

Demoralization, Hypomanic Activation, and Disconstraint Scores on MMPI-2 Scales as Significant Predictors of Hypersexual Behavior

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This article reports the findings of a study investigating which facets of psychopathology are most strongly associated with hypersexual behavior among a patient sample (N = 151). Psychopathology was measured using the Restructured Clinical scales and the PSY-5 scales of the MMPI-2, and hypersexual behavior was measured using the Sexual Compulsivity Scale. Regression analysis revealed that Demoralization was the strongest predictor of scores on a measure of hypersexuality, with Hypomanic Activation on the RC scales and Disconstraint on the PSY-5 scales making additional modest, but statistically significant, contributions. Although some MMPI-2 scales were significantly elevated, an important finding of the current investigation is the lack of elevations across many MMPI-2 scales. The results of these findings are addressed and recommendations for future research are discussed.

INTRODUCTION

Mental health providers in outpatient settings continue to see increasing numbers of patients who report difficulties regulating their nonparaphilic sexual thoughts, feelings, and behaviors. These individuals experience a persistent preoccupation with sex and face numerous adverse consequences associated with sexual behavior. Classifications such as *sexual compulsivity*, *sexual addiction*, *sexual impulsivity*, and *hypersexual behavior* have been suggested for these presenting problems (Barth & Kinder, 1987; Carnes, Murray, &

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Charpentier, 2005; Coleman, Miner, Ohlerking, & Raymond, 2001; Fong, 2006; Goodman, 2001; Kafka, 2001; Kalichman & Rompa, 1995; Reid, 2007). Studies seeking to understand this phenomenon have linked hypersexual behavior to anxiety, depression (Raviv, 1993; Raymond, Coleman, & Miner, 2003), attention-deficit disorders (Kafka & Prentky, 1998), social phobia, substance abuse (Kafka & Hennen, 2002), obsessive tendencies (Schwartz & Abramowitz, 2003), sexual dysfunction (Butts, 1992), and post-traumatic stress disorders (Howard, 2007). Studies investigating personality note that boredom proneness (Chaney & Blalock, 2006), interpersonal sensitivity, alexithymia, loneliness, shame, and low self-esteem have also been observed in association with hypersexual behavior (Guigliamo, 2006; Reid, Carpenter, Spackman, & Willes, 2008; Reid, Harper, & Anderson, 2009; Wilson, 2000; Yoder, Virden, & Amin, 2005). Some evidence suggests that hypersexuality also disrupts healthy attachments in romantic interpersonal relationships (Reid, Carpenter, Draper, & Manning, in press; Reid & Woolley, 2006; Zapf, Greiner, & Carroll, 2008).

Despite the growing number of studies about hypersexuality, there is a paucity of research using well-established instruments such as the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) among this population with one notable exception (Reid & Carpenter, 2009). The present study was designed to further advance the research in this domain by examining which characteristics of psychopathology (as measured by the MMPI-2 Restructured Clinical scales) are most strongly associated with hypersexual behavior among a sample of male patients presenting with hypersexuality.

Definition of Hypersexuality

The definition of hypersexual behavior used in the present study requires an individual to exhibit the following symptoms for a minimum of six months: (1) difficulty controlling sexual thoughts, urges, and behaviors; (2) adverse consequences causing significant psychological distress; and (3) volitional impairment across interpersonal, social, or occupational domains. Furthermore, the symptoms cannot occur exclusively within the context of another Axis I disorder (e.g., manic phase of bipolar); be substance induced; or occur in relation to neurological pathology such as a brain injury, temporal lobe epilepsy, or Kluver-Bucy syndrome (Coleman, 1991, Kafka, 2001; Reid, 2007; Reid, Carpenter, & Lloyd, 2009). Hypersexual behavior is also distinct and separate from the phenomenon of persistent sexual arousal syndrome in which an individual experiences persistent sexual arousal in the absence of desire (Leiblum & Nathan, 2001; Mahoney & Zarate, 2007). As a group, hypersexual patients often use sex as a tension-reduction behavior (e.g., stress relief, affect regulation) to escape uncomfortable or unpleasant mood states (Reid, Carpenter, Spackman, & Willes, 2008). Symptoms associated with hypersexual behavior can also occur comorbidly with paraphilic

tendencies (Kafka, 1997, 2001, 2003) and manifestations of hypersexuality can encompass a variety of solo and relational sexual activities. Some examples are noted in the method section of this article. The presentations noted in our sample are distinguished as manifestations of hypersexuality only to the degree to which a person experiences personal distress, discordance, diminished functioning, and so forth as a result of participating in them.

