a partner, oral sex, anal sex, etc.).*

*Sexual behaviors may or may not involve a partner.*

- 1 = Never
- 2 = Rarely
- 3 = Sometimes
- 4 = Often
- 5 = Very often

- 1 I use sex to forget about the worries of daily life.
- 2 Even though I promised myself I would not repeat a sexual behavior, I find myself returning to it over and over again.
- 3 Doing something sexual helps me feel less lonely.
- 4 I engage in sexual activities that I know I will later regret.
- 5 I sacrifice things I really want in life in order to be sexual.
- 6 I turn to sexual activities when I experience unpleasant feelings (e.g., frustration, sadness, anger).
- 7 My attempts to change my sexual behavior fail.
- 8 When I feel restless, I turn to sex in order to soothe myself.
- 9 My sexual thoughts and fantasies distract me from accomplishing important tasks.
- 10 I do things sexually that are against my values and beliefs.
- 11 Even though my sexual behavior is irresponsible or reckless, I find it difficult to stop.
- 12 I feel like my sexual behavior is taking me in a direction I don't want to go.
- 14 My sexual behavior controls my life.
- 15 My sexual cravings and desires feel stronger than my self-discipline.
- 16 Sex provides a way for me to deal with emotional pain I feel.
- 17 Sexually, I behave in ways I think are wrong.
- 18 I use sex as a way to try to help myself deal with my problems.

## Pornography Craving Questionnaire

**Directions:** Please indicate how much you agree or disagree with each of the following statements. Remember, we are interested in how you are thinking or feeling RIGHT NOW, as you are filling out the questionnaire.

- 1 = Disagree completely
- 2 = Disagree somewhat
- 3 = Disagree a little
- 4 = Neither agree/disagree
- 5 = Agree a little
- 6 = Agree somewhat
- 7 = Agree completely

1. The thought of watching pornography makes me sexually aroused.
2. I would feel less bored if I watched pornography right now.
3. I will watch pornography as soon as I get the chance.
4. If I were watching pornography this minute, I would feel energized.
5. If I watched pornography right now, I would have difficulty stopping.
6. I have an urge to watch pornography right now.
7. If I were watching pornography this minute, I would feel happier.
8. If the situation allowed, I would watch pornography right now.
9. Right now, I am making plans to watch pornography.
10. I would feel less stressed if I watched pornography right now.
11. My heart would beat faster if I were watching pornography right now.

## Obsessive-Compulsive Inventory-Revised

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes HOW MUCH that experience has DISTRESSED or BOTHERED you during the PAST MONTH. The numbers refer to the following verbal labels:

- 0 = Not at all
- 1 = A little
- 2 = Moderately
- 3 = A lot
- 4 = Extremely

1. I have saved up so many things that they get in the way.
2. I check things more often than necessary.
3. I get upset if objects are not arranged properly.
4. I feel compelled to count while I am doing things.
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.
6. I find it difficult to control my own thoughts.
7. I collect things I don't need.
8. I repeatedly check doors, windows, drawers, etc.
9. I get upset if others change the way I have arranged things.
10. I feel I have to repeat certain numbers.
11. I sometimes have to wash or clean myself simply because I feel contaminated.
12. I am upset by unpleasant thoughts that come into my mind against my will.
13. I avoid throwing things away because I am afraid I might need them later.
14. I repeatedly check gas and water taps and light switches after turning them off.
15. I need things to be arranged in a particular way.
16. I feel that there are good and bad numbers.
17. I wash my hands more often and longer than necessary
18. I frequently get nasty thoughts and have difficulty in getting rid of them.

## Depression Anxiety Stress Scale-21

Please read each statement and circle a number 0, 1, 2, or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:* 0 = Did not apply to me at all

1 = Applied to me to some degree, or some of time

2 = Applied to me to a considerable degree, or a good part of time

3 = Applied to me very much, or most of the time

- 1 I found it hard to wind down
- 2 I was aware of dryness of my mouth
- 3 I couldn't seem to experience any positive feeling at all
- 4 I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
- 5 I found it difficult to work up the initiative to do things
- 6 I tended to over-react to situations
- 7 I experienced trembling (eg, in the hands)
- 8 I felt that I was using a lot of nervous energy
- 9 I was worried about situations in which I might panic and make a fool of myself
- 10 I felt that I had nothing to look forward to
- 11 I found myself getting agitated
- 12 I found it difficult to relax
- 13 I felt down-hearted and blue
- 14 I was intolerant of anything that kept me from getting on with what I was doing
- 15 I felt I was close to panic
- 16 I was unable to become enthusiastic about anything
- 17 I felt I wasn't worth much as a person
- 18 I felt that I was rather touchy
- 19 I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)
- 20 I felt scared without any good reason
- 21 I felt that life was meaningless

### Clear Lake Addiction to Pornography Scale (CLAPS)

For the follow questions, choose your level of agreement with each statement.

