Addiction or Transgression?

Moral Incongruence and Self-Reported Problematic Pornography Use in a Nationally Representative Sample

Joshua B. Grubbs,¹ Brinna N. Lee,¹ K. Camille Hoagland,¹ Shane W. Kraus,² Samuel L. Perry,³

In the U.S., pornography use is common, and it is increasingly a clinical concern under some circumstances. Excessive pornography use may qualify for the new diagnosis of Compulsive Sexual Behavior Disorder (CSBD) in the forthcoming ICD-11. There is also evidence, however, that moral incongruence (i.e., a misalignment of moral beliefs about sexual behavior and actual sexual behavior) may inflate self-reports of problems associated with pornography use. Prior work suggests religiousness may drive such moral incongruence. Using a large sample matched to U.S. representative norms (Total: N=2,519; past-year pornography users: N=1,424, 66.4% men), the present work examined the interaction between pornography use and religiousness in predicting self-reported addiction to pornography. Results indicated that religiousness moderated the association between pornography use and self-reported addiction so that, despite a negative association between religiousness and use, at higher levels of religiousness, pornography use was more strongly related to self-reports of addiction.

Pornography use is common in the U.S. (Regnerus et al., 2016), and there is growing clinical concern about the potential for such use to become problematic (Brand et al., 2019). This clinical attention is occurring alongside increasing political attention, as 17 states in the U.S. have introduced legislation in at least one branch of state government declaring pornography use a threat to public health (Nelson & Rothman, 2020). These concerns are further highlighted by the World Health Organization's recent decision to include the diagnosis of Compulsive Sexual Behavior Disorder in the forthcoming ICD-11. Although pornography use is just one of the many potentially dysregulated sexual behaviors that may warrant a diagnosis of CSBD, there is strong reason to suspect that this specific behavior will be among the most commonly encountered in clinical settings. This potential is complicated by past works demonstrating that self-perceptions of pornography use may be skewed by personal religiousness and morality (Grubbs, Kraus, et al., 2019). Using a large, national sample of the U.S. population, the present brief report examines

how religiousness might be related to laypersons' self-perceptions of their own use of pornography, and, by extension, draws inferences about how such self-perceptions may influence the clinical application of the new diagnosis of CSBD.

CSBD in the ICD-11 and Pornography Use

In its current form, the diagnosis of CSBD refers to persistent compulsivity in sexual behaviors (Kraus et al., 2018). This dysregulation must occur over an extended period of time (at least 6 months), result in objectively measurable clinically significant distress or impairment, and not be the result of other disorders, medication use, or moral/religious distress alone (World Health Organization, 2018). Although a range of behaviors may qualify for the diagnosis of CSBD (e.g., solicitation of prostitutes, overuse of "hook-up" apps), the diagnostic criteria specifically note that pornography use and concomitant masturbation also fall under the umbrella of the diagnosis. Compulsive pornography use is already commonly encountered in clinical practice across a range of mental health professions (Kraus, Martino, et al., 2016; Short et al., 2016). Additionally, when the

¹ Department of Psychology, Bowling Green State University, Bowling Green, Ohio, U.S.A.

² Department of Psychology, University of Nevada, Las Vegas, Las Vegas, Nevada, U.S.A.

³ Department of Sociology, University of Oklahoma, Norman, Oklahoma, U.S.A.

Correspondence concerning this article should be addressed to Joshua B. Grubbs, Ph.D., Department of Psychology, Bowling Green State University, Bowling Green, OH, 43403.

Email: GrubbsJ@BGSU.edu

diagnosis of Hypersexual Behavior Disorder (which is diagnostically similar to CSBD) was being tested and evaluated for the *DSM-5*, problematic pornography use was the most commonly reported problematic behavior encountered by clinicians during field trials (Reid et al., 2012). As such, it is a reasonable conjecture that problematic pornography use will be one of the primary manifestations of CSBD more broadly. Moreover, given how widespread pornography use is (Regnerus et al., 2016), it is also likely one of the most accessible, potentially-compulsive sexual behaviors to study at the population level.