Rationale for Using the MMPI-2 Restructured Clinical and PSY-5 Scales

The MMPI-2 is a widely known test measuring psychopathology and personality traits. Because it contains a variety of subscales that assess psychological distress, it provides an opportunity to examine these features and their predictive power of hypersexual behavior. The rationale for using the Restructured Clinical (RC) scales comes from these scales' reported increased validity (Tellegen et al., 2003) over the MMPI-2 Clinical scales, which have long been criticized for their conceptual overlap and their item heterogeneity (e.g., Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Butcher et al., 2001; Helmes & Reddon, 1993; Horn, Wanberg, & Appel, 1973). As compared to the Clinical scales, the RC scales were developed to (1) provide an index of the broad underlying factor of distress/maladjustment/demoralization found on most measures of psychopathology, including the MMPI-2, and (2) assess the core feature of each of the eight primarily clinical scales. Use of the MMPI-2 in this study has additional advantages because there is a wide body of research correlating MMPI-2 data with other populations and other psychological phenomena, allowing researchers opportunity to generate further hypotheses about hypersexual behavior. As some readers may be unfamiliar with the RC scales of the MMPI-2, a small synopsis of their theoretically related characteristics has been provided in Table 3.

The rationale for performing a parallel examination with the Psychopathology Five (PSY-5) scales (Harkness, McNulty, & Ben-Porath, 1995) is similar. These five scales are based on the factor-analytic analysis of personality that leads to the widely recognized conclusion that personality attributes can be reasonably summarized by about five broad factors. Harkness and McNulty extended that work to psychopathological attributes by identifying five broad dysfunctional traits that represented the more normal "Big Five" factors. They then developed markers of these psychiatric attributes using MMPI-2 items. This yielded non-overlapping scales which, like their normal counterparts, are less intercorrelated than traditional MMPI-2 scales.

Purpose of this Study

This study sought to investigate which characteristics of psychopathology might be predictive of hypersexuality among a group of patients seeking

help for hypersexual behavior. This study addresses an apparent dearth in the literature by using a well-established and widely accepted measure of psychopathology—the MMPI-2—among a group of hypersexual subjects. More specifically, given the existing pattern of correlates with hypersexual behavior, we anticipated that the RC Demoralization Scale, as an index of general distress, might capture the predictive variance responsible for the associations of hypersexuality with depression, anxiety, vulnerability, and the like. Capturing this predictive variance in the single RC variable of Demoralization would yield a clearer picture of what, if anything, beyond this general distress is associated with hypersexuality. Similarly, we wanted to determine if the variables associated with the PSY-5 personality possessed any predictive variance in levels of hypersexuality.

METHOD

Participants

The convenience sample used in this study consisted of male patients recruited from an outpatient clinic that specialized in the treatment of hypersexuality. These subjects were selected consecutively based on (1) the patient reporting during intake and assessment a primary complaint of excessive and out-of-control sexual behavior which created significant distress and negative life consequences; and (2) the patient being willing to participate in research, as reflected in consent provided at the outset of the treatment process. We had a 99% rate of participation from those who were invited to be involved in our research. Patients received no incentives to participate, and all subjects in the study signed informed consent. Exclusion criteria that eliminated 6 subjects from participation in this study included the presence of any psychotic symptoms, traumatic brain injury, and psychoactive substance abuse in the last 30 days. MMPI-2 protocols were considered valid based on criteria similar to those used by Graham, Ben-Porath, and McNulty (1997) which omitted four subjects yielding a final sample size of 151 subjects.

Ethnic representation among the sample included Asian ($n = 2$), Hispanic ($n = 4$), and Caucasian ($n = 145$), and participants ranged from 18 to 64 years of age ($M = 31.6$, $SD = 9.3$). Relationship status included never married ($n = 51$), first marriage ($n = 78$), remarried ($n = 11$), separated ($n = 7$), and divorced ($n = 4$). Sexual preferences represented included homosexual ($n = 4$), bisexual ($n = 4$), and heterosexual ($n = 143$).