1 = Strongly disagree

2 = Slightly disagree

3 = Neutral

4 = Slightly agree

5 = Strongly agree

1. I am worried that my use of pornography may be discovered.
2. I am embarrassed by my sexual desires and activities.
3. My use of pornography makes me feel different from others.
4. I feel like my use of pornography is putting my relationship(s), job, or reputation at risk.
5. My use of pornography makes me feel dirty.
6. My use of pornography makes me feel immoral.
7. I think I am addicted to pornography.
8. My use of pornography disregards my basic rules or beliefs.
9. I feel like I waste my time on pornography.
10. I think I have a sexual disorder.
11. I feel like my use of pornography is hurting someone I love by being dishonest.
12. I feel like my use of pornography is hurting someone I love by being unfaithful.
13. \* I feel like my use of pornography has put me at a decreased risk of contracting a sexually transmitted infection.
14. I feel like my use of pornography has led to me becoming disconnected from loving, caring, or being close to the person with whom I have sex.
15. I feel as though I am never satisfied sexually.
16. I feel as though I become tired of my sexual partners as soon as I have sex with them.
17. \* I find myself going to places to look for someone to engage in a sexual encounter.

18. I hear about people in sexual trouble and think that it could easily be me.
19. \* I think I have done things sexually that are illegal.
20. I think I have hurt people through my use of pornography.
21. I make complicated plans about what would really satisfy me sexually.
22. I feel I cannot concentrate on what I am doing because thoughts about sex often overtake my mind.
23. I feel I am constantly searching for the perfect sexual experience.
24. I have wanted to stop looking at pornography and have not been able to.
25. I have been asked to stop using pornography and did not, because I did not want to.
26. I have been asked to stop using pornography and did, but really did not want to.
27. I have thought about stopping using pornography.
28. \* I have been in situations where I wanted a sexual partner to stop using pornography.
29. \* I have been in situations where I wanted a sexual partner to stop using pornography and he/she refused.
30. I have been in situations where pornography has become detrimental to a relationship.

\* Items were NOT used to calculate the total CLAPS score. Asterisk items identified through another study were found to be outliers via correlation matrix and factor analysis.

## Client Satisfaction Questionnaire

Please help up improve our program by answering some questions about the services you have received.

We are interested in your honest opinion, whether they are positive or negative. Please answer all of the questions. We also welcome your comments and suggestions.

Thank you very much; we really appreciate your help.

### CIRCLE YOUR ANSWER

1. How would you rate the quality of service you received?  
4                      3                      2                      1  
Excellent              Good                      Fair                      Poor
2. Did you get the kind of service you wanted?  
4                      3                      2                      1  
No, definitely not      No, not really              Yes, generally              Yes, definitely
3. To what extent has our program met your needs?  
4                      3                      2                      1  
Almost all of my      Most of my needs      Only a few of my      None of my needs  
needs have been met      have been met              needs have been met      have been met
4. If a friend were in need of similar help, would you recommend our program to him or her?  
4                      3                      2                      1  
No, definitely not      No, not really              Yes, generally              Yes, definitely
5. How satisfied are you with the amount of help you have received?  
4                      3                      2                      1  
Quite dissatisfied      Indifferent or mildly      Mostly satisfied              Very satisfied  
dissatisfied
6. Have the services you received helped you deal more effectively with your problems?  
4                      3                      2                      1  
Yes, they helped a      Yes, they helped              No, they really didn't      No, they seemed to  
great deal              somewhat              help                      make things worse
7. In an overall, general sense, how satisfied are you with the service you have received?  
4                      3                      2                      1  
Very satisfied              Mostly satisfied              Indifferent or mildly      Quite dissatisfied  
dissatisfied
8. If you were to seek help again, would you come back to our program?  
4                      3                      2                      1  
No, definitely              No, I don't think so      Yes, I think so              Yes, definitely

Any comments or suggestions?

## Treatment Components by Session

Session	Treatment Components	Content
1	Informed consent  Motivational enhancement	Nature of therapeutic goals and activities Limits of confidentiality (e.g., suicidal ideation, child abuse) Discuss how pornography use began, continues Resulting distress/impairment, personally and relationally Introduce Stages of Change
2	Goal setting  Psychoeducation	Decrease use? By how much? Change types of materials used? Watch and discuss Gary Wilson's TED Talk
3 – 4	Behavioral Interventions I: Functional Analysis	Identify antecedents to problematic pornography use Identify exception to problematic pornography use Identify alternative behaviors instead of pornography use
5	Behavioral Interventions II: Contingency management	Develop a small weekly goal for compulsive Develop a reward plan for meeting goal
6	Behavioral Interventions III: Problem-solving strategies	Discuss barriers to meeting goals and brainstorming methods of overcoming these barriers
7 – 9	Cognitive Interventions	Links between thoughts, feelings, & behaviors Introduce cognitive distortions; identify types, create examples that relate to compulsive pornography use Modify maladaptive thought patterns Introduce thought record Imaginal practice
10	Review & Consolidate	Review prior components of treatment Provide corrective feedback Consolidate learning and therapeutic gains
11 – 12	Relapse Prevention & Termination	Discuss relapse and maintenance plans Discuss a lapse vs. relapse Summarize treatment gains Complete post-treatment measures