Controversies Surrounding CSBD and Pornography Use

Despite the official recognition of CSBD, there remain several controversies about the diagnosis, particularly as it relates to excessive pornography use. For example, despite intense debates about whether or not CSBD represents an addictive disorder (Kowalewska et al., 2018; Kraus, Voon, et al., 2016), in lay audiences, excessive pornography use is often viewed as an addiction (Perry, 2019; Taylor, 2019). There is also evidence that the application of the CSBD diagnosis can be skewed by demographic differences in clients (Klein et al., 2019) or greater religiousness on the part of therapists (Droubay & Butters, 2019; Hecker et al., 1995). Additionally, a body of prior work has suggested that self-reports of pornography addiction may be inflated for individuals for whom such sexual behaviors were in conflict with their religious or moral beliefs (Burke & Haltom, 2020; Grubbs, Perry, et al., 2019; Perry, 2019), which we consider more fully below.

When individuals feel that their sexual values and sexual behaviors are misaligned, they are likely to experience distress and may pathologize their sexual behavior (Griffin et al., 2016). This occurs with pornography use as well: Among pornography users, moral disapproval of pornography is a source of distress over use and a major contributing factor to the experience of self-reported addiction (Grubbs, Perry, et al., 2019). This finding is particularly concerning in light of the recent inclusion of the CSBD diagnosis, as moral incongruence seems to be

related to more pathological interpretations of behavior.

Building on the above, there is reason to suspect that religiousness is a particularly salient consideration in the study of problematic pornography use and, by extension, CSBD. Religious belief and practice have demonstrated particularly strong associations with moral disapproval of pornography use (for a review, see: Grubbs, Perry, et al., 2019). Over both remote (Lambe, 2004) and recent (Droubay et al., 2018) studies, the belief that pornography use is a moral evil is extremely well-predicted by religiousness. These findings are underscored by qualitative sociological work demonstrating a uniquely religious element in anti-pornography sentiments over the past half-century (Thomas, 2013, 2016). Several studies now show that, within the American cultural context, the best predictor of moral disapproval of pornography is conservative religious belief (for a review, see: Grubbs, Perry, et al., 2019), which suggests that religiousness may serve as a general proxy for moral disapproval of pornography. Moreover, in at least one study, the interaction of religiousness and pornography use was found to predict negative outcomes, such as lower levels of sexual satisfaction (Perry & Whitehead, 2019).

The Present Study

The above reviewed works suggest that moral disapproval and implied incongruence is a key factor in understanding pornography related problems and that religiousness is a general proxy for such disapproval. In light of the novel CSBD diagnosis, the potential for the interaction of religiousness and pornography use to predict salient pornography-related outcomes suggests a need for further inquiry, which was the primary impetus for this work. Below, we describe the general ideas that shaped our analyses. However, given that the present work represents a secondary analysis of data previously collected (see Method), we note that the present work was not pre-registered, and we do not believe that our results should be interpreted as confirmation of a prespecified hypothesis.

Under the assumption that pornography consumption can serve as a proxy for potentially

compulsive sexual behaviors (and, by extension, CSBD) and that religiousness may serve as a proxy for moral disapproval of pornography use, the present work sought to illuminate the relationships between pornography use, religiousness, and self-reported addiction. Despite work showing that religiousness and moral disapproval of pornography predict self-reported addiction to pornography, and despite work showing that the interaction of religiousness and pornography use (i.e., moral incongruence) predicts negative outcomes, no work (to date) has examined the interaction between religiousness and pornography use in predicting self-reported addiction to pornography. Given the forthcoming diagnosis of CSBD in the ICD-11 and the evidence suggesting that problematic pornography use will be one of the more common behaviors subsumed by this diagnosis, there is a need for clarity regarding factors that might influence self-perceptions of relevant behaviors and clinical presentations that may be more complex.