Self-reported presenting sexual behaviors among participants included compulsive masturbation (66%), pornography dependence (61%), voyeurism (2%), exhibitionism (2%), transvestic fetishism (3%), habitual solicitation of commercial sex workers (17%), extra-marital affairs (13%), and excessive unprotected sex with multiple anonymous partners (18%). The subjects who

met criteria for paraphilia (7%) were included in this study because (1) they also met the criteria for our definition of hypersexual behavior and (2) their data were not significantly different from subjects who were exclusively hypersexual.

Measures

At the outset of treatment, patients were given the MMPI-2, the Sexual Compulsivity Scale, and a demographic survey.

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY-2 (MMPI-2)

The MMPI-2 consists of 567 items, which participants endorse as true or false, that produce several scales. MMPI-2 scale scores are calculated by summing the number of items for the respective scale, and results are reported as T-scores ($M = 50$, $SD = 10$). Elevated T-scores for each scale reflect various aspects of psychopathology (e.g., depression). The psychometric properties of the MMPI-2 are widely known, and the test has received broad acceptance by the mental health community (Butcher et al., 1989).

SEXUAL COMPULSIVITY SCALE (SCS)

The SCS (Kalichman, Johnson, & Adair, 1994; Kalichman & Rompa 1995, 2001) was developed to assist in research of high-risk sexual behaviors, predominantly among homosexual male subjects, although it has since been used in several studies of both heterosexual and homosexual populations (Cooper, Delmonico, & Burg, 2000; Dodge, Reece, Cole, & Sandfort, 2004; Kalichman & Rompa, 1995, 2001; Reece & Dodge, 2004; Reece, Plate, & Daughtry, 2001). The SCS is a 10-item Likert scale that queries sexual thoughts, feelings, and behaviors. Respondents endorse items on a 4-point scale ranging from 1 (*not at all like me*) to 4 (*very much like me*). Thus, scores range from 10 to 40. Dodge et al. (2004) reported means for various samples in the literature, ranging from 13.3 (heterosexual female college students) to 20.6 (homosexual men with HIV). High reliability (Cronbach's $\alpha = .89$) was demonstrated in a pilot convenience sample of homosexual men (Kalichman, Johnson, & Adair, 1994), and internal consistency for the scale has been shown from $\alpha = .86$ to $\alpha = .87$, with a sample of homosexual men and with a sample of inner-city men and women, respectively (Kalichman & Rompa, 1995).

RESULTS

Table 1 presents the descriptive statistics of the study variables. As seen in other studies of this kind of population, respondents present with elevated

TABLE 1 MMPI-2 RC and PSY-5 Scale Correlates with the Sexual Compulsivity Scale ($N = 151$)

Scale Name	Mean (SD)	Zero-order r	Partial r	
			Stage 1	Stage 2
Sexual Compulsivity Scale	28.43 (4.82)			
Demoralization (RCd)	63.01 (12.35)	.280**		
Somatic Complaints (RC1)	52.87 (11.62)	.151	.002	-.037
Low Positive Emotions (RC2)	56.50 (11.84)	.035	-.178	-.103
Cynicism (RC3)	47.03 (8.24)	.182*	.097	.009
Antisocial Behaviors (RC4)	49.87 (7.91)	.209**	.142	.079
Ideas of Persecution (RC6)	55.36 (9.93)	.093	.009	-.044
Dysfunctional Negative Emotions (RC7)	53.60 (10.83)	.251**	.083	.017
Aberrant Experiences (RC8)	49.83 (9.47)	.180*	.084	.020
Hypomanic Activation (RC9)	46.79 (8.56)	.215**	.190*	
PSY-5 Aggressiveness	44.64 (8.65)	.055	.093	-.009
PSY-5 Psychoticism	52.02 (9.71)	.156*	.036	.001
PSY-5 Disconstraint	47.80 (8.40)	.205**	.231**	
PSY-5 Negative Emotionality	56.36 (10.71)	.289**	.138	.098
PSY-5 Introversion / Low Positive Emotionality	58.17 (12.77)	-.007	-.194*	-.145

* $p < .05$.** $p < .01$.

scores on the SCS. Most subjects (86%) have scores at or above the cut-off of 24 recommended by Kalichman and Rompa (1995). Similarly, scores are elevated on a number of MMPI-2 RC scales, most notable Demoralization, followed by Low Positive Emotions and Ideas of Persecution. Forty-three percent of these subjects have Demoralization scores at or above the cut-off for clinical significance ($T \geq 65$). There were also modest elevations on PSY-5 scales Negative Emotionality and Introversion/Low Positive Emotionality.

