

2017

Differentiating Sexual Offender Type on Measures of Impulsivity and Compulsivity

Tara J. Ryan

Simon Fraser University, tjryan@sfu.ca

Matthew T. Huss

Creighton University, mhuss@creighton.edu

Mario Scalora

University of Nebraska-Lincoln, mscalora1@unl.edu

Follow this and additional works at: <http://digitalcommons.unl.edu/psychfacpub>

 Part of the [Health Policy Commons](#), [Other Public Affairs, Public Policy and Public Administration Commons](#), [Psychology Commons](#), and the [Social Control, Law, Crime, and Deviance Commons](#)

Ryan, Tara J.; Huss, Matthew T.; and Scalora, Mario, "Differentiating Sexual Offender Type on Measures of Impulsivity and Compulsivity" (2017). *Faculty Publications, Department of Psychology*. 823.

<http://digitalcommons.unl.edu/psychfacpub/823>

This Article is brought to you for free and open access by the Psychology, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications, Department of Psychology by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Published in *Sexual Addiction & Compulsivity* 24:1-2 (2017), pp 108-125.

doi 10.1080/10720162.2016.1189863

Copyright © 2017 Taylor & Francis Group, LLC. Used by permission.

Differentiating Sexual Offender Type on Measures of Impulsivity and Compulsivity

Tara J. Ryan,¹ Matthew T. Huss,² and Mario J. Scalora³

¹ Simon Fraser University, Burnaby, British Columbia, Canada

² Creighton University, Omaha, Nebraska;

³ University of Nebraska-Lincoln, Lincoln, Nebraska

Corresponding author – Tara J. Ryan, Simon Fraser University,
8888 University Drive, Burnaby, BC V5A 1S6, Canada; tjryan@sfu.ca

Abstract

It is suspected that rapists, child molesters, and offenders with both child and adult victims (mixed offenders) may have different motivations and offending patterns—that they are heterogeneous. A central difference between these groups of offenders may be their propensity toward sexually impulsive behaviors and compulsive behavior. Analyses were conducted to assess the mean differences between the various offender types across four measures related to sensation seeking and compulsivity as well as several other proxy behavioral measures. Results suggest that there are differences in sexual impulsive and compulsive behavior among the different types of offenders. Treatment implications are discussed.

The etiology of sexual violence and sexual offending has long been a focus of psychological research. Various theories exploring the causation of sexual offending have emerged and been adapted over the years. Bringing together some of the existing theories of offending, Ward and Beech (2006) outline a comprehensive model of sexual offending known as the integrated theory of sexual offending (ITSO). This model extensively explores factors that could result in offending and identifies four clinical problems that are typically associated with

adults who sexually abuse others: emotional regulation problems, cognitive distortions, social difficulties, and deviant sexual arousal (Ward & Beech, 2006). Although it is easy to see overlap with the first three of those factors in other mental health disorders, the deviant sexual arousal factor is specific to sexual offending. Two potential bases for acting on deviant sexual arousal, although certainly not complete theories, are dispositions toward impulsive behavior or compulsive sexual behavior (Babchishin, Hanson, & VanZuylen, 2015; Cohen et al., 2002; Hanson & Morton-Bourgon, 2005; Ward & Beech, 2006; Wood, 2011).

There has been some debate over the correct theoretical foundations for the expression of deviant sexual behavior (Barth & Kinder, 1987; Cohen et al., 2002; Heffernan & Ward, 2015). More specifically, in the area of compulsive and impulsive behaviors, the debate has focused on whether the expression of deviant sexual behavior is impulsive, compulsive, a combination of the two, sexual addiction, hypersexual behavior, or sexual preoccupation. Additionally, it is possible that compulsivity and impulsivity differ by type of sexual offender. In regard to impulsive behavior, there is a significant literature addressing general offending patterns. For example, antisocial personality disorder often emerges as behaviors that are characteristic of impulsivity including lack of planning and as a low tolerance for boredom resulting in sensation seeking. In a sample of 304 college men, Mouilso, Calhoun, & Rosenbloom (2013) found self-disclosed perpetrators of sexual assault scored higher on measures of negative and positive emotionality *and* a lack of premeditation than nonperpetrators. There were no differences between the two groups in measured sensation seeking. Although these symptoms relate more broadly to general antisocial behavior, researchers have found sexual offenders are more likely to recidivate by committing general antisocial behavior than sexual violence (Hanson & Bussière, 1998). Alternatively, researchers have also explored compulsive sexual behaviors as a factor in sexual violence. For example, in a sample of 120 men with paraphilias and paraphilic-related disorders, Kafka and Hennen (2003) found that men suffering from multiple paraphilias (e.g., pedophilia, exhibitionism, voyeurism, frotteurism, fetishism, sadism), and paraphilic-related disorders, were more likely to be sex offenders. These researchers also found that men with multiple paraphilias had been incarcerated for a previous sexual offense and had the highest lifetime compulsive activity.

Although impulsive and compulsive sexual behaviors are not comprehensive theories that explain sexual deviance entirely, they may be especially important because they are more likely to be amenable to treatment. There are many established therapeutic techniques designed to treat impulsive and compulsive behaviors, including cognitive-behavior therapy (CBT), relapse prevention, and dialectical behavioral therapy (DBT). According to Ward and Beech (2006) treatment for offenders with susceptibility to negative affective states leading to impulsive behavior would include training the offender in controlling their negative emotions. Kuzma and Black (2004) further note that psychotherapy is often used with sexually compulsive behavior and therapies such as image desensitization are common. Consequently, impulsive and compulsive sexual behaviors may be particularly malleable behaviors among sex offenders as they may be related to dynamic risk factors rather than unchangeable static risk factors such as past criminal history and poor family upbringing. However, emphasis on certain skills or treatment approaches targeting impulsive (acting without thinking or thought given to consequences) versus compulsive behaviors (insistent and repetitive behaviors) may result in better outcomes. For example, focusing on cognitive skills training and strategies to target impulsive thinking such as functional analyses of behavior, stimulus control by training to avoid high risk situations, relaxation training to manage urges, and working to decrease positive reinforcement related to the impulsive behavior may be important. Other CBT interventions to target criminogenic needs and behavior such as antisocial attitudes, substance use, and lack of empathy may be a productive means of decreasing these behaviors, whereas perhaps a focus on relapse prevention and especially contingency management skills can help offenders whose sexual offenses are compulsive in nature. Of course coverage of both in a CBT oriented treatment program is necessary. However, choosing a different focus distinct to offender type may have important treatment implications and outcomes. Saleh and Guidry (2003) highlight the heterogeneity of sexual offenders and the need to tailor treatment to the need of the client.