## Session Survey

Please fill out the following table for the past week:

<b>Daily Self-Monitoring Diary</b>							
Date:							
1. To what extent do I perceive my pornography problem is under control? 0---1---2---3---4---5---6---7---8---9---10 <i>Not at all            Moderately            Completely</i>							
2. What is my desire to use pornography today? 0---1---2---3---4---5---6---7---8---9---10 <i>Not at all            Average            Extremely high</i>							
3. To what extent do I perceive myself as being able to abstain from using pornography? 0---1---2---3---4---5---6---7---8---9---10 <i>Not at all            Moderately            Completely</i>							
4. Did I use pornography today?							
5. How much time (hours and minutes) did I spend using pornography?							
6. How problematic was my pornography use today? 0---1---2---3---4---5---6---7---8---9---10 <i>Not at all            Moderately            Extremely</i>							
7. What was happening just before I used pornography?							
8. What was my overall mood today? 0---1---2---3---4---5---6---7---8---9---10 <i>Very bad            Moderate            Very good</i>							
9. What notable events happened today?							

## Appendix E

Table: *A comparison of SD for the reliable change index calculation for pornography use*

Name of measure	Article	Means (SD) from article	Description of sample	Means (SD) from sample	Test-retest reliability
CLAP <sup>a</sup>	Unpublished study	61.46 (20.50)	22 Male College students	83.46 (22.22)	.91
CBOS (psy/spr) <sup>b</sup>	McBride (2006)	1.38 (0.60)	116 non clinical men in a college health class	1.85 (0.89)	.97
HBI	Reid et al (2011)	66.30 (15.60)	203 men seeking help for hypersexual behavior issues	55.25 (22.66)	.91
SCS	Kalichman & Rompa (1995)	1.87 (0.72)	60 mostly African American men (95%) who mostly engage in unprotected sex (63%)	2.18 (0.87)	.95
PCQ	Kraus & Rosenburg (2014)	3.67 (1.67)	288 pornography viewing male undergraduates (study 2&3)	3.63 (1.62)	.82

<sup>a</sup> For the CLAPS measure, a comparison standard deviation was derived from a secondary data set that looked at the responses of 22 college-age males who endorsed viewing pornography alone at least once per week (to be consistent with the inclusion criteria of the present study) in addition to completing this same measure.

<sup>b</sup> psy/spr = psychological and spiritual subscales of the CBOS

## Appendix F

*Table: A comparison of SD for the reliable change index calculation for global change*

Name of measure	Article	Means (SD) from article	Description of sample	Means (SD) from sample	Test-retest reliability
CBOS (psy/spr)	McBride (2006)	1.38 (0.60)	116 non clinical men in a college health class	1.85 (0.89)	.97
CBOS (finacial)	McBride (2006)	1.11 (0.41)	116 non clinical men in a college health class	1.42 (0.47)	.88
DASS-D	Antony et al (1998)	2.12 (3.64)	49 Non clinical volunteers (61% female)	4.83 (3.93)	.71
DASS-A	Antony et al (1998)	1.22 (1.77)	49 Non clinical volunteers (61% female)	2.42 (2.94)	.79
DASS-S	Antony et al (1998)	3.51 (3.78)	49 Non clinical volunteers (61% female)	4.58 (4.17)	.81
OCI-R	Foa et al (2002)	18.82 (11.10)	477 non anxious controls (men & women)	14.58 (9.25)	.82
DAS	Carey, Spector, Lantinga, & Krauss (1993)	112.65 (19.00) average from test and retest	110 men & 48 women recruited at VA Urology clinic and random sample of Syracuse University employee	109.00 (21.89)	.87

## Appendix G



Office of Research Compliance  
Institutional Review Board

February 13, 2015

### MEMORANDUM

TO: Ana Bridges  
Jennifer Minarcik

FROM: Ro Windwalker  
IRB Coordinator

RE: PROJECT CONTINUATION

IRB Protocol #: 12-02-496

Protocol Title: *Treating Compulsive Pornography Use*

Review Type:  EXEMPT  EXPEDITED  FULL IRB

Previous Approval Period: Start Date: 03/12/2012 Expiration Date: 03/11/2015

New Expiration Date: 03/11/2016

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Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

**This protocol has been approved for 30 total participants.** If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

109 MLKG Building • 1 University of Arkansas • Fayetteville, AR 72701  
Voice (479) 575-2208 • Fax (479) 575-6527 • Email [irb@uark.edu](mailto:irb@uark.edu)