The correlations of the MMPI-2 scales with the Sexual Compulsivity Scale (also in Table 1) are mostly consistent with previous research, including our finding that the magnitude of correlations is quite modest. The four largest RC correlations occur on the scales of Demoralization, Dysfunctional Negative Emotions, Hypomanic Activation, and Antisocial Behaviors. Interestingly, the correlation with Low Positive Emotions, which is closest to the core characteristic of clinical depression, is uncorrelated with the SCS, even though a number of these patients present with depression and associations between sexual compulsivity and depression are often suggested in the literature. There were also small but significant correlations between the SCS and the PSY-5 scales of Psychoticism, Disconstraint, and Negative Emotionality.

To better understand the relationship of hypersexuality to MMPI-2 clinical attributes, a regression analysis was performed with Sexual Compulsivity Scale scores as the dependent variable and MMPI-2 scale scores as predictor variables. Demoralization was entered first to account for general

TABLE 2 Variance Explained by MMPI-2 RC and PSY-5 Scales

	R^2	ΔR^2	ΔF	Δp
RC Scales Regression				
Step 1 – Demoralization	.079	.079	12.72	.001
Step 2 – Hypomanic Activation	.112	.033	5.55	.020
PSY-5 Scales Analysis				
Step 1 – Demoralization	.079	.079	12.72	.001
Step 2 – Disconstraint	.128	.049	8.31	.005

maladjustment and distress. Then the remaining RC scales were entered in stepwise fashion. A second, parallel analysis was then performed, entering Demoralization first, followed by the PSY-5 scales in stepwise fashion.

RC Scales Analysis

Because Demoralization is the common factor shared by many measures of specific pathology, it was the intent of the developers of the RC scales to remove the effects of the distress captured by this scale from the remaining RC scales; however, they were only partially successful, particularly for Low Positive Emotions and Dysfunctional Negative Emotions.

Consistent with this, when Demoralization is entered into the regression formula, the partial correlation of SCS with Dysfunctional Negative Emotions drops below significance, leaving Hypomanic Activation as the next variable to enter the equation. Examination of the partial correlations after this second step reveals that there is no significant predictive variance in the remaining variable. For the final equation, presented in Table 2, Demoralization ($\beta = .258$, $t[148] = 3.31$, $p < .001$) and Hypomanic Activation ($\beta = .184$, $t[148] = 2.36$, $p < .001$) significantly predicted SCS scores. Together, these two variables explained a significant proportion of variance in sexual compulsivity scores ($R^2 = .11$, $F[2,148] = 9.33$, $p < .001$).

In examining our data, we noticed that 46% of the patients ($n = 70$) in this sample did not have clinically significant scores ($T \geq 65$) on any RC scale. We isolated these patients as a separate group and compared their Sexual Compulsivity Scale scores ($M = 27.7$, $SD = 4.5$) to those of the remainder of their cohort ($M = 29.1$, $SD = 5.0$) who had at least one elevated RC score. We found no significant differences between the groups in their level of sexual compulsivity [$t(149) = 1.673$, $p > .05$], suggesting that a portion of these hypersexual patients do not appear to exhibit pathological symptoms.

PSY-5 Scales Analysis

We also examined the contribution of PSY-5 scales beyond general maladjustment and distress. Examination of partial correlations after entering

TABLE 3 MMPI-2 RC Scales with Percentage of Patients Classified with Elevated Scores