Theories of impulsive behavior and criminal offending have largely focused on sensation seeking and the need for more or less stimulation. Impulsivity and sensation seeking are not one in the same, but are certainly related. "Sensation seeking is a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences,

and the willingness to take physical, social, legal, and financial risks for the sake of such experiences” (Zuckerman, 1994, p. 27). According to Haden and Shiva (2008), impulsiveness is related to the disinhibition sub trait on Zuckerman’s Sensation Seeking Scale (1978; 1994). Zuckerman and others have long examined sensation seeking and impulsive behaviors’ relation to criminal behavior and risky sexual behavior. In a study of 335 adolescent males and impulsive sensation seeking correlated significantly with violent antisocial behavior ($r = .25$), nonviolent antisocial behavior ($r = .25$) (Portnoy et al., 2014). Further, Gaither and Sellbom (2003) found moderate positive correlations between higher scores in sensation seeking and more one-night stands ($r = .31$), more partners in the last 3 months ($r = .31$), having a wider range of sexual experiences ($r = .49$), more frequent masturbation ($r = .25$), and engaging in vaginal intercourse at an earlier age among college students ($r = .31$). Additionally, in a sample of forensic psychiatric patients, Haden and Shiva (2008) found that patients had higher scores on scales related to non-planning impulsiveness than attentional or motor impulsivity, and patients with more severe criminal charges were more likely to report increased impulsivity, especially in the areas of non-planning and attentional impulsivity.

In contrast to sensation seeking and impulsive sexual behaviors, sexual compulsivity is defined as an “insistent, repetitive, intrusive, and unwanted urge to perform specific acts often in ritualized or routinized fashions” (Kalichman & Rompa, 1995, p. 587). Similar to sensation seeking, compulsivity has also been associated with a number of risky sexual behaviors. For example, compulsivity has been linked to high-risk activities such as unprotected sexual intercourse and a greater number of partners with resistance to risk reduction in general (Kalichman & Rompa, 1995). Kalichman et al. (1994) found sexual compulsivity to be negatively correlated with sexual control. Although clinicians have commonly identified the compulsive nature of sex offenders, objective assessments of sexual compulsivity among sex offenders largely remains undocumented. Coleman, Miner, Ohlerking, and Raymond (2001) specifically concluded that compulsive sexual behaviors can definitionally be thought of as either paraphilic or nonparaphilic, indicating that a link between sexual violence and compulsivity exists.

Although sexual behaviors and sexual offending may have impulsive and compulsive aspects, the question becomes whether these features

are central to certain offense patterns. Given that the literature suggests that general criminal behavior is often impulsive, it may be that sex offenders who tend to commit other non-sexual crimes are more impulsive. For example, Gannon and Ward (2008) stated that rapists tend to be more similar to generally violent offenders than to child molesters, excluding the commission of sexual crimes. Furthermore, Simon (2000) found that in terms of criminal history, rapists were much more versatile in crimes committed, with over 70% of the sample having a prior record. Alternatively, only 51% of the child molester sample had prior convictions. Additionally, pointing to the general antisocial orientation of rapists, in a meta-analysis of recidivism among sex offenders, Hanson and Bussière (1998) found that rapists were more likely to recidivate with a nonsexual offense than child molesters. Seto and Barbaree (1999) found that rapists scored higher than child molesters on the PCL-R, indicative of more psychopathic features (e.g., antisocial behaviors, poor behavior controls, impulsivity, criminal versatility). Additionally, Harry, Pierson, and Kuznetsov (1993) found that rapists tend to be more antisocial and to have committed more acts of impersonal violence. Further, the researchers described them as resembling general population inmates or “ordinary” criminals. It may be that rapists tend to be more impulsive because of their proclivity toward antisocial behavior in general. Conversely, child molesters are apt to be less antisocial. Instead their offending patterns can be seen as more sexually motivated and a result of compulsive deviant sexual interests. Bogaerts, Daalder, Vanheule, Desmet, and Leeuw (2008) note that most sexual offenders who end up in the legal system have one or more paraphilias. The recurrent sexual fantasies associated with pedophilia are inherently compulsive due to their repetitive and intrusive nature. Baumgartner, Scalora, and Huss (2002) found that child molesters scored higher on the Wilson Sex Fantasy Questionnaire and reported significantly more sexual fantasies than general offenders. Baumgartner and colleagues also found that child molesters scored significantly higher on items directly related to sexual acts with children. These findings indicate the intrusive nature of such fantasies for these offenders. Additionally, researchers have found differences between child molesters and rapists in the manner in which compulsive sexual fantasies play out resulting in a criminal act. In a comparison of victim selection behaviors between child molesters and rapists, Rebocho and Gonçalves (2012) found that

child molesters are more likely to exhibit manipulative behaviors in their victim selection than do rapists. The types of behaviors that Rebocho and Gonçalves cite as manipulative include careful premeditation and patterned victim selection—noticeably less impulsive types of behaviors. Conversely, sexual assaults perpetrated by rapists are more likely to be coercive in nature, not premeditated, and with stranger victims (Rebocho & Gonçalves, 2012). The combination of the impulsive nature of the offense and general criminality of rapists would suggest that rapists will score lower on sexual compulsivity scales. Of course, child molestation and pedophilia do not equate. However, previous research has established that some child molesters have clinically significant deviant sexual interests, including pedophilia and paraphilias (Blanchard, Klassen, Dickey, Kuban, & Blak, 2001; Maletzky & Steinhauser, 2002). The present study will examine the constructs related to sexual impulsivity and compulsivity among four different groups of offenders: general offenders, child molesters, rapists, and mixed offenders. More specifically, it is hypothesized that sexual offenders will score higher in sexual impulsivity and sexual compulsivity behaviors than do general offenders. Additionally, within the group of sex offenders, it is hypothesized that rapists, followed by mixed offenders, followed by child molesters will score highest on measures of sexual impulsivity. Child molesters will score lowest on these measures, because their crimes often involve more planning, grooming, and manipulative behavior. It is further hypothesized that the predicted pattern for sexual compulsivity will be opposite than the pattern for sexual impulsivity. In other words, child molesters, followed by mixed offenders, followed by rapists will score highest on sexual compulsivity.