The present study sought to address the above areas by examining the relationships between personal religiousness, pornography use, and self-reported addiction to pornography. This focus is particularly salient now, given the recent inclusion of CSBD in the ICD-11 and the concomitant need for a proper understanding of the behaviors that may qualify for the diagnosis and the potential confounding variables that may complicate efforts to apply the diagnosis. We specifically expected to find that, consistent with prior works, religiousness and pornography use would both be associated with greater self-reported addiction to pornography use. Moreover, building on the notion of moral incongruence accounting for some of the experience of self-reported pornography addiction, we expected to find that religiousness would moderate the association between pornography use and self-reported problems, with the link between use and self-reported problems being stronger at higher levels of religiousness. Finally, we included gender as a covariate in our key analyses. Although some work suggests that differences in gender for CSB symptoms more broadly are quite subtle (Dickenson et al., 2018), there is evidence that men both use

pornography at much higher rates than women and are much more likely to self-identify as addicted to pornography (Grubbs, Kraus, et al., 2019).

Method

Participants and Procedure

For this study, we analyzed data from a nationally representative sample recruited via YouGov opinion polling matched to U.S. norms as of the 2016 American Community Survey. This data was collected as part of a larger project involving a range of variables related to personality, well-being, and public discourse (Grubbs, Tosi, et al., 2019). YouGov is widely recognized as a source of high-quality data that outperforms many traditional national probability sampling services and that consistently provides better quality data than other online polling firms. The initial sample was of 2,519 American adults over the age of 18 matched to U.S. norms for gender, race, census region, age, and education. However, analyses were restricted to those adults who acknowledged viewing pornography at least once in the past 12 months (77.3% of men in the total sample; 37.3% of women in the total sample; Final $N=1,424$; 66.4% men; $M_{\text{age}}=43.92$; $SD=16.74$). Participants in this sub-sample primarily identified as White (62.5%), followed by Black (12.4%), Hispanic (17%), Asian (3.7%), Native American (1.0%), Mixed (2.3%), Other (0.9%), and Middle Eastern (0.2%). The participants were predominantly Married (46.3%) or Never Married (35.2%), followed by Divorced (8.9%), Domestic/Civil Partnership (5.1%), Separated (2.4%), and Widowed (2.2%).

Religiousness was measured via three items that were taken from Pew Research Center (items: "How important is religion in your life—very important, somewhat important, not too important, or not at all important?"; "People practice their religion in different ways. Outside of attending religious services, do you pray several times a day, once a day, a few times a week, once a week, a few times a month, seldom, or never?"; and "Aside from weddings and funerals, how often do you attend religious services... more than once a week, once a week, once or twice a month, a few times a year, seldom, or never?") Responses to individual items

were standardized and an average score across items was computed ($mean=-0.15$, $SD=0.88$; $range=-1.65-1.30$; $skew=0.06$; $\alpha=.818$; $\omega=.862$).

Pornography use was measured via a single item frequency measure where participants were asked to report how often they had viewed pornography alone without a partner over the past 12 months on a scale of 1 (*never*) to 8 (*once a day or more*). Only those scoring 2 (*once or twice*) or above were included (see inclusion criteria above). The average response fell between 4 (*once a month*) and 5 (*2 or 3 times a month*; $mean=4.63$, $SD=2.04$, $median=5$, $range=2-8$; $skew=0.11$). Pornography was defined to participants as follows: "Pornography refers to any sexually explicit films, video clips or pictures displaying the genital area, which intends to sexually arouse the viewer; this may be seen on the internet, in a magazine, in a book, or on television."

Self-reported addiction to pornography was measured via two scales available in the data set: the Cyber Pornography Use Inventory—4 (CPUI-4; Grubbs & Gola, 2019) and the Brief Pornography Screener (BPS; Kraus et al., 2019).

The CPUI-4 is a four-item measure that assesses the extent to which a respondent feels addicted to pornography and out of control in their use. Participants respond to items such as, "I feel unable to stop my use of online pornography," on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Responses are averaged ($mean=2.30$, $SD=1.58$; $skew=1.08$; $range=1-7$; $\alpha=0.912$, $\omega=0.913$).

The BPS is a five-item measure requiring participants to report how often, in the past six months, they have experienced certain phenomena associated with their pornography use (i.e., "You have attempted to cut back or stop using pornography, but were unsuccessful.") on a scale of 0 (*never*) to 2 (*very often*). Responses were averaged ($mean=0.38$, $SD=0.50$; $skew=1.19$; $range=0-2$; $\alpha=.875$, $\omega=0.876$).