Scale (Patients with $T \geq 65$)	Characteristics Among Individuals with Elevated T -Scores ($T \geq 65$)*
RCd—Demoralization (43%)	Emotionally distressed, experience psychological turmoil; discouraged, poor self-esteem, pessimistic; difficulties coping with stress, feelings of self-doubt
RC1—Somatic Complaints (14%)	Preoccupation with psychosomatic health concerns; often report a constellation of physical complaints such as chronic pain; react to stress with medical complaints
RC2—Low Positive Emotions (23%)	Paucity of positive emotional engagement in life experiences; unhappy, vulnerable to depression; feelings of inadequacy; indecisive, hopeless; socially withdrawn, introverted and prone to boredom; feel disconnected interpersonally
RC3—Cynicism (3%)	Perceive others as untrustworthy, uncaring, and self-centered or exploitive; skeptical
RC4—Antisocial Behavior (5%)	Antisocial attitudes or behavior; difficulty being compliant to social norms; altercations with the law; increased susceptibility to substance abuse; interpersonal conflict with others
RC6—Ideas of Persecution (15%)	Thoughts of persecution, feel manipulated or controlled by external forces; suspicious of others, difficulties trusting; very high scores associated with hallucinations, delusions, and schizophrenic symptoms
RC7—Dysfunctional Negative Emotions (17%)	Negative affective experiences, vacillating moods including anxiety or irritableness; may report depression, insecurities, interpersonally sensitive and excessive rumination about shortcomings or perceived failures
RC8—Aberrant Experiences (5%)	Sensory, cognitive, perceptual, or motor disturbances; may reflect psychosis or diminished mental capacity; may experience delusions or hallucinations
RC9—Hypomanic Activation (5%)	Restless thoughts, intense energy, elevated mood, irritability; poor impulse control and self-regulation; sensation-seeking, risk-taking behavior; extremely high scorers may reflect tendencies of mania

Descriptions of characteristics based on the work of Graham (2006).

Demoralization into a new regression equation reveals that Disconstraint has the highest association with unexplained variance in SCS. After Disconstraint is entered into the equation, no other PSY-5 variables make further significant contribution. This yields a final regression equation in which Demoralization ($\beta = .293$, $t[148] = 3.81$, $p < .001$) and Disconstraint ($\beta = .222$, $t[148] = 2.88$, $p < .001$) significantly predict SCS scores. Together, these two variables explained a significant proportion of variance in sexual compulsivity scores ($R^2 = .13$, $F[2,148] = 10.83$, $p < .001$). Table 2 describes the changes in variance at the two steps of the regression analysis.

DISCUSSION

This study revealed a number of important findings related to hypersexual patients. First, the regression analysis provided some insight about the psychological characteristics (as measured by two MMPI-2 RC Scales of Demoralization and Hypomanic Activation) most predictive of scores on a measure of hypersexuality. Demoralization is characterized by emotional distress, discouragement, poor self-esteem, difficulties coping with stress, and self-doubt, and it was most predictive of hypersexual behavior as measured by the Sexual Compulsivity Scale. To a lesser extent, Hypomanic Activation was also predictive of hypersexuality. Hypomanic Activation is characterized by tendencies toward restless thoughts, intense energy, elevated mood, irritability, poor impulse control, and difficulties with self-regulation. Individuals with elevations on the Hypomanic Activation scale often engage in sensation-seeking, risk-taking behaviors, and patients who score extremely high on this scale may exhibit manic features. Results of the PSY-5 analysis are quite similar. As with the RC scales, most subjects are now presenting with clinical elevations, and the associations beyond distress/maladjustment are quite modest. To the extent that PSY-5 scales account for additional variance, the variance is mostly captured by Disconstraint. Disconstraint is the pathological version of the normal personality dimension of conscientiousness (Harkness et al., 1995). Disconstraint reflects difficulties with risk-taking, impulsivity, and non-conformity. Although not identical constructs, the parallels between Hypomanic Activation and Disconstraint appear substantial ($r = .51$, $p < .001$). Interestingly, few participants scored in the clinical range for Disconstraint; most variability in the scores for this scale were in the average to low-average range (perhaps suggesting that very low Disconstraint can help reduce sexual compulsivity in these individuals). This observation could be noted for the low scores across many of the MMPI-2 scales examined in this study. This finding is striking and may suggest that psychopathology is generally not a significant factor in perpetuating patterns of hypersexual behavior.

Because of the correlational nature of these data, it is uncertain whether the associated characteristics are consequences of hypersexual behavior or exert a causal effect (either as precipitating risk factors or as correlates of risk factors). Regardless, these findings provide some understanding about the difficulties hypersexual clients may experience and the characteristics clinicians might encounter in outpatient treatment settings.