Method

Participants

The participants for this study were 417 male offenders in a state forensic mental health hospital. Of these 417 participants, 124 were not convicted of a sexual offense. The remaining 293 offenders were convicted of a sexual offense: 33 were rapists (committed sexual offenses against adults; does not include statutory rape convictions), 209 were

child molesters (committed contact sexual offenses against minors; does not include child pornography convictions), and 51 were mixed offenders (committed contact sexual offenses against both children and adults; does not include statutory rape convictions or child pornography convictions). The mean age for the entire sample was 34.55 ($SD = 11.44$) with 51.4% of the sample being single, 21.3% being married, 24.2% divorced, 2.4% separated, and 0.7% widowed. Additionally, the mean number of years of completed education was 11.93 ($SD = 2.18$) and the mean number of criminal convictions was 0.90 ($SD = 1.86$). The sample was majority Caucasian (77.3%) with 15.7% being black, 3.9% Hispanic, 1.9% Native American, and 0.7% Asian.

Measures

Zuckerman Sensation Seeking Scale

The Zuckerman Sensation Seeking Scale (ZSSS; Zuckerman, 1978, 1994) is a widely used multidimensional scale containing 40 Likert-type items made up of four factors (thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility). Each factor consists of ten items designed to measure individual differences in optimal levels of arousal and stimulation. Participants were forced to choose between two statements which best described them. The obtained alpha was .85 for the current sample, which is comparable to Gaither & Sellbom (2003) that was found to be .83 for males and .81 for woman.

Sexual Sensation Seeking Scale

The revised Sexual Sensation Seeking Scale (SSS; Kalichman & Rompa, 1995) is an 11-item Likert type scale designed to measure the need for varied, complex sexual experiences. Participants code their answers on a scale 1 (*being not at all like me*) to 4 (*being very much like me*) with scores ranging from 11 to 44 and higher scores suggesting great sexual sensation seeking. Kalichman et al. (1994) revised the original instrument from Zuckerman, Eysenck, and Eysenck (1978.) This instrument was originally validated on 106 homosexual men with a reported internal consistency of .75. Kalichman and Rompa (1995) further validated the SSS scale on 98 men and women. Internal consistency was .81 and a 3-month test retest was .73. Beck, Thombs, Mahone, and Fingar (1995) used the scale on a sample of 900 heterosexual college

students and reported an internal consistency of .81. Respondents in the current sample produce alpha levels of .86.

Sexual Compulsivity Scale

The Sexual Compulsivity Scale (SCS; Kalichman et al., 1994) is a 10-item Likert type scale designed to measure obsessive preoccupations with sexual acts and encounters. Participants code their answers on a scale from 1 (*being not at all like me*) and 4 (*being very much like me*) and scores ranging from 11 to 44, with high scores suggesting greater sexual compulsivity. The SCS was also developed by Kalichman et al. (1994) by adapting items from a self-help guide for people with self-proclaimed sexual addictions. Kalichman et al. (1994) found initial reliability at .86. A review by Hook, Hook, Davis, Worthington, and Penberthy (2010) found the SCS had been used across 30 samples including community participants, homosexual and heterosexual men and women, and college students with alphas ranging from .59 to .92. In the current study, the alpha level for the SCS was high, .92

Nonsexual Experience Seeking Scale

The revised Nonsexual Experience Seeking Scale (NSS; Kalichman & Rompa, 1995) is an 11-item Likert type scale designed to measure the need for varied, novel, and complex sensations and experiences. Participants code their answers on a scale with 1 (*being not at all like me*) and 4 (*being very much like me*) with scores ranging from 11 to 44 and higher scores suggesting greater nonsexual sensation seeking. The NSS is derived from Zuckerman and his colleagues (Zuckerman, Kolin, Price, & Zoob, 1964; Zuckerman et al., 1978). Kalichman et al. (1994) revised the original instrument in order to have a brief measurement of sensation seeking that contained items that would reflect contemporary language and adventurous language. This instrument reported an internal consistency of .81 on an initial sample. The NSS produce an alpha level of .83 in the current sample.

In addition to these measures, numerous other variables related to prior criminal charges and convictions, other behaviors related to impulsivity and compulsivity such as driving habits, deviant sexual interests, and specific information about victims was also collected for analysis.

Procedure

Consent to participate in the study was obtained from all offenders prior to data collection. The testing was administered as part of routine treatment and program evaluation procedures. Offenders were administered the psychological measures as a part of their admission testing. Refusal rates were limited to less than 5% of the total population. Participants with Full Scale IQ scores below 70 on a current version of the WAIS were not included in the current sample. All data were collected and analyzed in accordance with Institutional Review Board approval.

Results

First, a multivariate analysis of covariance (MANCOVA) was conducted to assess the mean differences between the various offender types across the four measures related to sensation seeking and compulsivity. Due to an uneven age distribution across groups and the role age can play in the opportunity to offend, age was controlled. Holding age constant, there was a significant multivariate main effect for offender type, $F(12, 844.286) = 8.098, p < .001, \eta_p^2 = .092$. Univariate tests reveal that the Sexual Compulsivity Scale (SCS) $F(3, 322) = 26.131, p < .001, \eta_p^2 = .196$ and Sexual Sensation Seeking (SSS) measure $F(3, 322) = 4.265, p < .01, \eta_p^2 = .038$ exhibited significant mean differences across offender type. There was no significant mean difference between offender groups on measures of general sensation seeking (Nonsexual Experience Sensation Seeking (NSS), Zuckerman Sensation Seeking Scale (ZSSS)). Full univariate results are located in **Table 1**. Post hoc pairwise comparisons using LSD showed that general offenders had significantly lower mean scores ($M = 15.931, 95\% \text{ CI } [14.387, 17.475]$) on the SCS measure than child molesters and mixed offenders. General offenders and rapists mean scores failed to reach a significant difference. Mixed offenders ($M = 24.989, 95\% \text{ CI } [22.787, 27.192]$) had mean scores significantly higher than rapists ($M = 18.823, 95\% \text{ CI } [15.798, 21.848]$). Pairwise comparisons showed significant mean differences on SCS scores between rapists and child molesters ($M = 23.922, 95\% \text{ CI } [22.722, 25.122]$), but not for child molesters and mixed offenders. For full results, refer to **Table 2**.

Table 1. Univariate and pairwise effects for offender type by measure.