Analytic Plan

Correlations and descriptive statistics were computed using JASP (JASP Team, 2019). Moderation analyses for both measures of self-reported addiction to pornography were conducted using centered interaction terms in the interActive

utility (McCabe et al., 2018) via the Shiny web application framework (Chang et al., 2017) for R Statistical Software (R Core Team, 2018). For these analyses, pornography viewing frequency and religiousness were included as predictors, as was the interaction of these variables, and gender was included as a covariate.

Results

As is evidenced in Figure 1, pornography viewing frequency, BPS scores, and CPUI-4 scores were all positively correlated with each other. Additionally, religiousness was positively correlated with both BPS and CPUI-4 scores, but it was negatively correlated with pornography viewing frequency. Gender and religiousness were not related to one another.

Regression diagnostics for both models indicated most basic assumptions were met. However, residuals—in both analyses—were not normally distributed and homoscedasticity was mildly violated. Generally, given large sample sizes (i.e., more than ten observations per variable) ordinary least squares (OLS) regression techniques are robust against non-normally distributed residuals (Schmidt & Finan, 2018). However, out of an abundance of caution, alternative regression models were posited. Specifically, we fit both a censored regression (I.e., tobit) and a beta regression model using the censreg package for R (Henningesen, 2019) and the betareg package for R (Cribari-Neto & Zeileis, 2010) respectively. We also constructed a latent variable model using the lavaan (Rosseel, 2012) package for R, using diagonally weighted least squares estimation which does not assume normality or homoscedasticity of residuals (Flora & Curran, 2004). In all analyses, the interaction of the centered variables for religiousness and pornography viewing frequency remained a significant predictor of our outcomes. As such, we have elected to present the more straightforward OLS regression results in the text. Full details of alternative analyses are available on this project's OSF page:

https://osf.io/8d3he/?view_only=1b7a92706ba64ba0a5ebfa04fb8cf502.

As is evidenced in Figure 2, in both moderation analyses, the interaction of religiousness

and pornography viewing frequency was positively associated with self-reported addiction to pornography. Moderation analyses are also depicted in Figure 2, demonstrating substantially stronger relationships between pornography use frequency and self-reported addiction to pornography at higher levels of religiousness. Simple slope analyses revealed that the relationship between pornography viewing frequency and BPS scores was significant at essentially all values (all values above -1.95 SD, 99.78% of observations) of religiousness. Similar results were also seen for the CPUI-4 scores: The relationship between pornography viewing frequency and CPUI-4 scores was significant at essentially all values (all values above -2.65 SD, 99.78% of observations) of religiousness.

For analyses of the BPS score, the interaction of religiousness and pornography viewing frequency contributed 2.07% of additional variance ($\Delta R^2=.021$, $F[1, 1,419]=36.58$, $p<.001$), for a total model accounting for 24.3% of the variance in BPS scores ($R^2=.243$, $F[4, 1,419]=107.13$, $p<.001$). As evidenced in Figure 2, for participants low in religiousness (i.e., -1 SD), those who differed in porn use by 1 unit (e.g., using porn “two or three times a month” versus “once a week”) were expected to exhibit a .06 difference in BPS scores. However, for participants high in religiousness (i.e., +2 SD), that same difference in porn use would be expected to produce a .17 difference in BPS scores.

For analyses of the CPUI-4, the interaction of religiousness and pornography viewing frequency contributed 1.2% of additional variance ($\Delta R^2=.012$, $F[1, 1,419]=21.04$, $p<.001$), for a total model accounting for 23.2% of the variance in CPUI-4 scores ($R^2=.232$, $F[4, 1,419]=100.92$, $p<.001$). As evidenced in Figure 2, for participants at -1 SD level of religiousness, those who differed in porn use by 1 unit (e.g., using porn “two or three times a month” versus “once a week”) were expected to exhibit a .25 difference in CPUI-4 scores. However, for participants high in religiousness (i.e., +2 SD), that same difference in porn use would be expected to produce a .51 difference in CPUI-4 scores.