These data present several challenges to common notions about the correlates of hypersexual individuals. Of note in our sample, Low Positive Emotion scores are not particularly elevated, and while Dysfunctional Negative Emotions scores are significantly elevated, the magnitude is modest. This finding of significant, but modestly elevated scores, is also true of the PSY-5 scales most distinctive of depression and anxiety: Low Positive Emotionality and Negative Emotionality, respectively. A good portion of past research on hypersexuality finds or hypothesizes a relationship to depression and anxiety. Low Positive Emotions is widely regarded as a core feature of depression that is also more specific to depression than many other elements (e.g., Watson & Clark, 1992, 1995; Watson, Clark, & Carey, 1988). Similarly, Dysfunctional Negative Emotions is core to the construct of anxiety and more focused than some measures of anxiety (such as the MMPI-2 Clinical scale 7). Because the associations between depression/anxiety and SCS scores are small for our data, and because they become unimportant after the variance for Demoralization is accounted for, we suggest using caution in emphasizing features such as depression and anxiety as explanations for greater hypersexuality beyond the fact that these mood states capture the general distress often reported by this population of patients.

Lest one assume from the modest correlations of these data that examination of psychopathological attributes is unimportant for hypersexual subjects, it should be remembered that this study did not compare patients to a normal population. Rather, it examined how specific attributes are associated with sexual compulsivity (as one marker of the severity of hypersexuality) for our patients. Because all subjects had elevated Sexual Compulsivity Scale scores, the available variance to correlate with MMPI-2 scores is significantly restrained, as compared to a study including non-hypersexual subjects. Indeed, it is important to note that for nearly half of the participants, hypersexuality appeared to exist in the absence of other pathology. Of equal importance, slightly over half of the patients did have clinical elevations which appear to highlight difficulties and functioning relevant to understanding the hypersexuality. Thus, concomitant pathology should neither be assumed nor ignored.

A significant portion of patients in this sample had small elevations on several RC and PSY-5 scales (although these relationships were not captured by our regression model) that reflect deficits in affect regulation, tendencies towards negativism, interpersonal sensitivity, feelings of inadequacy, hopelessness, and feeling socially withdrawn. Boredom proneness,

one characteristic reflected in high scores on the Low Positive Emotions scale, was found in 23% and 27% of this sample for the RC and PSY-5 scales, respectively. This is consistent with other studies that have reported associations between hypersexual behavior and boredom (Chaney & Blalock, 2006). Some research suggests that men experience greater boredom proneness than women (McIntosh, 2006), possibly making boredom susceptibility a predisposing risk factor for men who become hypersexual to compensate for what they perceive to be an impoverished environment that fails to stimulate them.

Elevations on Dysfunctional Negative Emotions were prevalent for 17% of this sample. This scale reflects interpersonal sensitivity, anxiety, and excessive rumination about shortcomings or perceived failures. This RC scale is highly correlated with Demoralization ($r = .69$ for these data) and may suggest that one of the associated features of a small portion of hypersexual patients that perpetuates depression and hopelessness is a tendency to ruminate. Elsewhere, several studies have linked rumination to depressed affect (e.g., Cox, Enns, & Taylor, 2001; Spasojevic & Alloy, 2001), and thus this relationship is not surprising. Because rumination includes obsessive features such as preoccupation, it may be a factor in the tendency of these individuals to fixate on sex. Treatment implications to address rumination include interventions such as helping clients recruit positive self-affirmations, which have been found to significantly reduce negative rumination and depressed mood states (Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999). However, again, it must be stated that this is a modest finding and only true for a small portion of this sample. In fact, one might argue that this finding is no more significant than one would expect in a random control sample of men drawn from the community.

Implications of Findings for Clinical Practice

The findings from this study provide clinicians with a number of insights related to treatment of hypersexual patients. Additionally, these data also help illuminate possible applications for using the MMPI-2 among this population of treatment seeking individuals. The pragmatic implications for these findings, in our opinion, suggest the following considerations for clinical practice:

1. Although it is likely that patients seeking help for hypersexual behavior may meet criteria for diagnosable mental health conditions, clinicians should be cautious in assuming that this is true for all hypersexual patients. It is apparent from our data, that this may not be true for a substantial portion of hypersexual individuals.
2. Clinicians should focus on affect regulation as a core treatment strategy when working with hypersexual patients. Emotional distress,