Measure	Offender Type								F
	Non-SO n = 97		Rapist n = 25		CM n = 158		Mixed n = 47		
	M	SD	M	SD	M	SD	M	SD	
ZSSS	17.443 _a	7.42	14.600 _a	6.819	16.930 _a	6.909	15.043 _a	8.296	1.044
SSS	24.979 _a	8.746	26.320 _{ab}	8.606	27.266 _b	6.983	29.106 _b	6.657	4.265**
SCS	16.175 _a	6.651	18.520 _{ab}	8.150	23.867 _{cd}	8.260	24.830 _d	7.639	26.131**
NSS	26.309 _a	8.518	24.280 _a	7.856	26.158 _a	7.054	25.426 _a	7.207	0.471

ZSSS = Zuckerman Sensation Seeking Scale; SSS = Sexual Sensation Seeking Scale; SCS = Sexual Compulsivity Scale; NSS = Nonsexual Experiencing Seeking Scale; Non-SO = Non Sexual Offender; CM = Child Molester; Mixed = Adult and child victims.

Common subscripts indicate a lack of mean differences across scales.

** $p < .01$

Table 2. Univariate and pairwise effects for offender type by various proxy behavioral measures of impulsivity and compulsivity.

Variable	Offender Type								F
	Non-SO		Rapist		CM		Mixed		
	M	SD	M	SD	M	SD	M	SD	
STC	0.441	1.156	0.864	1.642	0.363	1.029	0.074	0.267	2.264
DC	1.267 _a	2.500	1.000 _a	2.000	0.689 _b	1.668	0.431 _b	0.922	3.266*
PF	0.322 _a	0.469	0.556 _b	0.506	0.147 _c	0.355	0.184 _{cd}	0.391	10.753**
VNSC	1.517 _a	1.777	1.438 _{ab}	3.202	0.410 _c	1.212	0.569 _{cd}	1.993	12.115**
ISL	3.514 _a	2.863	2.700 _{ab}	1.949	1.869 _b	1.937	1.955 _b	1.463	9.352**
ISP	0.254 _a	0.457	0.387 _a	0.495	0.149 _b	0.356	0.220 _a	0.418	4.071**

STC = Number of serious traffic charges; DC = Number of drug charges; PF = Physical force during assault; VNSC = Number of violent, nonsexual charges; ISL = Number of different illicit substances consumed in lifetime; ISP = Illicit substance use prior to offense commission.

Common subscripts indicate a lack of mean differences across variables.

* $p < .05$

** $p < .01$

In regard to pairwise comparisons using LSD for the SSS measure, child molesters and mixed offenders had mean scores significantly higher than general offenders ($M = 24.726$, 95% CI [23.201, 26.252]). There were no significant mean differences between rapists ($M = 26.634$, 95% CI [23.645, 29.623]) and child molesters ($M = 27.322$, 95% CI [26.137, 28.508]), rapists and mixed offenders ($M = 29.272$, 95% CI [27.095, 31.448]), or mixed offenders and child molesters on the SSS measure.

Further analyses were conducted in an attempt to determine if specific offense related behaviors were related and unique to certain offender groups. Several analyses of variance were conducted to determine mean differences in theoretically relevant areas. Mean differences between offenders and the average number of serious traffic charges were nearly significant $F(3, 297) = 2.264, p = .081$. As expected, the average number of drug charges was significantly different $F(3, 405) = 3.266, p < .05$. Non-sex offenders have the highest average ($M = 1.267, 95\% \text{ CI } [0.815, 1.719]$) followed by rapists ($M = 0.786, 95\% \text{ CI } [0.229, 1.343]$). The mean number of violent, non-sexual charges was significantly difference $F(3, 405) = 12.115, p < .001$. Non-sex offenders had the highest mean ($M = 1.517, 95\% \text{ CI } [1.1930, 1.841]$) followed by rapists ($M = 1.438, 95\% \text{ CI } [0.283, 2.592]$). Non-sex offenders and rapists' means were not significantly different from one another, however the mean number of charges for rapists was significantly different from child molesters and mixed offenders. A dichotomous variable coded for physical force during the assault was significant, $F(3, 391) = 10.753, p < .001$. Pairwise comparisons show rapists with the highest mean (variable coded as 0 = no force, 1 = force) ($M = 0.556, 95\% \text{ CI } [0.335, 0.756]$) showing significant differences between rapists and all other offenders on this variable. Additionally, child molesters had the lowest mean ($M = 0.147, 95\% \text{ CI } [0.098, 0.196]$) and significantly different from all other offender groups except for mixed offenders. Mean number of illegal substances consumed throughout the lifetime was analyzed as a proxy measure of impulsivity. The results were significant $F(3, 255) = 9.352, p < .001$ with the expected groups having the highest means: non-sex offenders ($M = 3.514, 95\% \text{ CI } [2.841, 4.187]$) and rapists ($M = 2.700, 95\% \text{ CI } [1.788, 3.612]$). The mean number of substances used for non-sex offenders was significantly different child molesters and mixed offenders, but not for rapists. The mean did not differ significantly between rapists, child molesters, or mixed offenders. A variable coding if the offender claimed to have consumed an illicit substance prior to committing the offense (another proxy measure of impulsivity) was significant $F(3, 393), p < .05$. Rapists had the highest mean (indicating more "yes" responses in this dichotomous variable) than all other offenders, ($M = 0.495, 95\% \text{ CI } [0.206, 0.569]$). Non-sex offenders were not significantly different than rapists, however child molesters were significantly different from both rapists and non-sex offenders.

Discussion

This study was conducted to compare impulsivity and compulsivity among different groups of sexual offenders with the notion that differences in these constructs could suggest tailored treatment approaches. Overall, results lend support to many of our hypotheses. General offenders scored significantly lower on measures of sexual compulsivity and sexual sensation seeking, as predicted. However, there were no differences across any of the offender groups in regard to general or nonsexual sensation seeking. Evidence for significant differences between groups of sex offenders themselves was mixed but generally in the predicted direction, even when not statistically significant. Results suggest that targeting compulsivity and impulsivity in different offender groups, even specific sex offender types, may be fruitful when designing and implementing treatment approaches.