Discussion

At the outset of this work, we posited that religiousness might serve as a moderator between pornography use and self-reported addiction to pornography, with this interaction predicting greater levels of self-reported addiction to pornography. In a large, national sample, we found support for this hypothesis. Religiousness—despite being associated with less pornography use—moderated the association between pornography use and self-reported addiction so that use was more strongly related to self-reported addiction at higher levels of religiousness. Importantly, the link between pornography use and self-reported addiction was positive at all levels of religiousness for both measures of self-reported addiction. As such, our findings should not be interpreted as indicating that use is only linked to self-reported addiction for religious individuals, but rather, the links between use and self-reported addiction are stronger at higher levels of religiousness.

Generally, these findings support the larger body of work demonstrating that moral incongruence is an important factor when seeking to understand the nature of compulsive sexual behavior (Grubbs, Perry, et al., 2019). People are generally motivated to seek alignment between their sexual values and sexual behaviors and the misalignment of such sexual values and behaviors is likely associated with distress (Griffin et al., 2016). People who report greater religiosity are much more likely to also report moral disapproval of pornography use (Droubay et al., 2018; Grubbs, Perry, et al., 2019; Lambe, 2004), yet religious people still use pornography with some frequency (Perry, 2018). As such, it is not surprising to find that these individuals are particularly prone to experience distress associated with their use. However, as outlined in the CSBD diagnostic guidelines, clients who report distress due to religious beliefs (or other factors) but do not report clinical impairment in functioning would not be diagnosed with CSBD (for a case example of this, see: Kraus & Sweeney, 2019).

The present work also speaks to the burgeoning body of work demonstrating that care should be exercised in the research, assessment, and diagnosis of CSBD. Although the criteria for CSBD

are extremely clear, people may interpret their sexual behavior (i.e., pornography use) as more pathological than it objectively is, based on personal morality and religiousness. If clinicians are careful to follow these new diagnostic criteria, these types of issues may be avoided. However, as previously alluded to, clinician judgment can be clouded by both personal and client individual differences (Droubay & Butters, 2019; Klein et al., 2019). Given the novelty of this diagnosis and its likely widespread integration into a variety of mental health care settings, there is a clear need to accurately understand any potential factors that may affect client self-report, to more properly inform clinicians working with these clients.

Our findings are not without alternate interpretations. For example, persisting in a behavior that one finds morally objectionable does seem to indicate at least some difficulty in regulating one's own behaviors. Accordingly, it is plausible that the interaction observed in our data is describing an actual form of dysregulation, rather than a pathological self-interpretation of behavior that is largely normal. In response to this potential critique, we note that the nature of the current data does not allow us to definitely eliminate this possibility. However, there is evidence from prior qualitative literature that religious interpretations of pornography use are more pathological. That is, extensive qualitative work has found that many individuals often make use of the word "addiction" to describe any amount of pornography use (Burke & Haltom, 2020; Taylor, 2019), that pornography addiction has been a growing focus of religious communities for several decades (Thomas, 2013, 2016), and that religious individuals use the term pornography addiction to describe any difficulty in regulating behavior, with no regard for clinical criteria (Burke & Haltom, 2020; Perry, 2019).

Finally, we note that the present work suggests that the gendered components of potential CSBs may indeed be much more subtle than past research which found strong associations between gender and self-reported addiction (e.g., Grubbs, Kraus, & Perry, 2019). Consistent with recent nationally-representative work on CSB symptoms

more broadly (Dickenson et al., 2018), the present work found only weak correlations between gender and either measure of self-reported addiction to pornography. In subsequent regression analyses, this association was reduced to statistical non-significance when religiousness, use, and their interaction were included in the equation. Future research is needed to clarify the exact role that gender plays in self-reported addiction to pornography and CSB more broadly.

Limitations and Constraints on Generality

The present work is hampered by a few key limitations and constraints on generality. Primarily, although pornography use is likely a more easily studied example of a potentially compulsive sexual behavior, the present work did not examine other behaviors that may also qualify for a diagnosis of CSBD. Although some work has examined the possibility that moral incongruence is a factor in the presentation of compulsive sexual behavior more generally (Walton, 2019), the present work only examined pornography use.