- psychological turmoil, poor self-esteem, discouragement, and feelings of self-doubt appear to be correlated with greater levels of hypersexual behavior.
3. Strategies to cope with stress should be a part of treatment as this population appears to react to stressful situations in maladaptive ways. This finding has also been noted in previous research that highlighted stress proneness among hypersexual patients.
 4. Behavioral relaxation (and possible referrals for medication, biofeedback, etc.) should be considered to address patients who experience restless thoughts, intense energy, elevated moods, irritability, poor impulse control, and risky behavior patterns. These patients may meet criteria for manic episodes.
 5. Clinicians should help hypersexual patients increase tolerance for unpleasant affective experiences so they can learn to survive their challenging moments in life without having to engage in unhealthy sexual activities to escape their emotional discomfort. For example, mindfulness exercises and theoretical perspectives embodied in Acceptance and Commitment Therapy (e.g., Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes & Strosahl, 2005) and Emotion Focused Therapy (e.g., Greenberg, 2002, 2004) could increase tolerance for emotionally painful experiences and decrease the use of ineffective strategies employed to defend against negative affect.
 6. The MMPI-2 does appear to capture meaningful characteristics for a substantial portion of hypersexual patients. However, given that many patients may not produce elevated scores on MMPI-2 scales, clinicians may want to be selective about which patients they have take the MMPI-2. Alternatively, our recommendation would be to use the most recent version of this measure, the MMPI-2-RF (Restructured Form) which has reduced the amount of items to 338. The MMPI-2-RF can be administered in 30–45 minutes and many clinicians will find this a preferable instrument compared to the longer version of the MMPI-2.

Limitations and Future Research

Despite a number of interesting findings, this study was limited in several ways. This study is correlational and therefore does not address whether the various MMPI-2 associations found exert a causal or interactive affect on hypersexual behavior. This study also possesses the limitations commonly associated with studies in which self-report measures are used. Inferences about our findings beyond those listed in this study should be made with caution, in part because our sample was completely male, predominantly Caucasian, and drawn from a community in Utah where religious preference may have influenced the results. A sample with female hypersexual patients

and more diverse ethnic representation would have been ideal. Our sample was also unique because it was void of patients with concurrent substance-related disorders sometimes found among hypersexual populations (Kafka & Hennen, 2002). Although this sample does not adequately represent patients with comorbid hypersexual behavior *and* substance-related disorders, we consider this a strength because our data was not contaminated by confounds associated with psychopathology and substance abuse and focuses predominantly on relationships with hypersexuality.

A significant limitation in this study is the lack of controls which might have been used to make comparisons. We acknowledge this would have been more ideal, nevertheless, because this is the first published study among hypersexual patients using the MMPI-2, it represents an important contribution to the literature.

Future research may extend the findings of this study to investigating the prevalence or associations of cognitive rigidity among hypersexual patients. The rationale for this suggestion comes from the research linking cognitive inflexibility with constructs such as rumination, boredom proneness, anxiety, and demoralization (Davis & Nolen-Hoeksema, 2000; Watkins & Brown, 2002).

As much of the current research on hypersexual behavior does not distinguish the variance of sexual behaviors among these patients, additional research is needed to explore whether differences between the subtypes of hypersexual behavior (e.g., solo-sex vs. relational hypersexuality) reveals any insight that might help us better understand this phenomena. Also comparisons need to be made between outpatient and inpatient populations.

Conclusions

This study represents one of the first published articles using the MMPI-2 among a sample of hypersexual patients. A stepwise regression analysis revealed that Demoralization was the strongest predictor of scores on a measure of hypersexuality, with Hypomanic Activation making an additional modest, but statistically significant, contribution. Depression and anxiety did not contribute anything significantly beyond the variance captured by Demoralization, suggesting caution overemphasizing these characteristics as important associated features of hypersexuality. Modest, but significant, activation on Disconstraint of the PSY-5 scales was also an important feature associated with hypersexuality. Although elevations on other MMPI-2 RC scales suggest that tendencies such as boredom proneness, rumination, and cognitive rigidity might offer additional insight in future studies investigating hypersexual behavior, the current study found few elevations across many of the MMPI-2 scales, a finding that failed to provide any substantial evidence that hypersexual behavior is a syndrome perpetuated by manifestations of severe psychopathology.

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