An initial examination of the correlations of the different measures is suggestive of the expected convergent and divergent validity of each and therefore supportive of the utility of the measures and the underlying construct. Examination of Table 1 clearly indicated that the greatest relationships exist between the two general measures of sensation seeking (ZSSS and NSS) or nonsexual sensation seeking. Secondly, we see the two sexually related measures (SSS and SCS) having significant overlap. However, the measure of sexual sensation seeking (SSS) is more aligned with the general measures of nonsexual sensation seeking than the measure of sexual compulsivity (SCS). Although all relations are significant, as one would expect in the given sample, they are also appropriately less robust when comparing constructs of lesser theoretical overlap. These outcomes support the use of these measures and the potential relevance of the underlying constructs.

Specifically, there was support for our hypothesis that mixed offenders would have higher mean sexual compulsivity scores than rapists, with the average difference on this measure between the two groups being sizeable. Furthermore, it was hypothesized that sexual compulsivity scores would descend from greatest to least with child molesters having the highest scores, then mixed offenders, and finally rapists. Mixed offenders reported the highest mean scores followed by child molesters. However, the two means were not significantly different. Rapists had significantly lower self-reported mean scores than child

molesters and mixed offenders. The lack of statistically significant mean differences between child molesters and mixed offenders is contrary to the hypothesized outcome based on the literature that child molesters exhibit more patterned and manipulative behavior in terms of victim selection and grooming (Rebocho & Gonçalves, 2012). However, these two groups also have considerable similarities. Both have a pattern of offending against children, the hypothesized indication of the underlying compulsivity. Furthermore, literature suggests that individuals who meet criteria for a paraphilic disorder often meet criteria for multiple paraphilias. Abel, Becker, Cunningham-Rathner, Mittleman, & Rouleau, (1988) interviewed 561 men voluntarily seeking treatment for paraphilia and found that, on average, the men met diagnostic criteria for more than one paraphilia. More specifically, Abel and colleagues found a total of 126 participants met criteria for a rape paraphilia. Of these 126, there were 109 cross-diagnoses in a breakdown of four categories of pedophilia (female non-incestuous, male non-incestuous, female incestuous, male incestuous). Due to the parsing of the category it is possible that some of the total 109 cross-diagnosed pedophilic paraphilias are the same participant. However, these results show that child molesters and mixed offenders have some similarity in their sexual interests that may have translated into statistical equality in terms of compulsivity in our sample. Additionally, in literature examining crossover offending, Cann, Friendship, and Gonza (2007) found that offenders who offend across victim type in age, gender, or relation had significantly higher Static-99 (Hanson & Thornton, 1999) scores than offenders who did not cross over. This could be an indication of less self-control and increased sexual compulsivity in the mixed offenders in this sample.

Overall, the differences between sex offender groups are not always overwhelming, but these data suggest a difference between general offenders and sex offenders on the sexual related impulsivity and compulsivity measures. General offenders endorsed far fewer items of sexual impulsivity and compulsivity based on the mean differences and self-reported more generalized impulsivity and sensation seeking on both the ZSSS and NSS, resulting in higher means than all other sexual offenders. This finding provides support for validity of the measures and their ability to detect expected differences between expected groups and the existence of those differences between general offenders and sex offenders. The findings further suggest that at least

for general offenders and sex offenders who have assaulted children, even mixed offenders, there are clear differences in the underlying sexual urges. However, these findings continue to follow the pattern of results and the larger literature that rapists and general offenders are often similar with the exception of a sexual crime. As the literature suggests, rapists tend to be more antisocial and generally criminal and the data in this sample support these assertions (Harry et al., 1993; Seto & Barbaree, 1999; Simon, 2000). As Reid, Wilson, and Boer (2011) conclude, "... rapists are not specialized in the type of crime they commit. Rather rape appears to be one offense among a generalized pattern of offending behavior" (pp. 289). Overall, general offenders and rapists tended to have more similar mean scores as well as higher mean scores on these impulsive behavior variables than did child molesters and mixed offenders. However, the differences across the measures of general impulsivity were not statistically significant. This is an important finding as it is an indication that, at least in this sample, offender type does not affect general impulsivity; all groups self-reported equal general impulsivity. Impulsivity has been linked to crime by various researchers (Loeber et al., 2012; Lynam et al., 2000) and these results indicate cognitive behavioral interventions targeting impulsivity to improve self-control may be beneficial in reducing general recidivism among all types of offenders.

In terms of sexual sensation seeking, the results were less robust than those focused on compulsivity, but nonetheless uncovered differences between offender groups. Child molesters and mixed offenders produced significantly higher scores on the measure of sexual sensation seeking than general offenders. However, general offenders and rapists did not differ in their scores and none of the sex offender groups had significantly different mean scores on the measure. Again, mixed offenders had the highest mean sexual sensation seeking score, in the predicted direction compared to child molesters, but not for rapists who were hypothesized to have the highest scores on this measure. Rapists did have slightly higher scores on the measure than did child molesters. This does align with the hypothesis. Overall, sexual offenders in this sample are more sexually impulsive and compulsive than non-sexual offenders. It can additionally be inferred that within this sample sexual compulsivity appears to have a relatively bigger difference across people who offend against children than does sexual impulsivity. Current cognitive-behavioral treatment programs focus

on a variety of issues including cognitive issues and distortions, sexual deviancy and intimacy issues, improvement of social functioning skills, life skills to increase hobbies and manage stressors, and finally relapse prevention (Marshall & Laws, 2003). Although issues of compulsivity may be indirectly addressed in one or more of these broader topics during treatment, the results from this study indicate that sexually compulsive thoughts and behavior could theoretically lead to some of the cognitive distortions commonly found among child molesters, suggesting a need for treatment focus. Ward, Fon, Hudson, and McCormack (1998) stress the importance of not just focusing on present day cognitions or distortions in treatment, but those held at the time of the offense. It logically follows that thorough discussion and understanding of what led to those distortions and cognitions prior to the offense is equally important and how compulsive sexual thoughts and behavior may be a precursor in the offending cycle is important to understand and disentangle along with other treatment priorities. Ward and colleagues note that coverage of background factors, including feeling the need for intimacy, is an important part of understanding the offense chain.