The present work did not assess for impulsivity on the part of participants, which may be a salient concern given research suggesting that impulsivity vs. compulsivity continues to be an important distinction in understanding behavioral addictions (Grant et al., 2014). Moreover, the distinctions between impulsivity, compulsivity, and addiction are not always clear in CSBD research and represent an area in need of more in-depth empirical inquiry (Kowalewska et al., 2018; Kraus, Voon, et al., 2016)

We also note that this was not a study of clinical or treatment-seeking populations. As such, our results do not clarify whether or not moral incongruence is a driving factor in the self-perception of pornography addiction among treatment-seekers. This work needs to be extended specifically to clinical populations to more fully evaluate whether or not self-reports of compulsive pornography use (and the diagnosis of CSBD more generally) is actually complicated by client religiousness and personal morality.

Additionally, we note that, despite a large and representative sample, our findings were limited

to the U.S. Given psychology's known problem with WEIRDness (Henrich et al., 2010a, 2010b), we note that we must be cautious in applying these findings outside the North American cultural context. Finally, these results were cross-sectional in nature, precluding causal speculation. Although the findings demonstrate that the associations between pornography use and self-reported addiction to pornography are much stronger at higher levels of religiousness, whether or not religiousness is causing this increase in strength is subject to debate. Future longitudinal work is needed that examines the trajectory of these variables over time.

References

- Brand, M., Blycker, G. R., & Potenza, M. N. (2019). When pornography becomes a problem: Clinical insights. *Psychiatric Times*, 36(12), 48–51.
- Burke, K., & Haltom, T. (2020). Created by god and wired to porn: Redemptive masculinity and gender beliefs in narratives of religious men's pornography addiction recovery. *Gender & Society*, (in press).
- Chang, W., Cheng, J., Allaire, J., Xie, Y., & McPherson, J. (2017). Shiny: Web application framework for R. *R Package Version*, 1(5).
- Cribari-Neto, F., & Zeileis, A. (2010). Beta regression in R. *Journal of Statistical Software*, 34(2). <https://doi.org/10.18637/jss.v034.i02>
- Dickenson, J. A., Gleason, N., Coleman, E., & Miner, M. H. (2018). Prevalence of distress associated with difficulty controlling sexual urges, feelings, and behaviors in the united states. *JAMA Network Open*, 1(7), e184468. <https://doi.org/10.1001/jamanetworkopen.2018.4468>
- Droubay, B. A., & Butters, R. P. (2019). Pornography, religiosity, and social work. *Journal of Social Work*, 1468017319852599. <https://doi.org/10.1177/1468017319852599>
- Droubay, B. A., Butters, R. P., & Shafer, K. (2018). The pornography debate: Religiosity and support for censorship. *Journal of Religion and Health*. <https://doi.org/10.1007/s10943-018-0732-x>
- Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychological Methods*, 9(4), 466–491. <https://doi.org/10.1037/1082-989X.9.4.466>
- Grant, J. E., Atmaca, M., Fineberg, N. A., Fontenelle, L. F., Matsunaga, H., Janardhan Reddy, Y. C., Simpson, H. B., Thomsen, P. H., van den Heuvel, O. A., Veale, D., Woods, D. W., & Stein, D. J. (2014). Impulse control disorders and “behavioural addictions” in the ICD-11. *World Psychiatry*, 13(2), 125–127. <https://doi.org/10.1002/wps.20115>
- Griffin, B. J., Worthington, E. L., Leach, J. D., Hook, J. N., Grubbs, J. B., Exline, J. J., & Davis, D. E. (2016). Sexual congruence moderates the associations of hypersexual behavior with spiritual struggle and sexual self-concept. *Sexual Addiction & Compulsivity*, 23(2–3), 279–295. <https://doi.org/10.1080/10720162.2016.1150924>
- Grubbs, J. B., & Gola, M. (2019). Is pornography use related to erectile functioning? Results from cross-sectional and latent growth curve analyses. *The Journal of Sexual Medicine*, 16(1), 111–125. <https://doi.org/10.1016/j.jsxm.2018.11.004>
- Grubbs, J. B., Kraus, S. W., & Perry, S. L. (2019). Self-reported addiction to pornography in a nationally representative sample: The roles of use habits, religiousness, and moral incongruence. *Journal of Behavioral Addictions*, 8(1), 88–93. <https://doi.org/10.1556/2006.7.2018.134>
- Grubbs, J. B., Perry, S. L., Wilt, J. A., & Reid, R. C. (2019). Pornography problems due to moral incongruence: An integrative model with a systematic review and meta-analysis. *Archives of Sexual Behavior*, 48(2), 397–415. <https://doi.org/10.1007/s10508-018-1248-x>
- Grubbs, J. B., Tosi, J., & Warmke, B. (2019). *Status seeking and public discourse ethics: A nationally representative sample with longitudinal follow-up*. <https://doi.org/10.17605/OSF.IO/ZBG3D>
- Hecker, L. L., Trepper, T. S., Wetchler, J. L., & Fontaine, K. L. (1995). The influence of therapist values, religiosity and gender in the initial assessment of sexual addiction by family therapists. *The American Journal of Family Therapy*, 23(3), 261–272. <https://doi.org/10.1080/01926189508251356>
- Henningsen, A. (2019). *censReg: Censored Regression (Tobit) Models*. <https://CRAN.R-project.org/package=censReg>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010a). The weirdest people in the world? *Behavioral and Brain Sciences*, 33(2–3), 61–83. <https://doi.org/10.1017/S0140525X0999152X>