Further behavioral measures of impulsivity gave partial support to the overall hypotheses. Mean difference in number of traffic violations was not significant, but the results were in the expected direction with rapists having the highest mean number. Non-sexual offenders and rapists had a significantly higher mean number of drug charges than did mixed offenders and child molesters. However, there was no significant mean difference in charges between non-sexual offenders and rapists. Analysis of a dichotomously coded use of physical force during the sexual offense revealed significant mean differences among non-sexual offenders, rapists, and child molesters, but not between child molesters and mixed offenders. Child molesters had the lowest frequency of physical force used during sexual offenses, while rapists had the highest. An examination of total violent, nonsexual charges revealed significant mean differences across offender type. General offenders had the highest mean number of violent charges followed by rapists. However, the two groups were not significantly different. Child molesters had the lowest mean score and their number of charges was not significantly different from mixed offenders. More evidence of impulsivity within the non-sexual offenders and rapists was found in analyses of drug use. The average number of different illicit

substances consumed across the lifespan was highest among non-sexual offenders and rapists, though not significantly different. Child molesters had the lowest mean score, which was not significantly different from rapists or mixed offenders, but significantly different from non-sexual offenders. Last, non-sexual offenders and rapists had a higher average of reported substance use prior to committing their offenses than child molesters and mixed offenders. Child molesters had the lowest mean that was significantly different from all other offenders. Additionally, as employment record is often considered when determining impulsive behavior, employment history by offender group was examined. When compared across employment category, child molesters had the largest percentage of group members in the mostly employed category.

Despite these findings, this particular study offers some evidence that treatment could target differing compulsive and impulsive cognitions and behaviors for sex offenders by typology. The results lend support to the notion that rapists are generally more criminogenic and therefore better matched in a treatment program for general or violent offenders. Perhaps rapists are general offenders who also happen to have perpetrated sexual violence in a larger criminogenic pattern. On the other hand, these data suggest that child molesters tended to be less criminogenic, again in keeping with the previous literature (Porter et al., 2000; Porter, ten Brinke, & Wilson, 2009). According to the risk needs responsivity model (Bonta & Andrews, 2010), treatment matching depending on risk and needs level should occur—higher risk offenders should receive more intensive treatment and be matched to their specific needs. Additionally, Bonta and Andrews argue against forcing lower risk offenders into treatment with high risk offenders increasing contact with those higher in criminogenic needs and associations. Although child molesters may certainly be at high risk, it is important to be comprehensive in a risk assessment or better conceptualized, risk management strategy. In other words, forcing a child molester who is at low risk for committing general violence into a treatment group with more criminogenic offenders may increase risk of not only sexual violence, but also general violence. Given that many facilities place rapists and child molesters in the same group treatment, this implication is especially important. In an overview of treatment of paraphilias, Marshall and Marshall (2015) note that research supports treatment focus on dynamic risk factors such as insecure

attachments, lack of intimacy, poor self-regulation, and hostility toward others. The authors also note, “Some of these features are more relevant to child molesters while others are more often evident in rapists” (p. 3). Treatment matching by offense and offender type is certainly not a new concept in clinical forensic work. As research helps the field better understand heterogeneous offenders in a more intricate way, clinicians have the opportunity to deliver services that better match the individual. In terms of specific treatment differences, much more focus on repetitive and intrusive cognitions that may lead to child molestation may result in better outcomes for child molesters. As Hanson and Morton-Bourgon (2005) found in a meta-analytic study of persistent sexual offenders, sexual deviancy (as defined by deviant sexual interest and sexual preoccupation) and general self-regulation problems had the largest effect size associated with recidivism in terms of the dynamic variables examined. Although it was not possible to parse child molesters and rapists in their study. The finding that these dynamic factors being most associated with recidivism certainly points to a need to target, plausibly for child molesters particularly. On the other hand, concentration on control of impulsive thoughts and behaviors related to sexual offending and general offending could be more effective with rapists.

Limitations

There are several limitations in this study. The differences in compulsivity and sensation seeking are based on self-report measures. Self-report measures can be especially problematic in a forensic population due to malingering and impression management and may lead to response bias. For example, Seifert, Boulas, Huss, and Scalora (in press) found offenders to respond in a socially desirable manner to self-report measures of sexual fantasies and deviancy including the SCS and SSS scales. However, Seifert et al. (in press) concluded that the observed response biases were not so exaggerated that these measures are useless in treatment settings. So although researchers should be cautious when interpreting self-report data derived from forensic settings, it is likely still useful, even when investigating constructs that would theoretically produce more response bias, such as those related to sexual deviancy. Additionally, the length of time (sometimes years) between the commission of the offense and our measurement

of the constructs of interest may be a limitation when the stability of these constructs over time is considered. Ward, Loudon, Hudson, and Marshall (1995) note that cognitions, behaviors, and emotions change throughout the offense process and some can be activated or conversely inhibited at different points in the offense cycle. In a review of phallometric tests, Marshall and Fernandez (2000) found poor test-retest reliability as well as mixed evidence of criterion validity in regard to offender type. This is an indirect signal that the constructs investigated in this study have questionable stability over time and should therefore be interpreted with caution. In addition, sensation seeking and impulsivity were theoretically equated for the purposes of analysis. This approach does occur in the literature and in forensic risk assessment. For example, the STABLE-2007 (Hanson, Harris, Scott, & Helmus, 2007) seemingly combines impulsivity and sensation seeking into the Impulsive Acts item. However, the PCL-R has two items parsing out these constructs: Need for stimulation/proneness to boredom and impulsivity. It is clear that within the literature, some researchers consider these constructs distinct and others think the behaviors associated with each make them more alike than not. Some may view the equating of these constructs in this study as a limitation. It is possible that impulsivity is not accurately captured by the ZSSS scale, therefore lending some explanation to the null results. It is also important to recognize that sexually compulsive behavior as well as sexually impulsive behavior manifest differently among those who have committed sexual violence. While our attempt in this study was to learn more about the potential manifestations of these broader categories between types of sexual offenders, it will be important in future research to look within groups to understand important differences.

Conclusion

Although forensic risk assessments typically have items related to static or unchanging offender characteristics (age, prior criminal history, etc.), many do capture some sort of impulsivity/sensation seeking and sexual compulsivity or preoccupation traits. With this in mind, an intervention approach to help offenders manage and cope with their impulsivity or compulsivity may be an important key to

successful treatment. Future research should focus on obtaining larger sub samples and on designs that are experimental and causal in nature in order to increase validity within this particular area of study. More specifically, measures scored by a clinician in addition to the use of self-report measures of compulsivity and impulsivity could result in increased validity. One assessment measure that may be particularly helpful is the recently revised Sexual Dependency Inventory (SDI-4.0; Green, Arnau, Carnes, Carnes, & Hopkins). The SDI-4.0 could provide important information related to specific sexual thoughts, processes, and problematic behaviors that could play a role in determining risk as it is related to sexual deviancy, but also treatment targets (Green et al., 2015). Overall, having a more robust and systematic method of measuring specific behaviors (e.g., masturbation habits, pornography usage) may provide better data and evidence of problematic compulsive and impulsive behaviors.