- Henrich, J., Heine, S. J., & Norenzayan, A. (2010b). Most people are not WEIRD. *Nature*, 466(7302), 29–29. <https://doi.org/10.1038/466029a>
- JASP Team. (2019). *JASP (Version 0.11.1)[Computer software]*. <https://jasp-stats.org/>
- Klein, V., Briken, P., Schroder, J., & Fuss, J. (2019). Mental health professionals' pathologization of compulsive sexual behavior: Does clients' gender and sexual orientation matter? *Journal of Abnormal Psychology*, 128(5), 465–472. <https://doi.org/10.1037/abn0000437>
- Kowalewska, E., Grubbs, J. B., Potenza, M. N., Gola, M., Draps, M., & Kraus, S. W. (2018). Neurocognitive mechanisms in Compulsive Sexual Behavior Disorder. *Current Sexual Health Reports*, 10(4), 255–264. <https://doi.org/10.1007/s11930-018-0176-z>
- Kraus, S. W., Gola, M., Grubbs, J. B., Kowalewska, E., Hoff, R. A., Lew-Starowicz, M., Martino, S., Shirk, S. D., & Potenza, M. N. (2019). Validation of a Brief Pornography Screener across multiple samples. *Manuscript Under Publication Review*.
- Kraus, S. W., Krueger, R. B., Briken, P., First, M. B., Stein, D. J., Kaplan, M. S., Voon, V., Abdo, C. H. N., Grant, J. E., Atalla, E., & Reed, G. M. (2018). Compulsive sexual behaviour disorder in the ICD-11. *World Psychiatry*, 17(1), 109–110. <https://doi.org/10.1002/wps.20499>
- Kraus, S. W., Martino, S., & Potenza, M. N. (2016). Clinical Characteristics of Men Interested in Seeking Treatment for Use of Pornography. *Journal of Behavioral Addictions*, 5(2), 169–178. <https://doi.org/10.1556/2006.5.2016.036>
- Kraus, S. W., & Sweeney, P. J. (2019). Hitting the target: Considerations for differential diagnosis when treating individuals for problematic use of pornography. *Archives of Sexual Behavior*, 48(2), 431–435. <https://doi.org/10.1007/s10508-018-1301-9>
- Kraus, S. W., Voon, V., & Potenza, M. N. (2016). Should compulsive sexual behavior be considered an addiction? *Addiction (Abingdon, England)*, 111(12), 2097–2106. <https://doi.org/10.1111/add.13297>
- Lambe, J. L. (2004). Who wants to censor pornography and hate speech? *Mass Communication and Society*, 7(3), 279–299. https://doi.org/10.1207/s15327825mcs0703_2
- McCabe, C. J., Kim, D. S., & King, K. M. (2018). Improving present practices in the visual display of interactions. *Advances in Methods and Practices in Psychological Science*, 1(2), 147–165. <https://doi.org/10.1177/2515245917746792>
- Nelson, K. M., & Rothman, E. F. (2020). Should public health professionals consider pornography a public health crisis? *American Journal of Public Health*, 110(2), 151–153. <https://doi.org/10.2105/AJPH.2019.305498>
- Perry, S. L. (2018). Not practicing what you preach: Religion and incongruence between pornography beliefs and usage. *Journal of Sex Research*, 55(3), 369–380. <https://doi.org/10.1080/00224499.2017.1333569>
- Perry, S. L. (2019). *Addicted to lust: Pornography in the lives of conservative protestants*. Oxford University Press.
- Perry, S. L., & Whitehead, A. L. (2019). Only bad for believers? Religion, pornography use, and sexual satisfaction among American men. *The Journal of Sex Research*, 56(1), 50–61. <https://doi.org/10.1080/00224499.2017.1423017>
- R Core Team. (2018). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. <https://www.R-project.org/>
- Regnerus, M., Gordon, D., & Price, J. (2016). Documenting pornography use in America: A comparative analysis of methodological approaches. *The Journal of Sex Research*, 53(7), 873–881.
- Reid, R. C., Carpenter, B. N., Hook, J. N., Garos, S., Manning, J. C., Gilliland, R., Cooper, E. B., McKittrick, H., Davtian, M., & Fong, T. (2012). Report of findings in a DSM-5 field trial for hypersexual disorder. *The Journal of Sexual Medicine*, 9(11), 2868–2877.
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling and more

- Version 0.5-12 (BETA). *Journal of Statistical Software*, 42, 1–36.
- Schmidt, A. F., & Finan, C. (2018). Linear regression and the normality assumption. *Journal of Clinical Epidemiology*, 98, 146–151.
<https://doi.org/10.1016/j.jclinepi.2017.12.006>
- Short, M. B., Wetterneck, C. T., Bistricky, S. L., Shutter, T., & Chase, T. E. (2016). Clinicians' beliefs, observations, and treatment effectiveness regarding clients' sexual addiction and internet pornography use. *Community Mental Health Journal*, 52(8), 1070–1081. <https://doi.org/10.1007/s10597-016-0034-2>
- Taylor, K. (2019). Nosology and metaphor: How pornography viewers make sense of pornography addiction. *Sexualities*, 136346071984213.
<https://doi.org/10.1177/1363460719842136>
- Thomas, J. N. (2013). Outsourcing moral authority: The internal secularization of evangelicals' anti-pornography narratives. *Journal for the Scientific Study of Religion*, 52.
<https://doi.org/10.1111/jssr.12052>
- Thomas, J. N. (2016). The development and deployment of the idea of pornography addiction within American Evangelicalism. *Sexual Addiction & Compulsivity*, 23(2–3), 182–195.
<https://doi.org/10.1080/10720162.2016.1140603>
- Walton, M. T. (2019). Incongruence as a variable feature of problematic sexual behaviors in an online sample of self-reported “sex addiction”. *Archives of Sexual Behavior*, 48(2), 443–447. <https://doi.org/10.1007/s10508-018-1305-5>
- World Health Organization. (2018). *ICD-11*.
<https://icd.who.int/>

Figure 1. Pearson correlations with 95% Confidence Intervals, Density Plots, and Correlation Plots for all included variables. BPS=Brief Pornography Screener and CPUI-4=Cyber Pornography Use Inventory—4.

Figure 2. Moderation analyses for the Brief Pornography Screener (BPS) and the Cyber-Pornography Use Inventory—4 (CPUI-4) demonstrating interaction effects for Pornography Viewing Frequency and Religiousness in predicting self-reported problematic pornography use. Beta values represent standardized estimates; b values represent unstandardized estimates.