Currently, sex offender treatment outcome research with the primary target of reduced recidivism is inconclusive (Walton and Chou, 2014). Due to the ethical and feasibility issues and the low base rates of captured recidivism, the field is at a loss for good process and outcome research with study features such as randomization, control groups, large sample sizes, and adequate follow-up periods. Research on recent treatment focuses have surfaced, including offender perceptions of locus of control in offender (McAnena, Crissati, & Southgate, 2016), protective factors (de Vries Robbé, Mann, Maruna, & Thornton, 2014), and measurement of client satisfaction with therapy post-treatment (Levenson, Prescott, & D'Amora, 2010; Thomas, Phillips, & Blaine, 2015). However, as research and therapy improve, it is important to continually consider empirically testing other treatment approaches depending on the type of sexual offense and offender. More specifically, the results from this study indicate that targeting the impulsive behavior of rapists and the compulsive thoughts and behavior of child molesters may be a fruitful next area of treatment and subsequent research.

References

- Abel, G. G., Becker, J. V., Cunningham-Rathner, J., Mittelman, M., & Rouleau, J. L. (1988). Multiple paraphilic diagnoses among sex offenders. *Bulletin of the American Academy of Psychiatry & the Law*, 16, 153-168.

- Babchishin, K. M., Hanson, R. K., & VanZuylen, H. (2015). Online child pornography offenders are different: A meta-analysis of the characteristics of online and offline sex offenders against children. *Archives of Sexual Behavior*, 1–22.
- Barth, R. J., & Kinder, B. N. (1987). The mislabeling of sexual impulsivity. *Journal of Sex & Marital Therapy*, 13, 15–23.
- Baumgartner, J. V., Scalora, M. J., & Huss, M. T. (2002). Assessment of the Wilson Sex Fantasy Questionnaire among child molesters and nonsexual forensic offenders. *Sexual Abuse: A Journal of Research and Treatment*, 14, 19–30.
- Beck, K. H., Thombs, D. L., Mahoney, C. A., & Fingar, K. M. (1995). Social context and sensation seeking: Gender differences in college student drinking motivations. *Substance Use & Misuse*, 30, 1101–1115.
- Blanchard, R., Klassen, P., Dickey, R., Kuban, M. E., & Blak, T. (2001). Sensitivity and specificity of the phallometric test for pedophilia in nonadmitting sex offenders. *Psychological Assessment*, 13, 118–126.
- Bogaerts, S., Daalder, A., Vanheule, S., Desmet, M., & Leeuw, F. (2008). Personality disorders in a sample of paraphilic and nonparaphilic child molesters: A comparative study. *International Journal of Offender Therapy and Comparative Criminology*, 52, 21–30.
- Bonta, J., & Andrews, D. (2010). Viewing offender assessment and rehabilitation through the lens of the risk-needs-responsivity model. In F. McNeill, P. Raynor, & C. Trotter (Eds.), *Offender supervision: New directions in theory, research and practice* (pp. 19–40). New York, NY: Routledge.
- Cann, J., Friendship, C., & Gozna, L. (2007). Assessing crossover in a sample of sexual offenders with multiple victims. *Legal and Criminological Psychology*, 12, 149–163.
- Cohen, L. J., Gans, S. W., McGeoch, P. G., Poznansky, O., Itskovich, Y., Murphy, S., ... Galynker, I. I. (2002). Impulsive personality traits in male pedophiles versus healthy controls: Is pedophilia an impulsive-aggressive disorder? *Comprehensive Psychiatry*, 43, 127–134.
- Coleman, E., Miner, M., Ohlerking, F., & Raymond, N. (2001). Compulsive Sexual Behavior Inventory: A preliminary study of reliability and validity. *Journal of Sex & Marital Therapy*, 27, 325–332.
- de Vries Robbé, M., Mann, R. E., Maruna, S., & Thornton, D. (2015). An exploration of protective factors supporting desistance from sexual offending. *Sexual Abuse: A Journal of Research and Treatment*, 27, 16–33.
- Gaither, G. A., & Sellbom, M. (2003). The sexual seeking scale: Reliability and validity within a heterosexual college student sample. *Journal of Personality Assessment*, 81, 157–167.
- Gannon, T. A., & Ward, T. (2008). Rape: Psychopathology and theory. In D. R. Laws & W. T. O'Donohue (Eds.), *Sexual deviance: Theory, assessment, and treatment* (pp. 336–355). New York, NY: Guilford Press.
- Green, B. A., Arnau, R. C., Carnes, P. J., Carnes, S., & Hopkins, T. A. (2015). Structural congruence of the Sexual Dependency Inventory—4th Edition. *Sexual Addiction & Compulsivity*, 22, 126–153.
- Haden, S. C., & Shiva, A. (2008). Trait impulsivity in a forensic inpatient sample: An evaluation of the Barratt Impulsiveness Scale. *Behavioral Sciences & the Law*, 26, 675–690.

- Hanson, R., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*, 348-362.
- Hanson, R., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73*, 1154-1163.
- Hanson, R. K., Harris, A. J. R., Scott, T., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project* (Corrections User Report No 2007-05). Ottawa, Canada: Public Safety Canada.
- Hanson, R. K., & Thornton, D. (1999). *Static 99: Improving actuarial risk assessments for sex offenders* (User report 1999-02). Ottawa, Canada: Department of the Solicitor General of Canada.
- Harry, B., Pierson, T. R., & Kuznetsov, A. (1993). Correlates of sex offender and offense traits by victim age. *Journal of Forensic Sciences, 38*, 1068-1074.
- Heffernan, R., & Ward, T. (2015). The conceptualization of dynamic risk factors in child sex offenders: An agency model. *Aggression and Violence Behavior, 24*, 250-260.
- Hook, J. N., Hook, J. P., Davis, D. E., Worthington, E. J., & Penberthy, J. K. (2010). Measuring sexual addiction and compulsivity: A critical review of instruments. *Journal of Sex & Marital Therapy, 36*, 227-260.
- Kafka, M. P., & Hennen, J. (2003). Hypersexual desire in males: Are males with paraphilias different from males with paraphilia-related disorders?. *Sexual Abuse: A Journal of Research and Treatment, 15*, 307-321.
- Kalichman, S. C., Johnson, J. R., Adair, V., Rompa, D., Multhauf, K., & Kelly, J. A. (1994). Sexual sensation seeking; Scale development and predicting AIDS-Risk behavior among homosexually active men. *Journal of Personality Assessment, 62*, 385-397.
- Kalichman, S. C., & Rompa, D. (1995). Sexual sensation seeking and sexual compulsivity scales: Reliability, validity, and predicting HIV risk behavior. *Journal of Personality Assessment, 65*, 586-601.
- Kuzma, J. M., & Black, D. W. (2004). Compulsive disorders. *Current Psychiatry Reports, 6*, 58-65.
- Levenson, J. S., Prescott, D. S., & D'Amora, D. A. (2010). Sex offender treatment consumer satisfaction and engagement in therapy. *International Journal of Offender Therapy and Comparative Criminology, 54*, 307-326.
- Loeber, R., Menting, B., Lynam, D. R., Moffitt, T. E., Stouthamer-Loeber, M., ... Pardini, D. (2012). Findings from the Pittsburgh Youth Study: Cognitive impulsivity and intelligence as predictors of the age-crime curve. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*, 1136-1149.
- Lynam, D. R., Caspi, A., Moffitt, T. E., Wikström, P., Loeber, R., & Novak, S. (2000). The interaction between impulsivity and neighborhood context on offending: The effects of impulsivity are stronger in poorer neighborhoods. *Journal of Abnormal Psychology, 109*, 563-574.
- Maletzky, B. M., & Steinhauer, C. (2002). A 25-year follow-up of cognitive/behavioral therapy with 7,275 sexual offenders. *Behavior Modification, 26*, 123-147.
- Marshall, W. L., & Fernandez, Y. M. (2000). Phallometric testing with sexual offenders: Limits to its value. *Clinical Psychology Review, 20*, 807-822.

- Marshall, W. L., & Laws, D. R. (2003). A brief history of behavioral and cognitive behavioral approaches to sexual offender treatment: Part 2. The modern era. *Sexual Abuse: A Journal of Research and Treatment*, 15, 93-120.
- Marshall, W. L., & Marshall, L. E. (2015). Psychological treatment of the paraphilias: A review and an appraisal of effectiveness. *Current Psychiatry Reports*, 17, 1-6.
- McAnena, C., Craissati, J., & Southgate, K. (2016). Exploring the role of locus of control in sex offender treatment. *Journal of Sexual Aggression*, 22, 95-106.
- Mouilso, E. R., Calhoun, K. S., & Rosenbloom, T. G. (2013). Impulsivity and sexual assault in college men. *Victims and Violence*, 28, 429-442.
- Porter, S., Fairweather, D., Drugge, J., Herve, H., Birt, A., & Boer, D. P. (2000). Profiles of psychopathy in incarcerated sexual offenders. *Criminal Justice and Behavior*, 27, 216-233.
- Porter, S., ten Brinke, L., & Wilson, K. (2009). Crime profiles and conditional release performance of psychopathic and non-psychopathic sexual offenders. *Legal and Criminological Psychology*, 14, 109-118.
- Portnoy, J., Raine, A., Chen, F. R., Pardini, D., Loeber, R., & Jennings, J. R. (2014). Heart rate and antisocial behavior: The mediating role of impulsive sensation seeking. *Criminology: An Interdisciplinary Journal*, 52, 292-311.
- Rebocho, M., & Gonçalves, R. (2012). Sexual predators and prey: A comparative study of the hunting behavior of rapists and child molesters. *Journal of Interpersonal Violence*, 27, 2770-2789.
- Reid, S., Wilson, N. J., & Boer, D. P. (2011). Risk, needs, and responsivity principles in action: Tailoring rapist's treatment to rapist typologies. In D. P. Boer, R. Eher, L. A. Craig, M. H. Miner, & F. Pfäfflin, (Eds.), *International perspectives on the assessment and treatment of sexual offenders: Theory, practice, and research* (pp. 287-297). Hoboken, NJ: Wiley-Blackwell.
- Saleh, F. M., & Guidry, L. L. (2003). Psychosocial and biological treatment considerations for the paraphilic and nonparaphilic sex offender. *Journal of the American Academy of Psychiatry and the Law*, 31, 486-493.
- Seifert, K., Boulas, J., Huss, M. T., & Scalora, M. J. (in press). Response bias on self-report measures of sexual fantasies among sexual offenders. *International Journal of Offender Therapy and Comparative Criminology*.
- Seto, M. C., & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender recidivism. *Journal of Interpersonal Violence*, 14, 1235-1248.
- Simon, L. J. (2000). An examination of the assumptions of specialization, mental disorder, and dangerousness in sex offenders. *Behavioral Sciences & the Law*, 18, 275-308.
- Thomas, S. P., Phillips, K. D., & Blaine, S. K. (2015). Psychotherapy experiences of perpetrators of child sexual abuse. *Archives of Psychiatric Nursing*, 29, 309-315.
- Walton, J. S., & Chou, S. (2014). The effectiveness of psychological treatment for reducing recidivism in child molesters: A systematic review of randomized and nonrandomized studies. *Trauma, Violence, & Abuse*, 1-17.
- Ward, T., & Beech, A. (2006). An integrated theory of sexual offending. *Aggression and Violent Behavior*, 11, 44-63.

- Ward, T., Fon, C., Hudson, S. M., & McCormack, J. (1998). A descriptive model of dysfunctional cognitions in child molesters. *Journal of Interpersonal Violence, 13*, 129-155.
- Ward, T., Louden, K., Hudson, S. M., & Marshall, W. L. (1995). A descriptive model of the offense chain for child molesters. *Journal of Interpersonal Violence, 10*, 452-472.
- Wood, H. (2011). The internet and its role in the escalation of sexually compulsive behavior. *Psychoanalytic Psychotherapy, 25*, 127-142.
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. New York, NY: Cambridge University Press.
- Zuckerman, M., Eysenck, S., & Eysenck H. J. (1978). Sensation seeking in England and America: Cross-cultural, age and sex comparisons. *Journal of Consulting and Clinical Psychology, 46*, 139-149.
- Zuckerman, M., Kolin, E. A., Price, L., & Zoob, I. (1964). Development of a sensation-seeking scale. *Journal of Consulting and Clinical Psychology, 28*, 477-482.